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#### **Executive Summary**

The Taninthayi Nature Reserve Project (TNRP) is a co-operative project between the Government of the Union of Myanmar, represented by the Forest Department (FD), and the Moattama Gas Transportation Company Limited (MGTC) and Taninthayi Pipeline Company (TPC). TNRP was born of to support the planning, establishment and operation of Taninthayi Nature Reserve so as to effectively conserve the tropical rainforests and their constituent biodiversity in the Taninthayi Region of the southern Myanmar. Terminal evaluation of the project by a project evaluation team from UOF under the leadership of rector was thoroughly conducted at the end of the first four year period with the intention to provide constructive independent review of project activities and the performance of the parties involved.

The project was overseen by Project Co-ordinating Committee (PCC) and implemented by Project Implementing Team (PIT). The project was implemented according to the workplans for each year. During the first four year period (2005-2009) of the project, Technical Advisor (TA) was recruited for the project to achieve advisory support to all aspects of the Reserve development and management, based on regional and world best practices. Likewise, National Consultants (NC) from different disciplines were recruited to acquire baseline information on biodiversity of the Reserve, and propose potential areas for community development and strategic action plan for environmental education.

The project can be overviewed in terms of design and performance of which the latter encompasses finance, personnel, infrastructure and institutionalization. The design of the project was formulated to support the management planning and in some instance establishment and operation of TNR in the light of international best practices.

The financial contribution from both MGTC and TPC is sufficient for TNRP to run the project without any financial constraints. The performances of PCC, PIT, TA and NC reached satisfactory situation only in some cases. The Draft Management Plan (DMP) of the Reserve still reflects the urgent need of further revision. Regarding infrastructure, the project invested in constructing buildings, setting up nursery facilities, acquiring office facilities and field equipment and purchasing vehicles.

The project exerted deliberate efforts such as notification for better legal supports, physical boundary demarcation for improved public recognition and patrolling for preventing from forest and wildlife related offences. With the help of Remote Sensing and Geographic Information System (RS/GIS) section of FD, a total of eight digital map layers were produced in a view to provide a basic for initial management planning and zonation.

The findings on the design and performance of the project reveal both strength and weakness of the project which has been implementing since 2005. Based on the key findings, the realistic recommendations for any corrective actions or changes in direction required have been made to assist TNRP which needs to be extended for successful establishment and management of TNR.

# **List of Abbreviations and Acronyms**

CEPA Communication, Education and Public Awareness

CF Community Forestry

CFI Community Forestry Instructions
CSSQ Cost, Scope, Schedule and Quality

DEM Digital Elevation Model
DMP Draft Management Plan
DPD Deputy Project Director
EE Environmental Education

FAPC Foreign Affair Policy Committee

FD Forest Department FUG Forest Users Groups

GTZ Deutsche Gesellschaft fuer technische Zusammenarbeit GmbH

ITTO International Tropical Timber Organization

IUCN International Union for Conservation of Nature and Natural Resources

LOU Local Operation Unit

MGTC Moattama Gas Transportation Company Limited

MOF Ministry of Forestry

MOGE Myanma Oil and Gas Enterprise

NC National Consultant

NWCD Nature and Wildlife Conservation Division

PA Protected Area

PAS Protected Areas System

PCC Project Co-ordinating Committee

PD Project Director

PIT Project Implementation Team
PRA Participatory Rural Appraisal
RMT Reserve Management Team

RS/GIS Remote Sensing and Geographic Information System

TA Technical Advisor

TNR Taninthayi Nature Reserve

TNRP Taninthayi Nature Reserve Project

TOR Terms of Reference

TPC Taninthayi Pipeline Company

UOF University of Forestry

WCS Wildlife Conservation Society

#### 1. Introduction

Myanmar encompasses parts of three sub-regions of the Indo-Malayan Realm namely: Indian sub-region, Indo-Chinese sub-region and Sundiac sub-region. The sub-regions are further divided into sub-unit which is also used as bio-unit, of which there are a total of 10 in Myanmar (Mac Kinnon et al, 1996), reflecting differences in topography and in plant and animal distribution. Due to its unique geographic position, altitudinal and climatic variations, Myanmar is still in good shape in terms of forest cover, which is about 50% of the total land area, and consequently in terms of biodiversity richness. Mountain, Forest, Dry and Subhumid land, Inland water, Agriculture, Marine and Coastal water biodiversity, which all are a vital resource for sustainable development of the nation, can be observed in the country. With the intention of conserving biodiversity, the government is making concerted efforts to establish a network of protected areas system. Despite there are 43 protected areas established representing 7.3% of the total land area of the nation, there are still in need of further establishment of protected areas representing all biodiversity rich areas in Myanmar, particularly in Taninthayi division where there is no terrestrial protected area of high biodiversity conservation value, except Lampi Marine National Park.

The Government of the Union of Myanmar made a strategic decision on the matter of national economic development and sustainable utilization of natural resources through natural gas transportation under the agreement between the Ministry of Energy, the Union of Myanmar and the Moattama Gas Transportation Company Limited (MGTC). As a result of the agreement, the Ministry of Forestry (MOF) took responsibilities for establishment of a protected area covering extensive pristine and representative natural tropical rainforests of high conservation value in Taninthayi division. Initially, Myinmo Letkat Nature Reserve encompassing Heinze, Kaleinaung and Luwaing Forest Reserve and some adjacent areas of the southern parts of Myinmo Letkat mountain range was proposed as a Protected Area (PA) with an area of more than one million hectors. Eventually, the MOF decided strategically to notify the area of about 170,000 ha covering relatively undisturbed tropical rainforests including pipeline corridor as a protected area by the name of Taninthayi Nature Reserve (TNR) under prevailing policy and laws. At that time, TNR was the largest terrestrial protected area in Myanmar: however, in this day and age, Hukaung Valley Tiger Reserve with an area of about 2,200,000 ha in the northern part of Myanmar became the largest tiger reserve as well as the largest terrestrial protected area both in Myanmar and in the world.

### 2. Project Descriptions

# 2.1. Background information

The Taninthayi Nature Reserve Project (TNRP) is the co-operative project between the Government of the Union of Myanmar, represented by the Forest Department (FD), and MGTC and Taninthayi Pipeline Company (TPC). This project is for the establishment and operation of a protected area that will

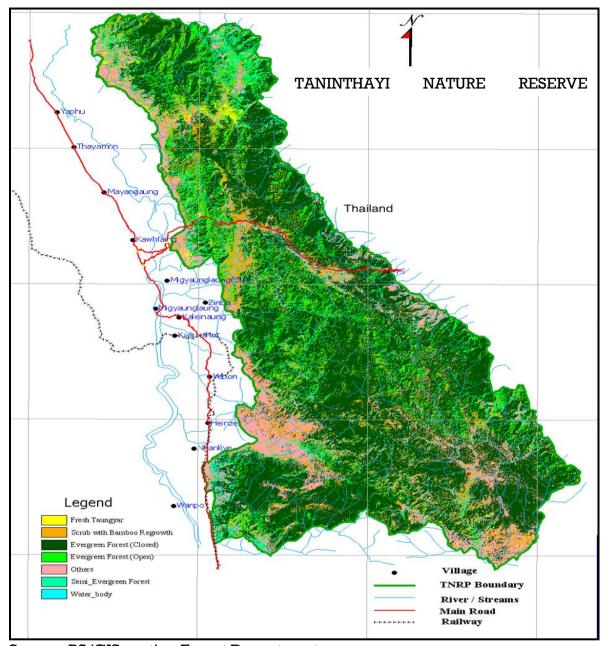
conserve the tropical rainforests and their constituent biodiversity in the Taninthayi Region of the southern Myanmar. The Foreign Affair Policy Committee (FAPC) approved for implementing the Taninthayi Nature Reserve Project at the meeting No. 13/2003 on November 30, 2003. Thereafter, the Myanmar Government agreed to take part in TNRP at the Cabinet Meeting No. 44/2003 on December 24, 2003. After getting the Government approval, the official signing ceremony for TNRP was held on March 4, 2004 in Yangon. In the ceremony, "Letter of Agreement for the Establishment, Financing and Management of TNRP was signed by FD, MGTC and TPC. In accordance with the TNRP, the MOF declared the "Proposed Taninthayi Nature Reserve" as per notification No.31/2004 issued on May 10, 2004. Thereafter, MOF has notified TNR as a protected area as per notification No 18/2005 issued on March 30, 2005.

# 2.2. Rationale of the project

Before TNRP has come into full of life, there was no existing or proposed protected areas in the mountainous, tropical rainforests covering northern and central portions of Taninthayi division. The ongoing development of a natural gas transportation corridor across the northern Taninthayi division by MGTC and TPC highlighted the need to manage this corridor in an ecologically sound manner. This situation then brought the commitment of both companies to contribute to ecologically sound development within the surrounding region. It would provide a unique opportunity to establish and support the management of a protected area that would play a part in the expansion of the national protected areas systems. The opportunity to explore a new type of partnership and new mechanisms for joint government-private sector funding and operation of protected areas in Myanmar was also evolved from this state of affairs.

### 2.3. Project design and strategy

TNRP was born of to support the planning, establishment and operation of TNR. The project area of TNR is situated between the Dawei River and the Myanmar/Thailand border (Eastern part of Heinze and Kaleinaung and Luwaing Forest Reserve), including the MGTC/TPC pipeline corridor. The project initial period is defined as four years (2005-2009). In the long-term, it is expected approximately up to 30 years, depending on the estimated life of the pipeline operation. The size of the area is comparable to the largest protected areas in the neighbouring countries, making a significant addition to both national protected areas system and regional protected areas network. The basic strategy of the project is to use funding derived from the operation of the MGTC and TPC pipelines to support the establishment and long-term operation of the Reserve.



Source: RS/GIS section Forest Department

Figure 1 Location map of the TNRP

It is intended that the Reserve will be planned and managed from the outset by the staff from Nature and Wildlife Conservation Division (NWCD) and other units of FD. The level of field allowances for the staff assigned to the project will be set by the Project Co-ordinating Committee (PCC), but this is to be in line with that of other NGO-supported projects. The role of MGTC and TPC will primarily be to provide funding and to participate with government in overall co-ordination of the project through PCC. Although MGTC and TPC will not normally play a day-to-day role in the project, they will assist with logistics, procurement etc. to the extent possible using their existing facilities. It is the intent of the project that the Reserve will be planned, established and managed using recognized international best practices, appropriately adapted to the Myanmar situations.

#### 2.4. Organization of the project

The project has been overseen by PCC consisting of representatives from the parties (FD, MGTC and TPC) and MOGE (Myanma Oil and Gas Enterprise), and implemented by a Project Implementation Team (PIT) headed by a Project Director (PD).

### 2.4.1. Project Co-ordinating Committee (PCC)

MOF appointed three representatives, MOE two representatives, and MGTC and TPC two representatives each to form PCC. In this aspect, Coordinating Committee decisions will require unanimity of all parties (see figure 2). PCC took a form of "Board of Directors", providing oversight and guidance to the project, overseeing, reviewing and evaluating the work of PIT, and safeguarding the interests of all of the Parties. To all intents and purposes, the function of PCC is direction and financial oversight rather than line management.

## 2.4.2. Project Implementation Team (PIT)

A full-time Director was chosen and mutually agreed by all parties to set up and lead PIT that is responsible for implementing the project. PD received advisory support from an experienced Technical Advisor (TA) during the project period. PIT was recruited with staff from NWCD and other units of the FD. PIT was consisted of a small group of managers, planners and technical staff based in Yangon, and operational staff based in the project site. The organization of the project is shown in figure 2.

#### 2.4.3. Recruitment of Technical Advisor and National Consultants

Wildlife Conservation Society (WCS) was assigned as TA for duration of ten months over the project period. The purpose of the assignment is to provide advisory support to all aspects of development and management of TNR. The Terms of Reference (TOR) of TA is mentioned as Appendix I. Likewise, NC were also assigned for various fields to provide technical inputs for planning, establishment and operation of the project. The project acquired consultancy in floral, mammal and birds survey, buffer zone management, Community Forestry and Environmental Education. The Terms of Reference (TOR) of NC are mentioned as Appendix II.

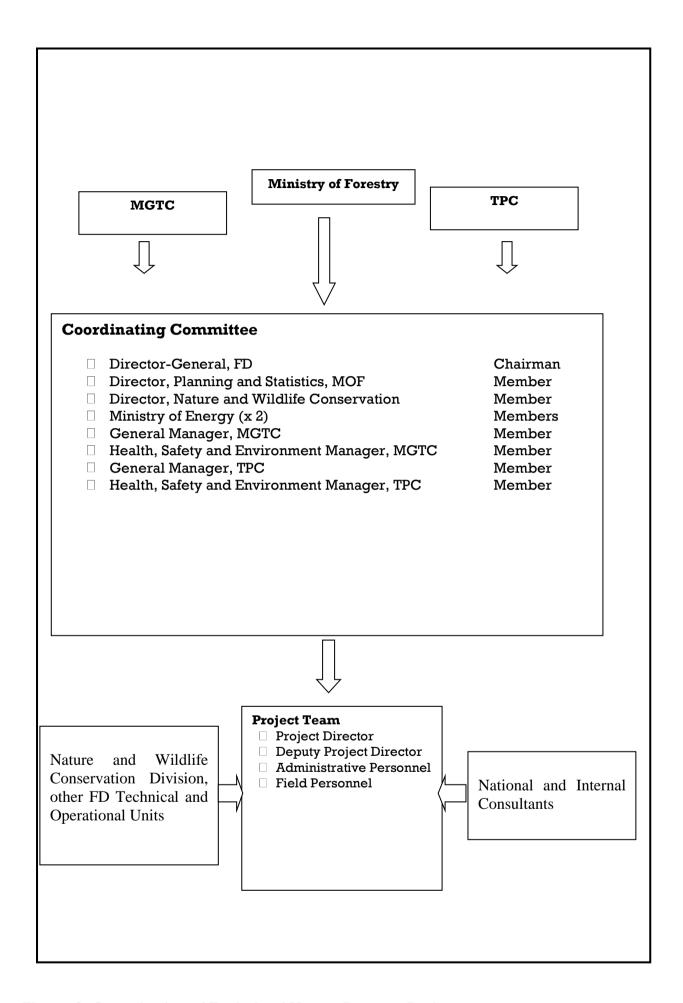


Figure 2. Organization of Taninthayi Nature Reserve Project

# 2.5. The objectives of the project

in designated use zones.

# 2.5.1. Development objectives

In line with the long-term objectives of NWCD-FD for the establishment of national Protected Areas System (PAS), the development objectives of the project are as follows:

are as	s follows:
	to contribute to the establishment of Myanmar's protected areas network (target coverage $5\%$ of total country area in the medium-term, $10\%$ in the long-term),
	to contribute to capacity building, especially of field staff,
	to contribute to the development of awareness among decision-makers, the general public and subsistence land users,
	to contribute to the development of floral and faunal inventories and of a research capacity in the natural sciences and
	to contribute to socio-economic and community development in buffer zones and immediately adjacent areas.
	2.5.2. Immediate objectives
follow	In view of the development objectives, the project also identified the ring immediate objectives.
	Project Staffing and Administration: to staff the Project with qualified personnel and to develop administrative/support linkages and routines according to the project agreement and agreed operational guidelines.
	Management Planning and Implementation: to develop and implement a management approach that will ensure long-term protection of biodiversity within the reserve while permitting sustainable development

☐ Reserve Operation: to develop the operational capacity for effective, long-

term, on-the-ground management of the reserve.

### 3. Evaluation Strategy

A project is a specific activity, with definite starting and ending points, intended to accomplish specific objectives, which logically seems to lend itself to planning, financing and implementing as a unit. In this regard, projects can more specifically be viewed as an organized set of activities for accomplishing a particular task over a defined period of time. In fact, it is a concerted effort directed towards the achievement of immediate results and usually related to wider and longer-term goals which are beyond their own immediate purposes. Developing an intervention in the form of a project usually has some virtues: it encourages conscious and systematic examination of alternatives and establishes framework for analyzing information of different kinds. Therefore, design of projects has to be clearly formulated in terms of cost, scope, schedule and quality parameters. Subsequently, a proper specification of the project context (the development objectives, the specific objectives, the activities, the outputs and the expected outcomes) are fundamental to the design and strategy of the project. Afterwards, the project moves through consecutive phases from first conception to completion called the project cycle (see figure 3).

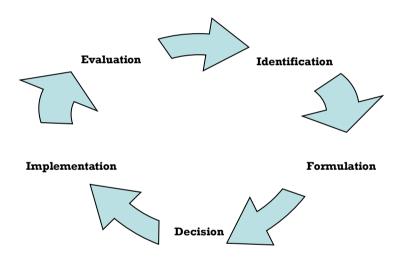


Figure 3 The project cycle (ITTO, 1999)

Obviously, evaluation is one of the essential phases in the project cycle management. In general sense, it is systematic investigation of the worth and merit of the project. It is better to view an evaluation exercise more specifically as a periodic assessment, as systematic and impartial as possible, of the project in the context of stated objectives with regards to relevance, effectiveness, efficiency, impact and sustainability on its design, implementation and results. Therefore, evaluation is not only an instrument to measure progress in attaining benefits from the project but also should be considered an intrinsic part of this progress. Actually, it is also a formal activity that can be organized either internally by executing agency itself (usually co-ordinated with partners) or externally by an independent third party. Evaluation study is also subject to conduct both during implementation (i.e., mid-term evaluation) and at the completion (i.e., terminal evaluation) of the project. Even though these studies are organized by different parties or at different time, both of them are generally

undertaken as independent examinations of the project with a view to drawing lessons that may guide future works.

## 3.1. Purpose of the evaluation

During the process of designing projects, problems are identified and solutions proposed. It is rare that all the information required to make decision is available at the onset. Many assumptions are made during the planning process. Evaluation therefore serves as a necessary feedback mechanism, providing information for making adjustment on the design or implementation process. General purpose is to draw empirical lessons concerning the validity and worthiness of activities of the project for betterment of similar actions in future. In line with these considerations, the present terminal evaluation is intended to serve the following specific purposes:

To provide basis for decision-making on amendment and improvement of design, strategies and procedures of the project,
To promote accountability of the implementing organization with regards to resource uses against stated objectives, and
To document and provide feedbacks, and disseminate results and lessons learned.

#### 3.2. Criteria of the evaluation

Project terminal evaluation is systematic, objective assessment of a completed project. The key issue here is to determine whether the project is contributing to the change that it is designed to make, and to examine those aspects of the project that are contributing to or hampering its success, whether they lie in the design or implementation process. Thus, a terminal evaluation should provide credible, useful information that makes it possible to identify and incorporate lessons drawn from previous experiences into the decision-making process for future interventions. The present study explores five major criteria in reviewing process in order to provide essential information in connection with present and future decisions on TNR.

<b>Relevance</b> : gauges the degree to which the project at a given time is justified within the global, national and local environment and development priorities.
<b>Effectiveness</b> : measures the extent to which the objective has been achieved or the likelihood that it will be achieved.
<b>Efficiency</b> : assesses the outputs in relation to inputs, looking at cost, implementing time, and financial aspects.
<b>Impact</b> : measures both the positive and negative, foreseen and unforeseen, changes to and effects on biophysical and socioeconomic environments caused by the project.
Sustainability: measures the extent to which benefits of the project

# 3.3. Principles of the evaluation

Evaluation is said to be a usable, practical activity that supports learning and accountability. However, to be useful, it must be integrated into the overall strategy and planning process of the project. Evaluation must be conducted carefully, based on systematic methods of data collection and analysis. Thus, the present evaluation is guided by the followings principles (adopted by IUCN-World Conservation Union).

**Transparency**: The transparency of the evaluation process is an important aspect of ensuring that evaluations are extensively used. Clear communication with stakeholders is made concerning the purpose of the evaluation, the key questions and intended uses of the results of the evaluation process, along with standards for the design, data collection and analysis to maximize the transparency of the evaluation process.

**Ethical**: The evaluation team endeavours to ensure that the evaluation process pursues moral principles of the society. This means that the evaluation provides due regards for the welfare of those involved in the evaluation, as well as those affected by the evaluation. It is also considered that the evaluation is the appropriate tool to address the questions and issues raised about the project for better performance in future. Thus, the team remains open to the results.

**Impartial**: The evaluation team tried to be fair in the course of examination and to recognize both the strength and weakness of the project. As much as possible, evaluation procedures are guarded against distortion caused by personal feelings and biases of any party to the evaluation.

**Accessibility**: It is to be sure that evaluation results are accessible to the partners and stakeholders of the project. The utmost efforts were made in all possible means to have better and easy access of all key stakeholders of the project to the evaluation results.

**Utility**: This principle relates to evaluation use. Evaluation must serve the information needs of intended users. There is no point in engaging in evaluations unless they are seen as useful and are actually used in decision-making and project improvement.

# 3.4. Operational procedures of the evaluation

#### 3.4.1. Formation of the evaluation team

Evaluations require substantial investment of human resources. The ideal evaluation team should have a mix of evaluation skills, technical knowledge of the issues that the project is addressing, and an understanding of the socio-cultural-political context of the project area. Therefore, forming an evaluation team is critical in an evaluation process. Accordingly, the evaluation team was deliberately formed with a view to have a balance among evaluation expertise, technical knowledge and local experiences in order to adequately address the priority evaluation questions of the project. In this regard, a project evaluation team from University of Forestry, Yezin under the leadership of the Rector was officially contracted by the PD with the approval of the Ministry of Forestry

(MOF) on March 6, 2009, in order to carry out an independent evaluation on the achievement of TNRP for the first four-year period and to provide a constructive evaluation report. The TNRP Evaluation Team consists of the following members.

(1)	U Khin Maung Zaw	Rector	Team Leader
(2)	U Ohn Winn	Pro-rector	Deputy Team Leader
(3)	U Zaw Win (7)	Associate Professor	Member
(4)	Dr. San Oo	Lecturer	Member
(5)	U Tin Htun	Lecturer	Member
(6)	U Htun Htun Wai	Assistant Lecturer	Member
(7)	U Saw Doh Wah	Demonstrator	Member

## 3.4.2. Terms of Reference (TOR) of the evaluation

Terms of Reference of the evaluation are mentioned in the contract between the Evaluation Team and TNRP. Evaluations are intended to provide an independent review of project activities and the performance of the parties involved. Specifically, the evaluation will;

examine the relevance, scope and design of the project,
review the implementation arrangement and the progress of project activities against objectives as stated in each one year and four-year plan,
formulate recommendations for any corrective actions or changes in direction required,
examine any other project-related matters as decided by the Project Coordinating Committee (PCC), and
provide a written report to the Project Co-ordinating Committee (PCC) on the completion of the evaluation.

### 3.4.3. Formulating evaluation questions and scoring schemes

Evaluations are generally designed to answer a series of questions about the project. Good questions need to be clear, focused and relevant, and make sense to all partners and stakeholders. Therefore, standards of judgement or criteria are required in formulating evaluation questions. Keeping these points properly in mind, five basic criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability) are broadly used to guide the evaluation questions along the course of the reviewing process. Subsequently, a conceptual framework for evaluation within the project context (figure 4) was adopted to provide guidelines in raising relevant questions, collecting pertinent information, and making applicable interpretations. Within the conceptual framework, a series of more specific questions was developed to cover different aspects of each criterion and a scoring scheme for these specific questions was constructed for assessing respective criterion in more or less quantitative sense.

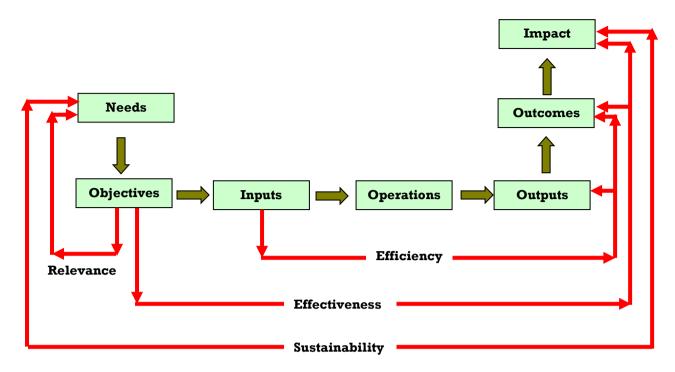


Figure 4 Conceptual framework for evaluation within the project context (modified from Hunt, 2009)

Relevance: Relevance concerns the degree to which objectives, implementation and expected outcomes of each activity of a particular project are, or remain pertinent, valid and significant with regard to long-term objectives or other identified priorities, needs and concerns. It generally describes the compliance with the overarching policies and strategies of the national and international communities and with the requirement of partners and clients. It therefore gauges the degree to which the activity at a given time is justified within the global, national and local environment and development priorities. When assessing relevance (Are we doing the right thing?), following aspects have to be taken into account properly.

- pertinence of development objectives to overarching policies, priorities and needs
- validity, objectiveness and feasibility of activities
- significance of outcomes (or usefulness of outputs)

Accordingly, these aspects outlined above were separately scored of (1 to 5) in connection to the findings of a particular element. Scoring scheme for the relevance is given in table 3.1. Thereafter, the degree of relevance was derived by taking an average score of the various aspects.

Table 3.1 Scoring scheme for relevance

Tanoata	Scores					
Aspects	5	4	3	2	1	
Pertinence (objectives)	Highly pertinent	Mostly pertinent	Pertinent	Less pertinent	Not pertinent	
Validity (activity)	Highly valid	Mostly valid	Valid	Less valid	Invalid	
Objectiveness (activity)	Highly objective	Mostly objective	Objective	Less objective	Subjective	
Feasibility (activity)	Highly feasible	Mostly feasible	Feasible	Less feasible	Infeasible	
Consistency (output)	Highly consistent	Mostly consistent	Consistent	Less consistent	Inconsistent	
Significance (outcome)	Highly significant	Mostly Significant	Significant	Less significant	Insignificant	

Effectiveness: Effectiveness is a measure of the extent to which each activity of a particular project achieves its objectives (both development and immediate). It generally assesses the degree of fulfilment of outputs and effects in relation to given objectives. In this context, effectiveness is concerned with the consequences of the efforts and not with the effort itself. The assessment of effectiveness is principally dealing with a main question: "Are we achieving the objectives?". In practice, it entails an in-depth analysis of the intended results from a variety of angles. The tangible analysis should therefore cover a full range of effects, drawing proper attentions on the following aspects.

- relevance, adequacy and timeliness of outputs in relation to objectives
- nature and extent of outcomes (direct benefits)

Likewise, these aspects outlined above were separately scored of (1 to 5) in connection to the findings of a particular element. Scoring scheme for the effectiveness is given in table 3.2. Thereafter, the level of effectiveness was derived by taking an average score of the various aspects.

Table 3.2 Scoring scheme for effectiveness

Tanoata	scores					
Aspects	5	4	3	2	1	
Relevance (outputs)	Highly relevant	Mostly relevant	Relevant	Less relevant	Irrelevant	
Adequacy (output)	Highly adequate	Mostly adequate	Adequate	Less adequate	Inadequate	
Timeliness (output)	Highly accurate	Mostly accurate	Accurate	Less accurate	Inaccurate	
Nature (outcome)	Highly positive	Mostly positive	Positive	Less negative	Negative	
Extent (outcomes)	Extremely large	Very large	Large	Small	Vary small	

**Efficiency:** Efficiency is a measure of the productivity of implementation process and primarily concerned with the optimal use of resources. The question of efficiency therefore focuses on the outputs in relation to inputs, describing how inputs are well converted into outputs. Judging efficiency thus entails a review of

managerial performance and a comparison with alternative projects (or activities). In assessing efficiency, main question is that "Are the objectives being achieved cost-effectively?" In practice, the assessment is made on two levels: operational and financial. The operational efficiency is necessary to analyze the merits and demerits of the workplans used during project implementation. Likewise, the financial efficiency has to be judged on ground of cost-effectiveness (i.e., cost per unit of outcomes achieved). The following specific aspects need to be considered in assessing efficiency.

- (1) Operational efficiency
  - adequacy and timeliness of input delivery
  - schedule and sequence of works and activities
  - methods and procedures of operations
  - real outputs
- (2) Financial efficiency
  - Cost-minimization (lesser inputs for a fixed target of outputs)
  - Output-maximization (more output from a fixed quantity of inputs)

Similarly, these aspects outlined above were separately scored of (1 to 5) in connection to the findings of a particular element. Scoring scheme for the efficiency is given in table 3.3. Thereafter, the level of efficiency was derived by taking an average score of the various aspects.

Table 3.3 Scoring scheme for efficiency

_ ,	scores					
Aspects	5	4	3	2	1	
Adequacy (personal)	Highly adequate	Mostly adequate	Adequate	Less adequate	Inadequate	
Adequacy (financial)	Highly adequate	Mostly adequate	Adequate	Less adequate	Inadequate	
Adequacy (materials)	Highly adequate	Mostly adequate	Adequate	Less adequate	Inadequate	
Timeliness (personal)	Highly accurate	Mostly accurate	Accurate	Less accurate	Inaccurate	
Timeliness (financial)	Highly accurate	Mostly accurate	Accurate	Less accurate	Inaccurate	
Timeliness (material)	Highly accurate	Mostly accurate	Accurate	Less accurate	Inaccurate	
Schedule (works)	Highly accurate	Mostly accurate	Accurate	Less accurate	Inaccurate	
Sequence (works)	Excellent	Very good	good	Fair	Poor	
Method (operations)	Excellent	Very good	good	Fair	Poor	
Procedure	Excellent	Very good	good	Fair	Poor	
Real outputs	As planned target	75% of target	50% of target	25% of target	Nil	
Cost-minimization	Extremely high	Very high	High	Low	None	
Output-maximization	Extremely high	Very high	High	Low	None	

Impact: Impact basically assesses the contribution made or to be made by an intervention to overarching development goals. This usually involves direct benefits (development objectives) resulting from each activity of a particular project on the local, social, economic, environmental and other development indicators. The examination is therefore concerned with both foreseen and unforeseen, positive and negative changes to and effects on societies. As it is usually quite difficult to directly or exclusively attribute the contribution to the higher aggregated changes in the sectoral and regional environments, a plausible attribution should be made. In assessing impact, it is common to answer the main question "Are we contributing to the achievement of overarching development results?" More specifically, concerted attempts are made to answer the following questions to cover the different dimensions of impacts.

- (1) Direct impacts
  - nature
  - extent
  - capital enhancement
  - equity of benefit distribution among beneficiaries
  - diffusion of benefits beyond the project boundary
- (2) Externalities (unforeseen side effects)
  - nature
  - extent

Equally, these dimensions indicated above were separately scored of (1 to 5) in connection to the findings of a particular element. Scoring scheme for the impact is given in table 3.4. Thereafter, the magnitude of impact was derived by taking an average score of the various dimensions.

Table 3.4 Scoring scheme for impact

T am a ata	scores					
Aspects	5	4	3	2	1	
Direct impact						
Nature	Highly positive	Mostly positive	Positive	Fairly negative	Negative	
Extent	Extremely large	Very large	Large	Small	Very small	
Capital enhancement	All 5 capital	4 capital	3 capital	2 capital	Only l capital	
Equity	Highly well- balanced	Well- balanced	balanced	Fairly biased	biased	
Diffusion	Very widely spread	Widely spread	spread	Less spread	None	
Externalities						
Nature	Highly positive	Mostly positive	Positive	Fairly negative	Negative	
Extent	Extremely large	Very large	Large	Small	Very small	

**Sustainability:** Sustainability is concerned with measuring whether the benefits of an intervention are likely to continue after termination of the external assistance (financial, physical, and personal). Fundamentally, sustainability covers a wide range of aspects: environmental, financial, institutional,

technological, socio-cultural and so on. The assessment examines and substantiates how sustainable the changes in the capability as well as the direct and indirect results achieved so far are likely to be. Thus, this also entails assessing the enabling environments of the implementing organization. In this context, the main question "Are the positive results durable?" is intentionally answered in evaluating the sustainability based on the following aspects.

- (1) Enabling environment of the implementing organization that supports ongoing positive impacts
  - personal capability
  - financial capability
  - physical capability
- (2) Continuity of positive results beyond the life of the intervention
  - continuity of outcome (direct benefits)
  - continuity of impact (indirect benefits)

Likewise, these aspects mentioned above were separately scored of (1 to 5) in connection to the findings of a particular element. Scoring scheme for the sustainability is given in table 3.5. Thereafter, the likelihood of sustainability was derived by taking an average score of the various aspects.

Table 3.5 Scoring scheme for sustainability

Tamoata	scores				
Aspects	5	4	3	2	1
Physical capability	Excellent	Very good	good	Fair	Poor
Personal capability	Excellent	Very good	good	Fair	Poor
Financial capability	Excellent	Very good	good	Fair	Poor
Continuity (outcomes)	Highly possible	Mostly possible	possible	Less possible	Impossible
Continuity (impact)	Highly possible	Mostly possible	possible	Less possible	Impossible

Assessment of the evaluation focused on two features of the project: design and performance. The assessment of project design covered four parameters of the project, namely cost, scope, schedule and quality (CSSQ). These parameters were judged with the major criteria which were scored in accordance with the scoring schemes. Then, satisfactory level of the project design was measured depending on the average scores of the criteria as shown in table 3.6.

Table 3.6 Satisfactory assessment for an activity of the project

Satisfactory level	Average score of criteria	Remarks
Highly satisfactory	5	
Mostly satisfactory	4	
Satisfactory	3	
Slightly satisfactory	2	
Unsatisfactory	1	

In assessing project performance, each and every activity of the project has to be assigned scores for every criterion. Practically, the activities of the project are diverse in attributes and numerous in quantities. Thus, for convenience and handiness in the process, the activities of the project were first categorized into elements (Personnel, Infrastructure, Finance, Institutionalization. Management Plan development and CEPA-Communication, Education and Public Awareness). Consequently, each element was assessed in relation to the five basic criteria based on the scoring schemes. Next, satisfactory level of an element was assessed on the average scores of the five criteria. Afterwards, an average on satisfactory levels of all elements gave satisfactory level of the project performance. Finally, overall assessment was made by taking account on the satisfactory levels of the project design and the performance.

### 3.4.4. Information gathering

Essential information was gathered using three main approaches: 1) reviewing documents; 2) interviewing with relevant personnel and key stakeholders, and 3) ocular observation of team members. Reviewing documents and reports is conducted to get deeper insights into the project design, implementation procedures, operational constraints, and benefits of the project. A list of documents and reports reviewed is attached as Appendix III. Then, a series of personal interviews were organized with a view to acquire information from partners, key stakeholders, departmental and local authorities, and local communities related to their perspectives on and expectation from the project. A list of personnel interviewed in the course of the evaluation is indicated in Appendix IV. Ocular observation of team members on project field sites was also formed an integral part of the process. Two team members spent 7 days to visit different field sites for attaining self-evidences on project performances and operational constraints on the field level. Visited field sites are listed in Appendix V.

# **Activities of the Evaluation Team**









#### 4. Findings and Discussions

After a systematic analysis and synthesis on data and information collected from the project document, the reports of NC and TA, and on views, concerns, and opinions of stakeholders including the members of PCC and PIT through semi-structured interviews, the findings on the project and activities implemented are described below.

### 4.1. The design of the project

The design of the project includes defining spatial and temporal limits, formulating clear and concise objectives, developing realistic action plans to attain the objectives, setting organization structure and management arrangement and estimating costs. Then, a close look was paid to the four parameters of the project in view of the five major criteria. The following are major findings on the design of the project:

- ☐ The design of the project was generally found to be properly formulated to support the management planning and in some instance establishment and operation of TNR in the light of recognized international best practices.
- □ The project specified its limits over time and space. The project is to be implemented over the period of four years that is subject to renewal thereafter for the period estimated to be thirty years. Spatial limit of the project was confined to TNR, extent and location of which was proposed in the project document for purposes of initial planning. It was one of the major outputs that TNR could be notified as a Managed Nature Reserve in accordance with the law.
  - In effects, TNR contributes about 3.4% of area coverage to the national PA system which shall be extended up to 10% of the total land areas of the country in the long-term.
  - The results of flora and fauna surveys reveal that the Reserve covers wide areas of exemplary and intact ecosystems of tropical rainforests, containing many globally endangered wildlife species and showing high endemism, and maintains natural processes at landscape level. TNR therefore is said to be large enough to provide full protection of transition areas between ecosystems and full range of succession of diversity. It will be further essential to adequately protect against extinction and extirpation of any species. Moreover, the Reserve is linked to the protected area (Sai-yok) of Thailand, offering an opportunity for effective transboundary conservation. TNR really has a high conservation value both at national and international level.
  - Thus, TNR is in favour of conservation of biodiversity in terms of layout and configuration. It is quite logical to assure that the location and extent of the Reserve is consistent with the national PA objectives because of its biodiversity richness and representativeness.
- ☐ Similarly, the project, as a rule, specified two levels of objectives: development objectives and immediate objectives. The development

objectives appeared to be a sort of vision statement and envisage contribution to the national PA system, capacity building, awareness raising, research advancement, and community development for effective biodiversity conservation. In contrast, the stated immediate objectives focus on mobilizing human resources for energetic administration and dynamic co-ordination, developing a management approach for long-term conservation of biodiversity within TNR, and operational capacity for on-the-ground management of TNR.

- The development objectives were thoroughly described to cover environmental, economic and social aspects that need to be taken into account in planning, establishment and operation of the Reserve. These statements are rather purposeful to provide a focus or direction for embracing the immediate objectives of the project. This simply implies that the development objectives are mostly pertinent and compliant to national and international policies and priorities of PA management.
- The immediate objective systematically follows from the pertinent vision statement. They seem to be developed through a proper prioritizing process and look specific, realistic and time-related statements particularly for management planning and generally for establishment and operation of the Reserve. Accordingly, these specific objectives can accurately spell out the conditions that the project really aims to achieve and thus they are achievable statements of outcomes.
- □ Various activities were identified to realize the objectives of the project. The activities stretch over various aspects of development: Personnel, Infrastructure, Institutionalization and CEPA (Communication, Education, and Public Awareness).
  - The personnel aspect concerns with formation of PCC and PIT, and assignment of TA and NC. The structure and responsibilities of PCC are found to be fully representative to all partners and well defined to carry out the tasks. Likewise, PIT was also proposed to form with a few proficient management level and enough skilful operational level staff. It shows that the structure is concrete and the composition in balance and in good shape to perform the duty in effective and efficient manners. Regarding TA, it is intended to derive world/regional best practice technical advisory to development and management of the Reserve while the intention of assignment of NC is to conduct biodiversity and socioeconomic assessment, formulate buffer zone and community forestry, environmental education strategies in support especially to management planning of TNR. Therefore, it can be said that assignment of TA and NC is rather valid and quite feasible for attaining the expected outcomes. Proposed schedule and sequence of their assignment is also considered to be sensible and ideal.
  - Infrastructure development deals with construction of office facilities and nursery, acquirement of field equipments and procurement of vehicles.
     Infrastructure development is essential for active administration, quick vertical and horizontal communication, smooth transportation, and sensible field operations. In this context, planned activities for infrastructure

development deem to be valid and also feasible and are scheduled to implement in the right time and the correct sequence.

- The project also identified some activities to institutionalize the Reserve. These activities include law enforcement, mapping exercises, buffer zone and community forestry development, zonation, and fire management. These stated activities are thought to be necessary for effective and long-term management of TNR so that they are convincing and applicable for the project. The schedule and sequence proposed for these activities are also well planned.
- CEPA comprises a group of such activities as networking, public education and consultation, and training and research for biodiversity conservation and PA management. The project recognized CEPA as an important element. Dynamic networks were hence proposed to be established for quick and easy communication in both vertical and horizontal dimensions in support to enhance co-operation and co-ordination of concerned authorities, line agencies, key stakeholders, and local communities in management plan development, landuse conflict management and law enforcement. Public education in the forms of public talks, round table discussions, signposting and community consultations were also appreciated in the design. Numerous trainings on different fields of biodiversity conservation were also planned in fixed schedule and sequence.
- As discussed above, activities are obviously numerous in quantity (stretching over administration, management planning and field operation) and also diverse in nature (covering biodiversity conservation, community development, environmental education, capacity building and research advancement).
- □ As almost all projects bear some sort of costs for accomplishing related activities in order to realize the objectives, it is essential for projects to make estimation of costs and allocation of budget to each activity as a major action. It is confirmed in the project document that there is a strong financial commitment from the Party B and C.
  - The financial mechanism is clearly defined in the project document and the financial procedures are overtly documented, showing transparency and accountability in using financial resources.
  - Total amount of provisional budget is quite viable to implement the project and the provisional allocation to different elements, namely Personnel (28%), Infrastructure (22%), Institutionalization (37%), CEPA (8%) and Contingencies (5%), is also reasonable and strategic for successful implementation of the project.

In short, the project has reasonable temporal and spatial specification in connection to objectives that are pertinent to overarching policies and priorities. Numerous activities identified are in most cases valid and feasible to implement and more or less adequate to realize the stated objectives. Thus, scope of the project is appeared to be wide enough to be supportive for planning, establishment and operation of TNR. Likewise, all activities are time-bounded and

listed in a proper sequence. Regarding financial aspects, commitment is very strong and procedure is documented: Total provisional budget is so viable and allocation to individual elements seems reasonable. Based on these findings on the project parameters, scores are assigned to the project design in connection to the five basic criteria according to the scoring schemes developed. The detailed assignment of scores for respective aspects and dimensions of particular criteria are given in Appendix VI while the resultant scores for the criteria are summarized in table 4.1.

Table 4.1 Summary table showing scores of the five basic criteria

	Basic criteria	Score gained	Remark
1.	Relevance	5.0	
2.	Effectiveness	4.2	
3.	Efficiency	4.1	
4.	Impact	3.0	
5.	Sustainability	2.0	
	Average	3.7	

The resultant scores indicate that the design of the project is highly relevant, mostly effective and mostly efficient, have some degree of impact. In these conditions, the sustainability of positive impacts will be in question without external assistances. Then, the average score 3.7 implies that the design of the project is said to be above the satisfactory level.

### 4.2. The performance of the project

#### **4.2.1. Finance**

Provisional budget allotted to different project elements (Personnel, Investments, Operating costs, and Contingencies) has to be realized through annual workplans developed and approved yearly. The financial aspect of the project is reviewed on allocation and expenditure relating to project elements of Personnel, Infrastructure, Institutionalization, CEPA and Contingencies. This is to view Investment as Infrastructure, and Operating costs as Institutionalization and CEPA insofar as to have sense of logical scrutiny on the planned activities of the project.

- ☐ The consolidated total amount of budget 1,200,000 USD was planned and allocated yearly to the different elements. It seems to be sound and realistic in the context of the stated objectives.
  - Afterwards, yearly budget estimations were made depending on annual workplans which were developed taking account of work progress. At the end of the project, the total budget was found to be slightly more than planned, but allocation to the individual project elements totally different from the planned indications. Much more allocations were made to some elements and much less to others as compared to the provisional ones.

- As of the plan, the final allotment was: lower slightly in Personnel, but significantly (56.9%) in CEPA; higher a bit in Institutionalization, but a lot (43.0%) in infrastructure. This could raise so many questions about the reasons to make this sort of deviation.
- Though annual budget was said to be estimated based on the yearly workplans, there were some disparity. It is likely that annual allocation to individual elements was made not on logical consideration, instead on the amount of the yearly contribution committed by the Party B and C (i.e., 300,000 USD). It means that the amount of budget is, in developing workplans, considered as the target for taking favourable activities, but not constraints for the planned activities.
- Besides, the allocation of the total budget to the projects element (36% for Institutionalization, 32% for Infrastructure, 26% for personnel, 3% each for CEPA and Contingencies) seems to be partial. The allotment for Contingencies is quite reasonable, but that of CEPA too small to say that they are essential activities.
- When looking in depth at the activity level, it is surprising that there is a large discrepancy between provisional and actual allotted budget for Outreach/Buffer Zone management. The actual allocation is much less (i.e., over 100,000 USD) than the provisional one. The reason of this significant reduction is not understandable. Instead, it could perhaps be said that Outreach/Buffer Zone management is not prioritized activity in planning, establishment and operation of the Reserve. Detailed information about budget allocation of the project is given in Appendix VII.
- □ Allotted budget was spent for the activities undertaken. If costs were estimated based on a realistic particular workplan, there would be no significant difference in balance of payment. Conversely, the project shows a large surplus in its balance of annual payment, implying that the allotted budget could not be spent in effective ways.
  - Annual budget was allotted more or less equally over the project period. Except in the fourth year, the project could spend a portion of allotted budget: only about 40% in the first year, 70% in the second year and 65% in the third year. The reason of such flaws was not obvious due to whether conservative estimation of costs or improper development of the workplans. Most probably, planned activities could not be implemented in correct schedule and sequence.
  - Similarly, allotted budget to individual elements also could not be used up all. The highest percentage of spending (about 80%) on allotted budget is found for Institutionalization whereas the smallest (nearly 55%) for Personnel. Despite less amount of the allocated budget were spent for many activities, almost all amount of allotments for Contingencies were paid out except in the first year. Expenditure of the project is attached as Appendix VIII.
- ☐ The financial mechanism of the project is thought to be well formulated. It is not observed any indications that financial controls hamper a proper flow of

fund. The Party B and C prescribed financial policy at the beginning of the project and then decentralized the decision-making for procurement to PCC.

- The Financial procedure ensures transparency, accountability, and predictability. It is a symbol of mutual trust between PCC and PIT.
- The project is financially viable without the Government funding and the budget allotments enable the project to implement activities.

It is found that the project is financial viable. The consolidated total budget and planned annual allocation seem to be sound and realistic. However, actual allotments to the project elements in accordance with annual workplans are observed totally different. The budget allocation for CEPA is very small. A huge amount of budget for Outreach/Buffer Zone management was transferred to other activities that were not identified in the project document. Moreover, it is obvious that the project could not manage to spend the allotted budget effectively. So far, financial aspect of the project is reviewed in more qualitative terms. Since comparable projects were not within the accessible range of the evaluation team, quantitative assessment could not be made for providing more objective discussions.

#### 4.2.2. Personnel

This section concerns with activities of PCC, PIT, TA and NC. Inputs from PCC and PIT are essential for smooth implementation of the project whereas TA and NC contributions are fundamental to planning, establishment and operation of the Reserve.

- □ PCC acts as a "Board of Directors", providing oversight and guidance to the project, overseeing, reviewing and evaluating the works of PIT, and safeguarding the interests of all of the parties. In response to this, PCC was, on schedule and in sequence as designed, formed consisting of seven members of the Party A, B and C, and MOGE with the chairmanship of the Director-General of FD.
  - Undoubtedly, all members of PCC are competent and capable to take respective positions in the committee for undertaking the stated responsibility and communicate with PIT, demonstrating a positive and confident personal attitude to the project.
  - It is one of the responsibilities of PCC to organize formal semi-annual review of project activities and progress. It was found that there were twelve formal PCC meetings held with varying intervals of the shortest of less than one month and the longest of more than fifteen months. There has been no sign of formal meeting since December, 2007. Such irregularities in holding the formal meetings would have effects on taking major decisions, making vertical communication, supervising the overall progress of the project and especially thus taking urgent actions of PIT.
  - PCC was known to request all partners to make comments freely to PD upon implementation of the project, but no written form of comments from the partners could be traced.

- Regarding establishment of rubber plantations at 1000 m both sides along the Ye-Dawei road, the decision made by PCC seems to be beyond its jurisdiction. It is a quite complicated issue.
- PCC also has responsibility to conduct self-evaluation on the project. The
  evaluation team however failed to trace written document of such kind that
  is officially submitted to MOF.
- □ PIT has been formed in line with the proposal since in early inception of the project, consisting of management and field staff. Management unit of PIT was created with one PD, one Deputy Project Director (DPD) and one Project Staff Officer enlisted from FD with proper consideration on the required qualifications. Supporting unit of PIT was also deployed with staff recruited from different divisions of FD with special assignment in yearly basis.
  - At the beginning of the project, overall qualification of PIT did not meet the planned requirement. PIT showed improvement in managing the project through doing by learning along the course of the project, but the planning skill of PIT does not seem to be high.
  - PIT managed to establish a smooth communication channel with PCC, but not succeed to acquire valuable contribution from the Nature and Wildlife Conservation Division (NWCD) of FD which is most responsible for the establishment of PA system in Myanmar.
  - The supporting unit has to be strengthened in numbers year after year during the project period. The strength of field staff however does not seem to meet as designed. Moreover, their missions to the project were not consistent throughout the project period (i.e., some went back to their mother unit after their assignment and new ones came to join the project). Such an inconsistency could not be a support to increase sense of shared ownership of individual staff to willingly and decisively taking their charges on the interests of the Reserve. Thus, the capability of PIT in field operation is not built up as the project moves forwards.
  - Many of the field staff have certain level of experience and skill to carry out routine forestry field operations such as forest inventory, forest nursery and law enforcement. Only some who came from different PA of the country are capable of doing wildlife related field operations.
  - PIT focused much more on conventional forestry operations, but did not pay due attentions to important role of community development in longterm conservation of a protected area like TNR. No enough initiative was taken for this field despite having favourable financial atmosphere.
- ☐ The agreement was signed in January, 2006 on assignment of The Wildlife Conservation Society (WCS) as TA for the project. WSC has to take responsibilities of TA for 10 man-months over two-year period during the project life.
  - There is no doubt about qualification and competency of WCS to carry out the tasks ascribed to the Terms of Reference. It was however found that TA started its formal mission in December, 2007, almost one year later than

- the date of signing the contract probably due to necessary official requirements.
- TA conducted altogether four trainings/workshops on the project site with regards to field of management planning, and wildlife trade and management during the period from December, 2007 to January, 2009.
- TA submitted completion reports on all trainings organized by them and proposed a management framework and conservation workplan for the Reserve. One trip report was also given. However, no formal written document relating to other activities such as zonation, equipment specifications, and research development was not found.
- □ National consultants were also recruited to enhance technical capacity in planning, establishment and operation of the Reserve. Fields of specialization cover biodiversity survey, Buffer Zone management, Community Forestry (CF) and Environmental Education (EE).
  - Regarding biodiversity survey, different consultants were assigned for floral, mammal and bird survey. A consultant for floral survey was assigned for five months at the beginning of the third year of the project. Mammal and bird survey were carried out by separate teams each of which was composed of three wildlife scientists. The two different teams carried out their assignments separately at the same time for a five-month period (January to May, 2008). Even though these surveys were said to be conducted as teams, team members individually came to perform their duties for a particular segment of the terms.
  - Another one national consultant was also recruited for Buffer Zone management for a ten-month period. The consultant assumed his duties on two separate terms: the first term lasted for five months starting from January to May, 2008 and the second one from September, 2008 to January, 2009.
  - Likewise, individual consultants were also called up for CF and EE.
     Consultancy term for CF was four months starting from August to November, 2008 whereas that for EE was six months starting from August to January, 2008.
  - The terms of consultancies for all fields of studies seem to be appropriate. However, the schedule and sequence of their recruitment is questionable. The project could not follow the plan in the assignment of the national consultants. This affects on data sharing and planning of respective surveys and consequently the results of surveys were not up to the mark. These effects lead to setback in providing relevant and sufficient data for the management planning process.
  - CF consultant organized two special training courses for project staff during his consultancy period. Other consultants did not organize specialized training for particular fields of expertise, but contributed and collaborated in training/workshops organized by the project under the aegis either of TA or NC during their consultancies.

- All NC submitted reports on their consultancies and the results of respective surveys. One important thing is that area coverage of almost all survey studies conducted by NC is not properly represented to the Reserve. They more or less concentrated on the central parts of the Reserve mostly along the service track of the pipeline companies. Except that, the qualities of the NC reports are found to be appreciable in terms of comprehensiveness and applicability to planning, establishment and operation of TNR.

These discussions were also assessed in quantitative sense by using the scoring schemes. Detailed scoring results for the Personnel aspect of the project are given in Appendix IX and summarized scores for the criteria are shown in table 4.2.

Table 4.2 Summary table showing scores of the five basic criteria

	Basic criteria		Total			
	Dasic Cinteria	PCC	TA	NC	PIT	Total
1.	Relevance	3.8	3.7	3.7	3.3	3.6
2.	Effectiveness	3.6	3.2	3.2	3.0	3.3
3.	Efficiency	3.7	3.4	3.2	3.1	3.4
4.	Impact	3.0	3.3	3.3	3.3	3.2
5.	Sustainability	0.0	3.0	3.0	3.1	3.0
	Average	3.5	3.3	3.3	3.1	3.3

Remark: PCC= Project Co-ordination Committee; TA= Technical Advisor; NC= National Consultant; PIT= Project Implementation Team

The resultant scores indicate that the Personnel aspect of the project is mostly relevant, effective and efficient, have some degree of impact. In these conditions, the positive impacts of this aspect are likely to sustain without external assistances. Then, the average score 3.3 implies that the Personnel aspect of the project is said to be satisfactory.

#### 4.2.3. Infrastructure

Infrastructure is essential for good working environment, quick communication, smooth transportation, and dynamic administration. To reach these ends, the project emphasized infrastructure development using a huge amount of investment. Therefore, the project invested in constructing buildings, setting up nursery facilities, acquiring office facilities and field equipment, and purchasing vehicles.

- □ Different types of building were constructed during the project. Major buildings include: Office, Quarters, Bungalow, Local Operation Unit (LOU).
  - The project established two offices: PD office in Yangon and project field office at the project site. The PD office is established in place provided by FD. It is well furnished and facilitated with necessary electronic equipment which enables to keep properly and systematically documents, records, and accounts for communicating with other agencies and for showing off the dignity of the project. The project field office was set up near

Gangawtaung village, around 10 miles away from the TNR western boundary. It seems a bit far from the day to day operation sites, but it is rather agreeable to the reason to base there from the perspective of local security. Although the field office is located in the village-level area, it was sufficiently furnished and equipped with necessary facilities so as to help support telecommunication and daily office works. Even satellite terminal was installed for internet access. Power supply for the office is generated by owned diesel generator. In the office compound, two staff quarters and one bungalow (with five bedrooms attached with bathroom) are also set up in addition to the office building. Fuels are systematically stored in fuel tank. All sorts of procurement of office facilities are found to be made in accordance with the approval of PCC and they are being functioned and utilized under proper instructions.

- Four LOU were also located on some villages along the western boundary of TNR with the intention for effective field operations and law enforcement. Three LOU are found established in the southern part, but only one in the northern part of the area, considering security of the area. Every LOU has one building shared with one office room, two bed rooms and one kitchen. These buildings are much more similar to be guard-posts for temporary stay of field staff. They are not suitable for permanent staff staying with family. The design of the building should be a family-type having better layout and facilities for the staff who want to bring their family with them. This social consideration is essential in motivating field staff working in such a remote area to concentrate on their duties. Furthermore, the compounds of LOU are found to be not too spacious for future extension.
- □ Nursery was built up on Ye-Dawei main road just outside Kaleinaung subtownship. In addition to a wooden permanent nursery shed, the nursery compound is filled with one clean office building and one training shed. The space is also large enough for future expansion.
  - Being located at a strategic site, the nursery is easily accessible to local people for distributing seedlings and providing extension services.
  - At present, the nursery is capable of producing 50,000 seedlings every year. Similarly, the training shed can provide space to organize trainings for 25 participants.
  - Over-head tanks and a pump house are in function to facilitate nursery operations. A diesel generator is being used to supply power for pumping and lighting at night. However, family quarters for permanent staff are still lacking.
- □ Except one LOU in Yapu, buildings were, as scheduled, constructed between late December, 2006 and end of March 2007 with approval of PCC and under proper contractual procedures. The cost of the buildings therefore is not questionable. However, most materials used are brick, concrete and modern roofing material. This does not seem to be in all cases environmentally friendly. The quality of the buildings is thought to be higher than that should be. Hence, they will last long if properly maintained.

- □ The project also procured various types of equipment for effective field operations. Most of the equipment (such as GPS and digital camera) are adequate, but some (e.g., camera trap) are not enough to conduct effective operations. It is informed that equipment are housed in the field office and rigid rules are imposed for the use. Filed staff has access to such equipment in time of major operations. This can be seen as a good practice for long-term use of the equipment purchased. However, no field equipment, even binocular, was put in at LOU in permanent basis. Therefore, more rational use of equipment is required for cost-effectiveness of the project.
- ☐ Regarding the vehicle, there was an adequate budget allocation since the beginning of the project. It was planned to import one off-road motorcar, one pick-up light truck, motorcycles and motorboat for smooth transportation in taking routine and urgent actions. However, seeking import permit for vehicle was a difficult process taking a long time so that the purchase of motorcars and motorcycles could not be accomplished till August, 2008. Therefore, it made field operations inconvenient and also made the project costly for car rental. Only in the last year of the project (i.e., 2008), local purchase of seven motorcycles was done in September and the import of one four-wheel-drive double cab in October. The motorcycles were allocated to LOU and found to be useful in making a quick move especially for law enforcement. However, the type of the motorcycles is so unsuitable for such a kind of road that durability of these motorcycles could not be guaranteed. One motorboat was also procured locally for patrolling purpose in the river network at the very beginning, but it was shown not applicable in strong current due to its design and capacity.

These discussions were also assessed in quantitative sense by using the scoring schemes. Detailed scoring results for the infrastructure development of the project are given in Appendix X and summarized scores for the criteria are shown in table 4.3.

Table 4.3 Summary table showing scores of the five basic criteria

	Basic criteria					
		Building Office equipme		Field equipment	Vehicle	Total
1.	Relevance	4.0	4.0	4.0	3.8	4.0
2.	Effectiveness	4.6	5.0	3.4	3.0	4.0
3.	Efficiency	4.6	4.1	3.4	2.9	3.8
4.	Impact	3.1	3.6	3.0	3.1	3.2
5.	Sustainability	2.8	3.8	3.8	3.0	3.4
	Average	3.8	4.1	3.5	3.2	3.7

The resultant scores indicate that the Infrastructure of the project is mostly relevant, mostly effective and mostly efficient, have some degree of impact. In these conditions, the positive impacts of this aspect are likely to sustain without external assistances. Then, the average score 3.7 implies that the infrastructure of the project is said to be mostly satisfactory.

#### 4.2.4. Institutionalization

The project planned many activities for realization of law enforcement, map products, Buffer Zone activities, CF development, zonation, fire management and Management Plan development.

- Law enforcement is considered as an effective tool in effort to protecting biodiversity and checking illegal and indiscriminate use of natural resources around and within TNR. It was also identified as one of the most important interventions for TNR in checking subsistence and commercial hunting, forest fire, shifting cultivation, encroachment and illegal logging. The project exerted deliberate efforts such as notification for better legal supports, physical boundary demarcation for improved public recognition and patrolling for preventing from forest and wildlife related offences.
  - In this connection, the first and foremost effort of the project for law enforcement is notification of TNR in accordance with the prevailing laws. This can be seen as one of the great achievements of the project, because notification provides legally binding protection and better legal security for the Reserve. Evidences reveal that illegal activities within TNR decrease some extent following the notification. However, prevailing landuse conflicts reflect insufficient community consultation during the constitution process.
  - The project also invested some amount of valuable resources in demarcating the boundary. The TNR boundary runs on a total length of about 430 km almost all following the reserve boundaries and compartment boundaries of the constituent forest reserves. The eastern boundary is shared with Thailand so that the demarcation was mainly carried out in the western side. The boundary pillar register indicates that altogether 61 boundary pillars covering nearly 69 km along the western boundary were set up in accordance with the departmental instructions of FD. The nearest distance between two adjacent pillars is known to be 0.2 km and the farthest 3.0 km. No ground verification was made for boundary in southern and northern side yet.
  - Patrolling and reporting system was also established for preventing forest and wildlife offences and wildlife trade. Due to security reason, patrols could not be organized regularly inside the Reserve. Patrolling around villages adjacent to TNR is found to be implemented in ad hoc basis in early part of project life. Later, patrolling activities were enhanced by formation of a law enforcement team and put into function with monthly workplans. Motorcycles were also available for patrolling and taking quick response for law enforcement. Obviously, patrolling could not be carried out as an indispensable operation for the overall interest of TNR, but rather only an ordinary operation.
  - Agricultural commercialization, shifting cultivation, timber cutting for local development, subsistence and commercial hunting are prevailing around and inside the Reserve. Local made guns are available despite being restricted. These features hamper law enforcement activities on the ground and the project rarely enjoys the success.

- □ By outsourcing to Remote Sensing and Geographic Information System (RS/GIS) section of FD, digital map database was constructed. In the first year of the project, different map layers were produced from Landsat TM imagery in a view to provide a basis for initial management planning and zonation. Image interpretations were made with the aid of field verification and orthorectified air photograph was also used as an ancillary data.
  - A total of eight map layers (namely land cover, land cover change, DEM, slope class, erosion risk, crown density, village management zone, and management plan zonation) were produced.
  - However, nature and size of isolated patches of some land cover types prevailing in the area, classification of thirteen land cover categories based on TM images seems to be too ambitious. Such a classification could not be possible without a high cost of accuracy. This further affects on change detection.
  - Additionally, village use zone and management plan zonation proposed are appeared to be incomplete, because these proposals were made based only on very limited parameters that influence resource management decisions. More importantly, no regular updating and active utilization of digital map database is found.
- ☐ It is noticeable that CF was identified as one of the essential activities of the project. However, no indication of profound actions on establishment was found at most parts of the project life, except some community discussions and consultations. Following appointment of NC on this field (at the third quarter of the last year of the project), the activities were encouraged and some undertakings started.
  - At the end of the project, the project could, in accordance with Community Forestry Instructions (CFI), mobilize three forest users groups (FUG) at three villages and provide assistance to one FUG to submit official application to FD. Nonetheless, no FUG has been certificated to date.
  - CF in the project area developed as a relatively sluggish and slow-moving process. Among others, capacity of the project staff, interest of local FD personnel, awareness of local communities and availability of land in the vicinity of villages could be considered as impediments to CF development in the project area.
- □ As prescribed management principles, the project intended to manage the Reserve through proper zonation. Zonation was also identified as an important strategy to address threats associated with resource use by communities inside the Reserve. Zoning categories including Transportation Corridor were proposed in consistent with the management objectives of a Managed Nature Reserve (function: protection and sustainable management of significant ecosystems and rare wildlife species). In due course, at least 75% of the area of TNR will be classified as core zone in conformity with international criteria.
  - In this regard, definition of external buffer zone seems to be rather striving in view of related objectives to be achieved. It will be difficult to place restrictions on resource uses in this zone in order to give an added layer of protection to the Reserve. As name implies, the external Buffer Zone is area

- outside of the legal boundary of TNR, it will be easier said than done in seeking legal supports for taking relevant actions.
- Proposed zonation based on remote sensing data is found to be far from reality. Further adjustment is necessary on the basis of more biophysical informations and socioeconomic considerations.
- Human use areas within TNR were determined in certain parts of the Reserve through proper Participatory Rural Appraisal (PRA) exercises.
- However, no physical boundary for particular zones (even Transportation Corridor) was defined on the ground.
- ☐ Forest fire management programme came into view in the last year workplan of the project after recognition of wild fire as a major threat to conservation target in the Conceptual Model and Management Framework for TNR. Interventions for reducing the threats were also specified in the framework.
  - Problem areas of fire were identified and a series of public discussions were organized in almost all villages around TNR. Fire notice-boards were found in areas with fire hazard.
  - The activities (Fire Management Strategy, Fire Prevention Committee, Fire Management training for villagers) for fire prevention were specifically planned, but not developed or implemented yet.
- One of the major activities of the project is to prepare a Management Plan which is subject to review and revision at a four-year interval as a basis for development, management and operation. Although a clear mandate was given to PIT to prepare a Management Plan during the second year of the project, PD managed to produce a Draft Management Plan (DMP) only at the end. Moreover, it is still greatly in need of improvement to be comprehensive and useful plan for future management of the Reserve. Such a delay and shortfall can be blamed to many other causes, but the main concern is efficiency of PIT. DMP does reflect a lack of a planning team consisting of well experienced project manager, planner and author.
  - Also, DMP does not look like a product of a participatory planning process: PIT failed to arrange for getting contribution from and involvement of all stakeholders in the process. Only if stakeholders are involved in the development of the plan and have a sense of shared ownership, would it be sure that the plan is much more likely to be useful, practical and implemented.
  - The presentation, style and content of a particular plan should be clear, concise and logical for having a better understanding and comprehension when implemented. Logically, developing a plan is making exercise of balancing: precision and flexibility; comprehensiveness and simplicity; and management orientation and ease of understanding. DMP still lacks such fundamental requisites of a good Management Plan.
  - DMP incorporates large amount of superfluous explanatory materials, losing focus of attentions. Management objectives described in DMP are not clear and concise. They seem very generic, failing to bring out the particular features of TNR. DMP does not include detailed financial

information. A clear process for integrating planning with budgets and budgeting is lacking. Without this, the objectives of management cannot be reconciled with the cost of achieving them and management actions described in DMP become a "wish-list". Buffer Zone activities and capacity building programme towards effective management is not found in DMP.

It is obvious that DMP was prepared using data and information currently available which seem insufficient for preparation of a full management plan. So far, it is a noticeable output of the project, but a major modification is required to be practical and comprehensive.

These discussions were also assessed in quantitative sense by using the scoring schemes. Detailed scoring results for the Institutionalization of the project are given in Appendix XI and summarized scores for the criteria are shown in table 4.4.

Table 4.2 Summary table showing scores of the five basic criteria

	Basic criteria	Scores						Averag
		LE	Map	CF	Zonation	FP	MP	е
1.	Relevance	4.2	4.2	3.8	3.7	3.3	3.7	3.8
2.	Effectiveness	3.2	3.6	2.4	2.4	2.0	2.6	2.7
3.	Efficiency	3.2	3.6	2.3	2.3	2.0	2.3	2.6
4.	Impact	2.4	2.7	2.3	1.9	1.9	2.0	2.2
5.	Sustainability	3.4	2.4	3.0	3.0	3.0	2.0	2.8
	Average	3.3	3.3	2.8	2.7	2.4	2.5	2.8

Remark: LE= Law enforcement; Map= Mapping; CF= Community Forestry; FP= Fire prevention; MP= Management planning

The resultant scores indicate that the Institutionalization of the project is mostly relevant, effective and efficient, have low impact. In these conditions, the sustainability of these activities is likely to be possible without external assistances. Then, the average score 2.8 implies that the Institutionalization of the project is said to be more or less satisfactory.

#### 4.2.5. Communication, Education and Public Awareness (CEPA)

As CEPA is recognized as an essential component for long-term conservation, the project organized several activities for establishing communication networks, conducting trainings, providing environmental education and raising public awareness.

- ☐ The project established communication networks to get better co-ordination and collaboration in planning, establishment and operation of the Reserve.
  - A contact network of relevant local authorities was properly established at the very beginning of the project in order to ensure co-ordination of landuse planning adjacent to TNR. Co-ordination was ensured within the network in the form of occasional meetings. However, landuse planning co-ordination system has not been materialized yet.

- The project also set up a village level contact network in order to support in implementation of traditional/subsistence landuse agreement. Recognition of prevailing traditional landuse in consultation with local communities is a crucial step in landuse planning process. Consultations on local landuse practices were acquired through informal discussions and formal meetings. Nonetheless, no landuse agreement in the form of a contract could be realized in practice.
- It was a proposed activity that management and planning contact has to be established with adjacent Thailand protected area (Sai-Yok) in view of transboundary conservation. However, official working contact with PA management authorities of Thailand has not been made until the end of the project.
- □ Trainings were also conducted to develop an international standard of competence in PA management after TA had recommended training priority for the project. Given that effective law enforcement was considered a needed intervention for all threats affecting conservation targets of TNR, priority was set to enhance capacity of the project staff for effective law enforcement. In line with the priority, a total of six training courses were organized according to ASEAN standard for PA, covering on main theme of wildlife protection, wildlife trade and CF. Concepts of communication and extension, PRA, Agroforestry and conflict management were introduced as components in respective courses. TA, NC and other invited resource persons contributed in these courses. Target audiences were the project staff and personnel from local law enforcement and security agencies. There was no room for local communities in each and every training course.
- □ Environmental education and public awareness programme has been instituted since 2006 for motivating local participation in conservation of TNR. Later, NC for EE was recruited in August, 2008 and the programme was reinforced with personal involvement of NC.
  - Environmental talks were targeted to different audiences: school children, community members, military personnel and pipeline company employees. Altogether 21 environmental talks were given to more than 2700 students of primary and middle schools during the period of July, 2006 to November, 2008. Likewise, about 1900 local people joined in a total of 21 environmental discussions held in different villages in the vicinity of the Reserve. The talks were also organized in local army battalions and artillery where a total of about 350 military personnel and their family members attended. The project staff also discussed with members of armed forces deployed along the service track about environment and wildlife conservation, whenever they arrived to their guard-posts. Awareness presentations were also given to site managers and field workers of MGTC and TPC.
  - Education and awareness interventions were enhanced by signposting.
    Different sizes of signboards and billboards carrying reflective messages
    of awareness of laws and regulations relating to forest and wildlife
    conservation were erected in many striking places along Ye-Dawei road
    and the service track.

- As a part of public awareness campaign, seedlings of forest trees and cash crops were distributed free of charges to local communities and tree planting ceremonies were held in monsoon season at different school compounds and public places annually.
- □ Though several activities were accomplished during the project period, some were failed to implement as yet. Awareness strategy could not be developed in due course. Such activities as formation of awareness team, public media programme was still missing in the list of completion.

These discussions were also assessed in quantitative sense by using the scoring schemes. Detailed scoring results for CEPA are given in Appendix XII and summarized scores for the criteria are shown in table 4.5.

Table 4.5 Summary table showing scores of the five basic criteria

	<b>5</b>		Score	es		_
	Basic criteria	Networking	Environmental Education	Seedling distribution	Training	Average
1.	Relevance	3.5	3.7	2.8	3.7	3.4
2.	Effectiveness	2.8	3.4	2.8	2.8	3.0
3.	Efficiency	3.0	3.7	3.0	2.8	3.2
4.	Impact	2.9	3.0	2.9	2.7	2.9
5.	Sustainability	3.0	2.6	3.0	3.0	2.9
	Average	3.0	3.3	2.9	3.0	3.1

The resultant scores indicate that CEPA activities of the project are rather relevant, effective and efficient, have some impact. In these conditions, the sustainability of these activities is likely to be possible without external assistances. Then, the average score 3.1 implies that CEPA activities of the project are satisfactory.

For overall assessment for success of project implementation, the performance of the project are rated on a scale from "highly satisfactory" to "unsatisfactory" depending on the scores gained for the basic criteria in each of the element of the project. The results are indicated in table 4.6. Overall average 3.2 indicates that the performance of the project is thought to be satisfactory.

Table 4.6 Scores of the project elements

			Scored g	rained		_
	Basic criteria	Personnel	Infrastructure	Institutionaliz ation	СЕРА	Average
1.	Relevance	3.6	4.0	3.8	3.4	3.7
2.	Effectiveness	3.3	4.0	2.7	3.0	3.3
3.	Efficiency	3.4	3.8	2.6	3.2	3.3
4.	Impact	3.2	3.2	2.2	2.9	2.8
5.	Sustainability	3.0	3.4	2.8	2.9	3.0
	Average	3.3	3.7	2.8	3.1	3.2

### 5. Lessons Learned

The project was properly designed to implement planning, establishment and management activities of TNR, however, clear duties and responsibilities of the individual members of PCC were not described in the project document. The performance of the project resulted satisfactory, but no obvious evidence of self-evaluation is found during its life. The effectiveness and efficiency of TNRP is not questionable. The project was facilitated with a clear financial procedure and sufficient budget, however, at the end of the project, the 68.7% of the total budget allotted could only be managed to spend.

As designed, PCC and PIT were organized; however, they could not manage to completely accomplish the planned activities on schedule and in sequence. Likewise, TA and NC were recruited to technically support TNRP, but not on schedule and in sequence. PIT managed to accomplish several planned activities, but its planning skill does not seem to be high. Consequently, only a draft management plan, which needs to be comprehensive and explicit, was developed at the end of the project. The strength of permanent field staff was never arrived at its requirement. TA provided valuable consultancy in many aspects but some formal written document on zonation, equipment specifications, and research development was not found. Although strenuous efforts were made, law enforcement tool does not seem working well in and around TNR so far. Local security also failed to provide favourable conditions for conducting regular patrolling.

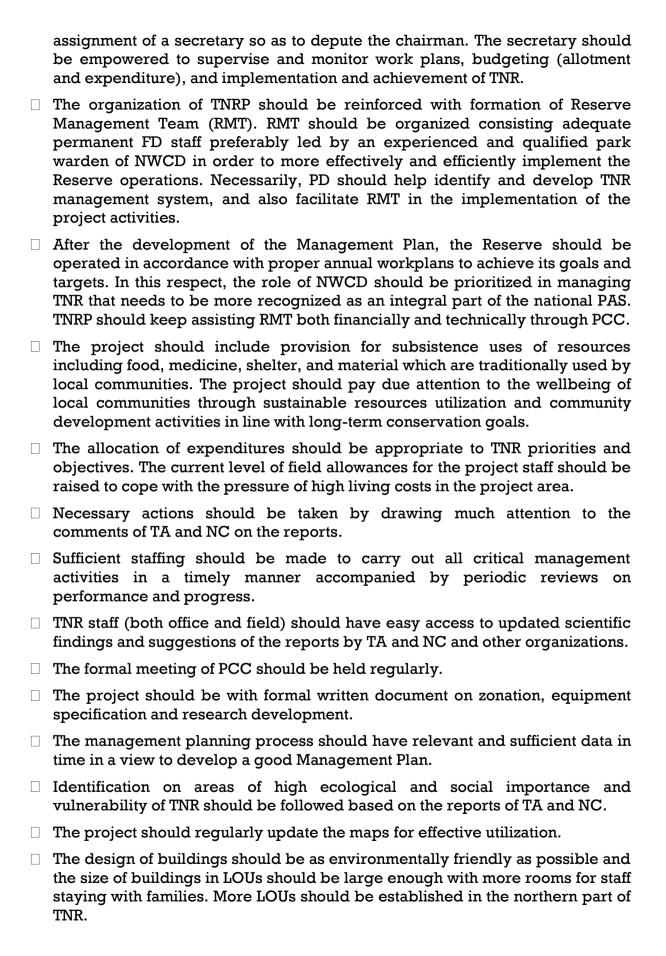
Despite the development of infrastructure, there is still in need of more buildings with suitable design for staff staying with their families. Noticing that several items of equipment are housed in the field office and rigid rules are imposed for the use. Regular preventive maintenance and timely repair of vehicles need to be considered.

Though substantial efforts were exerted for boundary demarcation in western side, no ground verification was made for boundary in southern and northern side. Physical boundaries for particular zones (even Transportation Corridor) were not yet defined on the ground. The project facilitated a wide array of programmes such as networking, environmental education, trainings and workshops related to public awareness and active participation of all stakeholders. Nonetheless, the development of CF in the project area was a slow moving process, and proper Forest Fire Management Plan has not been developed yet.

### 6. Recommendations

It	is st	roi	ոցեչ	7 rec	ommen	ided tha	t TN.	RP	shou	ld be	ext	end	led	for	the	succ	essf	ul
es	tabl	ish	me	nt an	d mana	igement	of th	e ]	Reser	ve.								
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☐ In the light of past experiences, the duty and responsibility of PCC members should be more specific and be fully functional. The organization structure of PCC should be reinforced in terms of duty and responsibility with the



More family quarters for permanent staff should be built at strategic sites in the project area.
The project staff should have easy access to equipment for rational use. Furthermore, vehicles, buildings and equipment should be maintained and repaired on schedule.
For the project staff, the project should manage to organize specific trainings, for instance, Buffer Zone Management.
The most thorough and effective approach to implement TNR activities should be developed based on knowledge gained and lessons learned.
Periodic written assessment on the suitability of design and planning of the project should be prepared and submitted to MOF.
Active participation of local communities and line agencies in the Reserve related activities, especially law enforcement, should be strengthened through effective networking. Law enforcement should strategically incorporate with environmental education.
In order to improve public recognition and to raise public awareness of the Reserve management, physical boundary demarcation should be given first priority.
Annual workplans should be more detailed, identifying specific targets for achieving management objectives. The outputs of the project relating to the TNR objectives and annual workplans should be thoroughly assessed.
Flow and timing of information needed to perform all critical management activities should be adequate. The impact of legal and illegal uses of TNR should be accurately monitored and recorded.
A comprehensive inventory of the biodiversity throughout TNR should be carried out in the coming years.
DMP should be revised by a well qualified team as quick as possible to be comprehensive and easily understood.
DMP should contain Buffer Zone management plan which is one of the most important activities of TNR establishment, and capacity building program as well.
If there is a constraint on data available and time factor, it is recommended that an abbreviated preparation process should be applied so as to formulate an interim management plan. An interim management plan should contain clear and concise management objectives, brief descriptions on the key features, a management zoning scheme, brief assessment on environmental and social issues and annual workplans for at least four years with estimated budget.
In order to raise awareness of all stakeholders, signposting should be done at all strategic sites of the project. The education signboards with mottos should also be prepared in local languages.

through educating general public on the threats and consequences of forest fire.
Transboundary conservation should be given priority.
TNRP should provide local people with more job opportunities of the Reserve related activities.
Sustainable agriculture practices in the form of Agroforestry should be introduced and promoted in a view to achieve the objectives of TNR.
A more performance-based resource management activities, and training needs assessment and strategies should be prioritized.
Community Forestry should be wisely practiced in the project area, but not be target conscious.
Human resource development should be planned including long-term formal education, short-term workshops, mid-career training, and study tour.
An Environmental Education Centre equipped with an audio-visual room should be established in the project area. Likewise, the compound of the existing nursery should also be upgraded as a demonstration site for environmental education and conservation outdoor activities.
As planned, landuse planning co-ordination system should be developed and implemented.
Furthermore, traditional/subsistence landuse agreement should be in action.
The project should provide more rooms for local communities in each and every training course.

### 7. Conclusions

The project evaluation team had a favourable climate of evaluation, mutual trust and transparency. The evaluation process focused on qualitative reviews complimented by quantitative assessment. TNRP constitutes a specified set of inputs that are transformed through activities into a definable set of outputs. In the light of the findings for evaluating the design of the TNRP, it is obvious that the project is mostly satisfactory to conserve a considerable large area of relatively undisturbed tropical rainforests in the Taninthayi division. The results of the evaluation of performance of the project highlight both strengths and weaknesses in implementing the project. However, a thorough review on the performance of the project approves of satisfactory results. Overall evaluation of the TNRP overtly points out that the project plays an important intervention to achieve the status of nature conservation of TNR in harmony with social economic development of the local community.

In conclusion, the independent overviews on the whole project during its four year period encourage the extension of the project until the Reserve is successfully established.

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# TERMS OF REFERENCE FOR INTERNATIONAL CONSULTANT (TECHNICAL ADVISOR)

### Background

The Taninthayi Nature Reserve Project represents an opportunity to 1) develop and operate a nationally and regionally significant protected area; 2) contribute to the development of the larger Myanmar protected areas system, by developing technological approaches and management methodologies that will be applicable elsewhere in the system; and 3) develop a model project that may encourage private sector investment in protected areas management elsewhere. The Project includes a number of components that are new or untested in the Myanmar protected areas system, including integrated buffer zone management, transborder linkages, potential participation in international programmes, use of remote sensing inputs for land use monitoring, and use of private sector funding. The Project Director and his staff, all of whom will be Myanmar nationals, will be expected to bring significant past experience in developing Myanmar's protected areas system to the Project, and this experience will provide the foundation for development and operation of the Reserve. Their skills will be complemented during the early stages of Project development by an experienced Technical Advisor, who will provide advisory support as required, with particular emphasis on the appropriate development of the above new/untested components.

### Tasks

The Technical Advisor will provide advisory support to all aspects of Reserve development and management, based on regional and world best practice. Specifically, the Technical Advisor will:

- provide technical advice to the Project Director on all aspects of development and management of the Reserve.

- provide technical advice to other Project staff as required.

- in close cooperation with the Project Director, develop a framework management plan for the Reserve. The framework management plan will be suitable for the initial four years of Reserve management, and will be designed so that detail can be filled in as required/available.

- advise on equipment requirements and specifications.

- assist with the identification of appropriate training opportunities.

- identify relevant leading edge technological/management approaches that are in use or under development in protected areas elsewhere and ensure through the Project Director and other Project staff that these are given appropriate consideration in the planning process for the Reserve.
- advise and assist with the internal zoning of the Reserve, with particular regard to appropriate subzoning of buffer zones.

- in consultation with FD's Remote Sensing and GIS Section, develop a cost-effective remote sensing-based system for monitoring land use within and adjacent to the Reserve.
- review the English language literature and other available information on the biodiversity resources of the Reserve and immediately adjacent areas of Thailand and on the basis of this and other sources, initiate the development of databases on birds, mammals, reptiles, amphibians, fishes, invertebrates and vegetation species that are known or would be expected to occur in the Reserve. Databases will include common and scientific names, source of information on occurrence or presumed occurrence in the Reserve, expected abundance, known habitat preferences and current national and international legal and conservation status.
- assist with the preparation of terms of reference for technical consultancies and special studies required in support of Reserve development and management.

### Qualifications

- advanced degree in one of the natural sciences.
- 15 or more years of experience in applied ecological studies/conservation planning, including direct experience in protected area management planning.
- experience in working with both government and private sector.
- familiarity with the main aspects of tropical forestry and subsistence agriculture.
- recent experience in one or more countries in Southeast Asia, preferably including Myanmar.
- Demonstrated cultural sensitivity, and interpersonal and transfer of knowledge skills.

**Timing and Duration:** 10 mm from the beginning of Year 1, on a regular part-time basis (e.g., 4-6 weeks each quarter). Duration and timing will depend on experience levels of the Project Director and other Project Staff. The need for continuing technical advisory services will be re-evaluated as part of the annual work plan and budget preparation process.

# TERMS OF REFERENCE FOR NATIONAL CONSULTANT(S) (BIODIVERSITY SURVEYS)

### Background

The development of a Reserve Management Plan and the planning and implementation of zoning, patrolling and other management activities will require baseline information on the Reserve's biodiversity. Field surveys to obtain this information will be initiated as early as possible and will continue through the initial four year Project period. It is anticipated that these surveys will be conducted by a team of experts representing various disciplines (ornithology, mammalogy, herpetology, ichthyology, entomology, botany) and drawn from local universities and other institutions.

### Tasks

The biodiversity consultants will:

- design and conduct baseline surveys of birds, mammals, reptiles, amphibians, fishes, invertebrates and plants in accessible parts of the Reserve. Surveys will be conducted systematically and using recognized biodiversity inventory methodology.
- maintain appropriate notes and records and prepare comprehensive reports for submission to the Project.
- assist with the development of biodiversity databases.

### Qualifications

- recognized expertise in one or more disciplines as evidenced by academic background, field experience, publications and/or teaching record.

Timing and Duration: 30 mm, beginning in Year 1.

# TERMS OF REFERENCE FOR NATIONAL CONSULTANT (BUFFER ZONE MANAGEMENT)

### Background

Development of a Reserve Management Plan and management of human use will require zoning of the Reserve area. Up to 25% of the Reserve may be classified as buffer zone; additional lands adjacent to but outside of the Reserve may also be classed as buffer zone. Land uses in buffer zones will need to be carefully planned and controlled in consultation and cooperation with current subsistence users and relevant local and regional authorities.

### Tasks

The buffer zone management consultant(s) will:

- plan and conduct socio-economic surveys focusing on characterization of current land uses within and adjacent to the Reserve area.
- develop a system for mapping and delineating village use zones and apply this system during socio-economic surveys.
- document findings of the socio-economic surveys with appropriate records, maps and reports.
- develop a framework for traditional/subsistence land use agreements, and assist Reserve management authorities in establishing such agreements.
- develop a land use conflict resolution system, and assist Reserve management authorities with its application.
- assist Reserve management authorities with the development of a detailed zoning /land use plan for the Reserve and immediately adjacent areas.

### Qualifications

- academic background in agriculture, forestry, land use planning or rural sociology, with several years of experience in planning land use at village level.
- Proven experience with rapid rural assessment and other social survey techniques.

Timing and Duration: 10 mm, beginning Year 1.

# TERMS OF REFERENCE FOR NATIONAL CONSULTANT (COMMUNITY FORESTRY)

### Background

Special development measures may need to undertaken within buffer zones to compensate villagers for loss of access to resources within the Reserve or within core areas. These measures need to be planned and implemented such that the long-term integrity of the Reserve and its core and buffer zones is assured.

### Tasks

The community forestry consultant will:

- in cooperation with the buffer zone management consultant(s), assess and quantify subsistence use of timber resources and non-timber forest products (NTFP) by residents of the Reserve and adjacent areas.
- identify areas/circumstances where such uses are not suitable or are otherwise detrimental to the Reserve's resources.
- identify opportunities for alleviating harvesting pressures and/or replacing such resources through development of fuelwood plantations, NTFP plantations, etc..
- plan priority development measures.
- assist Reserve management authorities with the development of a detailed zoning/land use plan for the Reserve and immediately adjacent areas.

### Qualifications

Academic background and several years of practical experience in community forestry or agroforestry.

Timing and Duration: 4 mm, beginning in Year 2.

# TERMS OF REFERENCE FOR NATIONAL CONSULTANT (ENVIRONMENTAL EDUCATION)

### Background

In order for management of the Reserve to be successful, both local resource users and staff and managers of government agencies tasked with resource management will need to clearly understand the purpose of the Reserve and its management objectives.

### Tasks

The Environmental Education Consultant will:

- assess needs for raising awareness about the Reserve among local decision-makers and subsistence users.
- assist Reserve staff with the development and dissemination of appropriate information materials.
- assist Reserve staff with the development of a long-term environmental education strategy.

### Qualifications

Academic background in forestry, one of the natural sciences or education, with specific training and experience in environmental education.

Timing and Duration: 6 mm, beginning in Year 2.

## List of documents and reports reviewed in the course of evaluation

### Documents.

- 1. Project agreement for Taninthayi Nature Reserve Project (TNRP)
- 2. Project document for Taninthayi Nature Reserve Project (TNRP)
- 3. Financial procedure for Taninthayi Nature Reserve Project (TNRP)
- 4. Workplan for the first year (2005-2006) of the first-four year of TNRP
- 5. Workplan for the second year (2006-2007) of the first-four year of TNRP
- 6. Workplan for the third year (2007-2008) of the first-four year of TNRP
- 7. Workplan for the fourth year (2008-2009) of the first-four year of TNRP
- 8. Notification for establishment of Taninthayi Nature Reserve
- 9. Brief notes on TNR prepared by the project team in 2003
- 10. Brief note on TNR prepared by Nature and Wildlife Conservation Division of Forest Department in 2004
- 11. Fixed asset registers of TNRP
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- 3. Nay Myo Shwe, San San Nwe and Lay Lay Khaing (1008). A Report on birds survey.
- 4. Ye Htut, Sein Aung Min and Tin Mya Soe (2008). Report of Mammals survey.
- 5. Tint Swe (2008). Consultancy report on community forestry.
- 6. Ngwe Thee (2009). Report on need assessment for environmental education and strategic action plan for environmental education.
- 7. Min Thant Zin (2009). Socioeconomic baseline study report on local communities adjacent to TNR.

### **Project Annual Report**

1. Annual report (2005-06) (April, 2006)

### Project Quarterly Progress Reports (PQPR)

- 1. PQPR 1-2 (August, 2005) for the period of Deccember, 2004 to June, 2005)
- 2. PQPR 3 (September, 2005) for the period of (July, 2005 to September, 2005)
- 3. PQPR 4 (April, 2006) for the period of (October, 2005 to March, 2006)
- 4. PQPR 5 (July, 2006) for the period of (April, 2006 to June, 2006)
- 5. PQPR 6 (October, 2006) for the period of (July, 2006 to September, 2006)
- 6. PQPR 7 (January, 2007) for the period of (October, 2007 to December, 2006)
- 7. PQPR 8 (April, 2007) for the period of (January, 2007 to March, 2007)
- 8. PQPR 9 (July, 2007) for the period of (April, 2007 to June, 2007)
- 9. PQPR 10 (October, 2007) for the period of (July, 2007 to September, 2007)
- 10. PQPR 11 (December, 2007) for the period of (Oct., 2007 to December, 2007)
- 11. POPR 12 (April, 2008) for the period of (January, 2008 to March, 2008)
- 12. POPR 13 (July, 2008) for the period of (April, 2008 to June, 2008)
- 13. PQPR 14 (October, 2008) for the period of (July, 2008 to September, 2008)
- 14. PQPR 15 (January, 2009) for the period of (October, 2008 to December, 2008)

### **Audit reports**

- 1. Tin Win Group (2006). Audited financial statement for TNRP for the period of 1 April, 2005 to 31 March, 2006)
- 2. Tin Win Group (2007). Audited financial statement for TNRP for the period of 1 April, 2006 to 31 March, 2007)

### Occasional reports

1. Progress report for the facilities for TNRP

### Meeting minutes

1. Meeting minutes of partner organization, which was held on (00-00-00) at Yangon

# List of personnel interviewed in the course of evaluation

### Project personnel

- 1. U Tin Tun, Secretary, PCC, TNRP
- 2. U Thiri Tin, PD, TNRP
- 3. U Tint Swe, NC (Community Forestry), TNRP
- 4. Dr. Min Thant Zin, NC (Buffer Zone Management), TNRP
- 5. U Hla Maung Thein, NC (Floral Survey), TNRP
- 6. U Ngwe Thee, NC (Environmental Education), TNRP
- 7. U Nay Myo Shwe, Project Staff Officer
- 8. U Myo Min Latt, Forest Ranger
- 9. U Aung Myat Soe, Deputy Forest Ranger
- 10. U Min Thu, Deputy Forest Ranger
- 11. U Kyaw Win Myint, Deputy Forest Ranger

### Local authorities

- 1. U Myint Zaw, Branch Clerk, Sub-township Peace and Development Council, Kaleinaung
- 2. U Maung Shwe, General Secretary, Village Peace and Development Council, Hnankye
- 3. U Thein Aung, Chairman, Village Peace and Development Council, Yepone
- 4. U Maung Maung, Village Peace and Development Council, Zimba
- 5. U Khin Maung Oo, Head of the village, Yapu

### Departmental authorities

- 1. U Soe Moe Aung, Staff Officer, Land Record Department, Kaleinaung
- 2. U Bo Myint, Staff Officer, Immigration and Manpower Department, Kaleinaung
- 3. U Myo Myint Oo, Forest Ranger, Kaleinaung

### Local Community

- 1. U Wi Thu Ta, Buddhist monk, Hnankye
- 2. U Poe She, Hnankye
- 3. U Po Thee, , Hnankye
- 4. U Sein Thar, Hnankye
- 5. Daw Si Si San, Teacher, Hnankye
- 6. Saw Noe Ya, Paster, Yepone
- 7. Naw Eh Paw, Teacher, Yepone
- 8. U Soe Lwin, Yepone
- 9. U Saw Chu Kyew, Yepone
- 10. U Saw Glad, Chairman of Community Forestry, Zimba
- 11. U Aung Kyi, Yapu
- 12. U Kwan Ba, Yapu
- 13. U Kyaw Myint, Yapu
- 14. U Thaung Myint, U Tin Maung, Yapu
- 15. U Win Hlaing, Yapu

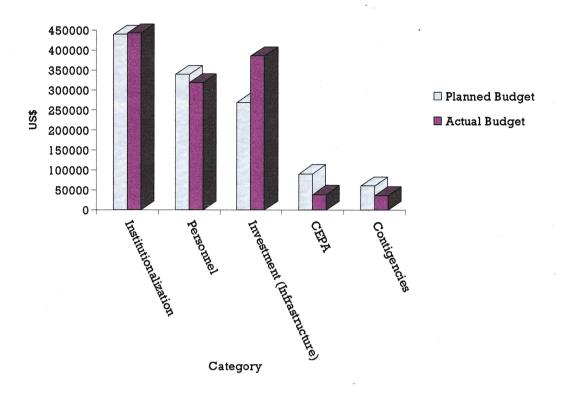
# List of Sites visited by Evaluation Team of TNRP

- 1. Project Director's Office in Yangon
- 2. Project Field Office (Kan Kaw Taung, Kaleinaung)
- 3. Local Operation Unit(Heinze)
- 4. Local Operation Unit(Kyakshat)
- 5. Local Operation Unit(Yepone)
- 6. Local Operation Unit(Michaung laung new)
- 7. Local Operation Unit(Yapu)
- 8. Zimba village
- 9. Hnankye village
- 10. Boundary of TNR between mile stone of 20/5 ?and 25/3?
- 11. Inside TNR along the road of pipeline
- 12. Peace and Development Council (Kaleinaung)
- 13. Forest Department(Kaleinaung)
- 14. Land Record Department(Kaleinaung)
- 15. Immigration and Manpower Department(Kaleinaung)

# Detailed scoring for Design of the Project

Criteria	Aspects		Score		
(1) Polemenas		design			
(1) Relevance	Pertinence (Objectives)	5			
	Validity (Activity)	5			
	Objectiveness (Activity)	5			
	Feasibility(Activity)	5	1.1		
	Consistency (Output)	5			
	Significance (Outcome)	5			
(a) = a	Average	5.0			
(2) Effectiveness	Relevance(outputs)	5			
	Adequacy(output)	4			
	Timeliness(output)	4		1,11	4.
	Nature(outcome)	4			
	Extent(outcomes)	4			
	Average	4.2			
(3) Efficiency	Adequacy(personal)	4			
	Adequacy(financial)	5			
	Timeliness(personal)	4		11.	
	Timeliness(financial)	4			
	Schedule(works)	4			
	Sequence(works)	4			
	Method(operations)	4	4 45		
	Procedure	4	4		
	real output	4			
	Cost-minimization	4			
	Out-put maximization	4	-	<u> </u>	
	Äverage	4.1		<u> </u>	
(4) Impact					
Direct impact	Nature	3			
	Extent	3			
	Capital enhancement	3			
	Equity	2			
Externalities	Diffusion	3			
	Nature	4			
	Extent	3			,
	Average	3.0			
(5) Sustainability	Physical capability				
	Personal capability	2 2	*		
	Financial capability	2			
	Continuity (outcomes)				
	Continuity (impact)	2 2		<del></del>	
1000 0000	- Carrier (Mitpact)	20			
		3.7			

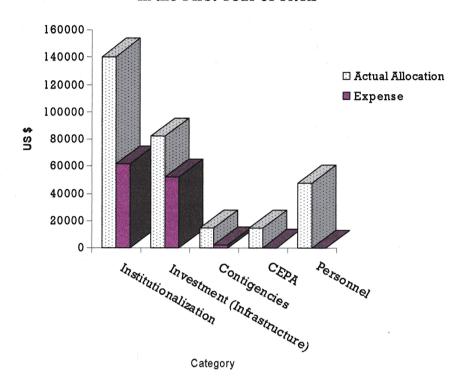
## Planned and Actual Allocation Budget in the First Four Years of TNRP



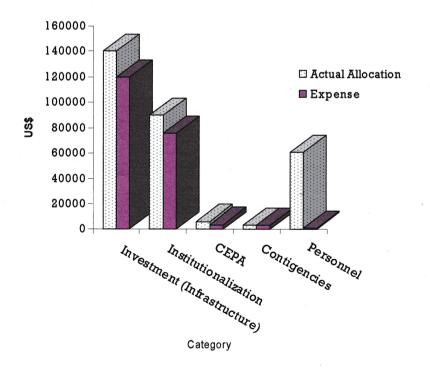
# Planned and Actual Allocation of Budget in First Four Years of TNRP

L																
•	Elements		Year 1			Year 2			Year 3			Year 4			Total	
	Nr.	Planned	Actual	differen.	Planned	Actual	differen.	Planned	Actual	differen	Dinned	Anthol	8:7		LOIGI	
	1 Personnel								rough	different.	riaillica	Actual	differen.	Planned	Actual	differen.
	(a) Technigal Advisor	00009	36000	24000	40000	48000	-8000	40000	72000	32000	0000	0000				
	(b) National Consultant	00009	12000	48000	34000	12600	21400	24000	20021	22000	00000	2007/	-12008	200000	228008	-28008
	Total (Personnel)	120000	48000	72000	74000	9000	2000	00017	70007	4800	77000	37202	-15202	140000	20906	49398
	2 Investment (Infrastructure)			0007	14000	2	13400	64000	100800	-36800	82000	109210	-27210	340000	318610	21390
	(a) Office requipment	2000	10000	-5000	8000	20000	-12000	0002	3500	0000						
	(b) Field equipment	2000	10000	-5000	8000	13000	-5000	2007	2000	0000	2000	3093	1907	25000	36953	-11953
	(c) Vehicles	30000	30000	O	30000	17000	13000	0000	000/		0000	12184	-7184	25000	42184	-17184
	(d) Facilities construction	20000	32000	-12000	30000	90200	-60200	30000	17000	-32500	30000	57249	-27249	120000	166749	46749
	Total (Investment)	00009	82000	-22000	76000	140200	0000	2400	000/1	0000	70000	0001	18500	100000	140700	40700
	3 Operation Costs					110700	00740-	/4000	20000	-16000	00009	74026	-14026	270000	386586	-116586
, m	3.1 Institutionalization				r	. :										
-	(a) Nursery practices	<u> </u>	10300	10300	•	000	000									
	(b) Boundary demarcation		2000	00501-	<b>-</b>	0005	-3000	0	4400	4400	0	5228	-5228	0	22928	-22928
	(c) Detrolling	<b>&gt;</b> (	00621	-15500	0	4200	4500	0	2310	-2310	0	2351	-2351	0	21661	-21661
	(v) ranoming	0	12500	-12500	0	3400	-3400	0	480	480	0	0	0	0	16380	-16380
	(d) I ele-communication	2000	2000	0	2000	4500	200	2000	380	4620	2000	2065	2935	20000	11945	8055
	(e) Fuel & Maintenance	7000	2000	0	8000	25000	-17000	8000	24660	-16660	7000	38632	-31632	30000	95797	65707
-	(I) MGIC/IPC logistical support	10000	12500	-2500	15000	2000	13000	15000	3940	11060	10000	238Î	7619	20000	20821	20170
	(g) Staff allowances	15000	33243	-18243	20000	37700	-17700	30000	49600	-19600	35000	55100	-20100	100000	175643	-75643
	(n) Field survey/Mapping	30000	26915	3085	30000	2000	23000	20000	7205	12795	10000	11710	-1710	00006	52830	37170
	(I) PUC meeting	2000	542	4458	2000	1500	3500	2000	1110	3890	2000	586	4015	20000	4137	15863
_	U) Outreacty Butter Zone Management	20000	20000	0	30000	1000	29000	35000	280	34720	45000	118	44882	130000	21398	108602
3	CEPA (INSUIGUIORAIIZATION)	92000	140500	-48500	113000	89600	23400	118000	94365	23635	117000	118570	-1570	440000	443035	-3035
		2000	2000	2000	1000	001	8									
	(b) Socio-economic, workshops, public education	10001	2500	2000		2001	2006	10000	7.80	7220	15000	2574	12426	40000	13354	26646
L	Total (CEPA)	00001	0007	0007	12000	2100	0066	15000	4605	10395	10000	8254	1746	20000	25459	24541
L	Total (Onemation Cont.)	- 1	14200	200	22000	6100	18900	25000	7385	17615	25000	10828	14172	00006	38813	51187
L	Confirmation		155000	48000	138000	95700	42300	143000	101750	41250	142000	129398	12602	530000	481848	48152
			15000	-2000	12000	3500	8500	19000	7450	11550	16000	10373	5627	00009	36323	23677
	GRAND TOTAL	300000	300000	•	300000	300000	0	300000	300000	0	300000	323007			1223007	-23007
J																

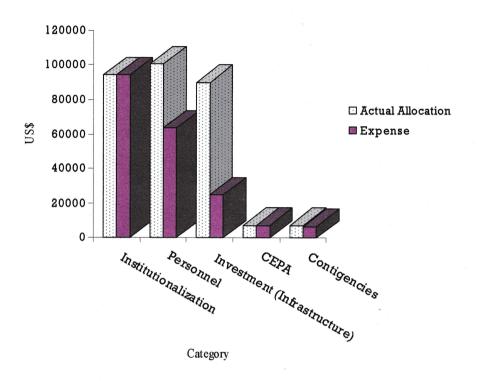
# Actual Allocation of Budget and Expenditure in the First Year of TNRP



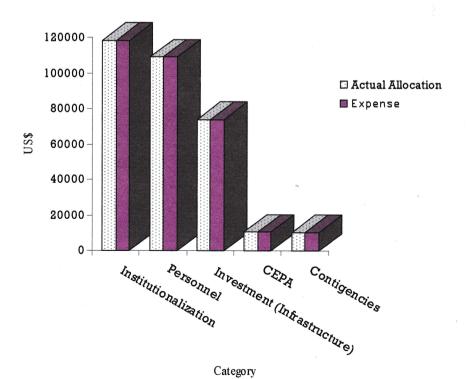
# Actual Allocation of Budget and Expenditure in the 2nd Year of TNRP



# Actual Allocation of Budget and Expenditure in the Third Year of TNRP



# Actual Allocation of Budget and Expenditure in the 4th Year of TNRP



# Actual Allocation of Budget and Expenditure in First Four Years of TNRP

Γ		Т	Т		-		Т	_					_	_					-											_			1		
			differen	•	107998	36602	144600	144000		1339	2787	109500	2419	116045			9998	14629	13569	4014	4144	5050	12416	2125	7433	1476	21006	92736		7756	8098	16364	109100	13707	202450
	Total	t	Expense		120010	54000	174010	0104/1	,	33614	39397	57.249	138281	270541			14262	7032	2812	7021	1007	60/00	0403	1/3518	45397	2661	392	350299		. 8655	16851	22449	372748	22616	92001E
		Actual	Allocation		228008	20906	318610	010010	2020	20933	42184	140700	140/00	386586			22928	21661	16380	11045	0630	2022	176647	52820	05820	4137	21398	443035		13354	25459	38813	481848	36323	122267
		difference.	+		0	2	2		•	> <	> <	> <	9	0			0	0	0	C	, ,	•	•	> <	· > 6	3	٥	100		0	0	0	100	0	102
	Year 4	Fynense	TAPCIISC		72008	37200	109208		3003	12184	57740	1500	2007	/4020			5228	2351	0	2065	38632	2381	\$5100	11710	200	C 60	118	118470		2574	8254	10828	129298	10373	322905
		Actual	1	000	72008	37202	109210		3003	12184	\$72.40	1500	74026	0704/		. •	5228	2351	0	2065	38632	2381	55100	11710	200	202	118	118570		2574	8254	10828	129398	10373	323007
ŀ		differen /	┨ ・	33000	73220	13200	37198		559	1955	62500	, C	65014	-Toco			m	7	4	_	-	7	. 2	. κ	, ,	4 4	0	31 .		က	0	8	34	623	102869
	Year 3	Expense	1	78000	1000	15600	63602		2941	5045	0	17000	24986	200			4397	2303	476	379	24659	3938	49598	7202	1108	720	177	94334		2777	4605	7382	101716	6827	197131 10
	-	Actual	1	72000	0007	78800	100800		3500	2000	62500	17000	00006				4400	2310	480	380	24660	3940	49600	7205	1110	280	200	74303		2780	4605	7385	101750	7450	300000
	1	differen A		48000		11400	59400		418	831	17000	2413	20662				803	2122	1064	92	5020	1456	623	700	852	1000	12716	01/6	( )	55/	1476	2229		-	89096
Vans	. 7 IRO	Expense		0		1700	1200		19582	12169	0	87787	119538			1010	/617	2378	2336	4424	19980	544	37077	6300	648	, 0				24/	3624	3871			203932 9
	Actual	Ü		48000	1000	17000	00909		20000	13000	17000	90200	140200			3000	0000	4500	3400	4500	25000	2000	37700	2000	1500	1000			1000	2001	2100				300000 20
	1	differen All		36000	12000	2000	48000		2	_	30000	9	30009			7860	200	00071	12500	4837	1482	10958	1500	6730	522	20000	78889		2000	3	7132		ŀ		
<u>-</u>		Expense di		0	•		0		8666	6666	0	31994	51991 3			2440	-	-i -		163	5518	1542 10	31743	20185	20	0 20	61611 78	ŀ	0					'	115947 184053
Year 1				36000	12000		48000		10000	10000	30000	32000 3	82000 5			10300		9	12500	2000					542	00	-		8	3 8				;	-
	Actua	Allocation		36	- 12	1	84		<u>0</u>	10	30	320	82(			103	124	-	2	)S	2	12500	33243	26915	<b>'</b>	20000	140500	*	2000	7500		14500	155000	20000	שחחחר
																						pport				anagement				one	6070				
	Elements		•	dvisor	nsultant	9		astructure)	oment	ent		ıstruction	ent)		uo	tices	marcation			nication	chance	ogistical su	Ses	Mapping		Ter Zone M	nalization)			ic worksh		3	LUSIS		
			Personnel	(a) Technical Advisor	(b) National Consultant	Total (Personnel)	1110C 13 T	Investment (Infrastructure)	(a) Office requipment	(b) Field equipment	(c) Vehicles	(d) Facilities construction	Total (Investment)	Operation Costs	Institutionalization	(a) Nursery practices	(b) Boundary demarcation	(c) Patrolling	amoning of	(d) Tele-communication	(e) ruel & Maintenance	(t) MGTC/TPC logistical support	(g) Staff allowances	(h) Field survey/Mapping	(i) PCC meeting	(j) Outreach/ Buffer Zone Management	Total (Institutionalization)	4	(a) Training	(b) Socio-economic, workshops	Total (CEPA)	Total (Operation Costs)	Confidencies	GRAND TOTAL	100 100
		Ŋ.	1 Per	(B)	(0)	Tot	╁	7 Inve	<b>(B)</b>	<u>e</u>	<u>်</u>	( <del>Q</del> )	Tot	3 Oper	3.1   Insti	(a) N	(b) E	<u>و</u> ج	5		(e)	(E)	S (g)	(h) F	(E)	00	Tota	3.2   CEPA	(a) T	( <del>0</del> ) S	Total	Total	4 Confi	+	
			·		لب		_			-		_					-	-					-			_	$\perp$	(*)			上		<u> </u>		J

# Detailed scoring for Personnel of the Project

					,	
Criteria	Aspects			Scor	e)	
and the state of	Tapteds	PCC	TA	NC	PIT	Average
(1) Relevance	Pertinence (Objectives)	4	4	4	4	4.0
	Validity (Activity)	4	3	3	3	3.3
	Objectiveness (Activity)	4	4	4	3	3.8
	Feasibility(Activity)	4	, 4	4	4	4.0
	Consistency (Output)	4	4	4	3	3.8
200 100200 1000	Significance (Outcome)	3	3	3	3	3.0
	Average	3.8	3.7	3.7	3.3	3.6
(2) Effectiveness	Relevance(outputs)	4	4	4	3	3.8
	Adequacy(output)	4	3	3	3	3.3
1,	Timeliness(output)	3	2	2	3	2.5
*	Nature(outcome)	4	4	4	3	3.8
	Extent(outcomes)	3	3	3	3	
	Average	3.6	3.2	3.2	3.0	3.0
(3) Efficiency	Adequacy(personal)	4	4	4	3	
	Timeliness(personal)	4	3	2	2	3.8
	Schedule(works)	3	3	3	3	2.8
	Sequence(works)	3	4	3	3	3.0
	Method(operations)	4	4	4	4	3.3
	Procedure	3	4	4	4	4.0
	real output	4	3	3	3	3.8
•	Cost-minimization	4	3	, 3	3	3.3
	Out-put maximization	4	3	3	3	3.3
	Average	3.7	3.4	3.2	3.1	3.3
(4) Impact			0	5.4	5.1	3.4
Direct impact	Nature	3	4	4	4	20
	Extent	3	4	4	3	3.8
	Capital enhancement	3	3	3	4	3.5
	Equity	3	3	3	3	3.3
Externalities	Diffusion	3	3	3	3	3.0
	Nature	3	3	3	3	
	Extent	3	3	3	3	3.0
ride. La companya mangana panganan da sa	Average	3.0	3.3	3.3	3.3	3.0
(5) Sustainability	Physical capability	0	3	3	3.3	3.2
	Personal capability	0	3	3	3	3
	Continuity (outcomes)	0	3	3	3	3
•	Continuity (impact)	0	3	3	3	3
	Subjoint	0	3.0	3.0	3.0	3
		3.5	3.3	3.3	3.1	4(0)
		YM	0.0	U.O.J	, J. J.	3.3

Remark:

PCC= Project Coordinating Committee; TA= Technical Advisor; NC= National Consultant; PIT= Project Implementation Team

Appendix X

# Detailed scoring for Infrastructure of the Project

1.	2520 2 20 2 00 L			Score		
Criteria	Aspects	buildings	off-equip	field-equip	vehicle	Average
(1) Relevance	Pertinence (Objectives)	4	4	4	4	4.0
	Validity (Activity)	4	4	4	4	4.0
	Objectiveness (Activity)	4	4	4	4	4.0
	Feasibility(Activity)	4	4	4	4	4.0
	Consistency (Output)	4	4	4	4	4.0
	Significance (Outcome)	4	4	4	3	3.8
	Average	4.0	4.0	4.0	3.8	4.0
(2) Effectiveness	Relevance(output)	5	5	4.	4	4.5
	Adequacy(output)	4	5	3	3	3.8
	Timeliness(output)	4	5	3	2	3.5
	Nature(outcome)	5	5	4	4	4.5
	Extent(outcome)	5	5	3	2	3.8
	Average	4.6	5.0	3.4	3	4.0
(3) Efficiency	Adequacy(input)	5	5	3	3	4.0
1.1	Timeliness(Input)	5	5	3	2	3.8
	Schedule(work)	5	4	3	2	3.5
	Sequence(works)	5	4	3	3	3.8
	Method(operations)	5	4	4	3	4.0
	Procedure	5	4	4	3	4.0
	Real output	5	5	5	4	4.8
	Cost-minimization	3	3	3	3	3.0
- 1	Out-put maximization	3	3	3	3	3.0
	Average	4.6	4.1	3.4	2.9	3.8
(4) Impact						
Direct impact	Nature	4	4	3	4	3.8
	Extent	3	4	3	3	3.3
	Capital enhancement	3	4	3	3	3.3
	Equity	3	3	3	3	3.0
Externalities	Diffusion	3	4	3	3	3.3
	Nature	3	3	3	3	3.0
	Extent	3	3	3	3	3.0
	Average	3.1	3.6	3.0	3.1	3.2
(5) Sustainability	Physical capability	3	4	4	3	3.5
	Personal capability	3	4	4	3	3.5
	Financial capability	2	3	3	3	2.8
	Continuity (outcomes)	3	4	4	3	3.5
	Continuity (impact)	3	4	4	3	3.5
1		2.8	8.8	3/8	3.0	3.4
		3.8	4.1	3.5	3.2	3.7

Remark: off-equip= Office equipment; field-equip= Field equipment

Appendix XI
Detailed scoring for Institutionalization of the Project

200								•
Griteria	Aspects	La		С	Score Zonin			
		w	Mapping	F	g	FM	MIP	Average
(1) Relevance	Pertinence							
	(Objectives)	5	5	5	5	.5	5	5.0
	Validity (Activity)	4	4	4	4	4	4	4.0
	Objectiveness		1 2 1	,				
	(Activity)	4	4	-	4	4	4	4.0
	Feasibility(Activity)	4	4	4	4	4	4	4.0
	Consistency (Output)	4	4	4	3	2	3	3.3
	Significance (Outcome)	4	4	2	2	1	2	2.5
(2) Effectiveness	Average	4.2	4.2	3.8	3.7	3.3	3.7	3.8
(L) Lifectiveness	Relevance(output)	4	4.	3	3	3	4	3.5
	Adequacy(output)	3	3	2	2	1	3	2.3
	Timeliness(output)	3	4	2	2	2	2	2.5
	Nature(outcome)	3	4	3	3	3	3	3.2
	Extent(outcome)	3	3	2	2	1	1	2.0
(2) T(C' - '	Average	3.2	3.6	2.4	2.4	2.0	2.6	2.7
(3) Efficiency	Adequacy(input)	3	4	3.	2	2	4	3.0
	Timeliness(Input)	3	4	2	2	2	2	2.5
	Schedule(work)	3	4	2	2	2	2	2.5
	Sequence(works)	. 3	4	2	3	2	2	2.7
-	Method(operations)	3	4	2	3	2	2	2.7
	Procedure	3	4	2	. 3	2	2	2.7
	Real output	3	4	2	2	2	3	2.7
	Cost-minimization	4	2	3	2	2	2	2.5
	Out-put maximization	4	2	3	2	2	2	2.5
	Average	3.2	3.6	2.3	2.3	2.0	2.3	2.6
(4) Impact								2,0
Direct impact	Nature	2	3	3	3	3	3	2.8
	Extent	2	2	1	1	1	1	1.3
	Capital enhancement	3	3	3	2	2	2	2.5
	Equity	2	3	2	2	2	3	2.3
Externalities	Diffusion	3	3	3	1	1	1	2.0
	Nature	3	3	3	3	3	3	3.0
	Extent	2	2	1	1	- 1	1	1.3
	Average	2.4	2.7	2.3	1.9	1.9	2.0	2.2
(5) Sustainability	Physical capability	4	2	3	3	3	2.0	2.8
	Personal capability	4	2	3	3	3	2	
•	Financial capability	3	2	3	3	3	2	2.8
	Continuity (outcomes)	3	3	3	3	3		2.7
	Continuity (impact)	3	3	3	3	3	2	2.8
	Average	3.4	SCOCKER AND SERVICE OF THE SERVICE O	3.0	3.0	3.0	2.0	2.8
		3.3		2.8				263 
		U.U	ა.ა	4.0	2.7	2.4	2.5	2.8

Remark: CF = Community Forestry; FM = Fire Management; MP = Management Plan

# Detailed scoring for CEPA of the Project

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Griteria	Aspects			S	core	
		Net	EE	SD	Training	Average
(1) Relevance	Pertinence (Objectives)	4	4	3	4	3.8
	Validity (Activity)	4	4	3	4	
,	Objectiveness (Activity)	4	4	3	4	3.8
	Feasibility(Activity)	4	4	3	4	3.8
	Consistency (Output)	3	4	3	4	3.5
	Significance (Outcome)	2	2	2	2	2.0
	Average	3.5	3.7	2.8	3.7	3.4
(2) Effectiveness	Relevance(output)	3	4	3	4	3.5
	Adequacy(output)	3	4	3	3	3.3
	Timeliness(output)	3	4	3	2	3.0
	Nature(outcome)	3	3	3	3	3.0
	Extent(outcome)	2	2	2	2	2.0
	Average	2.8	3.4	2.8	2.8	3.0
(3) Efficiency	Adequacy(input)	3	4	3	3	3.3
	Timeliness(Input)	3	4	3	3	3.3
	Schedule(work)	3	4	3	3	3.3
	Sequence(works)	3	4	3	3	3.3
	Method(operations)	3	3	3	3	3.0
	Procedure	3	4	3	3	3.3
	Real output	3	4	3	3	3.3
	Cost-minimization	3	3	3	2	3.0
	Out-put maximization	3	3	3	2	3.0
	Average	3.0	3.7	3.0	2.8	3.2
(4) Impact	Nature	3	4	3	3	3.3
Direct impact	Extent	3	3	3	2	2.8
	Capital enhancement	3	3	3	3	3.0
	Equity	3	3	3	3	3.0
Externalities	Diffusion	3	3	3	3	3.0
	Nature	3	3	3	3	3.0
	Extent	2	2	2	2	2.0
	Average	2.9	3.0		A comment of the comm	
(5) Sustainability	Physical capability	3	3	3	. 3	3.0
	Personal capability	3	3	3	3	3.0
	Financial capability	3	3	3	3	3.0
•	Continuity (outcomes)	3	2	3	3	2.8
	Continuity (impact)	3	2	3	3	2.8
	Äverage	3.0	26	3,0	3.0	2.9
		3.0	3.3	2.9	3.0	3.1
			· · ·			J.1

Remark: Net= Networking; EE= Environmental Education; SD= Seedling Distribution