PRESENTATION OF SUGGESTIONS
FOR
JICA PROJECTS

JOINT TRAINING COURSE

FOR JICA FORESTRY PROJECT COUNTERPARTS

August 21st thr. October 5th

2000

Tsukuba International Centre (TBIC)

Japan International Cooperation Agency (JICA)

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REPORTE FINAL

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TSUKUBA- OCTUBRE 2000

LA REPUBLICA DE BOLIVIA

POSICION GEOGRAFICA

Bolivia ocupa la parte central de Sur America y esta situada entre los paralelos 9 39 y 22 53 latitud sur, abarcando más de 13 geográficos. Se encuentra en el hemisferio occidental entre los meridianos 57 25 y 69 38 de longitud oeste de Greenwich.

SUPERFICIE

Tiene una superficie apróximada de 1.098.581 Km.2 y ocupa el quinto lugar entre los países sudamericanos despues de Brasil, Argentina, Peru y Colombia.

LIMITES

Bolivia limita al norte y este con Brasil. Al este y sureste con Paraguay, al sur con la Argentina, al sur y oeste con Chile, y al oeste con Perú.

POBLACION

La población absoluta es de 6.420.792 habitantes según el censo de 1992, con una estimación para el año 2000 de 8.329.000 habitantes.

DIVISION POLITICA

Políticamente Bolivia se divide en nueve departamentos, provincias, secciones de provincias y cantones. La autoridad política en cada departamento es el Prefecto, representante del Poder Ejecutivo. La capital oficial es la ciudad de Sucre, pero la sede de gobierno esta ubicada en la ciudad de la Paz.

EL DEPARTAMENTO DE TARIJA

POSICION GEOGRAFICA

Situado en el extremo meridional de Bolivia, tiene una altura promedio sobre el nivel del mar de 1866 metros, ubicado entre los 21 33 latitud sur y 64 42 de longitud oeste.

LIMITES Y DIVISION POLITICA

Está limitado al norte por el departamento de Chuquisaca, al este por la república del Paraguay, al sud por la república Argentina y al oeste por los departamentos de Potosí y Chuquisaca.

Politicamente el departamento se divide en cinco provincias: Cercado, Avilez, Mendez, O'Connor y Gran Chaco.

SUPERFICIE Y POBLACION

El departamento de Tarija cuenta con una superficie de 37.623 Km2 siendo el departamento con menor extension con un 3% del territorio nacional.

La poblacion se estima en 291.407 habitantes con una densidad de 7.74 hab/Km2, con una tasa de crecimiento anual del 2,82 %.

ANTECEDENTES

El proceso de erosión en el Valle Central de Tarija, afecta aproximadamente el 70% de los suelos, con una dinámica erosiva entre 200 a 300 has,/año, amenazando en el futuro con destruir completamente la base productiva de la poblacion agrícola en el próximo siglo.

Ante esta compleja situación, el Gobierno Departamental y la Agencia de Cooperación Internacional del Japón (JICA), ejecutan el Proyecto **"*Contról* de Erosión y Reforestación en las Sub-cuencas del Monte y San Pedro".**

Como una respuesta al desequilibrio hidrologico – forestal, agravado por la continua acción antrópica al cual es sometido su ecosistema. Lo cual origina un claro desequilibrio en su regimen hídrico con serias consecuencias en el orden físico y socioeconómico en la población rural y urbana dentro y fuera de las subcuencas consideradas.

Siendo el objetivo mayor del proyecto, que los resultados a obtenerse sirvan como base para ser extrapolados al resto de las áreas del Valle Central de Tarija.

OBJETIVOS DEL PROYECTO

1.- Disminuir la probabilidad de crecidas en las áreas erosionadas del proyecto hacia la ciudad de Tarija, mediante la protección con cobertura vegetal, complementadas con cerramientos, adicionando obras mecánico-biologica y apoyar a la regeneración natural existente.

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2.- Incorporación de nuevas tecnologías con el apoyo internacional referidas al control de erosión, conservacion de suelos, producción de plantas forestales y foresteria social. Las mismas que sean económicamente viables, ecológicamente sostenibles y socialmente aceptables.

3.- Brindar el asesoramiento tecnico a los beneficiarios directos e indirectos del Proyecto en actividades forestales, agroforestales, de organización comunitaria y mejoras en la producción agrícola.

PROBLEMATICA DEL PROYECTO

CONTROL DE EROSION

- Manejo inadecuado de la red de drenaje, lo que ocasiona escurrimientos superficiales directos hacia los cauces principales.
- Falta mejoramiento en la tecnica de ubicación, diseño y construcción de presas de tierra para usos múltiples.
- Inadecuado conocimiento de la dinámica del proceso erosivo en suelos de origen cuaternario a nivel de detalle.

REFORESTACION PARTICIPATIVA

- Actualización del sistema de producción de plantines en viveros forestales.
- Manejo forestal inadecuado de la vegetacion dentro del área del proyecto.
- Falta de un conocimiento adecuado del proceso de introducción de especies forestales exóticas en los programas de plantación forestal.

FORESTACION SOCIAL

- Bajos niveles de participación comunitaria en las actividades de reforestación y control de erosión en el área del proyecto.
- Nivel de educación ambiental sobre preservación de sus recursos naturales renovables muy limitado.
- Reducida participación de la mujer en actividades silviculturales, agroforestales y de control de erosión que ejecuta el proyecto.

LO APRENDIDO EN EL CURSO DE ENTRENAMIENTO EN JAPON

MEJORAMIENTO DE ARBOLES FORESTALES

- Producción de plantas forestales por estacas
- Manejo y producción de plantas por injerto
- Producción de plantas forestales en invernadero
- Investigación de procedencia de semillas
- Manejo de Huertos Semilleros
- Mejoramiento tecnológico de cruzamiento de diferentes especies
- Prueba de crecimiento de plantas forestales en ambientes forestales

CONSERVACION DEL SUELO Y AGUA

- Estudio hidrológico y de caudales
- Construcción de diques de protección
- Control de inundaciones y deslizamientos
- Implantación de bosques para el incremento de agua
- Obras de contención de suelos y taludes
- Siembra aerea de especies nativas para protección de suelos
- Siembra de pasturas y fertilización en terrenos con pendiente
- Manejo integral y sostenido de las cuencas

MANEJO DEL BOSQUE

- Clasificación del bosque en privado y nacional
- Incentivo del gobierno para el incremento del bosque
- Manejo silvicultural del bosque
- Producción de madera y conglomerados
- Conservación y preservación del bosque para turismo
- Mecanización del aprovechamiento forestal
- Plan maestro para el sector forestal
- Clasificación del bosque de acuerdo al uso:

  Protección, convivencia y uso racional
- Bosque modelo multietanico de hinoki
- Conservación de las especies forestales
- Conservación del bosque de manglar
- Plantación forestal de mangle en riberas

AGROFORESTERIA

- Producción agrosilvicultural
- Manejo de cultivos agrícolas y frutales
- Cultivo de hogos y su comercialización
- Producción de árboles para madera y su industrialización

SOCIOECONOMICO

- Aplicación de leyes forestales en el bosque privado y nacional
- Organización de cooperativa de producción, industrialización y comercialización forestal
- Servicio de extension forestal para el manejo y producción del bosque
- Participación pública en actividades de plantación en el bosque nacional
- Actividades de voluntariado de ONG's para beneficio público
- Capacitación sobre el uso integral de la madera (carbón, vinagre)
- Planificación participativa a traves del uso del PCM y PDM
- Análisis de genero social para ejecutar proyectos de agroforestería

ACCIONES PARA IMPLEMENTAR EN EL PROYECTO

FORESTACION SOCIAL

- Concientizar, capacitar en el uso de especies nativas para la forestación
- Capacitar en la explotación de leña para lograr un rendimiento sostenido del bosque
- Estudio y análisis de genero para ejecutar actividades de control de erosion y reforestación
- Monitorear las actividades del proyecto de acuerdo a la planificacion del PDM
- Los beneficiarios deben participar, y ser responsables de la reforestación

CONTROL DE EROSION

- Lograr una jerarquización de suelos y de las redes de drenaje del área del proyecto
- Lograr utilizar especies mejoradas para el control de erosión
- Estudio hidrológico y de caudades de la cuenca del proyecto
- Implementación de obras de control de erosion diseñadas de acuerdo al medio y tecnología
- Identificar sitios tecnicamente vialbles para la construcción de presas de tierra
- Identificar sitios tecnicamente vialbles para la construcción de presas gavionadas
- Construcción de diques de piedra y madera para la retension de sedimientos
- Ordenar la cuenca hidrográfica para planificar el control de torrentes y de erosión

REFORESTACION PARTICIPATIVA

- Planificar e incentivar la reforestación para elevar el interes de los comunarios
- Incremento de la cobertura vegetal a traves de siembras directas de especies nativas
- Producción de plantas en viveros utilizando semillas certificadas forestales
- Ensayo de especies forestales para probar la adaptabilidad
- Implementación de huertos semilleros de especies nativas y exóticas
- Identificación de suelos forestales con fines de ejecutar plantaciones progresivas anualmente

AGRADECIMIENTOS

Nuestro profundo agradecimiento al pueblo del Japón, quien a traves de JICA, hicieron posible nuestra capacitación en los diferentes institutos de investigación sobre el manejo de los recursos naturales renovables; de igual manera nos brindaron la oportunidad de poder conocer y valorar su cultura, costumbres y la calidad humana de su pueblo.

Asimismo agradecemos a nuestros coordinadores del curso por el desprendimiento y la dedicación que nos brindaron durante el periodo de capacitación.

For Our Green Earth

Final Report on Joint Training Course of Forestry Project Counterparts

Oct. 4,2000 Tsukuba International center, JICA
By LAN Taigang (Participant from FBC Project, China)

INTRODUCTION

To fill or minimize the chasm between developed countries and developing countries is the common duty of humankind. As a responsible member of international community, Japan tries to help developing countries through technical assistance, one kind of ODA of Japanese government. Mutual assistance and communication on forestry are important nowadays, because humankind has only one earth. As one aspect of technical assistance on forestry, a joint training course of forestry project counterparts has been held during Aug.21—Oct.5, 2000. There are 11 counterparts including author from 8 countries attending the joint training course. The training course has made participants get wider knowledge about Japan, the forestry in Japan and respective project.

I AM IN CHARMING JAPAN

As shown in the "general information" issued by JICA, the objectives of the course are to increase participants' knowledge and better understanding of forest and forestry, to increase participants' skill to participate in project activities and, to make participants contribute to attainment of objectives of the current JICA project. To achieve these objectives, the following courses, discussion and observation were made in the training period:

Presentation of country report

General knowledge on history, culture, geography, politics and economy of Japan

Outline of forests and forestry in Japan

Forest breeding, forest management, forestry research and extension, afforestation and reforestation in Japan

Forest planning system, forest classification system, forest protection and insurance system

Lows, regulations and policy on forestry, PCM

International cooperation in forestry

Partially due to my profession and interest, I pay more attention to forestry culture, forestry policy and forests breeding in Japan.

Culture of Forestry

Japanese people were and are very fond of trees and flowers, especially fond of pine, cherry and bamboo. That is reflected not only by the fact that most forests are protected and managed well but also by many literary works. In Japan pine trees are taken as symbolic of longevity and steadfastness. There are some 80 poems about pine trees in the "Man'you shu", an ancient Japanese work. Bamboo is another popular motif in paintings and works of Japan. The trio of pine, bamboo and plum signifies good fortune in Japan as well as China. Very often this threesome is used in restaurants for different levels of quality of offerings. As to cherry, Japanese people pay a lot enthusiasm to this kind of flower-tree and take it as national flower. Japanese fondness for the cherry can be proved in the following poem written by Motoori Norinaga, an ancient poet of Japan:

If one should asked
What is the spirit of Japan
Shining in the morning sun
These blossoms of the mountain cherry

Sometimes cherry blossoms stand for sentiment and transience. "It is time to miss one's friends in the case of snow, moon and cherry blossoms", said 矢代幸雄 ,a critic of art . All in all, intensive cultural atmosphere and traditional fondness of trees are positive factors for forestry.

Forests Resources And Classification

With 70% of forests coverage Japan is one of the most forest-abundant countries in the world. Among the total 25 million ha of forests national forests occupy 7.8 million ha and private forests share 17.2 million ha, accounting for one third and two third respectively. Because of topographic features some 8 million ha of forests are kept as protection forests. Recently Japanese government pays much attention to the functions of conservation and recreation of forests. In 1998 Forest Agency worked out a new categorization of national forests by expected functions. According to this system total national forests are classified into 3 types, i.e., forests for water and land conservation, forests for human and nature and, forests for cyclic use of resources. At present, forests for cyclic use of resources occupy only 20% of total national forests and other 80% of national forests belong to the forests public benefits. It was also decided to form networks connecting the "forest biosphere reserves" and other protected forests, thereby creating protected "green corridor" to allow for free movement of wildlife. In order to protect forests a "forest-land development permission system" was established besides protection forests delimited. According to this system even for the forests other than protection ones, forest-development of more than 1 ha needs permission of prefecture government in advance. All in all Japanese government is creating a kind of "People's Forests".

Financial Supports On Forestry

Because of long period of harvest, relatively low productivity and the characteristic for public benefits of forests, it is reasonable for government to support the development of forestry. The main methods for Japanese government to support the progress of forestry are as follows:

1.Special Accounting System. In 1998 the independent accounting system was abolished and a special accounting system was introduced. According this new system 2.8 trillion yen of accumulated debt would be borne by the "general account".

2.Subside Program. This program mainly is to support silviculture works and construction of forest road, and to be provided for prefecture, municipal government and associations.

3.Loan Program . This is to support forests management and forests industry. There are 5 kind of governmental loan program with low interest of loan, i.e., agriculture, forestry and fisheries finance corporation; forestry improvement funds; woods industry modernization program; wood industry development fund and; natural disaster funds.

4.Tax Reduction Program. This is to increase the income from various forest activities and to reduce the burden of inheritance taxes charged in forest-land .

5.Compensation Program. This is for loans arranged by private financial institute on forestry work.

Forest Trees Breeding

FTBC founded in 1957 is the main organization of forests breeding. In the past 40 years it has developed and cultivated many varieties and superior traits that were distributed to prefecture government. Adequate seed orchards and scion gardens have been established to supply seeds and seedlings to users. It would be notable that there is a splendid and foresighted "system of gene bank project" in Japan. Organized by MAFF this system will reserve a lot of genetic resources of living beings, including plants, microorganism, animals, aquatic organism and forest trees. Central bank and sub-bank of forest tree genetic resources are established in FTBC and FFPRI respectively. Another important result of FTBC is that 108 pine tree resistant to the pine wood nematode were selected and propagated.

FORESTRY IN CHINA: A BRIEF COMPARISION WITH JAPAN

Present Situation

Land area for forest use in China totals 256.7 million ha or 27.4% of the nation's total land. The existing area of forests is 128.5 million ha. The ratio forests area to total land area (forest coverage) is 12.93%. The standing volume of trees is 11.78 billion m^3, of which, the coniferous forests occupy 5.7 billion m^3, broad-leaved forests share 4.4 billion m^3 and, the rest belongs to scattering trees. The main

problems of forestry in China are the lack of forests resources and worsening environment.

[The lack of forests resources] Because of low forest coverage the forests area per person in China is only 0.11 ha and, the standing volume per person is 8.6 m^3, which are only one sixth and one eighth of the world average level respectively.

[Worsening ecological environment] Because of poor resources of forests the ecological environment in China is worsening in general with some exceptional areas. The statistic shows that the erosion area of soil and water in China has reached 3.67 million km^2, which occupies 38.2% of the total land area. The worse is that the erosion area is tending to be larger. Meanwhile the occurrence of the natural disasters is getting more frequent. Worsening ecological environment has become one of the strategic problems that hamper the economic development of China.

Recent Efforts

To realize sustainable development of economy Chinese government has stressed on the development of forestry and improvement of ecological environment. Reforestation area of forests by planting and aerial seeding has reached some 6 million ha annually in the past 20 years. In order to promote the development of forestry and improve ecological environment, the State Forestry Administration of China is going to take some new measures, which include:

[To build protection forests system] There are 5 large-scale protection forest projects in implement for various basins including Yangtze River and Huanghe River.

[To manage forests in new categories] The total forests which were divided into 5 categories, are being reorganized into 2 new types, i.e., forests for public benefit which are expected to occupy one third of total forests and, forests for production which will still account for two third of total forests.

[To establish compensation fund of ecological effect of forests] Because of the feature of forests for public benefit this kind of forests would be protected strictly. Central and local government through the fund would compensate owners of the forests for public benefit. As to the standard of compensation it differs and depends on the state of forests and economic condition. For instance, at present the standard of compensation in Guangdong province is some 800 Japanese Yen/ha annually.

[To develop fast growing tree plantation in large-scale] This project aims at the increase of timber and arranged in the areas with good site-condition.

By means of above methods the State Forestry Administration wants to make forest coverage reach 20% by 2015 and to get preliminary improvement of ecological environment.

FBC PROJECT: PROGRESS AND PROBLEMS

As a kind of primary industry forestry is similar with agriculture in some aspects of technical route. Intensive cultivation, breeding (mainly crossbreeding) and gene engineering are subsequently main methods to increase the productivity of land in different phases of agricultural development. In my opinion, forestry development probably follows this technical orbit. Therefore forest tree breeding is of significance to increase output of forests at present. The success in forest breeding of popular in Italy, sugi in Japan, eucalyptus in Australia has accelerated these countries' development of forestry.

To promote the level of forest breeding in China, the FBC (forest breeding center) project started in 1996 and will end in 2001. The main objectives of the project are to popularize the technology of forest breeding, to increase the level of forest breeding in China and, to promote the use of improved varieties in reforestation.

By means of efforts of both parties of Japan and China the expected objectives have been fulfilled. The main results of the project can be summarized as follows:

- 970 new strains of popular, 213 families of Japanese larch have been introduced, some of them have been used in plantation.
- A number of plus trees and good varieties have been collected as genetic resources and, 37 ha test plantation have been established.
- A series of researches on forest genetics and breeding have been done with some advanced conclusions.
- Over 600 technicians at different level have been trained on the knowledge of tree breeding and, a group of Chinese counterparts have been fostered with some progress both in professional study and Japanese language learning.

On the other hand there are still some problems to be solved in the future. The main problems can be listed as follows:

- Compared with plantation or extension projects it will take longer time for a breeding project to achieve realistic results. For instance, we have collected many varieties, but we are not sure that which ones are good in genetic gene type up till now.
- Because of the scale of the project what we have done is mainly elementary works breeding within few species. The deeper research on present species and primary research on other species are needed.
- Because of the scale of the project the extension of tree breeding is not enough. In China foresters pay much attention to site-preparation other than seedling with good quality. Therefore it is a long- time and wide-range work to popularize the significance and skills of the forest breeding.
- Resistance breeding (disease-resistance, pest-resistance) should be paid more attention in the future.

RECOMMENDATIONS ON THE PROJECT

1. Forestry department at different level should take effective measures to propagandize the significance of tree breeding and to organize such kind of research.
2. It is a task for a provincial forestry department to work out and carry out a systemic plan of tree breeding, which we have not noticed.
3. Forest breeding is a kind of dynamic and continuos work. Some varieties are good now and not good in the near future. Therefore forest breeding center in Hubei province should continuously carry out its research on the basis of independence, because JICA breeding project in the province maybe last 5 or 10 years more but can't last forever.
4. PCM is a kind of new approach of project management. Compared with logical framework there are some new ideas in PCM. Extension of PCM knowledge and application of PCM should be done in FBC project now and in domestic projects in the near future.
5. International collaboration and communication are helpful for the implement of the relative projects and enlightening train of thought.

FINAL REPORT

JICA FORESTRY PROJECT COUNTERPARTS'

JOINT TRAINING COURSE

TRAINING PERIOD-AUGUST 21ST TO OCTOBER 5TH 2000

BY: JOSEPHINE K KALUMBU
JULIUS S. WILLIAM

SOCIAL FORESTRY EXTENSION MODEL DEVELOPMENT PROJECT KITUI DISTRICT-KENYA

SOCIAL FORESTRY EXTENSION MODEL DEVELOPMENT PROJECT FOR SEMI-ARID AREAS IN KENYA

Introduction

The SOFEM project is a collaborative work between Kenya Forestry Research Institute (KEFRI), Forest Department (FD) and Japan International co-operation Agency (JICA. The project began in November 1997 with the main goal being to equip the inhabitants of semi-arid areas of Kenya with appropriate techniques to plant and manage trees through establishment of farm forests by the local residents. The present target area of the project is Kitui district in Eastern province of Kenya. The core activity of this project is extension.

The main activities of the project have been classified as follows:

- On-station and on-farm research for development and verification of tree planting techniques
- Farm forest establishment activities that involve actual establishment of farm forests by the local residents through the assistance of project extension staff.
- Information collection, synthesis and dissemination

JICA has contributed to the success of this project by offering assistance in the following aspects:

- Purchase of project equipment and machines
- Technical co-operation through dispatch of Japanese experts
- Counterpart training in Japan and other countries

For the SOFEM project staff, the counterpart training increased our knowledge in forestry as well as motivating us in implementation of the project activities. In this forestry extension course, 11 counterparts from different countries namely Bolivia, Kenya, Panama, Paraguay, Laos, Nepal, Myanmar and China were brought together and exchanged information on forestry as well as getting exposure to forests and forestry activities in Japan. The main objective of the course as outlined by JICA was that participants gain broad knowledge and better understanding of forests and forestry thus being motivated to apply such skills for the achievement of their project goals. So far, this objective has out rightly been achieved.

This report gives a summary of some of the courses that proved to be very beneficial to us as course participants and representatives of SOFEM project as well as highlighting the problems encountered in project implementation and possible countermeasures.

Joint Training Course Topics

During this course, several topics were discussed and such include Japanese history, culture, economy, religions and education. This gave an overview of the Japanese lifestyle thus enabling all the counterparts to relate well with the Japanese during our training and field trips. Considering the differences between forests in Japan and our countries, we were later briefed on tropical and sub-tropical forest soils, ecosystems and agro-forestry practices. At JICA headquarters, an outline of JICA operations was given and each one of us understood the type of projects supported by JICA in our respective countries.

Some of the forestry related topics from which we acquired much useful knowledge include:

(a) Japanese forests

Woodland accounts for 70% of Japan's total land area. The natural forests and man-made (plantation) forests cover 43% and 57%of the total land area respectively. However, the domestic wood supply is only about 20% and the remaining 80% are obtained through importation.

The National forests form 30% of Japan's forest area and are divided in to

- Plantation forests(31%)
- Natural forests(60%)
- Rocky areas such as on top of M. Fuji where trees cannot be planted.

They are also classified in to the following categories as per their functions

- Water and land conservation
- Nature conservation
- Wildlife conservation
- Maintenance of forest production

The plantation forests are mainly composed of *Cryptomeria japonica*(Sugi) and *Chamaecyparis obtusa*(Hinoki). These two species have long rotation periods that is 40-50years and 50 to 60 years respectively. Most of the plantations were established after the 2nd world war for future production of forest products.

(b) Forest planning and management in Japan

National forest plan is prepared every 15 years and approval of the cabinet is required. However, review is done and operation plans prepared every 5 years. The following points are considered in forest planning:

- Target of forest management
- Felling , silviculture and extraction
- Length of rotation
- Construction of forest road
- Rationalization of forest management
- Land conservation work
- Recreation

In the operation plan, the target, volume and area of operation are set and then the budget is allocated for the 5 years. The government allocates more funds to the colder areas where trees grow slowly.
The government's Forest agency is responsible for the sustainable management of national forests in Japan. The ministry of Agriculture, Forestry and Fisheries (MAFF) formulates the management plans (Nation wide Forest Plan), which stipulates the objectives of forest maintenance and guidelines for forestry operations such as felling, planting and nurturing of trees. The MAFF also lays down forest policies for forest resources and production of high quality timber for future utilization. Regional and district offices undertake appropriate maintenance, felling and planting activities to maintain and improve the functions of national forests. Ten years ago, national forests and private were managed differently but at present there is integrated management.

The management of forest in Japan is faced with the following problems:

- Labor shortage due to immigration of young people to the urban areas thus leaving forest work to the old men and women.
- Typhoons which cause destruction of many trees
- Lower prices of timber
- Disease and pests such as nematode
- Forest fires, which occur occasionally hence increasing forest restoration costs.

(c) Forest ownership

The public forests in Japan are owned and managed by the prefecture government and local authorities. There are several private forests some owned by forest co-operatives/associations and individuals. However, the government restricts sale of timber and any other kind of commercial use for private forests designated as protection forests. Permission of prefecture government is required for use or development of more than I Ha of land. Most of the private owners have less than 5Ha of forest.
An example a forest co-operative is the Nishihama forest co-operation composed of 120 owners and managing 3000 Ha of land. The Yaeyama Forest Association is composed of 96 forest owners and 178 associate members. This association conducts afforestation, insect control, tending operations and nursery management in Okinawa prefecture on commission basis. They employ workers who do these activities.

(d) Forest extension

According to the government forest policy, the importance of promoting forestry and the functions of forests was realized hence the need for forestry extension. The prefecture government has extension workers who execute their work according to the policy set up by national government. The extension work is divided in to smaller areas and the national government makes budget allocation to the prefecture government for the execution of this work.
There are two kinds of forest workers namely:

- Forest specialist

It is a requirement for them to have worked for 5 years as extension agents and to have passed the national examinations. They guide the extension agent and are mainly stationed at the prefecture offices or research institute. The government officials rely on

them due to their specialization on forestry aspects such as forest management, silviculture, forest products, forest protection, and conservation of forest functions among others. Currently there are 500 forest specialists in Japan. The forest specialists are the cores of forest extension work.

- Forestry extension agents

They work in a small area such as a county. Unlike the specialists, they cover different subjects. There are about 2000 extension agents nationwide.
All are required to pass the national exams

The forest specialists and extension agents work together in dissemination of their forestry knowledge and skills. There are 380 places in Japan designated for extension work and each small area is allocated 3-6 extension agents.

(e) Forestry research

There are many research centers in Japan conducting research in different forestry aspects. These include tree breeding centers, agricultural research centers and wildlife research and conservation centers such as for Iriomote wild cats. Some of the key research centers visited during this training include:

i) Tree breeding centers

The National and Iriomote tree breeding centers were visited. Forest tree breeding is being done to obtain improved characteristics of forest trees in growth, wood quality, resistance, chemical composition, adaptability and specification. Various breeding methods by selection and crossing are used. Advanced technologies such as DNA technology and micro propagation have been introduced to create varieties with superior genetic characteristics. Different species are bred in these centers. For instance breeding research is being done through recombination of DNA to come up with less or no pollen producing Sugi since most Japanese are allergic to the pollen grains of Sugi.

ii) Forest and Forest products research center

The research conducted in these centers contribute to:

- Soil and water conservation
- Co-existence of forest and people
- Cyclic utilization of forest resources in developing countries through collaborative, strategic and applied research.

The target research subjects are:

- Conservation of forest ecosystems
- Integrated and sustainable management of forest water sheds through development of resource management techniques and efficient production systems in artificial forest areas.
- Integrated use of wood and biological resources in harmony with environment

iii) Tropical biosphere research center (Rukyus University)

This research center is under the ministry of education science and culture
The main research subjects include:

- Flora analysis
- Ecology of mangrove plants

(f) Japan NGOS in international co-operation

It was noted that there are 400 NGOS related to forestry in Japan
The activities of JIFPRO, an example of forestry related NGO were highlighted as follows:

- Foster people who can undertake forestry in international organizations
- Collection and provision of information technologies regarding forests and forestry
- Extension work of re-vegetation
- Support of other NGO's overall operations in overseas, which include training and helping reforestation activities of other organizations.

(g) Social gender in forest management

The necessity of gender in forestry was emphasized. It was highlighted that men and women have different opinions and needs for forest resources hence motivation for participation is different. The four important concepts of social gender, which include needs analysis, access and control profile and determinants analysis, were understood.

(h) Project design matrix

The preparation of PDM was well explained despite the time constraint. The criteria for selection of a project was outlined and explained well.

Problems facing SOFEM Project and possible countermeasures

1) Drought: This occurs frequently within the project area thus affecting farm forest establishment. The rains are low, poorly distributed and unreliable.
Counter measure: The project has introduced construction of micro catchments however there is need for Jica to consider the possibility of constructing earth dams, shallow wells and drilling boreholes for provision of water within the project target area.

2) Pests and diseases: Termites are serious problem in the project target area especially to highly preferred tree species such as *Grevillia robusta* and *Casuarina equistifolia.* Different pests and diseases also attack fruit trees in the farm forests.
Counter measure: Traditional methods of controlling termites being used by farmers presently are not effective. Therefore, the support of JICA in conducting further research to come up with environmentally suitable methods for controlling pests and diseases could be very helpful. Breeding of preferred tree species is necessary to develop varieties that are resistant to pests and diseases.

3) Inadequate technical knowledge

Most of the project staffs do not have sufficient knowledge and skills on important forestry aspects that are necessary for project success. The staffs require knowledge at different levels. Knowledge and skills are required in breeding, integrated pest management project information management systems among others.
Counter measure: We request JICA to sponsor training within and outside Kenya so as to improve the project staffs' knowledge and skills in such forestry aspects as mentioned.

4) Inadequate forest extension agents at location level
The forest extension agents working in the locations within the target area are not enough.
Counter measure: To solve this problem the project has introduced farmer to farmer extension whereby target farmers are trained intensively on practical forestry skills so as to act as extension agents in their respective divisions. The project mobilizes this activity and does simple evaluation to know whether the farmers attending the training session understand the training contents. This has been very successful so far. The extension agents are also being provided with means of transport by the project so as to be able to cover a larger area than previously.

General comments and recommendations

The support of JICA for the SOFEM project is highly appreciated in the target area. In spite of the differences between forestry in Japan and in Kenya, we have learnt a lot in Japan that can help to improve forestry in Kenya. Creating public awareness on the importance of forestry need to be increased in our country. Our forest policies are quite good but they need to be reinforced and be made practical. The Japanese appreciation of forests and nature at large is very admirable and a great motivation to bio-diversity conservation in itself. If the same altitude could be created in the heart of every Kenyan, forestry and Eco-tourism would be better than they are today. The impact of the SOFEM project in Kenya will continue being felt for many years after its completion. As Kenyan representatives of the project, we do really appreciate the work of JICA. More so, we request JICA through its official development assistance to consider the following points:

1) Capacity building
It is necessary for all project staff to up date their knowledge and skills in forestry. Counterpart training should therefore continue because it broadens the understanding of project staff. Through this training, we feel motivated to do all the best we can to increase forest cover in Kenya.
Capacity building can also be done in form of offering diplomas, degrees, masters and PHD scholarships within and outside the country, even after the end of the project. Depending on finances available such scholarships could be complete if outside the country or partial if one is to study within the country.
2) Research on indigenous forest and fruit tree species
Strengthening of this activity is necessary especially for the species growing in arid and semi arid areas so as increase their productivity.
3) On job training opportunities in Japan
Researchers and forest extension agents could be attached to research centers and forest agency, forest extension offices or forest consultants so as to acquire practical skills.

FINAL REPORT

JICA FORESTRY PROJECT'S COUNTERPARTS JOINT TRAINING COURSE

TRAINING PERIOD-AUGUST 21ST TO OCTOBER 5 TH 2000

BY: Mr Khamphanh XANETH

THE FOREST CONSERVATION AND AFFORESTATION PROJECT (FORCAP)
VIENTIANE PROVINCE LAO P D R

INTRODUCTION

Japan is on Island nation in the Ocean Pacific. The countries nearest Japan are Russia, China and the Republic of Korea. It is located on the longitude 123° to 144° and the latitude 26° to 46°. The total land area is 378.000 km^2.

Although it is a small Country by land area, Japan has the eighth largest population in the world with 126.4 million people.

Japan is a Volcanic Island country. It is topographically steep or mountainous including high peaks and volcanoes. The mountainous are cover 75% of the total country area.

The climate in Japan can be divided into 4 seasons namely: Autumn, Winter, Summer, and Spring. In the winter the monsoon blow from the Asia Ocean (China) to make the weather very cold and during summer the monsoon from Pacific Ocean bring warming that result into heavy rains.

Japan is located at high pressing longitude and altitude thus there is two kinds of rain seasons that is summer. Rain and autumn-rain so we can say that Japan is a heavy rain country.

Rainfall average in each year had been measured 2500 to 3000 mm per year and so the vegetable and the forest are growing up all the year.

As a responsible member of the international Community, Japan tries to help developing countries to develop though official development assistance by giving technical training. It is through this training program that 11 (eleven) counterparts from different countries which include: Myanmar, China, Laos, Nepal, Bolivia, Paraguay, Panama and Kenya, attended a group training course in forestry for 46 days from 21/08/2000 to 05/10/2000 after which we will have the individual program from 06/10/2000 to 13/10/2000 but some countries don't have.

The objective of the group training course as outlined by JICA is to improve the participants capabilities and motivation to engage in project activities by obtaining wider knowledge and understanding of forestry.

To achieve this objective, we have the schedule for visiting, discussion and observation such as following:

-Presentation of country report by participants
-Outline of forestry in Japan
-Forest management in Japan
-Afforestation activities
-Wood Industries in Japan
-Forest Ouners Associations and their activities
-Protection forest, soil and water conservation
-Forest planing systems
-Social forestry promotion
-Agroforestry in tropical region
-Forest tree breeding methods
-Re-afforestation in the tropics
-Wild animal protection systems
-Maintenance of Mangrove forest

-Cultivation method of tropical fruits and fruit vegetables
-Forest Ecology in tropical region Social G enter
-Forest soil in tropical region
-Nursery and Reforestation technology in tropical Region .

There courses and observations are very knowledgeable and useful to participants, will experienced lecturers and forest officers provided us with various fruitful knowledge and technologies these can include.

- General understanding of Japanese history, economy and education.

At TBIC, we learned the culture, politic, Social-economic and education system so as to makes it easy for us to stay in Japan during our training period. I am interested in the good regulation of Japanese on the road and I have never sewn an accident on the roads because they have strong acting of the regulation on the roads.

- Country report presentation by participants

The presentation of country report was for exchanged of the knowledge of participant about the technology and activities in their projects.

- A visit to National Forest tree Breeding Center shown many successful on the research activities. They propagated tree through using the propagation methods of tree breeding such as cutting, grafting and layering of good quality bee

- In ministry of Agriculture, Forestry and Fisheries (MAFF)

The representation of MAFF introduced to us the role of MAFF and the role of Forestry to the public. We know that the Ministry of Agriculture, Forest and Fisheries was an importance sector of Japan is economic structure that contribute outstandingly to the development of national economic and stabilization of nation life through their role of providing stable supply of floods indispensable to our daily life.

Due to the importance role of the forestry Japan has started planting trees almost a century after second world war. The forest resources were heavily destroyed during the second world war and as a result of natural disaster which have been a big hindrance to development.

At present, Japan is one of the most heavily forest area in the world with 25.15 million hectares of forests consisting of 13.38 million hectares of natural forest and 10.4 million of plantation forest. The forest area cover two thirds of the natural land area and they have 3.5 billion m^3 of wood with an increase of about 70 cubic meters every year but the demand for forest product utilization is very high particularly, domestic consumption for building up furniture and housing is approximately 1 million cubic meters per year. The cost of domestic timber utilization is

very high if we compare with the timber import. So that Japan important 80% of timber from other countries in the world such as American, Canada, South Africa, Southeast Asia, Russia and others. However, Japan has continued to plant trees. The main species of plantation forest is sugi Japanese cedar (Cryptomeria Japonica) and Hinoki, Japanese Cypress(Chamaecyparis obtusa)

- In JICA headquarters, we were given lectures on " Present status of JICA. Forestry projects and issues to be examined " we obtained knowledge on promotion of social forestry and gained wider views to overcome issues facing our projects at present

- At the Hiroshima prefecture we were guided by Mr. Kamikawa to visit Miyajima National Forest, Restoration works of Forest damaged by forest fire and Debris flow in each site showed us about the forest conservation method which is very important for our country.

- On the Forest Training Institute of the forest of the Forestry Agency we were given lectures on the following topics: Outline of Forest and Forestry in Japan; System and operation of private Forest; Present situation of supply and Demand of Timber and Timber Industry.

  Through listening the lectures we understood that were sustainable management system used is very efficient. Japan government loan some budget to the private forest for buying the machine and pay to the workers in the enterprise. Tax is reduced for those who do good forest management according to forest plan and for cooperatives doing afforestation.

- During the study tour to mountain Takao we learnt that forests are very as natural resources to provide water and conserve the watershed area.

- A visit to Iriomote Tropical Tree Breeding Technical National Forest Tree Breeding Center was also very fruitful. We were briefed on the research activities being carried out. The common practice of raising plant in the tropics is to propagate from seeds are sometime expensive because there is high cost of seed collection, processing, handling, and seed storage facilities are not available. So propagation methods of tree breeding such as cutting, grafting and Layering are good. Tissue culture is also very important but It's highly cost.

- In the wild animal protection center of Iriomote we observed the advance and systematic conservation of endangered species particularly for Iriomote cats. Over there, there were many students studying the Iriomote cats source of food through laboratory analysis of its faeces.

- We also observed biodiversity research activities at the Biosphere Tropiccal Research Center, University of the Ryukyus.

- At the JICA headquarters we also learnt about forest soil in the tropics. Ferralsol, Aerisol and Alisols are common soils in tropical area.

- Social Gender, important in forestry and project Design matrix were also explained and there are very important for all counterparts.

Background:

The Government of Lao P.D.R has been planning to reduce shifting cultivation while improving the living conditions of the people in Num Ngum watershed are that is environmentally as well as economically important area. The Laos Government and Japan Government have confirmed the importance of the forest conservation and Afforestation Project (FORCAP) at the region.

The project was launched on 16 July 1998 and finished on 16 July 2003, following the two-year proparatory phase, as the five-year technical cooparative.

OBJECTIVE:

The project aims to reduce the trend of forest degradation through administrative guidance of local government, such as those in province and districts, and through the voluntary participation of local people at project target Villages in Vientiane Province

The concept of Project is as following:

1. Enhancing the full participation of local people especially the shifting cultivator living in the target villages.

2. Promoting forest conservation and activities as well as improving the living conditions of Villagers.

3. Strengthening the capacity of local staff, especially at a district level through the project activities.

CURRENT PROBLEMS FACING THE PROJECT

The following are problems being in implementation of the project .

1. OFFICER OF DISTRICT PROBLEM :

The district don't have enough staffs to manage the plantation forest and the present staffs lack good technical knowledge in forestry.

❖ POSSIBLE SOLUTION:

The project should train the district staffs so that they can to manage forest plantation well by themselves. In addition , the agriculture and forest office should assign enough number of staffs to manage the forest plantation in their respective sites .

2. VILLAGRE'S PROBLEM:

. Some villagers don't know the importance role of forestry in poverty alleviation .

. Villagers lack of good techniques of the forest plantation management .

. The majority villagers have low incomes .

❖ POSSIBLE SOLUTION :

The project staff and the district staff need to hold training for the villagers to understand about the forest resource in Lao P.D R and have an importance roles in environment conservation as well as its economy and livelihood of the people.

The project staff and district staff must hold the training in to introduce some necessary techniques to the villagers to ensure that they understand , forest maintenance and disease and pest control .

The project should also guide to the villagers many kinds of tree species for non timber forest product to generate supplementary incomes , as well as supplement village development activities through the district , other important activities such as improvement of the agriculture by crops breeding , livestock , forest product processing, fish culture , weaving , natural dying , extension of efficient stove , Mulberry paper production and another need to be introduced .

❖ RECOMMANDATIONS

1. For upgrading the technical know how of other counterparts of the project I therefore request JICA Head office to provide the budget for another person to attend the training course on next year.

2. I also request JICA to let our project have another phase because the plantation forest establishment require more than 5 years. At the end of the second phase the project will be able to continue .

FINAL REPORT ON JOINT TRAINING COURSE FOR FORESTRY PROJECT COUNTERPARTS (AUG-21-2000 ~ OCT- 5-2000)

By

U Hla Thein
Counterpart
Central Forestry Development Training Center
(CFDTC)
MYANMAR

Introduction

The Central Forestry Development Training Center with the aid of the government of Japan and under the responsibilities of the Forest Department was founded in this context to serve as a basic for the provision of highly skilled forestry personnel through training programs which include courses on the latest techniques in conservation and management of forests and those on advanced forestry technologies which presuppose the use of modern equipments with matching construction.

The CFDTC, which has constructed out of the generous grant provided by the government of Japan was formally opened on May 15, 1990 and the training courses have been conducted continuously since. To meet the objectives of the technical training courses as well as those of the public educational courses. Technical cooperation program commenced on August 1, 1990 with the continued of the Japan International Cooperation Agency (JICA).

In September 1997 the Forest Department proposed the aftercare Program of the CFDTC to strengthen the training functions and to upkeep the facilities of the Center in order to keep pace with the dynamism of development in the forest sector. According to the Minute of Discussions signed on 16th December 1998, the Japanese Government agreed to provide assistance to the CFDTC in the form of the Aftercare Program with the 2-year duration. In line with the growing concern of the national policy on greening movement of the Dry Zone of Myanmar of participatory approach, the primary objectives of the Aftercare Program is set to reinforce the training ability of the CFDTC in term of facilities, training materials and staffing, particularly in Social Forestry aspect.

During this period, the Japanese Government will contribute 108 million-yen and Myanmar Government 12 million kyats for the implementation of the program. The Japanese Government contribution would cover the following functions.

(1) Dispatch of Japanese Experts

(2) Provision of equipment and materials.

(3) Training of Myamar counterpart personnel in Japan.

(4) Special measures, such as

(a) Technical exchange tour to third countries.

(b) Provision of training expenditure.

Due to one of the functions mentioned above, as a counterpart in CFDTC I am being sent to study in Japan in this joint training course on August 21, 2000. A total of 11 participants from 8 different countries have been taken part in the group training.

The objectives of the group training by JICA is to improve the participants' capabilities and motivation to engage in project activities by obtaining knowledge and technology gained through the training course.

- General understanding of Japanese history, economy, education system.
  In TBIC, we have learned about the language, culture, economy, society and education system of Japan, which will be made easy stay in Japan during our training period.
- Country report presentation by participants. The presentation of country report was to exchange knowledge between each participant. Participants of JICA projects from various countries of the world presented their reports concerning country data and activities of forestry sector related to JICA projects. I have known what kind of JICA projects were undertaken in each country and the activities.
- Present situation of forest resources
  We have learned that Japan is one of the most forest abundant countries in the world and 70% of its total land area has been maintained as forests. The plantation forests cover 40% of the total forest area. The majority of them are under 35 years old that require continued care such as pruning and thinning.

We observed that about 70% of forest area, equivalent to 40% of Japan's total land area is steepy inclined with more than 17 degrees. For the protection of landslides, mud and stone, forests are particularly expected to maintain their functions well for the

public benefits. Approximately 8 million hacter, one third of total forest area are kept as the protection forests.

Present situation of forest owners, forestry workers and research work of forestry machines.

We have learnt that forests in Japan are classified into private, public and national forests according to their ownership. The private forests with a total area of about 14 million ha, are owned by 2.8 million including individuals, corporations, organizations, shrines and temples. 90% of them belong to individuals and owners own less than 5 ha each.

Forestry workers have been steadily diminishing and drastically aging in recent years. The young ones have been moving from mountain village to cities due to insufficient infrastructures and job opportunities for settlement in these areas. Forestry work such as silvicultural work is done usually in steep hills is a kind of hard and dangerous. Sometimes injured. Youths do not wish to deal with forestry work, so adult ones left in the field of forestry.

For this aspect, we have learnt at the Forestry and Forestry Products Research Institute that this Institute is also researching for machines which can be used for larger area of forests. Experimenting the other machines that trees can be planted. The institute is performing the development of silvicultural techniques and establishment of mechanized forest operation systems for both plantation forestry and natural forest management. The institute is establishing a higher operational efficiency and low cost operation systems of various forest operations from afforestration to harvesting. The researchers are conducting developed and improved forestry machines with higher performance and new functions. They are conducting on this improvement of operational efficiency and assuring labor safety, reduction of work intensity and environmentally sound mechanized forestry technology.

Visit to MIYAJIMA

At Hiroshima we have visited Miyajima, one of Japan's 3 most beautiful spots. When we are at the site, we have learnt about Miyajima's history and tradition, blue sea, vendure and mountains; ... replete with attraction highlights. We have observed the harmonious natural beauty of Misen's primeval forest that have been designated a world cultural heritage. Omoto Park is covered with many old trees and have learnt that this park fascinates visitors with the respective beauty of the seasons. On the trip to Mt. Miser

by ropeway we have seen it is covered with luxuriant primeval forests, the highest mountain on Miyajima Island, which rises 530 meters above the sea level. We have learned that the mountain has been considered sacred and an object of worship since ancient times.

What we have observed at the Mt. Takao

In the Takao recreational forest, the method of harvesting is done by clear felling with certain amount of trees to be remained. Sugi or Hinoki is selected for species to be planted. Felling age estimated to be 60 years or not designated. For the standard of management methods this area is divided into three zones in accordance with the requirement of maintaining the scenic beauty.

What we observed at the Iriomote Wildlife Center

Iriomote Wildlife was founded to inform visitors about the endangered wildlife. Iriomote island beginning with the Iriomote cat and natural features in mutually undertake activities to promote the education with a view to increasing concern and understanding about wildlife, research studies and conservation program of endangered wildlife.

Monitoring of some methods, camera traps, radio tracking and clinical pathology examinations are used to collect data vital to the maintenance of the Iriomote cat's population, habitat and state of health.

We have learnt that the Center has set up rehabilitation room and outdoor cages as a facility to treat animals injured in road or other accidents and return them to the wild. Remote cameras are used to observe and monitor the condition of animals under going rehabilitation. Causes of threats are due to habitat reduction, road accidents and endangered infection by contagious diseases from house cats. Conservation activities are done by setting up of Road accident prevention campaign during the winter month. Campaign activities such as information meetings, advertisements in public places, leaflet distribution and the placing of warning signs on roads are undertaken with the cooperation of related organizations.

The park volunteers are formed with the center as above; the Iriomote National Park Volunteers promote education about wildlife conservation through nature observation meetings and the creation of nature observation maps. They are also helping to conduct surveys on the distribution of rare wildlife such as Iriomote fireflies.

Structural change of world wood supply and market change in Japan

We have learnt about the history of Japan's timber trade. Japan started imported timber from 1945 to 1960 that called 1st phase.

Japan imported tropical timber process for plywood from USA and exported plywood to European countries. From 1960 to 1985 was the Japan's rapid economic period. In this phase, new houses increase and wood demand grow high. Lots of wood logs are imported from USA and Russia. For supply, trees in Japan are already felled during the war and there is not much supply in the country that started reliable on imported woods.

From 1985 to 1992, that called 3rd phase, Japan save from log imported wood to low value wood products. According to market utilization type and reproduction, the price rate became higher. After oil crisis of OPEC, timber industrialized in Indonesia.

From 1993 to the present, the use of timber shift from low value added wood products to high value added wood products, such as window, doors, furnitures, house are imported including particle board, fiber-board. After 1992 Brazil summit, sustainable Forest Management became very important issue in the world. This SFM issue effects the material of wood product and change the production. Solid woods such as, (OSB, OSL) for beams are used in houses. Laminated Veneer Lumber and PSL (ply not systematically added) are widely used in many places of the world. These woods are guarantee of strength and these products are called engineered woods. On a visit to FFPRI the research work of these woods are shown and explained.

What we learnt about International Tropical Timber Organization (ITTO)

ITTO dedicated to the sustainable development of tropical forests through trade, conservation and best practice forest management.

The year 2000 objective achieved in 1991, ITTO members committed themselves to the year 2000 objective, which stated that members should strive to achieve an International trade of tropical timber from sustain ably managed forests by 2000. This commitment was one of the first international efforts to put a rallying point for activities by the Organization and its members.

ITTA was amended in 1994 by ITTO. According to the amendment of ITTA, the timber trade must come from sustainable managed forests. Producers and consumers are to work in cooperate to prevent displeasing of tropical forests. Producing countries have

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financial problems and for that Japan contributes about 1.5 billion yens, it's hard to implement the policy. To get this achievement ITTO is not only one body; all bodies must work for this objective. The G-8 summit was held in Okinawa and said there should be some measures to be taken for illegal fallings or logging. They will also examine how best it can be done (resolved) including export and procurement. Japan was chairman country this year; cooperate with ITTO on the matter of illegal logging. This year on November, members will meet at Yokohama in Japan.

On the observation tour of Rehabilitation after the forest fire in TAKEHARA-SHI and MIHARA-SHI

We have observed that the burned area was 378 hectares. (357 ha in Takehara, 21 ha in Mihara and 28.4 ha of production forest) Measures to be taken this year.

Identification of damaged area through aerial photography, and formulation of a rehabilitation plan.

Net fence structures are constructed in damaged areas near houses, for this purpose of protecting them from ash and debris running out from these areas.

Rehabilitation measures are taken under a disaster-prevention-related urgent forest conservation project.

Aerial seeding is to be done and check dams are constructed systematically in those places where accidents could occur for the purpose of stabilizing rills or gullies.

Revegetation is conducted for early rehabilitation of forests, for the purpose of recovering protection forests, which occupy the greater part of the damaged area.

Comprehensive rehabilitation plan is set up and the total sum for the rehabilitation project is estimated at 1.5 billion yen. Rehabilitation project is carried out under a five-year plan, which is implemented this year.

Forestry – related knowledge and technology gained through the group training

In the Ministry of Agriculture, Forestry and Fisheries (MAFF) we have learnt the role of MAFF. How MAFF is responsible for promotion activity, research and technical extension concerning forest tree breeding in Japan.

Forest tree breeding in Japan has a long history since the era of Muromachi in 1400 AD, Edo in 1570, Meiji in 1868, Taishoo in 1912, Showa in 1926. After the end of World War II in 1945, the beginning of Forest tree breeding project by the Forest Agency

was started in 1957. Then, the Central, Hokkaido, Yohoku, Kansai and Kyushu tree breeding stations were established since 1957.

Then the Central, Hokkaido, Tohoku, Kansai and Kyushu tree breeding stations were established (since 1957). Only after reorganized and improved in 1991, the NTBS was reborn as the Forest Tree Breeding Center.

FTBC performs the duties as below;

1) Forest tree breeding
2) Development of breeding technology
3) Preservation of forest tree genetic resources
4) Overseas technical cooperation and
5) Technical training and extension of breeding results.

Extension of breeding results

The objectives of forest tree breeding is to obtain improved characteristics of forest trees in growth, wood quality, resistance, chemical composition, adaptability and specification. There are various breeding methods such as DNA technology and macro propagation have been introduced to create varieties with superior genetic characteristics.

What we study about Social Forestry

Project was implemented in Vietnam, Social Forestry Program. The overall goal is to promote effective and sustainable use of utilized land for forestry and agriculture on acid sulphate soils in the Mekong Delta.

The project purpose is to develop practical a forestation technology for the land covered with acid sulphate soils in the Thanh Hoa area, Long An Province.

The output of the project is;

(1) Soil improvement methods
(2) Selection of trees species
(3) Nursery practices and care
(4) Methods to mitigate negative effects on the surrounding environment caused by leaching of harmful substances from the acid sulphate soils.
(5) Production of guidelines for silviculture technologies that minimize negative effects on the surrounding environment and
(6) Establishment of demonstration forests.

The activities of the Project

Experiments for developing practical technologies adaptable to the acid sulphate soils as below:

(1) Improving acid sulphate soils, including embankment method.

(2) Selecting species adaptable to acid sulphate soils

(3) Nursery practice and care on acid sulphate soils.

(4) Mitigating negative effect on the surrounding environment causal by leaching of harmful substances through the soil improvement process. Consequently, developed technologies will be given by the following means:

(5) Production of guidelines for silviculture technologies and

(6) Establishing demonstration forest for silvicultural technology on acid sulphate soils.

Inputs from Japanese side

(1) Experts

(2) Training

(3) Equipment

(4) Infrastructure construction and

Inputs from Vietnamese side

(1) Counterparts

(2) Land and Offices

(3) Project implementation expense

(4) Equipment

What we learnt about Japan's NGO in International Forestry Cooperation

The video was shown about the example of Japanese NGO's activities in the International forestry cooperation at the FTI.

The Japanese NGO's are doing conservation and restoration of forests. We have learnt that there is about 400 Japanese NGO's doing International Cooperation, about 16% of 400 are doing activities related to conservation and restoration of forests. Many of their activities are being done in tropical region. There are many forest operations in many countries, such as China, Africa, Vietnam, Costa Rica, Brazil, South Africa, Southeast Asia and Ethiopia.

NGO's Four Activities

1) Development
2) Environment
3) Human rights and
4) Peace

NGO's conference is coming soon and afforestation work is to be done to prevent global warming. So as Japanese people expect further work to prevent global warming. The number of membership will increase in the near future and more work to this kind of activity.

Project Cycle Management

Basic components of PCM

PCM primarily consists of two components. Participatory Planning (PP) and Monitoring and Evaluation (ME).

PP is use at the planning stage in a project cycle, and is conducted by a series of workshop including participants representing all the important parties related to the major issue. PP consists of a series of analysis and the following planning.

M&E took place during and after the project period. M and E are important because it ensures that results meet expectations. The project staff performs monitoring while a third party performs evaluation.

BACKGROUND HISTORY OF CFDTC

The Central Forestry Development Training Centre Project had been jointly implemented under the cooperation between the Government of Japan through JICA and the Government of Myanmnar through the Forest Department of the Ministry of Forestry. The Government of Japan contributed 2725 million Japanese yen in grant aid for the construction of the training complex and installation of machineries and equipments. The Government of Myanmar set aside 66.3 million kyats for the construction project. Construction work started in February 1998 and was completed in 1990. CFDTC was officially handed over to Forest Department (FD) in March 1990.

The main objective of the project is to improve the socio-economic development in the Forestry sector by providing training courses to in – service personnel and to local people by using advanced technologies with the application of modern equipments. The CFDTC started providing training courses in the fiscal year 1990 – 1991. From 1990-91 up till 1995-96 under the technical cooperation program, 7 courses had been conducted out of the 13 types of different training courses. Training activities gathered momentum in the following years and by the end of the 5-year period 86 training sessions had been conducted for a total of 2329 trainees.

In the follow-up program during 1995-96 to 1996-97 periods, Myanmar side took over more responsibilities for in-service training courses, which were focused on technical forestry while the technical cooperation placed more emphasis on forestry extension and participatory community development strategies. The end of the follow-up program on July 31 1997 had already conducted a total of 150 training sessions conducted for 4027 trainees.

Current After Project Status

After the termination of the 7 year technical cooperation period, the Government of Myanmar through the Forest Department, continued to maintain, on its own, the CFDTC as a going concern of training activities in accordance with the requirements of the Department, and with its full support 5 new types of training courses have been organized and conducted in addition to the existing ones. With the establishment and organization of the new Dry Zone Greening Department CFDTC also has to accept trainees from this department. The FD has endeavored to increase the annual expenditure of the center from 4.43 million to 6.65 million kyats for the maintenance of the training

center and to cover the expenses of training activities. During this period, 61 training sessions had been conducted for 1603 trainees of whom 344 were community residents.

In the Aftercare program, 1998-99 to 2000-2001 of two years period a total of 62 training sessions conducting for 1634 trainees of which 195 are public. New organization chart of CFDTC is set up for the effective administration. Now in CFDTC, 15 numbers of various training courses are conducting for a year.

FUTURE REQUIREMENTS

Due to its current status and capabilities to meet the immediate training needs in the forestry sectors more demands can be expected of the CFFDTC to organize and conduct training courses in the future. To fulfill the tasks the machineries, equipments and other facilities will be used more frequently necessitating a higher input and heavier responsibility to maintain, upkeep and even supplement or replace the existing assets as some of them are approaching the end of their serviceable life. One of the most prominent development in the forestry sector is the greening of the central dry zone, which has gained top national priority and is the focal point for the proposed CFDTC phase II project. Its main objectives are to solve the fuel wood problem, restore Eco-system and ensure environmental security, thereby improving the Arid Zone green and pleasant. Currently, about 30 percent of inservice and one-third of the public trainees at the CFDTC are from the dry zone areas. The Dry Zone Greening Department is taking full responsibility in the greening and reforestation programs and CFDTC will be expected to accept more trainees both inservice and public from the Dry Zone. To meet the increased demands and cater for the training needs it is, therefore, essential for the CFDTC not only to maintain and upkeep its facilities but also to promote its technical proficiency in the various fields of forestry, especially forest management for social forestry forest protection and silviculture.

Recommendations

1. According to dispatch of Experts in Myanmar in CFDTC, training activities and trainees' affairs' are improved. Forestry Extension Training Courses are established as a result.

2. Myanmar counterparts who have been trained in Japan, on their completion of the training, they are expected to be a more experienced and knowledgeable for the transfer of technology to the trainees.

3. The knowledge and technology experiences of Experts are transferred through the Monthly meetings of CFDTC. That is to promote further requirements of the trainings as well as the trainees.

Final report on joint training course for forestry
(Aug 21,2000 to Oct 5,2000)

Hari Bahadur Yonjon
(Counter part)
HMG/JICA community development and forest watershed conservation project I
HMG/JICA Greenery Promotion cooperation Project
NEPAL

Introduction

This forestry extension project implemented from 1991 to 1994 in Nepal. It has indicated that the sustainable management of natural resource without incorporating peoples needs from rural community would not be succeeded .The extensive participation on rural community is essential. Then new package project has been started.

HMG/JICA(CDFWCP)1994/95-1998/99
HMG/JOVC(GPCP) 1995/96-1997/98

Overall goal : To improve the natural environment in the hilly areas in Nepal through community resources (including forest resources and human resources) development & conservation.

- Forest watershed conservation through community development.

Objective

- Sopperting to improve natural environment and land productivity.
- Mitigating the depletion of forest and other natural resources.
- Building of the capacity of the people for development and conservation of community resources.
- Deployment of examplary community development activities based upon their own initiatives and efforts.
- Paying consideration to women and poverty issues.

This joint training course was held on Aug 21,2000 to sep 5 ,2000 . we have visit many places on joint training duration

- First of all, we have get chance to learn Japanese History, Economic and education system. The topics makes easy stay in Japan during our training period. I am glad and interested to know different historical period before reaching the present stage of development. It was also interesting to learn Industrialization policy ,labour policy & flexibilities of Japanese people.

❖ Country report presentation by C/P

The presentation on country report was to exchange knowledge of participants to another. Participant of JICA projects from various countries of the world had to present their report in concern with the country data in details and particularly on activities of forestry sector related to JICA projects. Hence ,I was able to know what kinds of JICA Projects were taken place in each country and their activities.

❖ National forest tree breeding center was also very fruitful as we were briefed on the research activities being carried out .The common practice of raising plants in the tropics is to propagate from seeds which becomes seedling. Raising plants from seeds are sometimes expensive because there is high cast in seed collection processing handling and seed storage facilities are not available .So propagation method of tree breeding such as cutting ,grafting and layering are good ones. Crossing is practiced but it can cause damage for parent tree .Tissue culture is also very interesting method but it is highly cost.

❖ On study tour to forest conservation and tree planting operation sites , we had to know forest conservation is so important that mud-slide & debris flow can cause the forest degradation and soil erosion .It was very interesting to see the construction of check-dams for prevention and rehabition.

❖ At the site where a forest fire took place ,we observed major rehabilitation works which have great inputs in cash for recovering and highly applicable for erosion control work. We had to know that the following measures are conducted for rehabilitation.

- Check dams are constructed systematically in those places where accidents could occur for the purposes of stabilizing rill/gully's
- Re-vegetation is conducted for early rehabilitation .of forest ,for the purpose of recovering protection forest which occupy the greater part of the damage area.

❖ On the observation tours to Mt. Takao ,we learned that forest are very important natural resources to prevent water & to conserve the watershed areas.

❖ Timber industry in Japan was also very interesting to know that through 70% of Japans land is covered by forest ,Japan is still the largest timber importer in the world. Almost 80% of Japan's timber consumption are imported while only 20% is locally produced .The main reason for importing is that Japan's forest are still young to produce any good quality timber.

❖ In the wild animal protection center of Iromote ,we observed the advanced and systematic conservation endangered species particularly for Iromoto cats .

❖ On observation tour to mangrove forest ,we noticed that Nakamagawa river Mangrove forest cover area is very wide and trees are very healthy .I appreciated the systematic management and conservation of various kinds of Mangrove species.

- During tour period we have to practice in layering system a) Grafting b) air layering c) cutting in their we know technology and fruitful skills.

- We visited the biosphere center university of ryukus , it was very fruitful and knowledgeable.

We have learn at the forestry & forest product research institute is also researching for machines which can be used for large area forest .Experimenting the other machines that tree can be planted .The institute is performing the development of Silviculture techniques and establishment of mechanized forest operation systems for both plantation forestry and natural forest management .The Institute is establishing a higher operational efficiency and low cost operation system of various forest operations afforestation to harvesting .the researcher are conducting developed and improved forestry machines with higher performance and new function. They are conducting on this improvement of operational efficiency and assuring labor safety ,reduction of work intensity and environmentally sound mechanized forestry technology.

- Lecture on agroforestry is also fruitful and useful to us. Agroforestry defined as growing tree together with agricultural crops on a same land simultaneously which have inter-related benefits. The common agroforestry practiced in forestry is taungya system. We learned that taungya system has been practiced in Japan successfully for years.

- We studied on forest soil in the tropics ferralsol, aeriol and alisols are common in tropical area. Ferralsols ferralsol occurs in the south east Asia and its characteristics are deep strongly weathered soil with a chemically poor but physically stable sub soil.
- We learned on social genders analysis in forestry. This is also interesting because men and woman are participating in community forestry development.

We have get chance to learn about PDM it was well explained but time is too short which is new concept for me , I know only the frame work.

- More experience and experiments are necessary prior to plant the tree. Those knowledge are gained in forestry & forest products research institute. Moreover silviculture machinery unit of FFPRI is also appreciated due to its advanced technology .To prompt afforestation and reforestation in where deforestation has gone so fast & for it is necessary to developing on machine technology and silviculture.

Recommendations

The training period is too short so many things which we can learn here cannot learn. For the briefing also we have to leave so many things due to shortage of time.

CURSO DE ENTRENAMIENTO PARA CONTRAPARTE DE PROYECTOS FORESTALES.

REPORTE FINAL

"PROYECTO DE CAPACITACION PARA EL MANEJO DE LOS RECURSOS – CEMARE".

EVELYN JANICE GARCIA V.
PANAMA.

TSUKUBA, OCTUBRE 2000.

2. Proyecto CEMARE:

El gobierno de Japón a través de la JICA y el gobierno de Panamá a través de ANAM (Autoridad Nacional del Ambiente) realizaron un convenio el cual fue firmado el 26 de febrero de 1994 se inicio el 1 de abril de este mismo ano con una duración de 5 anos y así se creo el Proyecto CEMARE. Su objetivo es el de investigar, desarrollar alternativas y proporcionar capacitación con el fin de mejorar el ambiente natural y la calidad de vida de los habitantes de Panamá.

El Proyecto se ha desarrollado en cuatro grandes áreas de trabajo, como son: Agroforestería, Manejo de Bosques, Viveros y Semillas y Plantaciones Forestales. Sus capacitaciones se realizan en temas relacionados con actividades ralacionadas con estas areas de trabajo y van destinadas a funcionarios de la institución, productores, grupos campesinos, estudiantes y educadores; pero por falta de caminos a lugares mas reconditos del área no se puede llegar hasta donde esta realmente el problema del área forestal de Panamá.

Tambien debido a cambios de gobierno se van cambiando personal, por lo que no se tiene la seguridad de seguir con los trabajos que se estan realizando en el Proyecto y en las comunidades y por consiguiente no se logran alcanzar las metas del Proyecto.

3. Banco de Semillas Forestales:

El Banco de Semillas trabajo en conjunto con la sección de viveros forestales. Este fue creado en 1983 con la finalidad de abastecer de semillas de buena calidad los programas de reforestación que se estaban iniciando. Pero sus actividades con personal propio de la sección se inicio en 1997 dentro de las instalaciones del Proyecto CEMARE.

Hoy día debido a los cambios de gobierno y que el personal es por contrato anual se tiene hasta hoy solamente a dos personas, por lo que hay que pedir apoyos al personal de la sección de Viveros para realizar actividades de recolección de semillas.

Otro de sus problemas es que carece de un vehículo propio o destinado para que la sección de semillas realice sus actividades, por esta razón hay que coordinar con las otras secciones para nos facilite un vehículo que muchas veces estan ocupados, haciendo esto que se demore en la recolecciones, transporte e inspección de muchas especies nativas o aquellas de mayor demanda en el país. (Tectona grandis, Acacia mangium, Swietenia macrophylla). Con esto tambien se provoca que no se logre cumplir con las demandas anuales de semillas que el Banco de Semillas recibe anualmente, un promedio de 1200 Kg de semillas.

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II. Conocimientos y Tecnologias Adquiridas:

1. El Mejoramiento Genético de árboles para hacerlos mas resistentes a enfermedades y cambios climaticos.
2. La Ecologia Forestal de las Regiones Tropicales.
3. El Género Social con referencia a las opiniones en cooperativas u organizaciones.
4. La Fabricación de Carbón de un modo sencillo y práctico.
5. Los Sistemas y Operaciones que siguen los propietarios de Bosques Privados.
6. Los Suelos de las Regiones Tropicales
7. Las distintas Reforestacion que se estan realizando en los Trópicos
8. La Agroforestería de los Trópicos
9. La Metología de PCM (Manejo Cíclico de Proyecto)
10. La Organización de las Cooperativas Forestales
11. La Reproducción por Estacas, Acodos e Injertos de árboles tropicales
12. La Historia, Educación y Cultura del Japón
13. Las Importaciones y Exportaciones de Madera y la Fabricación de "Madera de Ingeniería"
14. La Investigación Forestal.

III. Aplicacion de los Conocimientos:

- Incentivar en nuestra capacitaciones para sigan tomando mayor conciencia de lo importante que son nuestros recursos y que si le damos un buen manejo y uso podremos contar con ellos por mucho mas tiempo.
- El método de fabricación de carbón y su utilización.
- Los aplicación de sistemas prácticos, como el método Taungya en la Agroforestería.
- Promoveer el uso de injertos, estacas o acodos para la reproducción práctica de árboles en el establecimiento de fuentes de semillas.

IV. Plan de Accion a Seguir:

- ❖ Darle seguimiento a especies nativas de mayor demanda en Panamá, desde su etapa de floracion hasta su posterior almacenamiento.

- ❖ Ejecutar un pequeno ensayo de reproduccion con la especie de Pinus caribaea por medio de estacas.

- ❖ Darle informacion adquirida sobre confeccion de carbon a la seccion de Agroforesteria para que pueda implementarla a sus actividades dentro de sus comunidades pilotos.

- ❖ Promoveer lo importante que es el mejoramiento genético para la obtención de semillas de buena calidad genética y así por consiguiente la madera de mejor calidad para le venta.

V. Agradecimientos:

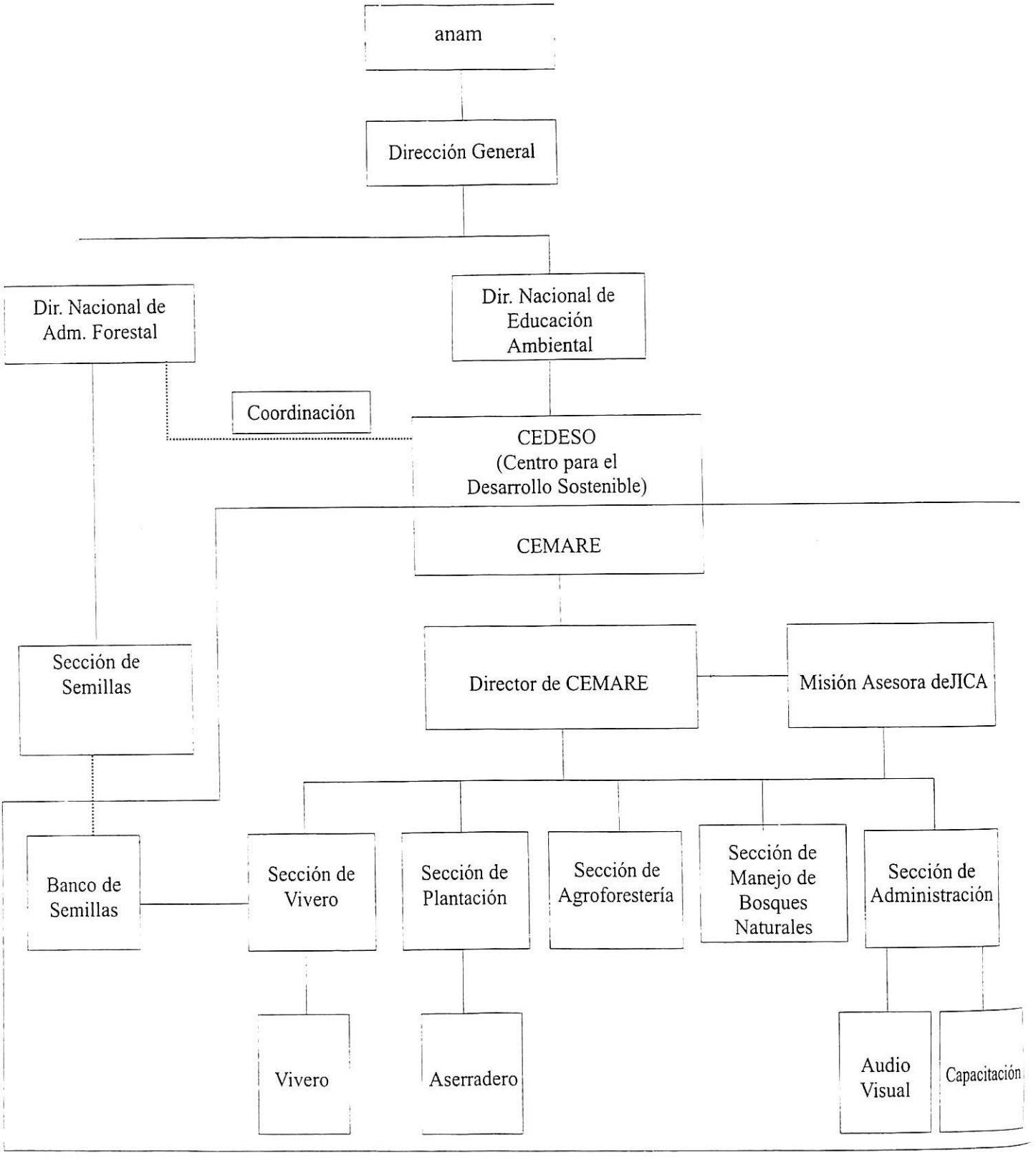
Mis agradecimientos van dirigidos al Gobierno de Japón y al Gobierno de mi país, Panamá por permitirme asistir a este curso de entrenamiento, el cual me ha resultado muy interesante en muchos temas que se trataron.

A mi regreso a mi país intentare poner en práctica los conocimientos que adquirí durante esta capacitación en Japón.

También quiero darle mis agradecimientos a todas aquellas personas que se esforzaron en presentarnos buenos temas para nuestra capacitación. Al igual que a nuestros coordinadores que nos trataron tan bien.

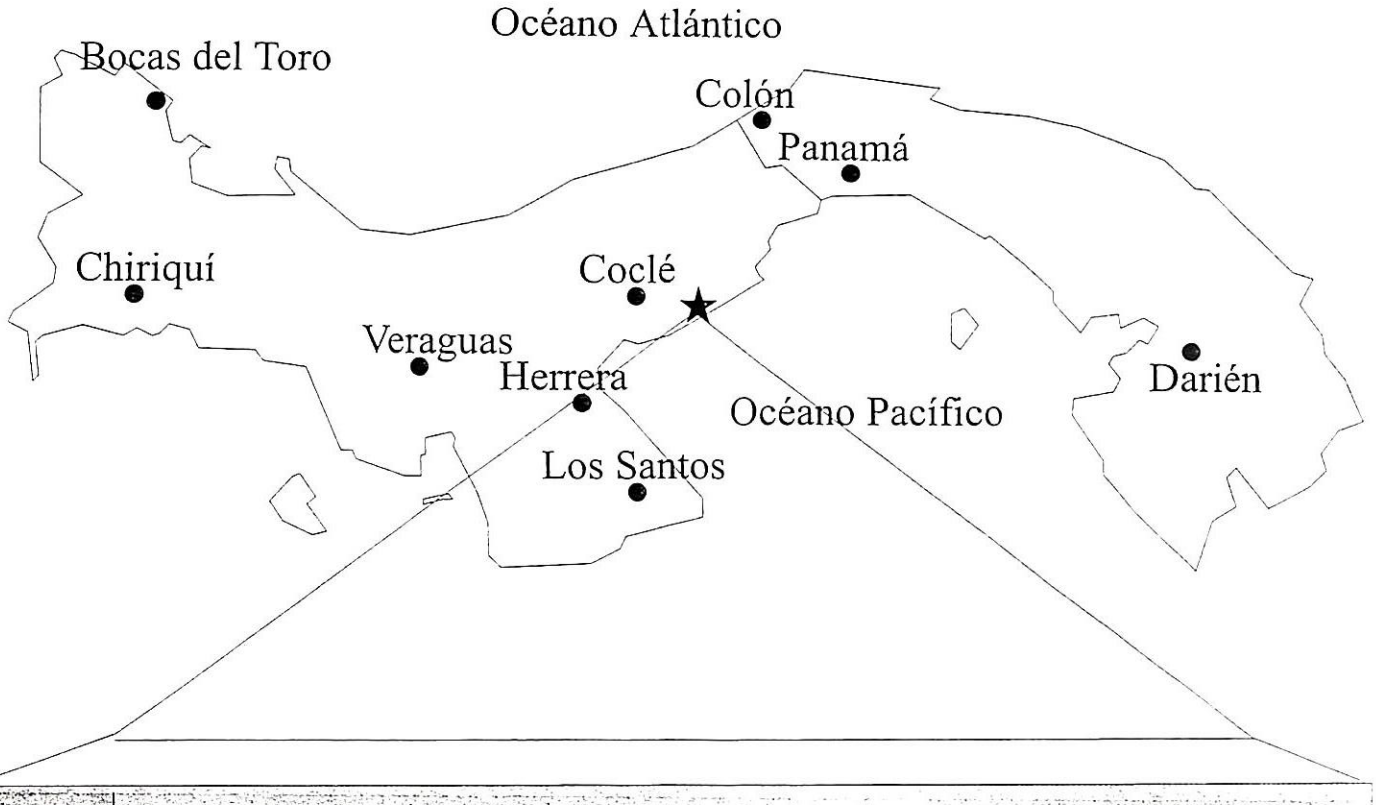
Organigrama de CEMARE

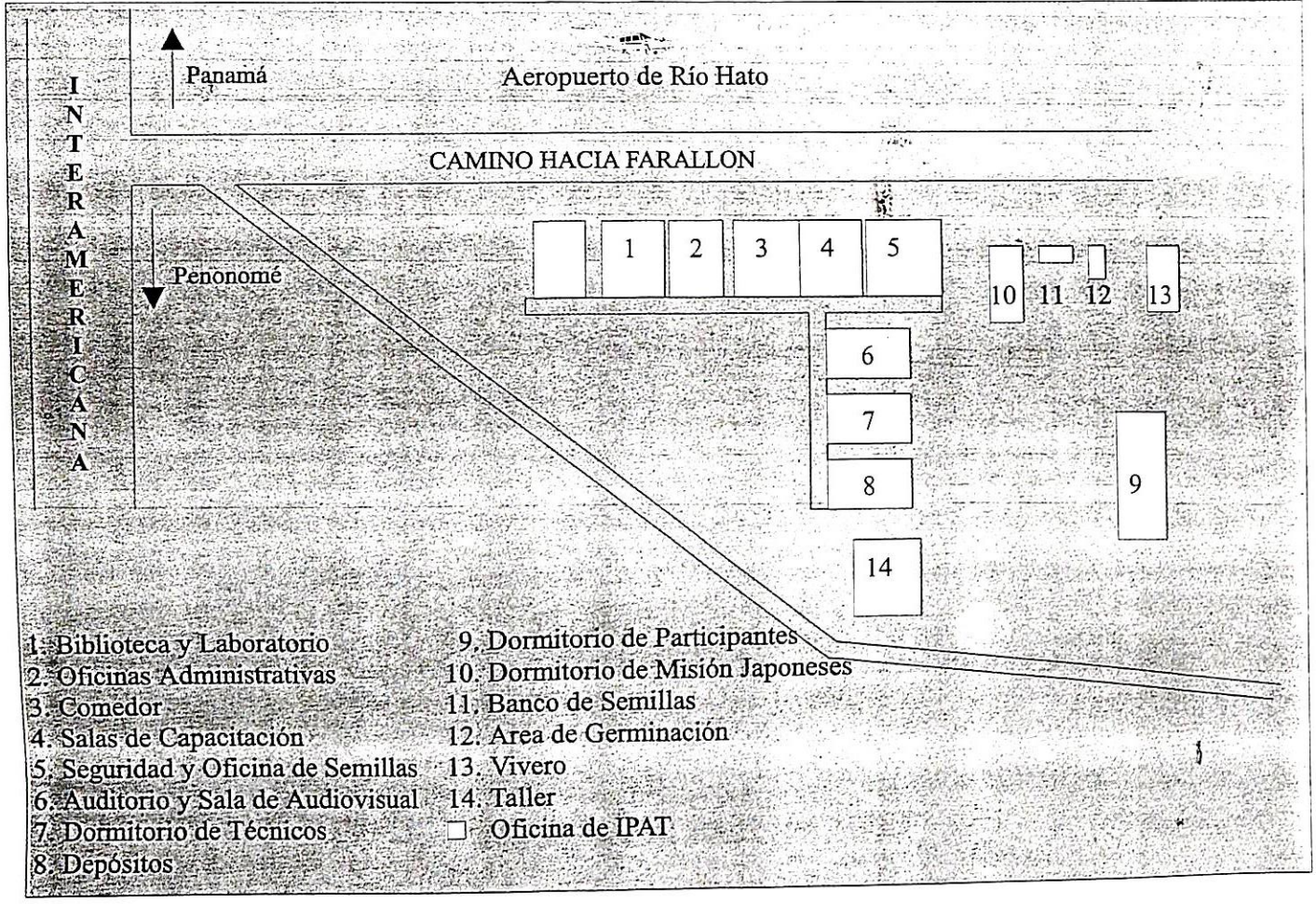
ORGANIZATION CHART OF CEMARE



LOCALIZACIÓN GEOGRAFICA DEL PROYECTO CEMARE

GEOGRAPHIC LOCATION OF THE CEMARE PROJECT





CURSO DE ENTRENAMIENTO PARA CONTRAPARTES DE PROYECTOS FORESTALES.

REPORTE FINAL

PROYECTO DE EXTENSION FORESTAL EN LA REGION ORIENTAL DEL PARAGUAY.

ING. FOR. JORGE A. DAVALOS S.

PARTICIPANTE DE PARAGUAY.

OCTUBRE 2000

INTRODUCCION.

Actualmente existen muchos problemas ambientales en el mundo, debido principalmente a la deforestación masiva de los bosques, y esto trae consigo innumerables problemas sociales que afectan directamente a la supervivencia de la vida en la tierra.

A pesar de esto nuestros esfuerzos debe ser cada día mayor para enfrentar esta situación.

Los conocimientos adquiridos durante el curso de capacitación ayudara a resolver de alguna manera los problemas forestales de mi país.

El presente informe contiene los conocimientos y las tecnologías observadas durante el curso de capacitación así como un resumen de los problemas principales del proyecto de mi país, ademas de algunas sugerencias para resolver dichos problemas.

I. RESUMEN DEL PROYECTO.

Nombre: Proyecto de Extensión Forestal en la Región Oriental del Paraguay
Inicio: 24 de Abril de 1996.
Finalización: 23 de Abril de 2001
Duracion: 5 anos.
Organismo Responsable: Ministerio de Agricultura y Ganadería.
Direccion: Sub-Secretaria de Recursos Naturales y Medio Ambiente.
Administración: Servicio Forestal Nacional.

1. OBJETIVO SUPERIOR:

Formación de los recursos forestales aprovechables en forma sostenible en la región oriental del Paraguay.

2. OBJETIVO ESPECIFICO:

Transferir los conocimientos y las tecnologías sobre la formación de los recursos forestales aprovechables en forma sostenible a las personas involucradas en las actividades forestales en la región oriental del Paraguay.

II. ACTIVIDADES DEL PROYECTO.

- Capacitación de las personas involucradas a las actividades forestales.
- Mejoramiento de la metodología de la extensión y preparación de los equipos y materiales de extensión.
- Fortalecimiento de la producción de mudas forestales.
- Suministro de técnicas de manejo de bosque y la técnica del uso del producto de raleo.
- Implementación de bosque modelo y su exposición.
- Elaboración del monitoreo de los proyectos comunitarios realizados.

III. CONOCIMIENTOS Y TECNOLOGIAS OBSERVADOS DURANTE EL CURSO.

- Descripción general de los recursos naturales del Japón.
- La existencia de un gran porcentaje de bosques nacionales en todo el país.
- Superficie de bosques natural e implantado, las especies explotadas actualmente y proceso de etapas para su explotación.
- Propagación vegetativa del Sugi : Criptomeria japonica.
- Establecimiento de bosques de protección de cursos de agua y suelo.
- El sistema de monitoreo de las plantaciones forestales realizadas por las distintas dependencias como la agencias forestales, y otras instituciones de invetigación.
- La utilización de la denominada "Madera de Ingeniería" que tiene la resistencia necesaria para ser utilizadas en costrucciones.
- Los trabajos de construcción de represas de contensión de erosión en zonas montanosas.
- Las cooperativas forestales que permiten a los propietarios obtener ventajas comparativas en relación a los costos de explotación forestal.
- Los trabajos de investigación que estan llevando a cabo las distintas instituciones de investigación para mejorar la producción forestal.
- Manejo y conservación de la fauna y flora en la Isla de Iriomote.
- Metodología del PCM (Manejo de Ciclo del Proyecto).
- El intercambio de experiencias y opiniones con contrapartes de proyectos forestales de diferentes países, que a permitido obtener un conocimiento mas profundo con relación a la problematica forestal y la situación actual de los recursos naturales de cada país.

Kenya/Japan Social Forestry Training Project

PROCEEDINGS

OF

THE 4TH

NATIONAL SOCIAL FORESTRY PRIZE DAY

HELD ON

23RD APRIL, 1992

KENYA FORESTRY RESEARCH INSTITUTE KEFRI

Kenya Forestry
Research Institute

JICA

Japan International
Cooperation Agency

Forest Department

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IV. APLICACION DE LOS CONOCIMIENTOS ADQURIDOS DURANTE EL CURSO.

- Los sistemas agroforestales y silvopastoriles como alternativas para el uso racional de la tierra.
- Mejorar la implementación de la forestería social que permita la participación de la población rural en la elaboración de los planes de reforestación para sus respectivas comunidades.
- Instalación de bosques de protección en zonas erosionadas.

V. PROBLEMATICA DEL PROYECTO.

- Falta informaciones más actualizadas sobre la investigación forestal.
- Alto porcentaje de técnicos capacitados en el Proyecto son trasladados a otras secciones o departamentos, esto dificulta alcanzar las metas del proyecto.
- Debido a la situación económica que afecta al país, hace que los materiales e insumos que corresponde proporcionar al gobierno local, normalmente no se reciben a tiempo. Esta situación altera el calendario de actividades.
- Los productores, en su mayoría no estan organizados, esto dificulta el trabajo de los extensionistas.

VI. PLAN DE ACCION.

- Que los técnicos que trabajan en el Proyecto permanescan en su respectivos cargos, de manera que el Proyecto alcance sus objetivos.
- Fomentar la creación de cooperativas forestales, que permitan a los socios acceder a ciertos beneficios que el estado otorga para los trabajos de reforestación.
- Establecer una coordinación entre las instituciones involucradas en el sector forestal y el Proyecto de manera de intercambiar las informaciones y experiencias en el área forestal.
- Utilizar los medios de comunicación radial, escrita y televisiva a fin de difundir las actividades del Proyecto.