INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE	TRAINING ON DEMONSTRATION, APPLICATION AND EXTENSION OF ITTO MANUAL ON RESOTRING FOREST LANDSCAPES IN TROPICS OF CHINA
SERIAL NUMBER	PD 423/06 Rev.2 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

Select Lingshui County of Hainan Province as project area. Train the project members and representatives of stakeholders in project area on ITTO Manual on Restoring Forest Landscapes. Apply ITTO Manual on Restoring Forest Landscapes in the fields. Adopt the methods which include meaningful public participation, balancing land-use trade-offs, the double filter, adaptive management, action-learning, joint decision-making and conflict management etc. to develop the Plan for Forest Landscape Restoration of Lingshui County of Hainan Province. Establish the demonstrative plots for site-level restoration on secondary forests, degraded forest lands and agricultural lands for training of stakeholders in the application of the ITTO Manual on Restoring Forest Landscapes. Train and extend the ITTO Manual on Restoring Forest Landscapes in the tropics of China based on the application and demonstration in project area.

EXECUTING AGENCY	RESEARCH INSTITUTE OF FOREST RESOURCE INFORMATION TECHNIQUES, CHINESE ACADEMY OF FORESTRY (CAF)
COOPERATING GOVERNMENTS	
DURATION	30 MONTHS
APPROXIMATE STARTING DATE	TO BE DETERMINED

BUDGET AND PROPOSED SOURCES OF FINANCE

Source	Contribution in US$	Local Currency Equivalent
ITTO	**372,060**	
Gov't of China	159,025	
TOTAL	**531,085**	

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PART I: CONTEXT

1. Origin

This project mainly originates from the *ITTO Manual on Restoring Forest Landscapes (2005).* The new manual on forest landscape restoration jointly launched by ITTO and IUCN will help field practitioners in the tropics to undertake forest restoration activities that both improve the ecological functioning of landscapes and benefit communities living in those landscapes.

2. Sectoral Policies

This project accords with item 9, item 10, item 14, item 20 and item 26 of the *Constitution of the People's Republic of China* respectively on "reasonable utilization of natural resources and protection of precious animals and vegetation", on "reasonable utilization of land resources", on "extent of advanced technology, raising of labor productivity and economic benefit and improvement of people's living level", on "popularization of scientific and technical knowledge", and on "amelioration of ecological environment and protection of forest". This project also conforms to the *Law of Forest*, the *Law of Land Administration*, the *Law of Environment Protection*, and the *Law of Wild Animal Protection.* It tallies as well with related articles of *Decision on a certain number of problems about forest protection and forestry development* of Central Government and State Council.

This Project conforms to *Forestry action plan of China 21 Century Agenda* and the *Action Plan for the protection of Biodiversity of China.* Besides, especially tallies with the *Decisions on Protection of Natural Resources* of the State Council and the *Eleventh Five-year Plan* and the *Outline for Integrated Exploitation of Forestry in Mountainous Regions* issued by the State Forestry Administration.

3. Programs and Operational Activities

The government of project area has adapted certain measures to realize sustainable management of forestry. The government of Hainan Province decided the logging ban for natural tropical forest and made a *Policy to Coordinate Development of Economy with Environment* in 1994, and the Consultative Committee for Environment Protection of Hainan Province was set up. In order to relieve the press on natural forest, the *National Afforestation Project* supported by the World Bank Loan was implemented in Project region and a certain valuable species of fast growing and economic value were planted. The People's Congress of Hainan Province made a decision on Construction Ecology Province on February 1999. In the same year, Province Standing Committee of People's Congress approved the *Ecological Province Construction Plan Summary* on July. The Summary presents the goal of increasing more than 700 thousand hm^2 forest cover and improving forest coverage rate to 65% through afforestation and enclosure of the hillside for regeneration during 30 years, thereby promote sustainable management of tropical forests.

There are 3 completed and 2 on-going ITTO projects implemented in Hainan Province.

(1) ITTO PD 14/92 Rev .2 (F) project "A Demonstration Programme of Sustainable Utilization of Tropical Forests by Means of Differentiated Management in Hainan Island, China". The project has been completed and aimed to establish a demonstrative system of sustainable development of tropical forestry by means of differentiated forest management, in Hainan Island, China. The demonstrative system included 4 demonstration areas and 2 supporting sub-projects. The 4 demonstration areas were established to show the establishment of tropical plantation forest, sustainable utilization of the tropical natural forest, artificial ecosystem of tropical agro-forest-husbandry and conservation of primary tropical forest. The 2 supporting sub-projects were information data investigation and development of human resources.

(2) ITTO PD 57/97 project "Establishment of Satellite Remote Sensing Monitoring and Geographical Information System for Tropical Natural Forests in Hainan". The project has been completed and aimed to know the situation of forest resources of Hainan and make dynamic monitoring by RS and GIS. It would provide basic information for the government to formulate related policy and regulations.

(3) ITTO PD 12/00 Rev .3 (F) project "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China". The project has been completed and aimed to promote sustainable management of natural tropical forests in China by developing and extending C&I. Hainan was one of the test regions of the project.

(4) ITTO PD 10/99 project "Selection and Cultivation of Fast-growing and High-yielding Strains of Timber-oriented Rubber Tree in Hainan, China". The project aimed to promote the sustainable management of Rubber forest in Hainan.

(5) PD 294/04 Rev.4 (F) project "The study and demonstration of the management of secondary forests in tropical regions for the purpose of enhancing economic and ecological benefits" presided by Guangdong Academy of Forestry. The project was aimed at accelerating sustainable forest management by better management of the secondary tropical forests in China. There was one demonstration forest in Hainan.

"The Ecological System Research of Tropical Forest in Jianfengling of Hainan Province" funded by the China National Foundation for Science, and "The Ecological System Research and Management of Tropical Forest" supported by the former Ministry of Forestry aimed at detecting the internal characteristics of ecological system of tropical forest, through positioned observation and analysis of the structural function of tropical forest.

PART II: THE PROJECT

1. Project Objectives

1.1 Development Objective

To promote the landscape restoration, sustainable management of tropical forests and the sustainable development of the tropics in China

1.2 Specific Objectives

(1) To train and apply *ITTO Manual on Restoring Forest Landscapes* in tropics of China.
(2) To demonstrate and extend *ITTO Manual on Restoring Forest Landscapes* in tropics of China.

2. Justification

The following items explain the rationality to apply for ITTO subsidy.

(1) The project is within the priority action of subsidy by ITTO, and conforms to the goal and principle of International Tropical Timber Agreement (1994), and especially tallies with the related items in the field of "Reforestation and Forest Management" of the ITTO Yokohama Action Plan 2002~2006.
(2) By applying, demonstrating and extending ITTO Manual on Restoring Forest Landscapes, ecological functioning of degraded landscapes can be regained and human well-being can also be enhanced effectively. Sustainable management of regional forests and the sustainable development of society can also be promoted.
(3) China possesses, beside 264,900 square km of tropical region, 2,500,000 square km of subtropical region quite similar to the tropical region. The implementation of forest landscape restoration could rationally manage the tropical and subtropical forests in large area to lighten the press on world forest
(4) China is a developing country and its economy is not yet developed. Although the government at different levels are interested in the project, they couldn't afford to assist the smooth implementation of project. Therefore, foreign financial support is needed to carry out the smooth complementation of the project.
(5) The demonstration and extension of the project solve not only the problems of forest department in project area, but also the problems of other departments concerned, so that all trades and professions in project area may develop coordinately to advance the sustainable development of social economy in project area. The achievement of this project could be used in other tropical regions of China, and even the whole globe.

2.1 Problems to be Addressed

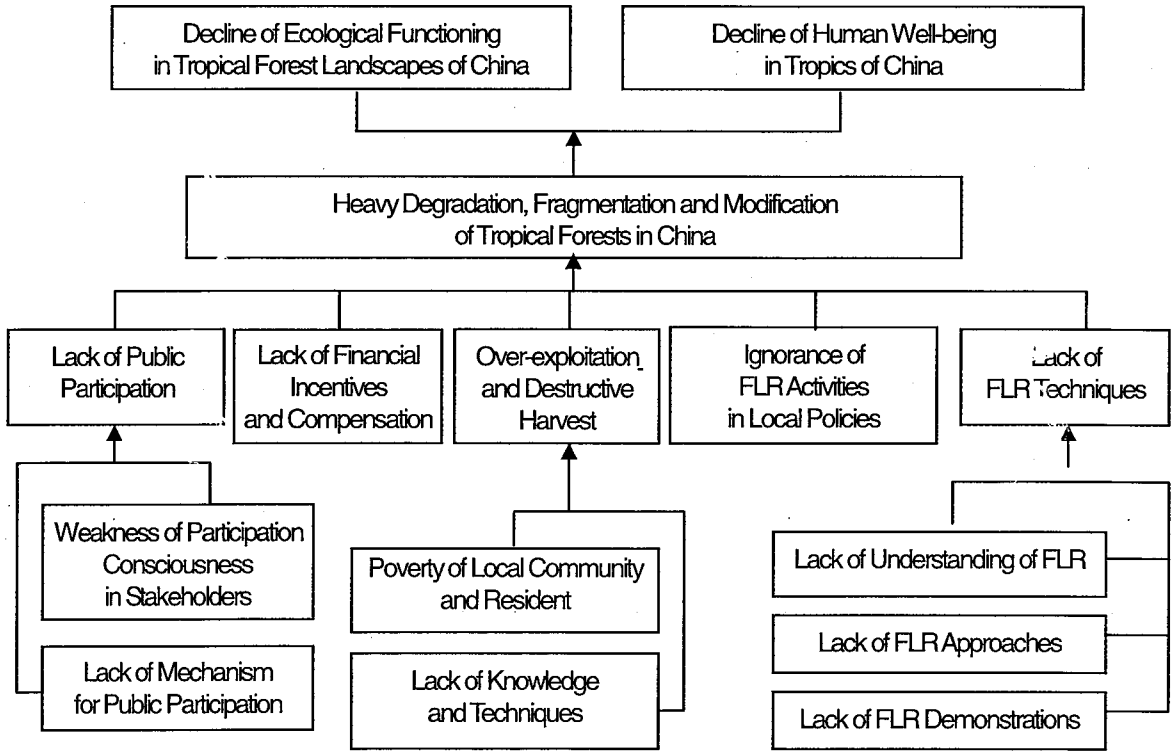
Although Chinese Central Government as well as local governments in tropics has exerted great efforts on tropical forest

management, and new tropical forest cover has increased, forest degradation, fragmentation and modification are so severe that ecological function of tropical forest landscapes and human well-being declined. The following items explain why tropical forest landscape restoration is not considered important.

(1) The lack of understanding of tropical forest landscapes to decision-makers, local communities, individuals and other stakeholders.
(2) The indifference of stakeholders to public participation and lack of mechanism for different stakeholders participating forest management decision-making.
(3) Poverty of local community and residents and lack of related knowledge, information and techniques.
(4) The lack of desirable approaches and demonstrations, while conventional approaches can't balance the ecological integrity and human well-being and hardly to restore forest landscapes.
(5) The lack of financial incentives and compensation to restore forest landscapes.
(6) The ignorance of national policy to forest landscape restoration activities, including restoration of degraded primary forests, secondary forests and degraded forest lands.

It is hopeful to solve these problems through the implementation of this project.

Problem Tree



The land area of tropical zone in China is about 264,900 square kilometers and is located on the northern fringe of the global tropical zone. It covers Hainan Province, southern part of Yunnan Province, Guangdong province and Guangxi

province, south-eastern part of Tibet and southern part of Taiwan. China's tropical climate belongs to monsoon climate of northern tropical zone, which is quite different from typical moist tropical climate with its eastern part influenced by the pacific south-eastern monsoon, and with its western part mainly influenced by Indian south-western monsoon. China's natural tropical forest now distributes mainly on Hainan Province, southern region of Yunnan (mainly over Xishuangbanna Prefecture) and valley area of south-eastern part of Tibet. While other regions have already developed into secondary vegetation and artificial vegetation. Lingshui County of Hainan Province is selected as project areas (the location and brief introduction are showed in ANNEX C and D).

2.2 Intended Situation after Project Completion

Intended Situation after Project Completion will be as fellows:

(1) To promote the restoration of forest landscape and improve the socio-economic conditions of local people in project area directly.
(2) To benefit to poverty reduction and economic growth in tropics of China.
(3) To enhance the environmental security and biodiversity conservation in tropics of China.
(4) To promote forest landscape restoration, sustainable forest management and sustainable development in tropics of China.
(5) To provide a fundamental base for developing related regulations, policy, law and other decision-makings to local governments at different levels.
(6) To provide guidance and demonstration for forest landscape restoration activities of tropics in China.
(7) To raise the understanding of tropical forest landscapes in China and strength the awareness of public participation.
(8) To benefit the implementation of *Natural Forest Protection Program, the Conversion of Cropland to Forest Program, the Wildlife Conservation and Nature Reserves Development Program and Forest Industrial Base Development Program* in China.

Diaoluoshan Forestry Bureau made commitment to set up special project management organization and related mechanism, cooperate with project team actively, coordinate all stakeholders, and take charge the protection and management of demonstration forests after project completion on condition that the project is approved and granted by ITTO. Hainan Forestry Bureau and Lingshui Forestry Bureau also made commitment to cooperate with project team actively and guarantee the development of project activities and the long-term sustainability after project completion on condition that the Project is approved and granted by ITTO (3 commitments are showed ANNEX E).

2.3 Project Strategy

There are 2 strategic options to achieve the objectives to restore tropical forest landscape in China:

(1) To develop by ourselves a set of approach to restore tropical forest landscape in China according to China's national conditions and forestry conditions;
(2) To train, apply, demonstrate and extend *ITTO Manual on Restoring Forest Landscapes* in tropics of China in

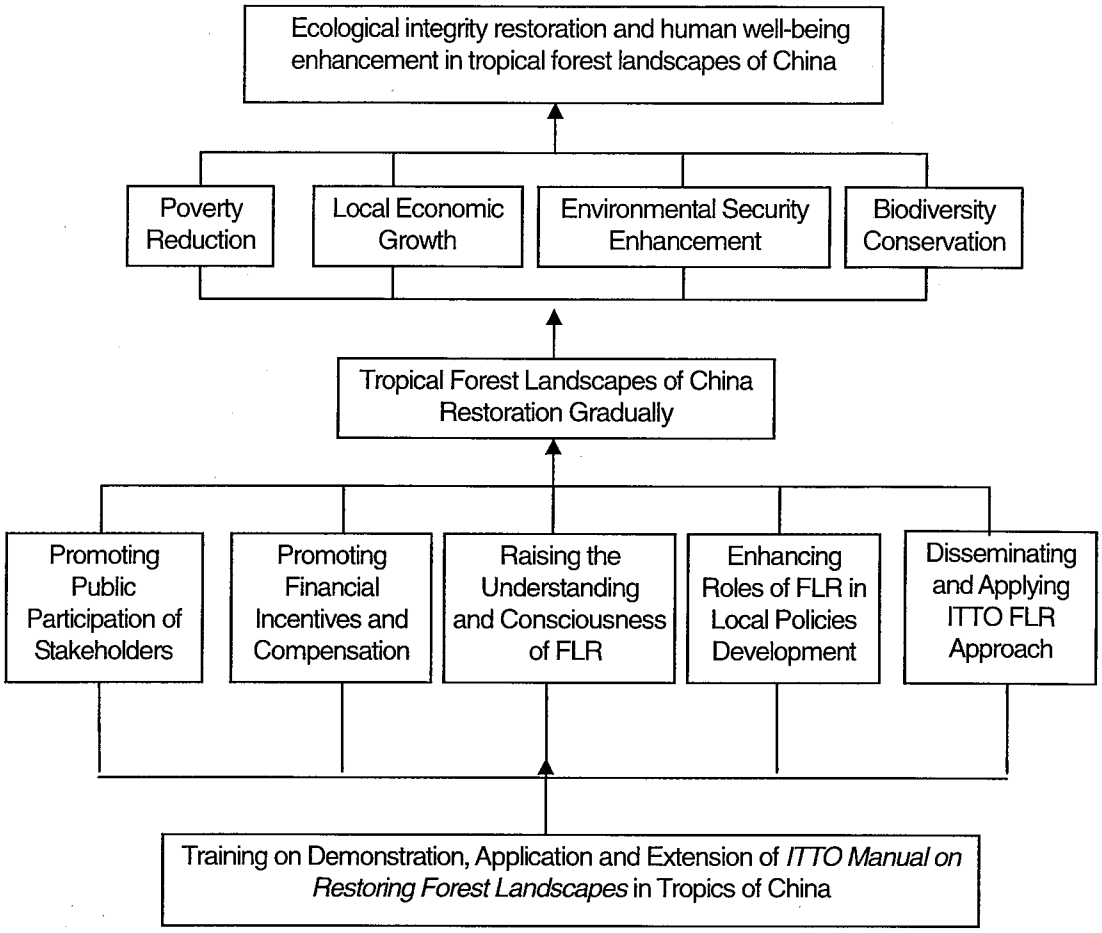
combination with China's national conditions and forestry conditions.

It will need a large expenditure and take great risks to develop by ourselves a set of approach to restore tropical forest landscape in China and that might be unable to meet the demands of ITTO. Thus strategy (1) is undesirable. Therefore only strategy (2) adopted by project is the right strategy that will both satisfy the demand of ITTO and need the minimum expenditure with the least risks.

Lingshui County of Hainan Province is a typical county in tropics of China, There are 16 minorities in the whole county, such as Li, Miao, Zhuang etc. There are different stakeholders such as Lingshui Forestry Bureau, National Forestry Bureau of Diaoluoshan, Nanping farm under the province, Lingmen farm, Administration of Nature Reserve and Bureau of National Forest Park, 114 villages etc. There are different kinds of lands such as original tropical forests, secondary tropical forests, degraded forest lands and farm lands etc. So, Lingshui County of Hainan Province is selected as project area. In the implementation phase, the main activities and studies are as fellows:

(1) Train the project members and representatives of stakeholders in project area on *ITTO Manual on Restoring Forest Landscapes*.
(2) Apply *ITTO Manual on Restoring Forest Landscapes* in the fields.
(3) Adopt the methods which include meaningful public participation, balancing land-use trade-offs, the double filter, adaptive management, action-learning, joint decision-making and conflict management etc. to develop the *Plan for Forest Landscape Restoration of Lingshui County of Hainan Province*.
(4) Establish the demonstrative plots for site-level restoration on degraded primary forests, secondary forests, degraded forest lands and agricultural lands for training of stakeholders in the application of the *ITTO Manual on Restoring Forest Landscapes*.
(5) Train and extend the *ITTO Manual on Restoring Forest Landscapes* in the tropics of China based on the application and demonstration in project area.

Objective Tree



2.4 Target Beneficiaries

In general, the beneficiaries of the project will be the local farmers and forest workers, the forestry research and development institutions, and government departments who are directly or indirectly involved in the implementation of the project. Specifically, these beneficiaries include:

(1) Local inhabitants, forestry workers and farmers who will be directly employed to conduct the fieldwork of the project, and especially those who manage the lands on which the demonstration plots are established.

(2) Community leaders and forestry workers, technicians and extension workers who will participate in training courses offered by the project.

(3) Project staff who can gather their work experiences for application of research results and demonstration of technologies.

(4) Government departments at different levels who will have more basic information to support their policy-making for forestry development.

(5) Other tropical forestry related institutions and individuals who will also benefit from the implementation of the project

when referring to the FLR manuals to be published and distributed and the technical reports produced.

(6) Other countries that have similar cases.

2.5 Technical and Scientific Aspects

Forest landscape restoration is a new term that provides a unifying theme for several well-established planning and field techniques. It is designed to bring people together to identify, negotiate and implement practices to restore a balance of environmental, social and economic benefits from forests and trees within a broader pattern of land-use. It incorporates what we've termed a 'double filter', which means that the joint objectives of enhanced ecological integrity and human well-being should not be traded off against each other at a landscape level.

Forest landscape restoration differs from conventional restoration approaches in several other ways. (1) It takes a landscape-level view, which means that site-level restoration decisions need to accommodate landscape-level objectives. (2) It is a collaborative process involving a wide range of stakeholder groups collectively deciding on the most technically appropriate and socio-economically acceptable options for restoration. (3) It can be applied to degraded forest but also to degraded lands and even agricultural lands, and it doesn't necessarily aim to restore forests to their original condition.

There are several main methods in FLR, such as meaningful public participation, balancing land-use trade-offs, the double filter, adaptive management, action-learning, joint decision-making and conflict management etc. While the overall conceptual framework of FLR is new, virtually all the principles and techniques behind the approach have been around for some time and will already be familiar to many forestry practitioners.

Under the promotion of IUCN, ITTO and other organizations, many countries and regions have already started the work on FLR. Workshops have taken place in a wide range of countries including Brazil, China, Colombia, Pakistan, Thailand, Ghana, Vietnam, and in sub-regions or regions such as Mt. Elgon in Kenya, Uganda, the Mediterranean, Central and Northern Europe, West, East, Central and North Africa, South East Asia and South America. Meanwhile, the first workshop on FLR in China was held in 2004 and the project of restoring panda landscapes in Sichuan Province is being studied. Some useful lessons are already emerging, from which this project can learn. This project is also able to benefit from the experiences of those old or long-term forest restoration projects around the world, which included approaches or elements that now is key principles of forest landscape restoration. For example, as a typical example of forest landscape restoration, Shinyanga region of Tanzania illustrates perfectly the central aim of FLR to restore landscape integrity while also enhancing human well-being.

There are 3 completed ITTO projects implemented in Hainan Province. (1) ITTO PD 14/92 Rev .2 (F) project "A Demonstration Programme of Sustainable Utilization of Tropical Forests by Means of Differentiated Management in Hainan Island, China". The project provided a demonstrative system of sustainable development of tropical forestry by means of differentiated forest management, in Hainan Province, which included 4 demonstration areas and 2 supporting sub-projects. The project provided a series of techniques for sustainable management of tropical natural forest, artificial ecosystem of tropical agro-forest-husbandry and conservation of primary tropical forest. (2) ITTO PD 57/97 project "Establishment of Satellite Remote Sensing Monitoring and Geographical Information System for Tropical Natural

Forests in Hainan". The project provided the techniques of RS and GIS to monitor the situation of tropical forest resources. (3) ITTO PD 12/00 Rev .3 (F) project "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China". The project reported the situation of natural tropical forests in Hainan Province and developed the Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China. In addition, many other basic researches relative to FLR have been made on tropical forests in Hainan Province by Tropical Botanic Institute of Chinese Academy of Science (CAS), Chinese Academy of Forestry, Forestry Research Institute of Hainan Province, Forestry Institute of Guangdong Province etc. These results of ITTO projects and other projects provided large amount of basic data and techniques related to FLR for this project.

2.6 Economic Aspects

The economical demand of this project is to realize a favorable development of tropical forests through training of stakeholders in the application of the *ITTO Manual on FLR* ~~research~~ so that high quality timber, non-wood forest products and service will be continuously provided. The economic income of the people in forest area will be increased and the production situation as well as the living condition of local people will be improved.

Due to the project is applying, demonstrating and extending of *ITTO Manual on Restoring Forest Landscapes*, as well as FLR is a long-term process, it is hard to embody the project's economic contribution. However, the contribution will present by implementing FLR program. One reason is the production, quality of wood and non-wood products and service will increase along with enhancement of the forest ecological functioning. Thereby the income of local people will be increased and human well-being will be improving increased.

2.7 Environmental Aspects

Hainan Province is situated within 18°9′--20°11′N, 108°36′ ~ 111°3′E, surrounded by sea at all sides, with an area of 33,920 square kilometers. The topography is high in the middle and low in four sides, with above sea elevation from 0-1867.4 meter. The top point is Wuzhi (five fingers) mountain. 70% of the lands are plain, tableland and hills, with 200 ~ 500m low hills accounting for 20.2%, and mountains of above 500 m accounting for 9.8%.

The annual average sunshine time amounts to 2,000 hours, and the annual average temperature is 23 ~ 28 □. The accumulated annual temperature above 10 □ is 8,300 □. The extremely lowest temperature is 1.4 ~ 7°c. The season with monthly average temperature above 20 □ lasts for 9 months. Hainan Province is rich in rainfall, yet not even either in space or in time. The rainfall concentrates in summer and autumn, rich in eastern part, yet less in western part, with a precipitation of 1,500 ~ 2,000mm. The soil types in the Island include yellow earth, crimson earth, laterite, fluviogenic soil, alluvial soil and sand around bench. Different topography is distributed and related with their different soil types, and therefore the temperature, moisture, sun illumination etc.

There are 3,500 species of vegetation with vascular bundle, which belong to 259 families and 1,347 genus. There are 1400 species of conifers and broadleaves, among which 800 species are of arbors, and 458 species are listed for commercially valuable timber. There are 85 tree species of high quality timber value, and 45 precious and rare tree

species, among which 32 species are listed as precious and rare species that are in danger and need to protection. There are 600 species of mammal and amphibians, birds and fishes.

2.8 Social Aspects

The total population of Hainan Province is 8,280,000, comprised mainly of nations Han, Li, Miao, Zhuang and Hui. The economy of Hainan Province is mainly dominated by agriculture (including forestry and husbandry), while industry and tourism develop fast. In 2005, the GDP was 11. 3 billion US$, the average GDP per resident in town is 1,016 US$, and the average annual income per farmer is 376 US$. In forest area of Hainan there live mainly Li minority and others with backward productive way, low education level, poor condition of transportation and communication.

The highway in Hainan Province is well developed. The round-Island expressway and the first, second, third level highways form a highway network on the Island. All these provide a convenient and good condition for the successful implementation of the project. Attention should be paid to attract public participation during training process of stakeholders in the application of the *ITTO Manual on FLR* ~~research process of the project~~, so that the project result could be capable to reasonably solve the contradiction of protection and utilization.

2.9 Risks

The investigation in the projects area shows that the following factors may hinder the smooth implementation of this project:

(1) Some stakeholders are reluctant to participate in the related activities due to the indifference of public participation.
(2) There may be some conflicts between introducing new knowledge and local minority culture and society style.
(3) The establishment of demonstrative plots may be affected by natural hazards such as typhoon and drought etc.
(4) Experienced international and domestic consultants/experts are not available.

Measures to minimize the risk are as follows:

(1) Interview with stakeholders to know their interest and host training courses on useful and practical FLR techniques so as to maximum the public participation.
(2) Adopt the appropriate incentive mechanism to motivate local people to participate activities of the project.
(3) Respect, understand and use local cultures, indigenous knowledge and experiences while introducing new knowledge in the project activities.
(4) Predict the natural disaster and prepare the countermeasures and measures to minimize the natural risks.
(5) Introduce successful experiences from other tropical countries and employ experienced international and domestic consultants/experts to mitigate the risks.
(6) Convince the main stakeholders in project area to make commitments for supporting the long-term sustainability of project (3 commitments are showed ANNEX E).

3. Outputs

3.1 Specific Objective 1: To train and apply ITTO Manual on Restoring Forest Landscapes in tropics of China

Output 1.1: Training of *ITTO Manual on Restoring Forest landscapes*

Output 1.2: Report on Application of *ITTO Manual on Restoring Forest landscapes* in Lingshui County of Hainan Province (project area)

Output 1.3: *Plan of FLR in Lingshui County of Hainan Province* (project area)

3.2 Specific Objective 2: To demonstrate and extend ITTO Manual on Restoring Forest Landscapes in tropics of China

Output 2.1: 60 Ha demonstrative plots for FLR in Lingshui County of Hainan Province (project area)

Output 2.2: Training and Extending of *ITTO Manual on Restoring Forest landscapes* in tropics of China

Output 2.3: Submitting of general report

4. Activities

Output/Activities
Output 1.1: Training of *ITTO Manual on Restoring Forest landscapes*
Activity 1.1.1: To translate and publish *ITTO Manual on Restoring Forest landscapes* as well as other related materials
Activity 1.1.2: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to the project members
Activity 1.1.3: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to representatives of a wide range of stakeholders
Output 1.2: Report on Application of *ITTO Manual on Restoring Forest landscapes* in Lingshui County of Hainan Province (project area)
Activity 1.2.1: To build support for FLR Initiative in project area
Activity 1.2.2: To collect the information on key components of the landscape mosaic in project area
Activity 1.2.3: To carry out the mapping (GIS) and describing the landscape mosaic in project area
Activity 1.2.4: To analyze the landscape dynamics and the forces responsible for landscape change in project area
Activity 1.2.5: To develop the MIS of project area
Activity 1.2.6: To identify the key stakeholders in project area and analyze their interests and interaction
Activity 1.2.7: To analyze how biophysical, socioeconomic and ecological factors can affect FLR in project area
Activity 1.2.8: To discuss, consult and decide site-level restoration strategies for degraded primary forests, managing secondary forests, degraded forest lands and forest functioning on agricultural land with representatives of all stakeholders
Activity 1.2.9: To develop monitoring indicators on site-level in project area
Activity 1.2.10: To compose a Report on Application of *ITTO Manual on Restoring Forest landscapes* in project area
Output 1.3: *Plan of FLR in Lingshui County of Hainan Province* (project area)
Activity 1.3.1: To discuss, consult and identify priority sites for restoration in project area
Activity 1.3.2: To discuss, consult and design the corridor program in project area
Activity 1.3.3: To develop draft plan on FLR in project area
Activity 1.3.4: To discuss, consult, optimize and identify FLR plan in project area among representatives of all stakeholders
Output 2.1: 60 Ha demonstrative plots for FLR in Lingshui County of Hainan Province (project area)
Activity 2.1.1: To chose two typical villages to investigate and map at the aspects of society, economic and nature
Activity 2.1.2: To analyze how different interventions impact landscape ecological integrity and local human well-being
Activity 2.1.3: To call in representatives of villagers and other stakeholders together to discuss the plan for site-level restoration
Activity 2.1.4: To establish demonstrative plot of site-level restoration for degraded primary forests and managing secondary forests
Activity 2.1.5: To establish demonstrative plot of site-level rehabilitation for degraded forest lands
Activity 2.1.6: To establish demonstrative plot of site-level restoration for forest functions on agricultural lands
Output 2.2: Training and Extending of *ITTO Manual on Restoring Forest landscapes* in tropics of China
Activity 2.2.1: To hold two training courses of *ITTO Manual on Restoring Forest landscapes based on the application and demonstration in project area and* 160 people will be trained in tropics of China
Activity 2.2.2: To compose a report on training and extending
Output 2.3: Submitting of general report
Activity 2.3.1: To compose general report for the completion of project tasks
Activity 2.3.2: To compose general report on technique work of the project
Activity 2.3.3: Check and acceptance

5. Logical Framework Worksheets

Project Elements	Indicators	Means of Verification	Assumptions
Development Objective: To promote the landscape restoration, sustainable management of tropical forests and the sustainable development of the tropics in China	• Strategy of Forest Landscape Restoration implemented • Quantity and quality of tropical forests increased	• Regional Forestry Development Reports • Regional Forest Inventory report	• Governmental Commitment on policy and financial incentives in different levels
Specific Objective 1: To train and apply *ITTO Manual on Restoring Forest Landscapes* in tropics of China	• Number of people trained in ITTO FLR Manual • ITTO FLR Manual implemented	• Project final report • Training report	• Extensive Participation of stakeholders in project area
Specific Objective 2: To demonstrate and extend *ITTO Manual on Restoring Forest Landscapes* in tropics of China	• Demonstrative plots established • Number of people trained in ITTO FLR Manual • Number of training courses	• Project final report • Training report	• local minority villagers adopt new technologies without any cultural and social difficulties
Output 1.1: Training of *ITTO Manual on Restoring Forest landscapes*	• Number of People trained in ITTO FLR Manual	• Training report	• Experienced international and domestic experts available
Output 1.2: Report on Application of *ITTO Manual on Restoring Forest landscapes* in Lingshui County of Hainan Province (project area)	• ITTO FLR Manual implemented in project area	• Project progress report • Project progress report • Report on implementation of ITTO FLR Manual	• Extensive Participation of stakeholders in project area
Output 1.3: *Plan of FLR in Lingshui County of Hainan Province* (project area)	• FLR Plan of Lingshui County developed	• Project progress report • FLR Plan of Project area	• Extensive Participation of stakeholders in project area
Output 2.1: 60 Ha demonstrative plots for FLR in Lingshui County of Hainan Province (project area)	• Demonstrative plots established	• Project progress report • Demonstrative Plots	• No natural hazards affecting the establishment of demonstrative plots
Output 2.2: Training and Extending of *ITTO Manual on Restoring Forest landscapes* in tropics of China	• Number of People trained in ITTO FLR Manual • Number of training courses	• Project progress report • Training report	• Commitments for supporting the long-term sustainability of project
Output 2.3: Submitting of general report	• Project Final Report completed	• Project final report	

6. Work Plan

Outputs/Activities	Schedules (in season)									
	Year 1				Year 2				Year 3	
	1	2	3	4	1	2	3	4	1	2
Output 1.1: Training of *ITTO Manual on Restoring Forest landscapes*										
Activity 1.1.1: To translate and publish *ITTO Manual on Restoring Forest landscapes* as well as other related materials										
Activity 1.1.2: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to the project members										
Activity 1.1.3: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to representatives of a wide range of stakeholders										
Output 1.2: Report on Application of *ITTO Manual on Restoring Forest landscapes* in Lingshui County of Hainan Province (project area)										
Activity 1.2.1: To build support for FLR Initiative in project area										
Activity 1.2.2: To collect the information on key components of the landscape mosaic in project area										
Activity 1.2.3: To carry out the mapping (GIS) and describing the landscape mosaic in project area										
Activity 1.2.4: To analyze the landscape dynamics and the forces responsible for landscape change in project area										
Activity 1.2.5: To develop the MIS of project area										
Activity 1.2.6: To identify the key stakeholders in project area and analyze their interests and interaction										
Activity 1.2.7: To analyze how biophysical, socioeconomic and ecological factors can affect FLR in project area										
Activity 1.2.8: To discuss, consult and decide site-level restoration strategies for degraded primary forests, managing secondary forests, degraded forest lands and forest functioning on agricultural land with representatives of all stakeholders										
Activity 1.2.9: To develop monitoring indicators on site-level in project area										
Activity 1.2.10: To compose a Report on Application of *ITTO Manual on Restoring Forest landscapes* in project area										
Output 1.3: *Plan of FLR in Lingshui County of Hainan Province* (project area)										
Activity 1.3.1: To discuss, consult and identify priority sites for restoration in project area										
Activity 1.3.2: To discuss, consult and design the corridor program in project area										
Activity 1.3.3: To develop draft plan on FLR in project area										
Activity 1.3.4: To discuss, consult, optimize and identify FLR plan in project area among representatives of all stakeholders										
Output 2.1: 60 Ha demonstrative plots for FLR in Lingshui County of Hainan Province (project area)										
Activity 2.1.1: To chose two typical villages to investigate and map at the aspects of society, economic and nature										

Activity 2.1.2: To analyze how different interventions impact landscape ecological integrity and local human well-being										
Activity 2.1.3: To call in representatives of villagers and other stakeholders together to discuss the plan for site-level restoration										
Activity 2.1.4: To establish demonstrative plot of site-level restoration for degraded primary forests and managing secondary forests										
Activity 2.1.5: To establish demonstrative plot of site-level rehabilitation for degraded forest lands										
Activity 2.1.6: To establish demonstrative plot of site-level restoration for forest function on agricultural lands										
Output 2..2: Training and Extending of *ITTO Manual on Restoring Forest landscapes* in tropics of China										
Activity 2.2.1: To hold two training courses of *ITTO Manual on Restoring Forest landscapes based on the application and demonstration in project area and* 160 people will be trained in tropics of China										
Activity 2.2.2: To compose a report on training and extending										
Output 2.3: Submitting of general report										
Activity 2.3.1: To compose general report for the completion of project tasks										
Activity 2.3.2: To compose general report on technique work of the project										
Activity 2.3.3: Check and acceptance										

7. Budget

With ITTO contribution of ~~379,620~~ 372,060US$ and Chinese Government's contribution of 159,025 US$, the overall budget of this project total ~~538,645~~ 531,085US$.

7.1 Overall Project Budget by Activity

Overall Project Budget by Activity

Outputs/Activities	Budget Components							
	10. Project Personnel	20.Sub-Contract	30.Duty Travel	40.Capital Items	50.Consumable Items	60.Miscellaneous	Quarter Year	Grand Total
Output 1.1: Training of *ITTO Manual on Restoring Forest landscapes*								
Activity 1.1.1: To translate and publish *ITTO Manual on Restoring Forest landscapes* as well as other related materials	5,000(I/E)	6,000(I)	0	9,000(I)	3,000(E)	0	Q1Y1	23,000
Activity 1.1.2: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to the project members	6,000(I/E)	0	10,000(I)	9,000(I)	3,000(E)	0	Q2Y1	28,000
Activity 1.1.3: To hold one training course of *ITTO Manual on Restoring Forest landscapes* to representatives of a wide range of stakeholders	9,000(I/E)	0	10,000(I)	4,000(I)	4,000(E)	4,000(I)	Q2Y1	31,000
Subtotal	20,000(I/E)	6,000(I)	20,000(I)	22,000(I)	10,000(E)	4,000(I)		82,000
Output 1.2: Report on Application of *ITTO Manual on Restoring Forest landscapes* in Lingshui County of Hainan Province (project area)								
Activity 1.2.1: To build support for FLR Initiative in project area	2,000(I/E)	0	2,000(I)	2,000(I)	1,000(E)	0	Q2Y1	8,000
Activity 1.2.2: To collect the information on key components of the landscape mosaic in project area	2,000(I/E)	0	2,000(I)	2,000(I)	1,000(E)	0	Q2Y1	8,000
Activity 1.2.3: To carry out the mapping (GIS) and describing the landscape mosaic in project area	5,000(I/E)	6,000(I)	0	2,000(I)	1,000(E)	0	Q2Y1	15,000
Activity 1.2.4: To analyze the landscape dynamics and the forces responsible for landscape change in project area	2,000(I/E)	0	1,000(I)	2,000(I)	1,000(E)	0	Q3Y1	7,000
Activity 1.2.5: To develop the MIS of project area	5,000(I/E)	0	0	2,000(I)	1,000(E)	0	Q3Y1	9,000
Activity 1.2.6: To identify the key stakeholders in project area and analyze their interests and interaction	2,000(I/E)	0	2,000(I)	2,000(I)	1,000(E)	0	Q3Y1	8,000
Activity 1.2.7: To analyze how biophysical, socioeconomic and ecological factors can affect FLR in project area	2,000(I/E)	0	1,000(I)	2,000(I)	1,000(E)	0	Q3Y1	7,000
Activity 1.2.8: To discuss, consult and decide site-level restoration strategies for degraded primary forests, managing secondary forests, degraded forest lands and forest functioning on agricultural land with representatives of all stakeholders	5,000(I/E)	0	16,500(I)	2,000(I)	1,000(E)	0	Q4Y1	25,500
Activity 1.2.9: To develop monitoring indicators on site-level in project area	2,000(I/E)	0	2,000(I)	2,000(I)	2,000(E)	0	Q4Y1	9,000
Activity 1.2.10: To compose a Report on Application of *ITTO Manual on Restoring Forest landscapes* in project area	5,000(I/E)	0	0	2,000(I)	2,000(E)	6,000(I)	Q4Y1	16,000
Subtotal	32,000(I/E)	6,000(I)	26,500(I)	20,000(I)	12,000(E)	6,000		102,500

Output 1.3: *Plan of FLR in Lingshui County of Hainan Province* (project area)								
Activity 1.3.1: To discuss, consult and identify priority sites for restoration in project area	2,000(I/E)	0	2,000(I)	1,000(I)	1,000(E)	0	Q1Y2	6,000
Activity 1.3.2: To discuss, consult and design the corridor program in project area	2,000(I/E)	0	1,000(I)	1,000(I)	1,000(E)	0	Q1Y2	5,000
Activity 1.3.3: To develop draft plan on FLR in project area	2,000(I/E)	0	0	1,000(I)	1,000(E)	0	Q1Y2	4,000
Activity 1.3.4: To discuss, consult, optimize and identify FLR plan in project area among representatives of all stakeholders	4,000(I/E)	0	7,000(I)	0	2,000(E)	3,000(I)	Q1Y2	16,000
Subtotal	10 000(I/E)	0	10 000(I)	3 000(I)	5 000(E)	3 000(I)		31 000
Output 2.1: 60 Ha demonstrative plots for FLR in Lingshui County of Hainan Province (project area)								
Activity 2.1.1: To chose two typical villages to investigate and map at the aspects of society, economic and nature	6,000(I/E)	0	2,000(I)	0	0	0	Q2Y2	8,000
Activity 2.1.2: To analyze how different interventions impact landscape ecological integrity and local human well-being	2,000(I/E)	0	2,000(I)	1,000(I)	1,000(E)	0	Q2Y2	6,000
Activity 2.1.3: To call in representatives of villagers and other stakeholders together to discuss the plan for site-level restoration	3,000(I/E)	0	3,000(I)	1,000(I)	1,000(E)	0	Q2Y2	8,000
Activity 2.1.4: To establish demonstrative plot of site-level restoration for degraded primary forests and managing secondary forests	3,000(I/E)	30,000(I/E)	1,000(I)	1,000(I)	1,000(E)	0	Q3Q4Y2	36,000
Activity 2.1.5: To establish demonstrative plot of site-level rehabilitation for degraded forest lands	3,000(I/E)	30,000(I/E)	1,000(I)	0	1,000(E)	0	Q3Q4Y2	35,000
Activity 2.1.6: To establish demonstrative plot of site-level restoration for forest functions on agricultural lands	3,000(I/E)	30,000(I/E)	1,000(I)	0	1,000(E)	3,000(I)	Q3Q4Y2	38,000
Subtotal	20,000(I/E)	90,000(I/E)	10,000(I)	3,000(I)	5,000(E)	3,000(I)		131,000
Output 2..2: Training and Extending of *ITTO Manual on Restoring Forest landscapes* in tropics of China								
Activity 2.2.1: To hold two training courses of *ITTO Manual on Restoring Forest landscapes based on the application and demonstration in project area and* 160 people will be trained in tropics of China	18,000(I/E)	0	15,000(I)	2,000(I)	3,000(E)	0	Q1Y3	38,000
Activity 2.2.2: To compose a report on training and extending	2,000(I/E)	0	5,000(I)	1,000(I)	2,000(E)	2,000(I)	Q1Y3	12,000
Subtotal	20,000(I/E)	0	20,000(I)	3,000(I)	5,000(E)	2,000(I)		50,000
Output 2.3: Submitting of general report								
Activity 2.3.1: To compose general report for the completion of project tasks	4,000(I/E)	0	0	0	2,000(E)	0	Q2Y3	6,000
Activity 2.3.2: To compose general report on technique work of the project	4,000(I/E)	0	0	0	2,000(E)	0	Q2Y3	6,000
Activity 2.3.3: Check and acceptance	2,000(I/E)	0	10,000(I)	0	1,000(E)	2,000(I)	Q2Y3	15,000
Subtotal	10,000(I/E)	0	10,000(I)	0	5,000(E)	2,000(I)		27,000

Non-Activity Based Expenses (Fuel and Utilities, Office supplies and Auditing)*					20,000*	6,000*		
Subtotal (ITTO)	90,000	72,000	96,500	51,000	0	20,000		329,500
Subtotal (E. Agency)	22,000	30,000	0	0	42,000	0		94,000
Total	112,000	102,000	96,500	51,000	42,000	20,000		423,500

* Non-Activity Based Expenses: (1) Fuel and Utilities is 21,000 US$; (2) Office supplies is 9,000 US$; (3) Auditing is 6,000 US$. They are listed in Items 50 and Items 60 respectively.

I —contribution of the ITTO E— contribution of the Executing Agency / Host Government

7.2 Yearly Project Budget by Source

Yearly Project Budget

Annual Disbursements / Budget Component	Total	YEAR 1	YEAR2	YEAR3
10. Project Personnel	112,000	52,000	30,000	30,000
20. Sub-contracts	102,000	12,000	90,000	0
30. Duty travel	96,500	46,500	20,000	30,000
40. Capital items	51,000	42,000	6,000	3,000
50. Consumable items	42,000	22,000	10,000	10,000
60. Miscellaneous	20,000	10,000	6,000	4,000
Subtotal	423,500	184,500	162,000	77,000
70. Executing Agency Management Costs (15% of Subtotal)	65,025	26,000	26,000	11,025
80. ITTO Monitor, Evaluation, and Administration Costs	42,560			
99. Total	531,085			

Yearly Project Budget by Source - ITTO

Annual Disbursements / Budget Component	Total	YEAR 1	YEAR2	YEAR3
10. Project Personnel	90,000	43,000	21,000	26,000
20. Sub-contracts	72,000	12,000	60,000	0
30. Duty travel	96,500	46,500	20,000	30,000
40. Capital items	51,000	42,000	6,000	3,000
50. Consumable items	0	0	0	0
60. Miscellaneous	20,000	10,000	6,000	4,000
Subtotal 1	329,500	153,500	113,000	63,000
80. ITTO Monitor, Evaluation and Administration Costs				
81. Monitoring and Review Costs	10,000			
82. Evaluation Costs	5,000			
Subtotal 2	344,500			
83. Programme Support Costs (8% of subtotal 2)	27,560			
99. Total	372,060			

Yearly Project Budget by Source - E. Agency (Chinese Government)

Annual Disbursements / Budget Component	Total	YEAR 1	YEAR2	YEAR3
10. Project Personnel	22,000	9,000	9,000	4,000
20. Sub-contracts	30,000	0	30,000	0
30. Duty travel	0	0	0	0
40. Capital items	0	0	0	0
50. Consumable items	42,000	22,000	10,000	10,000
60. Miscellaneous	0	0	0	0
70. Executing Agency Management Cost (15% of Total of Overall Project Budget by Activity)	65,025	26,000	26,000	13,025
EXECUTING AGENCY TOTAL	159,025	57,000	75,000	27,025

7.3 Consolidated Yearly Project Budget

Consolidated Yearly Project Budget

Budget Components		TOTAL	YEAR 1	YEAR2	YEAR3
10.	**Project Personal**				
	11.National Experts	48,000	19,000	17,000	12,000
	12.Other Labor	20,000	6,000	6,000	8,000
	13.Training	20,000	10,000	0	10,000
	14.International Experts	24,000	17,000	7,000	0
	19.Component Total	112,000	52,000	30,000	30,000
20.	**Sub-contracts**				
	21.Sub-contracts (A)	90,000	0	90,000	0
	22.Sub-contracts (B)	12,000	12,000	0	0
	29.Componment Total	102,000	12,000	90,000	0
30.	**Duty Travel**				
	31.Daily Subsistence Allowance				
	31a. International (key staff)	10,500	5,500	3,000	2,000
	31b. National (key staff and trainees)	45,000	21,000	5,000	19,000
	32.transport cost				
	32a. International (consultant and key staff)	20,000	10,000	6,000	4,000
	32b. National	21,000	10,000	6,000	5,000
	39.Component Total	96,500	46,500	20,000	30,000
40.	**Capital Items**				
	41.premises	15,000	6,000	6,000	3,000
	42.Vehicle	20,000	20,000	0	0
	43.Capital Equipment				
	431.Office Equipments	16,000	16,000	0	0
	49.Component Total	51,000	42,000	6,000	3,000
50.	**Consumable Items**				
	51.Fuel and Utilities	21,000	11,000	5,000	5,000
	52.Spare	12,000	6,000	3,000	3,000
	53.Offoce Supplies	9,000	5,000	2,000	2,000
	59.Component Total	42,000	22,000	10,000	10,000
60.	**Miscellaneous**				
	61.Sundry	14,000	8,000	4,000	2,000
	62 Auditing	6,000	2,000	2,000	2,000
	63 Contingencies	0	0	0	0
	69.Component Total	20,000	10,000	6,000	4,000
70.	**Executing Agency Management Cost (15% of Total 10~60)**				
	71. Executing Agency Management Cost	65,025	26,000	26,000	11,025
	79.Componenrt Total	65,025	26,000	26,000	11,025
	SUBTOTAL	488,525	210,500	188,000	90,025
80.	**ITTO Monitoring, Evaluation and Administration**				
	81.Monitoring and Ex-post Evaluation	15,000			
	82.Evaluation Cost	0			
	83.Programme Support Cost	27,560			
	89.Component Total	42,560			
100.	**GRAND TOTAL**	531,085			

Consolidated Yearly Project Budget by Source - ITTO

Budget Components		TOTAL	YEAR 1	YEAR2	YEAR3
10.	**Project Personal**				
	11.National Experts	26,000	10,000	8,000	8,000
	12.Other Labor	20,000	6,000	6,000	8,000
	13.Training	20,000	10,000	0	10,000
	14.International Experts	24,000	17,000	7,000	0
	19.Component Total	90,000	43,000	21,000	26,000
20.	**Sub-contracts**				
	21.Sub-contracts (A)	60,000	0	60,000	0
	22.Sub-contracts (B)	12,000	12,000	0	0
	29.Componment Total	72,000	12,000	60,000	0
30.	**Duty Travel**				
	31.Daily Subsistence Allowance				
	31a. International (key staff)	10,500	5,500	3,000	2,000
	31b. National (key staff and trainees)	45,000	21,000	5,000	19,000
	32.transport cost				
	32a. International (consultant and key staff)	20,000	10,000	6,000	4,000
	32b. National	21,000	10,000	6,000	5,000
	39.Component Total	96,500	46,500	20,000	30,000
40.	**Capital Items**				
	41.premises	15,000	6,000	6,000	3,000
	42.Vehicle	20,000	20,000	0	0
	43.Capital Equipment				
	431.Office Equipments	16,000	16,000	0	0
	49.Component Total	51,000	42,000	6,000	3,000
50.	**Consumable Items**				
	51.Fuel and Utilities	0	0	0	0
	52.Spare	0	0	0	0
	53.Offoce Supplies	0	0	0	0
	59.Component Total	0	0	0	0
60.	**Miscellaneous**				
	61.Sundry	14,000	8,000	4,000	2,000
	62 Auditing	6,000	2,000	2,000	2,000
	63 Contingencies	0	0	0	0
	69.Component Total	20,000	10,000	6,000	4,000
70.	**Executing Agency Management Cost (15% of Total 10~60)**				
	71. Executing Agency Management Cost	0	0	0	0
	79.Componenrt Total	0	0	0	0
	SUBTOTAL	329,500	153, 500	113,000	63,000
80.	**ITTO Monitoring, Evaluation and Administration**				
	81.Monitoring and Review Cost	15,000			
	82.Evaluation Cost	0			
	83.Programme Support Cost	27,560			
	89.Component Total	42,560			
100.	**GRAND TOTAL**	372,060			

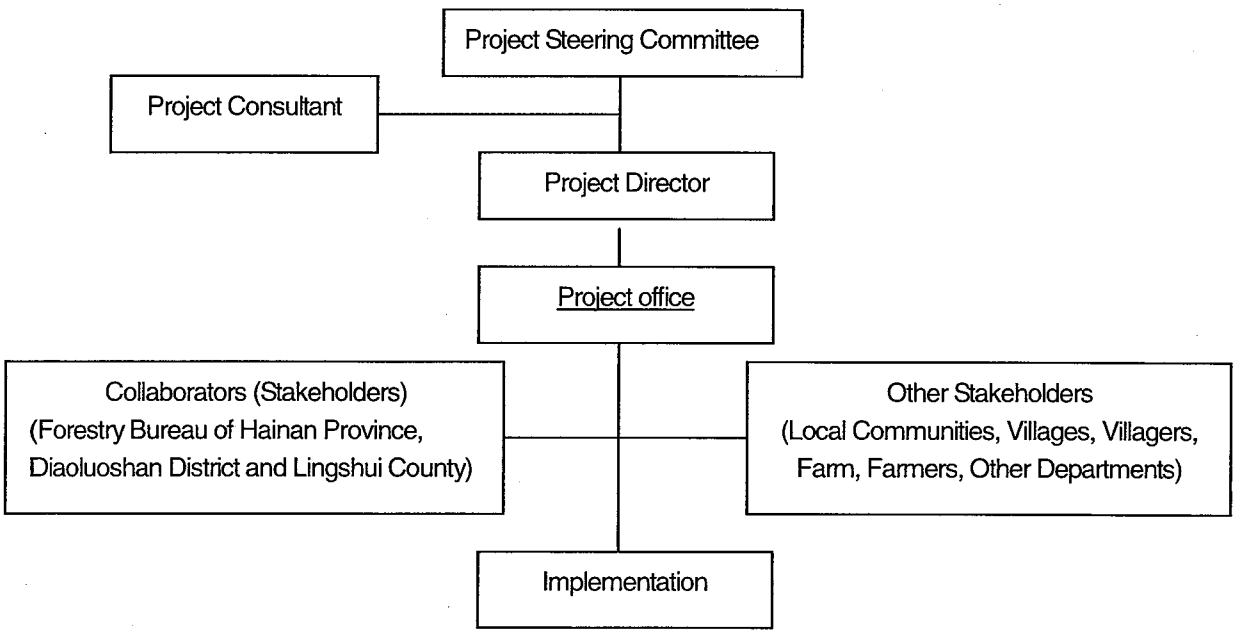
Consolidated Yearly Project Budget by Source - E. Agency (Chinese Government)

Budget Components		TOTAL	YEAR 1	YEAR2	YEAR3
10.	**Project Personal**				
	11.National Experts	22,000	9,000	9,000	4,000
	12.Other Labor	0	0	0	0
	13.Training	0	0	0	0
	14.International Experts	0	0	0	0
	19.Component Total	22,000	52,000	9,000	4 000
20.	**Sub-contracts**				
	21.Sub-contracts (with A demonstrative plots)	30,000	0	30,000	0
	22.Sub-contracts (with B publishing)	0	0	0	0
	29.Componment Total	30,000	0	30,000	0
30.	**Duty Travel**				
	31.Daily Subsistence Allowance				
	31a. International (key staff)	0	0	0	0
	31b. National (key staff and trainees)	0	0	0	0
	32.transport cost				
	32a. International (consultant and key staff)	0	0	0	0
	32b. National	0	0	0	0
	39.Component Total	0	0	0	0
40.	**Capital Items**				
	41.premises	0	0	0	0
	42.Vehicle	0	0	0	0
	43.Capital Equipment				
	431.Office Equipments	0	0	0	0
	49.Component Total	0	0	0	0
50.	**Consumable Items**				
	51.Fuel and Utilities	21,000	11,000	5,000	5,000
	52.Spare	12,000	6,000	3,000	3,000
	53.Offoce Supplies	9,000	5,000	2,000	2,000
	59.Component Total	42,000	22,000	10,000	10,000
60.	**Miscellaneous**				
	61.Sundry	0	0	0	0
	62 Auditing	0	0	0	0
	63 Contingencies	0	0	0	0
	69.Component Total	0	0	0	0
70.	**Executing Agency Management Cost (15% of Total 10~60)**				
	71. Executing Agency Management Cost	65,025	26,000	26,000	11,025
	79.Componenrt Total	65,025	26,000	26,000	11,025
	SUBTOTAL	159,025	57,000	75,000	27,025
80.	**ITTO Monitoring, Evaluation and Administration**				
	81.Monitoring and Ex-post Evaluation	0			
	82.Evaluation Cost	0			
	83.Programme Support Cost	0			
	89.Component Total	0			
100.	**GRAND TOTAL**	159,025			

PART III: OPERATIONAL ARRANGEMENTS

1. Management Structure

The project will be jointly implemented by the Research Institute of Forest Resource Information Techniques of CAF and the collaborators under the overall supervision of the Project Steering Committee. The Project Steering Committee will be composed of the Ministry of Commerce of the Peoples' Republic of China, the State Forestry Administration (SAF) of the Peoples' Republic of China, the donators and ITTO. Project Management Chart is as fellows:



2. Monitoring, Reporting and Evaluation

2.1 Project progress report

A project progress report will be submitted to ITTO every six month during the process of project implementation.

2.2 Project completion report

Enough copies of project completion report will be composed, printed and submitted to ITTO in three months after completion of the project as ITTO may require.

2.3 Project technique report

A project technique report will be submitted to ITTO in three months after completion of the project as ITTO may require.

Key technique reports will be submitted during the process of project implementation.

2.4 Monitoring, review and steering committee's inspection

The steering committee of project will inspect and guide the implementation by holding one meeting every year. Specific monitoring and review by ITTO can be carried out at any moment during the process of project implementation.

2.5 Evaluation

The inspection mission sent by ITTO will make assessment on project performance after completion of the project.

3. Future Operation and Maintenance

(1) Various items of output of the project are to be assigned to project members, with duty-bound responsibility respectively.

(2) Six technical persons with high level techniques and with strong consciousness of responsibility will be engaged, who are mainly responsible for data collection about conditions of natural tropical forests at the level of region and management unit, during the process of project implementation. While the project team will dispatch specific experts to participate and carry on guidance and inspection, to ensure the objectiveness, exactness and accuracy of the materials.

(3) All equipments purchased by the project will be arranged in unison by project director.

(4) The project group will draw up financial, administrative and personal file regulations to ensure the smooth implementation of the project.

PART IV: TROPICAL TIMBER FRAMEWORK

1. Compliance with ITTA 1994 Objectives

The Project complies with ITTO objectives (c), (d), (f), (g), (j) and (l) established in Article 1of the International Tropical Timber Agreement (ITTA 1994):

(c) To contribute to the process of sustainable development.

(d) To enhance the capacity of members to implement a strategy for achieving exports of tropical timber and timber products from sustainability managed sources by the year 2000.

(f) To promote and support research and development with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests.

(j) To encourage members to support and develop industrial tropical timber reforestation and forest management activities as well as rehabilitation of degraded forest land, with due regard for the interests of local communities dependent on forest resources.

(l)To encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade.

2. Compliance with ITTO Action Plan

The Project complies with the goals of 3.2 Reforestation and Forest Management in *ITTO Yokohama Action Plan 2002~2006 (2001)*:

GOAL 1: Support Activities to Secure the Tropical Timber Resource Base

(1) Support the effective enforcement of forest laws and regulations, which ensure sustainable forest management and secure the production base.

(4) Promote the conservation, rehabilitation and sustainable management of threatened forest ecosystems, inter alia mangroves, in collaboration with relevant organizations.

(5) Assess opportunities for, and promote development of, non-timber forest products and forest services, which can

improve the economic attractiveness of maintaining the forest resource base.

(7) Encourage members and assist them, where appropriate, to:

- Develop innovative mechanisms and relevant legislative frameworks, including incentives and market-based instruments, to secure and expand, where appropriate, the forest resource base;
- Secure the forest resource base through the implementation of forest policy, legislation and associated strategies, revised and updated where appropriate;
- Identify and prevent irregular forestry activities;
- Identify shortcomings in enforcement of forest laws and regulations, and overcome them; and
- Incorporate operational knowledge of forest ecosystem behaviour in planning and management prescriptions.

GOAL 2: Promote Sustainable Management of Tropical Forest Resources

(1) Promote the implementation of ITTO guidelines and C&I and review and improve these as necessary.

(3) Develop and promote the implementation of guidelines for the management of secondary tropical forests, restoration of degraded tropical forests and rehabilitation of degraded forest land.

(6) Monitor and assess the social, economic, and environmental costs and benefits of sustainable management of natural forests.

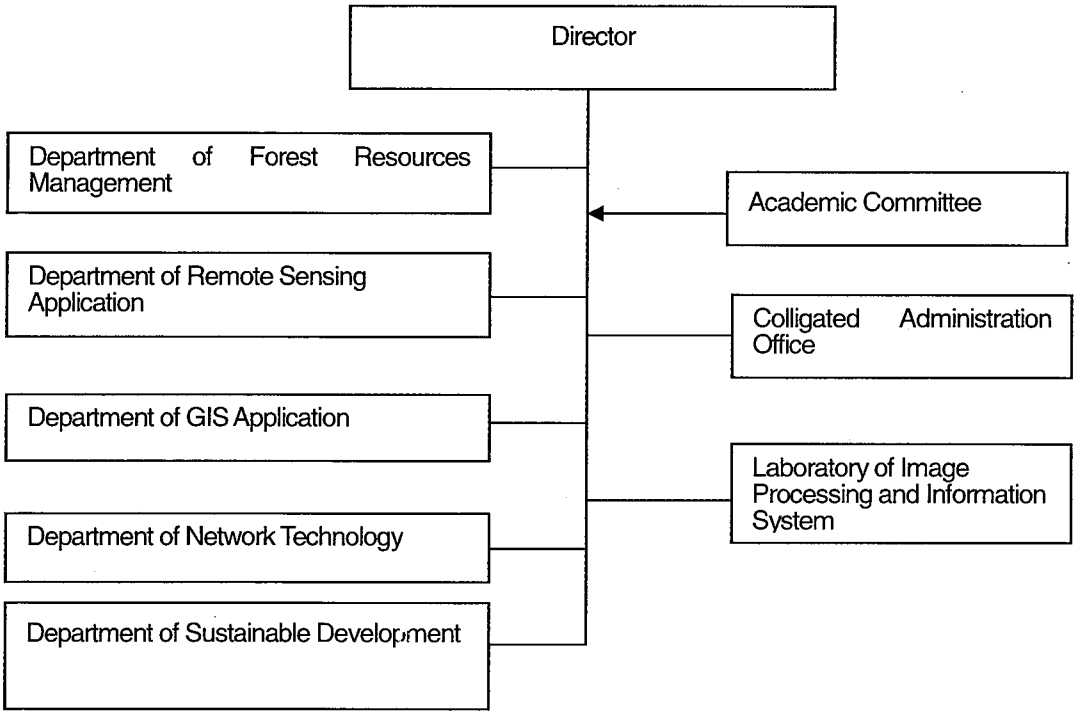
(10) Encourage Members and assist, where appropriate, to:

- Implement appropriate forest harvesting, including reduced-impact-logging, as a component of sustainable forest management;
- Improve the productive capacity of natural forests, where appropriate, through intensified silvicultural practices, better utilization of lesser-used species, promotion of non-timber forest products, guided natural regeneration, enrichment planting and reforestation;
- Implement research and development activities in the management of secondary tropical forests, restoration of degraded tropical forests and rehabilitation of degraded forest land, taking into consideration ITTO guidelines;
- Establish and manage forests for multiple-use in close co-operation with local forest owners and communities living in forest areas;

ANNEX A: Profile of the Executing Agency

1. The Expertise of Executing Agency

The Chinese Academy of Forestry (CAF) is an academic forestry organization of national level and is subordinate to the State Forestry Administration. The executing agency, the Research Institute of Forest Resources Information Techniques is a research institute affiliated to the CAF. The institute is a scientific research organization to develop satellite remote sensing application and forest resources management, its professional business refers to management of forest resources, research and application of remote sensing and GIS, monitoring of forest pests and fires, environment evaluation, exploitation of computer application software, network and communication techniques etc. Its framework is illustrated as follows:



The institute mainly undertakes national projects and researches on aspects of forest resources, remote sensing monitoring of forest disasters, information sharing and others. In recent three years, the institute altogether obtained 68 projects, among which 55 projects were subsidized by the government and 13 projects were of international cooperation. The major projects are:

(1) Gathering of Basic Data of Forest Resources and Construction of Information Network (subsidized by the Ministry of Science and Technology)
(2) Construction of National Digital Forestry (subsidized by the State Forestry Administration)
(3) Application of Remote Sensing and GIS Techniques to Spatial, Dynamic and Quantitative Method on Forest Resources Forecast (supported by State Natural Science Fund)
(4) National Forecast System of Forest Fire Danger (supported by the State Forestry Administration)
(5) Research and Construction of "China Forestry Academic Network" (network system at CAF) (subsidized by the Ministry of Science and Technology)

There are 4 ITTO projects applied and executed by the institute:

(1) Demonstration of Sustainable Utilization of Tropical Forests by Differentiated Management in Hainan Island of China

(ITTO PD 14/92 Rev.2(F)). It was applied and presided over by Professor Hong Jusheng. It had been executed during 1993-1998. The institute was one of the executing agencies.

(2) Development and Extension of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China (ITTO PD 12/00 Rev.3(F)). It was applied and presided over by Professor Hong Jusheng. It has been being executed during 2001-2003, and is now being executed in good condition. The institute is the executing agency.

(3) Tropical Forest Fire Monitoring and Management System Based on Satellite Remote Sensing Data in China (ITTO PPD 22/01(F)). It was applied and presided over by Professor Yi Haoruo. It was executed during May, 2002-Jan. 2003. The institute is the executing agency.

(4) Tropical Forest Fire Monitoring and Management System Based on Satellite Sensing Data in China (ITTO PD 228/03 Rev.2 (F)). It was applied and presided over by Professor Yi Haoruo. It was executed from Jan. 2006. The institute is the executing agency.

2. The Infrastructure of the Executing Agency

The institute possesses semi-automatic receiving station equipments of NOAA-AVHRR data. The network center of "China Forestry Academic Network" is set up within the institute, with a main communication chain-route of 1000 M bandwidth for data transmission, and with related servers, data storages, data exchangers etc. It is also equipped with a lot of workstations, digitizers, plotters, micro-computers, GPS receivers etc. It is disposed with image processing and GIS software, e.g. ERDAS, PCI, ARC/INFO, Geomedia Professional & Web-GIS, IDRISI, ENVI/IDL etc.

The institute is provided with a total of 3000 square meters of laboratory and office rooms. Among them, the lab has 600 m^2, while computer and network training classroom 90 m^2 (with 25 sets of PCs connected to the Internet), and 3 meeting rooms of different sizes.

3. Budget

The budget of the Executing Agency in last three years is shown in the following table (in US$).

Year	2003	2004	2005	Total
Personnel	500,000	650,000	727,000	**1877,000**
Sub-contracts	111,750	109,500	115,625	**336,875**
Duty Travel	156,875	152,000	328,163	**637,038**
Capital Items	0	53,500	268,175	**321,675**
Consumable Items	20,125	118,813	**112,463**	**251,401**
Total	**788,750**	**1083,813**	**1551,426**	**342,3989**

4. Professional Personnel

There are presently 56 fixed scientific and technical persons, among them 10 have doctor's degree, 28 master's degree and 13 bachelor's degree. We have 2 academicians of Chinese Academy of Sciences, 11 senior research scientists (professors), 18 associate professors and 11 personnel with intermediate title. The technical staff is all engaged in works pertinent to forestry research. Eight persons work for administrative management.

ANNEX B: Curricula Vitae of the Key Staff

1. Project Director

Name: **Huang Qinglin**
Date and place of birth: 1967/Fujian, China
Nationality: Chinese
Field and institution of graduation: Forestry, Fujian Forestry College, Nanping, China.
Field and institution of Post-graduation: Ph. D., Forest Management, Beijing Forestry University, Beijing
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China"
(2) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China "
(3) Held 4-month ITTO Fellowship Programme in Goettingen University in Germany and finished the technical document on "Key Techniques of Continuous Cover Forestry and Their Possible Applications in Tropical Forest Management in China" .
(4) Professor of CAF

2. Project Consultant

Name: **Zhang Shougong**
Date and place of birth: 1957/Anhui, China
Nationality: Chinese
Field and institution of graduation: Forestry, Anhui Agricultural University, Hefei, China.
Field and institution of Post-graduation: Ph. D., Forest Management, Beijing Forestry University, Beijing
Relevant work undertaken in the last three years:

(1) President of CAF, Chief scientist and Professor of CAF, director of sustainable forestry development research center of CAF.
(2) Director of in UNDP-109 "Capacity-building, extension and demonstration of researching on sustainable forest management in China "
(3) Coordinator of Working Group for sustainable forest management in Asia-Pacific.
(4) Coordinator of Building of International Model Forest Network

3. Key Staff Member

Name: **Huang Jincheng**
Date and place of birth: 1962/ Guangdong, China
Nationality: Chinese
Field and institution of graduation: Tropical crops, South China Tropical Agriculture University, China.
Field and institution of Post-graduation: Master, Forest Silviculture, Nanjing Agriculture University
Relevant work undertaken in the last three years:

(1) Director of sub-project No.4 of ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".
(2) Director of ITTO PD 10/99 "Selection and Cultivation of Fast-growing and High-yielding

Strains of Timber-oriented Rubber Tree in Hainan, China"
(3) Senior Engineer of Hainan Forestry Bureau

Name: **Huang Jianwen**
Date and place of birth: 1968/Beijing
Nationality: Chinese
Field and institution of graduation: Computer Technique, Changsha College of Railway.
Field and institution of Post-graduation: Master., Remote Sensing for Forestry, Chinese Academy of Forestry, Beijing
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".
(2) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China ".
(3) Associate Professor of CAF

Name: **Liu Hua**
Date and place of birth: 1972/Beijing
Nationality: Chinese
Field and institution of graduation: Forestry, Nanjing Forestry University.
Field and institution of Post-graduation: Master., Remote Sensing for Forestry, Chinese Academy of Forestry, Beijing
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".
(2) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China ".
(3) Associate Professor of CAF

Name: **Chen Bowang**
Date and place of birth: 1965/Fujian, China
Nationality: Chinese
Field and institution of graduation: Forestry, Fujian Forestry College, Nanping, China.
Field and institution of Post-graduation: Ph. D., Forest Silviculture, Chinese Academy of Forestry, Beijing
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".
(2) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China ".
(3) Associate Professor of CAF

Name: **Zhang Xiaohong**
Date and place of birth: 1981/ Shandong, China
Nationality: Chinese
Field and institution of graduation: Soil and Water Conservation, Shandong Agricultural University,Tai'an,China.
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China ".
(2) Participated in SFA project "Developing Criteria and Indicators for Sustainable

Management of Tropical Forests in China".

(3) Postgraduate student

Name: **Zhang Chao**
Date and place of birth: 1980/ Hebei, China
Nationality: Chinese
Field and institution of graduation: Forestry, Hebei Agricultural University,Baoding,China.
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 12/00 Rev .3 (F) "Developing and Extending of Criteria and Indicators for Sustainable Management of Natural Tropical Forests in China ".
(2) Participated in SFA project "Developing Criteria and Indicators for Sustainable Management of Tropical Forests in China".
(3) Postgraduate student

Name: **Ding Changchun**
Date and place of birth: 1958/ Hunan, China
Nationality: Chinese
Field and institution of graduation: Central-South Forestry College, Changnsha, China..
Field and institution of Post-graduation:
Relevant work undertaken in the last three years:

(1) Forest resource monitoring, planning and design of forestry project
(2) Director of ITTO PD 57/97 "Establishment of Satellite Remote Sensing Monitoring and Geographical Information System for Tropical Natural Forests in Hainan"
(3) Senior Engineer of Hainan Forestry Bureau

Name: **He Chulin**
Date and place of birth: 1962/ Hunan, China
Nationality: Chinese
Field and institution of graduation: Computer science, University of National Defensive Science and Technology, Changnsha, China.
Field and institution of Post-graduation: Master, Tropical Forest and International Forest, Goettingen University, Germany
Relevant work undertaken in the last three years:

(1) Application of Remote sensing and GIS, Forest resource monitoring, Forest inventory
(2) Participated in ITTO PD 57/97 "Establishment of Satellite Remote Sensing Monitoring and Geographical Information System for Tropical Natural Forests in Hainan"
(3) Senior Engineer of Hainan Forestry Bureau

Name: **Tian Aiying**
Date and place of birth: 1962/ Hunan, China
Nationality: Chinese
Field and institution of graduation: Forestry, Central-South Forestry College, Zhuzhou, China.
Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".
(2) Participated in ITTO PD 10/99 "Selection and Cultivation of Fast-growing and High-yielding Strains of Timber-oriented Rubber Tree in Hainan, China
(3) Engineer of Hainan Forestry Bureau

Name: **Xie Mingdong**

Date and place of birth: 1953/ Hainana

Nationality: Chinese

Field and institution of graduation: Qiongzhou University, Hainan,China.

Field and institution of Post-graduation:.

Relevant work undertaken in the last three years:

(1) Participated in ITTO PD 14/92 Rev .2 (F) "A Demonstration Programme of Sustainable Utilization of tropical Forests by Means of Differentiated Management in Hainan Province, China".

(2) Director of Diaoluoshan Forestry Buraau

(3) Senior Engineer of Hainan Forestry Bureau

ANNEX C: Location of the Project Areas

ANNEX D: Brief Introduction of the Project Area

The project area is located in Lingshui Li Autonomous County that lies in the southeast of Hainan Island. The county located at 18° 22' ~ 18° 47' N and 109° 45' ~ 110° 08' E, connecting Sanya city in the south, adjoining with Qiongzhong county in the north, and its east border is Wanning county, west border is Baoting county. The county has long history of more than 1,390 years.

The total cover area of the county is 1,128 km^2, of which 59% is collectively owned. It is high in the northwest and low in the southeast of the terrain. The west is the mountain area, the middle part is the hills area, and the southeast is the plain area. The climate of the county is classified as " tropical monsoon", whose annual average temperature is 24 □ and annual rainfall is about 1,500 ~ 2,500 mm.

The county consists of 17 towns, with 114 administrative villages, 611 natural villages. The site has three state-owned institutions: Nanping farm under the province, Lingmen farm and Diaoluoshan bureau of forestry. There are 16 minorities in the whole county, such as Li, Miao, Zhuang etc. The total population is 320,000, the Han accounts for 45% while other minority accounts for 55%. In 2005, the GDP of the county is 201,380,000 US$, the average GDP per person is 629 US$, and the average annual income per farmer is 286 US$.

The present forest cover of the whole county is 66 600 hectares, among which cultivated land covers 28 100 ha, and garden land 11,600 ha. Of the total forest areas, 44% is natural forest while 56% is planted forest. Forest coverage rate is 58%. There are nature reserve and national forest park in the site. Typical original tropical forests, large area of secondary tropical forests and degraded forest lands can also be found in the county.

ANNEX E: Explanation of Financial Budget

Consolidated Total

Budget Components		Unit	Quanti ty	Unit Costs	Total Amount	Remark
10.	**Project Personal**					
	11.National Experts	MM	24	2,000	48,000	
	12.Other Labor	MM	20	1,000	20,000	
	13.Training	MM	25	800	20,000	
	14.Int'l Consultants	MM	2.0	12,000	24,000	3 Int'l Consultants***
	19.Component Total	-	-	-	112,000	
20.	**Sub-contracts**					
	21.Sub-contracts (with A)	Ha	60	1,500	90,000	
	22.Sub-contracts (with B)	No	1	12,000	12,000	
	29.Componment Total	-	-	-	102,000	
30.	**Duty Travel**					
	31.DSA	-	-	-	55,500	
	31a. International	-	-	-	10,500	
	Key staff	MD	70	150	10,500	International seminars**
	31b. National	-	-	-	45,000	
	Key staff	MD	200	50	10,000	
	Trainees	MD	700	50	35,000	200 people will be trained*
	32. Transport Cost	-	-	-	41,000	
	32a. International	-	-	-	20,000	
	Consultants	No	3	2,000	6,000	3 Int'l Consultants
	Key staff	No	7	2,000	14,000	International seminars**
	32b. National	-	-	-	21,000	
	Key staff	No	20	500	10,000	
	Trainees	No	220	50	11,000	200 people will be trained
	39.Component Total	-	-	-	96,500	
40.	**Capital Items**					
	41.premises	No	1	15,000	15,000	A shed for field training****
	42.Vehicle	-	1	20,000	20,000	For field work
	43.Capital Equipment	-				
	431.Office Equipments	-	5	3,200	16,000	
	49.Component Total	-	-	-	61,000	
50.	**Consumable Items**					
	51.Fuel and Utilities	Year	3	7,000	21,000	
	52.Spare	Year	3	4,000	12,000	
	53.Offoce Supplies	Year	3	3,000	9,000	
	59.Component Total				42,000	
60.	**Miscellaneous**					
	61.Sundry				14,000	
	62 Auditing				6,000	
	63 Contingencies				0	
	69.Component Total				20,000	

* Include 20 in activity 1.1.2 for 3 days, 40 in activity 1.1.3 for 4 days and 160 in activity 2.2.1 for 3 days respectively.

** Line 31a. (International) includes the DSA of the key staff for international seminars only. It is necessary for key staff to participate international seminars on Forest Landscapes Restoration hosted by ITTO or IUCN etc. It is the duty for the project to communicate the output and achievement in international seminars too. So, 7 person-times are planed to participate international seminars during the implementing of the project.

*** Line 14. (Int'l Consultants) includes the DSA of the Int'l Consultants already, so Line 31a. (International) does not include the DSA of the Int'l Consultants and includes the DSA of the key staff for international seminars only.

**** A work shed for field training and demonstrating in the demonstrative plots is necessary for the project.

ANNEX F: Commitment Letters from 3 Forestry Bureaus to Support Project's Long-term Sustainability

(*Translation only for reference,* the scanning files of original letters are attached on page 36~38)

International Tropical Timber Organization:

We have participated in developing the ITTO project "Training on Demonstration, Application and Extension of *ITTO Manual on Restoring Forest Landscapes* in Tropics of China". We believe that its implementation will promote the forest landscape restoration and development of economy and society of Hainan Province. We are willing to support the project team actively, to guarantee the implementation and the long-term sustainability of the project on condition that the project is approved and granted by ITTO.

Hainan Forestry Bureau,
Hainan Province, P. R. China
October 20, 2006

International Tropical Timber Organization:

We have participated in developing the ITTO project "Training on Demonstration, Application and Extension of *ITTO Manual on Restoring Forest Landscapes* in Tropics of China". We have consulted with local stakeholders (including Diaoluoshan Nature Reserve, Diaoluoshan National Forest Park and local communities etc) during the project development process. We believe that its implementation will promote the forest landscape restoration and development of economy and society in this area. In order to guarantee the implementation and the long-term sustainability of the project, we are willing to set up special project management organization and related mechanism, cooperate with project team actively, coordinate all stakeholders, and take charge of the protection and management of demonstration forests after project completion on condition that the project is approved and granted by ITTO.

Diaoluoshan Forestry Bureau,
Hainan Province, P. R. China
October 20, 2006

International Tropical Timber Organization:

We have participated in developing the ITTO project "Training on Demonstration, Application and Extension of *ITTO Manual on Restoring Forest Landscapes* in Tropics of China". We believe that its implementation will promote the forest landscape restoration and development of economy and society in Lingshui Li Autonomous County. We are willing to cooperate with project team actively to guarantee the implementation and the long-term sustainability of the project on condition that the project is approved and granted by ITTO.

Forestry Bureau of Lingshui Li Autonomous County,
Hainan Province, P. R. China
October 20, 2006

承诺函

国际热带木材组织：

我们参与了《ITTO 森林景观恢复手册在中国热带地区的示范培训、应用与推广》项目建议书的编写，并确信该项目的实施将对海南省热带森林景观恢复和经济社会发展起重要的示范作用。因此，如果该项目得到 ITTO 的批准，我们将积极支持项目组的工作，以确保该项目的顺利实施和项目结束后的长期持续性。

海南省林业局

2006 年 10 月 20 日

承诺函

国际热带木材组织：

我们参与了《ITTO 森林景观恢复手册在中国热带地区的示范培训、应用与推广》项目建议书的编写，并与相关的利益团体（包括吊罗山自然保护区、吊罗山国家森林公园和当地社区等）进行协商，我们确信该项目的实施将促进吊罗山林区热带森林景观恢复和经济社会发展。因此，如果该项目得到 ITTO 的批准，我们将成立项目专门管理机构和相关机制，积极配合项目组的工作，协调各利益团体，负责项目完成后的示范林保护与经营，确保该项目的顺利实施和项目结束后的长期持续性。

海南省吊罗山林业局

2006 年 10 月 20 日

承诺函

国际热带木材组织（ITTO）：

我们参与了《ITTO 森林景观恢复手册在中国热带地区的示范培训、应用与推广》项目建议书的编写，并确信该项目的实施将促进陵水县热带森林景观恢复和经济社会发展。因此，如果该项目得到 ITTO 的批准，我们将积极配合项目组的工作，以确保该项目的顺利实施和项目结束后的长期持续性。

海南省陵水县林业局

2006 年 10 月 20 日

ANNEX G: Terms of Reference for International consultants, National Experts and Subcontracts

The project team will include 3 international consultants and 4 national experts. The expertise required and terms of reference for each consultant and expert are given as follows:

International consultants

International consultant for ITTO FLR Manual training

International consultant for ITTO FLR Manual training must be either a forester or a natural resource management specialist. The consultant should have extensive field experience on forest landscapes restoration and at the global level and regional level. The consultant should have the experience of training. The responsibilities of the consultant are to:

- Develop training curriculum on *ITTO Manual on Restoring Forest landscapes*;
- Train the project members on *ITTO Manual on Restoring Forest landscapes*;
- Demonstrate the application of *ITTO Manual on Restoring Forest landscapes* based on cases studies;
- Design and suggest the program for applying ITTO FLR Manual

International consultant for FLR plan developing

International consultant for FLR plan developing in project area must be a forest scientist with practical forest restoration and management experience in other tropical countries. The expert should have background on forest landscape restoration, community forest management, biodiversity conservation and forest policy. The consultant should be familiar with the methods which include meaningful public participation, balancing land-use trade-offs, the double filter, adaptive management, action-learning, joint decision-making and conflict management etc. The responsibilities of the consultant are to:

- Prepare the program for applying ITTO FLR Manual and develop FLR Plan in project area;
- Guide the application of *ITTO Manual on Restoring Forest landscapes* in project area;
- Guide the preparation for developing *the plan of FLR of Lingshui County of Hainan Province;*
- Develop the plan *of Forest Landscape Restoration of Lingshui County of Hainan Province.*

International consultant for sustainable management of tropical forests

International consultant for sustainable management of tropical forests must be a forest scientist with practical tropical forests management experience in other tropical countries. The expert should have background on forest management and silviculture of tropical forests. The consultant should be familiar with the management of degraded primary forest, secondary forests, degraded forestlands and restoring forest functions on agricultural land in tropics. The responsibilities of the consultant are to:

- Guide the establishment of 3 demonstrative plots in project area;
- Design and guide the management of secondary forests in project area;
- Design and guide the management of degraded forestlands project area;
- Design and guide the management of restoring forest functions on agricultural land project area;

National Experts

National Expert for tropical forest management

National Expert for tropical forest management must be a forestry scientist with strong background and experiences of tropical forest management, especially the knowledge of sustainable management for degraded primary forest, secondary forests and degraded forestlands and should have experiences in developing training curriculum, facilitating training and writing reports. The main responsibilities of the expert are to:

- Develop training curriculum and train people on forest management of tropical forest;
- Consult and decide site-level restoration strategies in project area;
- Develop monitoring indicators on site-level in project area;
- Develop plan on FLR in project area (associated with other experts).

National Expert for Landscape ecology and planning

National Expert for Landscape ecology and planning must be a landscape ecologist with forestry background and experiences of landscape planning. The expert should have experiences in developing training curriculum, facilitating training and writing reports. The main responsibilities of the expert are to:

- Develop training curriculum and train people on Landscape ecology and planning;
- Analyze the landscape dynamics and develop the MIS of project area;
- Design the corridor program and develop plan on FLR in project area (associated with other experts).

National Expert for tropical forest silviculture

National Expert for tropical forest silviculture must be a silviculture specialist with strong background of breeding of seeds and afforestation in tropical. The expert should have extensive field experience on silviculture of the degraded primary forest, secondary forests and degraded forestlands, and should have experiences in developing training curriculum, facilitating training and writing reports. The main responsibilities of the expert are to:

- Develop training curriculum and train people on forest management of tropical forest;
- Develop the plan for site-level restoration in project area;
- Establish 3 demonstrative plots of site-level restoration in project area.

National Expert for forestry economics and sociology

National Expert for forestry economics and sociology should be a specialist with strong background in economics, sociology and forestry. The expert should have experiences in community forestry, forest policy and public participation, and should have experiences in developing training curriculum, facilitating training and writing reports. The main responsibilities of the expert are to:

- Develop training curriculum and train people on forestry economics, sociology and community forestry;
- Identify the key stakeholders in project area and analyze their interests and interaction;
- Analyze the effect of biophysical, socioeconomic and ecological factors in project area;
- Develop plan on FLR in project area (associated with other experts).

Subcontracts

There will be 3 subcontracts in the project.

Terms of references for Subcontract A (Establishment of 60 ha demonstrative plots)

- Establish demonstrative plot of site-level restoration for managing secondary forests (in activity 2.1.4)
- Establish demonstrative plot of site-level rehabilitation for degraded forest lands (in activity 2.1.5)
- Establish demonstrative plot of site-level restoration for forest functions on agricultural lands (in activity 2.1.6)

Terms of references for Subcontract B1 (Publish of *ITTO Manual on Restoring Forest landscapes*)

- Translate *ITTO Manual on Restoring Forest landscapes into Chinese* (in activity 1.1.1)
- Publish *ITTO Manual on Restoring Forest landscapes* (in activity 1.1.1)
-

Terms of references for Subcontract B2 (Development of the GIS for the project area)

- Develop the GIS of the project area (in activity 1.2.3)

ANNEX H: Summary of Modification
Based on the Recommendations of the ITTO 33nd Expert Panel

SN	Recommendations	Modifications in the proposal
1	Provide more information on the scientific aspect of the project by consulting with the available relevant national and international sources.	More information on the scientific aspect of the project has been provided on page 8.
2	Make clear in the proposal that the main purpose of establishing the demonstration plots is for training of stakeholders in the application of the ITTO Manual on restoring forest landscapes.	It has been made clear that the main purpose of establishing the demonstration plots is for training of stakeholders in the application of the ITTO Manual on restoring forest landscapes in Project Strategy on page 6, Economic Aspects on page 9 and Social Aspects on page 10.
3	Refine the logical framework matrix with due attention to measurable indicators and their means of verification.	The logical framework matrix with due attention to measurable indicators and their means of verification has been refined on page 13.
4	Improve the risk analysis and identify relevant mitigating measures.	The risk analysis has been Improved and the relevant mitigating measures have been identified on page 10.
5	Include terms of reference for the international consultant, national experts and sub-contracts	Terms of reference for the international consultant, national experts and sub-contracts has been provided in Annex G on page 40~42.
6	Revise the ITTO budget in view of scaling it down in the following line: ▪ On page 21, reduce budget line 31.a (Int'l consultant) to US$ 6,750,-and redefine budget line 31.b as "National (key staff and trainees)" and budget line 32.a as "International (consultant and key staff)"; ▪ Delete budget line 63 "contingencies" and justify inclusion of premises or delete otherwise; ▪ Allocate US$ 15,000,- for ITTO monitoring and evaluation costs; and Recalculate ITTO's Programme Support costs at 8 % of total project costs.	It has been done on page 20~22 and page 35. The justification and explanation are showed on page 35.
7	Include an annex that shows the recommendation of the 33rd Expert Panel and the respective modifications in tabular form. Modifications should also be highlighted (bold and underline) in the text.	It has been done on this page. The additions in amended version are shown in underlining, while the deletion in strikethrough.

ANNEX I: Summary of Modification
Based on the Recommendations of the ITTO 32nd Expert Panel

SN	Recommendations	Modifications in the proposal
1	It is advisable to rephrase the title as "Training on Demonstration, Application and Extension of the ITTO Manual on Restoring Forest Landscapes in Tropics of China"	The title is rephrased as "Training on Demonstration, Application and Extension of the ITTO Manual on Restoring Forest Landscapes in Tropics of China".
2	Refine the wording of the English version of the problem tree and objective tree; possibly add to the problem tree economic and social causes for over-exploitation leading to deforestation, fragmentation etc.	The wording of the problem tree and objective has been refined on page 4 and page 7. The economic and social causes for over-exploitation leading to deforestation, fragmentation etc. have been added to the problem tree on page 4.
3	List and add some information on on-going and completed ITTO projects in Hainan	More information on on-going and completed ITTO projects in Hainan has been listed and added on page 1~2.
4	Refine the logical framework matrix with due attention to measurable indicators	Logical framework matrix with due attention to measurable indicators has been improved on page 12.
5	Strengthen the strategy by informing on ways and means on how scientific studies will be taken up in the implementation phase	The strategy by informing on ways and means on how scientific studies will be taken up in the implementation phase has been strengthened on page 6.
6	Provide more information on the scientific and technical aspect by consulting the technical reports of completed ITTO projects in Hainan	More information on the scientific and technical aspect has been provided on page 8~9.
7	As regards risks, indicate measures to mitigate risks and a clear commitment to overcome any of the risks mentioned as they may occur	Measures to mitigate risks have been indicated on page 11. Three clear commitments to overcome any of the risks have been attached on Annex F (page 36 ~39).
8	Long-term sustainability needs to be addressed in view of the issues listed for intended situation after project completion, how will sustainability be assured, financed and which organizations (central, regional, local) will be responsible	It has been done on page 5 and three clear commitments from local forestry bureaus are attached on Annex F (page 35~38). Diaoluoshan Forestry Bureau will be responsible for the protection and management of demonstration forests after project completion.
9	Provide more details on potential benefits that are accruable to beneficiaries	More details on potential benefits that are accruable to beneficiaries have been provided on page 7~8.
10	Refine the management structure to accommodate participation of stakeholders in implementation of the project	The management structure to accommodate participation of stakeholders in implementation of the project has been refined on page 23.
11	Scale down the ITTO budget by reducing the costs for car, office equipment, etc. and recalculate ITTO's Programme Support costs accordingly	The costs for car and office equipment have been reduced (10,000 US$) and ITTO's Programme Support costs has been recalculated (8%) accordingly on page 15~21.
12	Include an annex that shows the recommendation of the 32nd Expert Panel and the respective modifications in tabular form. Modifications should also be highlighted in the text	It has been done on this page. The additions in revised version are shown in underlining, while the deletion in strikethrough.