THE MASTER PLAN STUDY ON FOREST MANAGEMENT FOR DISASTER PREVENTION IN THE NORTHERN PACIFIC REGION IN THE REPUBLIC OF NICARAGUA

ANNEX TO THE DRAFT FINAL REPORT COMMUNITY GUIDANCE MANUALS

OCTOBER, 2004

JAPAN INTERNATIONAL COOPERATION AGENCY GLOBAL ENVIRONMENT DEPARTMENT

JAPAN FOREST TECHNOLOGY ASSOCIATION SANYU CONSULTANTS INC.

(THE REPUBLIC OF NICARAGUA)
THE MASTER PLAN STUDY ON
FOREST MANAGEMENT FOR
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The present manuals describe the methods for the guidance for communities (local residents) for the implementation of an action plan which is formulated for each community in accordance with the Guidelines for Formulation of Forest Management Action Plan for Disaster Prevention.

The basic principle for forest management is that the relevant activities are continually implemented on the own initiative of local residents. It is, therefore, important for local residents to put forest management into practice while receiving the administrative and other external assistance and enhancing their indigenous development capability to raise their level of forest management. For this reason, one central theme of the manuals is the issue of how to enhance the indigenous development capability of local residents.

It is assumed that these manuals will be used by such administrative bodies as the INAFOR and municipal authorities and by leaders of communities. As many manuals have already been published in Nicaragua regarding the implementation method for different types of work under individual activities, these manuals will be used to deal with specific types of work.

Three manuals featuring the following subjects have been prepared.

・ Forest management and community development
・ Operation of the organization
・ Training activities

1. Forest Management and Community Development

This manual explains the important points for technical teams providing guidance for local residents when the latter implement activities for forest management, environmental education and livelihood improvement incorporated in an action plan.

As these activities are implemented while repeating the cycle of "plan formulation → implementation of activities → monitoring → review of the plan → implementation", the important points at each stage of this cycle are described, following the flow of the cycle.

(1) Plan Formulation

An activity plan is separately formulated for activities to be conducted by individual persons (individual activity plan) and those to be jointly conducted (joint activity plan). Individual activities are conducted on land owned by individual households and are directly linked to individual benefits. Meanwhile, joint activities are those of which the benefits are felt by the entire community. Therefore, joint activities feature those matters which are expected to produce better effects when jointly conducted.

Possible activities to be included in an action plan are classified into those suitable as individual activities and those suitable as joint activities as listed in the tables below.

Guidance for activity planning

< Activities Suitable as Individual Activities >

Primary Component	Activities
Slash and burn farming control	Improvement of cultivated land; improvement of pasture
Soil conservation	Improvement of cultivated land; improvement of pasture; natural forest management
Forest improvement	Natural forest management; man-made forest management
Nursery stock production	Collection of seeds; nursing
Livelihood improvement	Home garden; small-scale watering system; diversification of crops; coffee cultivation; improved stoves

< Activities Suitable as Joint Activities >

Primary Component	Activities
Forest improvement	Headwater forest management (natural forest management; man-made forest management)
Forest fire control	Fire brigade activities; formulation and extension of community rules on burning; forest fire prevention campaign
Environmental education	Inclusion of environmental education in primary education; forest fire prevention campaign; inclusion of environment education in religious education; events on Tree Day; general environmental education by the INAFOR and the MARENA
Livelihood improvement	Profitable marketing of products; simple water supply facilities
Nursery stock production	Collection of seeds; nursing

In the case of nursing, this must be selected as either an individual activity or a joint activity taking the level of the knowledge and skills of local residents and the location of the water source, etc. into consideration and the actual selection should be based on the intentions of local residents. The collection of seeds is possible if the mother trees of reforestation species exist inside the community area. Whether this is planned as an individual activity or a joint activity depends on the intentions of local residents as in the case of nursing as it involves questions regarding the consent of tree owners and the seed distribution method.

1)   Individual Activity Plan

An individual activity plan must aim at achieving sustainable forest management while increasing the benefits of forests through the improvement of individually owned land. For this reason, it is necessary for the participants to individually formulate their own plans in accordance with the following processes by selecting the preferred activities for slash and burn farming control, soil conservation, forest improvement, nursery stock production and livelihood improvement based on the current land use map for their own community.

< Decision on Activities >

A workshop should be held to conduct the following.

a.   To show the current land use map to the entire community and to discuss the present conditions of the land and the causes of such conditions with local residents to enhance their understanding of the importance of forest management and soil conservation

b.   To explain the desirable land use and forest management in the future to local residents to enhance their understanding of the matters concerned, especially the purposes and methods for improvement of the productivity of cultivated land with the ultimate goal of establishing permanent farming in an easily understandable manner as part of the explanation of the desirable land use

c.   To show the activities listed in the action plan for the community in question as forest management and livelihood improvement methods and to explain their contents

< Activity Plan >

- Improvement of Individually Owned Land and Forests, etc. -

a.   To draw a current land use map showing the state of use of individually owned land on a piece of paper in regard to activities relating to cultivated land and forests

b.   To commence with the practice of drawing the school, church and other buildings in the community and their locations as local residents are generally unfamiliar with drawing pictures

c.   To examine how local residents want to improve their land based on the current land use map and with reference to the activities in the action plan and to decide which activities should be implemented

d.   To provide guidance so that land which is conveniently located near homes is given priority in the target site selection if the owned land is scattered

e.   To make individual residents draw their own conceptual land use map for the future by making them imagine the activities to be implemented (this map should be drawn separately from the current land use map)

f.   To examine the annual work volume, materials/equipment and schedule based on the conceptual land use map

g.   To provide guidance so that the individual activity plans do not have excessive contents in view of the fact that land use improvement and forest management must be continually

conducted rather than ending after a short period of time. In the case of the improvement of cultivated land, it is desirable for a site equivalent to the annual cultivation area to be selected for the application of a schedule which involves less intensive but continuous work at this site.

Soil conservation work for improvement
of cultivated land (Terrace)

Soil conservation work for improvement
of cultivated land (Rock ridges)

- Collection of Seeds and Nursing -

a.   To calculate the required number of seedlings for the implementation of an activity plan for each species (the final number should be 20% more than the basic requirement in view of the inevitable death of some seedlings)

b.   To examine the suitable timing for collection when seeds are collected from own trees

c.   To calculate the required scale of the nursery based on the required number of seedlings

d.   To prepare a nursing schedule

e.   To examine a suitable site for the nursery

Communal nursery activity

Individually-run nursery

- Improved Stoves -

a.   To examine the possibility of obtaining sand and clay

b.   To examine the work schedule for the installation of stoves

c.   To conduct the work preferably in the dry season as it may be necessary to install temporary stoves outdoors during the work period

Improved stove

< Other Important Points >

a.   To provide guidance for the formulation of individual activity plans at intervals of a few days to allow time for the participants to carefully think about their plans so that they are fully aware of the nature of the plans as their own plans

b.   To plan and implement study tours to observe pioneering examples in more advanced communities or in their own community at an early stage of planning to enhance the images of higher awareness, improved land use and forest management among local residents

c.   To form groups of participants or neighbours conducting similar activities and to decide the leader for each group. The participation of individuals in more than one group should not be prevented.

d.   To refer to "2 Operation of the Organization" for the organization of participants, including grouping

2)   Joint Activity Plan

The concrete activities should be decided in a similar manner described in < Decision on Activities > for an individual activity plan, a group should be formed for each type of activities and the plan should be formulated in accordance with the following processes.

< Headwater Forest Management >

a.   To designate the area where a headwater forest is to be developed

b.   To obtain the consent of the landowner

c.   To formulate the necessary headwater forest development plan in correspondence with the conditions of the designated headwater forest area

d.   To determine the roles to be performed by the landowner and local residents in the headwater forest development activity

e.   To determine who will be responsible for looking after the planted seedlings. There was an example of divided roles between local residents and the landowner in the P/S in that the latter planted seedlings provided free of charge by the former. However, planting may be jointly conducted.

< Collection of Seeds and Nursing >

a.   To formulate a seed collection and nursing activity plan following the same processes explained for "Collection of Seeds and Nursing" for an individual activity plan up to the examination of a suitable site for the nursery

b.   To decide the role to be played by each individual in line with the nursing schedule

c.   To decide measures to deal with a situation where a resident on duty on a specific day is unable to conduct the work

< Forest Fire Control >

Forest fire control activities should be implemented in all communities. Conceivable activities are activities by a fire brigade, the formulation and extension of community rules on burning and forest fire prevention campaigns.

- Community Rules on Burning -

a.   To formulate draft community rules for burning led by the leaders of the implementation body

b.   To establish these rules as formal rules for the entire community after approval of the draft rules by the implementation body and the community committee

c.   To provide guidance for local residents to ensure the compatibility of the new rules with municipal regulations and related laws in order to obtain the cooperation of local residents outside the community in question and to cooperate with the collaborative work of other administrative organizations (these are specific requirements for the technical team)

d.   To formulate a plan to make the forest fire prevention rules of the community widely known

e.   To gradually expand the above activities to make the rules known not only in the community but also in neighbouring communities

- Activities of Fire Brigade -

a.   To develop a communication system at the time of forest fires and to develop specific roles for each person involved

b.   To check the storage place for fire-fighting equipment/tools

c.   To check which member of the fire brigade should be responsible for carrying what equipment/tools

- Forest Fire Prevention Campaign -

a.   To make the fire brigade members play a leading role in the planning of a forest fire prevention campaign which should be implemented before the commencement of the dry season

b.   To implement the campaign as a community activity in collaboration with the community committee after its approval by the implementation body

Banner for the forest fire prevention campaign

c.   The possible contents of this campaign include the display of posters and banners appealing forest fire prevention inside and outside the community and the performance of a short play featuring forest fire prevention

d.   Primary school pupils can be requested to create posters. This can be expected to produce positive effects as part of environmental education.

< Environmental Education >

An activity plan for environmental education should be formulated in all communities.

a.   To make the environmental education group play a leading role in the selection of activities which are suitable for the community in question and to prepare an implementation schedule

b.　To implement the selected activities as community activities in collaboration with the community committee after their approval by the implementation body

Likely activities are listed in the table below.

Primary Component	Activities
Inclusion of environmental education in primary education	・ Practical forest reconnaissance exercises (observation of the state of forest destruction and state of soil erosion in progress, etc.) ・ Practical exercises to identify the tree species growing in the community area ・ Creation of a nursery, production of seedlings, planting and tending of trees on primary school premise ・ Planting and tending at communal sites (roadsides and churchyards, etc.) ・ Purchase and reading of textbooks ・ Preparation and posting of posters on the environment ・ Establishment of children's environmental brigades and the implementation of various activities
Implementation of forest fire prevention campaigns	・ Extension of the community rules on burning ・ Introduction of forest conservation activities ・ Preparation and posting of posters and banners ・ Invitation to neighbouring communities ・ Performance of short plays featuring forest fires and nature protection
Inclusion of environmental education in religious education	・ Talks about forests and the environment during mass
Tree Day events	・ Reporting on forest activities implemented ・ Lectures on environmental conservation ・ Queen of Ecology contest
General environmental education by the INAFOR and the MARENA	・ Hosting of lecture meetings (using the forest fire prevention programme or environmental education programme

< Profitable Marketing of Products >

a.　To prepare a schedule for study meetings on the market

(2)　Implementation of Activities

Guidance should be provided regarding activities for slash and burn farming control, soil conservation, forest improvement, livelihood improvement, forest fire control and environmental education as planned in (1) above based on "2. Operation of the Organization" and "3. Training Activities".

For individual types of work, as many relevant manuals, including those listed below, have already been published in Nicaragua, guidance should be provided using these manuals as references.

・ EL ARBOL AL SERVICIO DEL AGRICULTOR (MAGFOR)
・ Técnicas básicas para el control de incendios forestales (USAID)
・ Manual de Sistema Agroforestales (Projecto Los Maribios)

[Important Points for Guidance]

Careful planning of the guidance method from the following viewpoints will be important to ensure that the implemented activities produce positive results.

a. Visible Results (Effects)

・These results include the growth of trees, vegetables and fruit trees, etc. The existence of visible results (effects) or good products is important for local residents to recognise the positive implications of activities. The people close to the participants who have produced good visible results will respond positively and this will give the participants a sense of satisfaction to then continue their activities.

・It is important for the technical team to firstly conduct a demonstration to be followed by attempts by local residents.

・While a typical beneficial result is an increased yield, this is not easy to quickly achieve. However, soil conservation work as the first step will have the immediate effect of preserving the soil while the effect of using compost will also be felt relatively quickly. It is essential for the guiding side to point out favourable changes in the field.

b. Growing Awareness of Own Acts and Responsibilities

・Some aid projects in the past simply distributed seedlings without providing any after-care. In these cases, most of the seedlings were just piled up in the gardens of the recipients and died. What is important is for local residents to prepare for activities which suit their own purposes based on their own willingness. Guidance to make them aware of their own acts and responsibilities to produce results is desirable.

c. Activities by All

・The extension effect to other residents and neighbouring communities will be weak if only a small number of residents are involved in activities receiving special assistance.

・When acting alone, local residents may be hesitant to start an activity because of uncertainty regarding the outcome of such activity as well as their technical competence. Working together will give them the necessary assurance and will make it easier for them to become involved. Moreover, the extension effects of joint activities will be much greater.

・Joint activities should not be forced. While technical guidance and study meetings may be more efficient in the form of group activities, it will be easier for local residents to accept if those activities which can be conducted individually are left to individuals.

d. Detailed Guidance (Demonstration and Practical Exercises)

・It is essential for the technical team to demonstrate what should be conducted in the field in addition to a verbal explanation. Local residents must be encouraged to practice what they are taught so that technologies/techniques can be properly transferred to them.

・The repeated teaching of the same subject may be necessary and appropriate guidance should be provided on the spot while observing the progress of activities. In this sense, observation of an advanced community or the exchange of opinions between residents by means of a study tour should prove effective.

e. Flexible Acceptance of Participants (Emphasis on Spontaneity)

・The spontaneity of local residents should be respected. The sustainability of activities can be better achieved if residents who want to participate are readily accepted while those residents who do not want to participate are not forced to do so.

・In the case of local residents who cannot be directly involved in forest conservation activities because they do not have their own land, it will be necessary to indicate possible activities for these local residents, including participation in the extension of improved stoves.

f. Modest Funding per Capita

・A large amount of funding per capita is undesirable. If a general opinion that the successful implementation of activities is the result of large funding develops, the extension of similar activities to others may not take place without a similar level of funding, making the continuation of activities difficult.

・The principles for the provision of a financial incentive are that an incentive should be provided for those things which local residents cannot pay for while considering the need for development of the ownership of local residents and the continuation of activities and that the resources available in the community should be used as much as possible.

・Given the severe economic situation of communities, however, it may be an idea to provide a different kind of incentive, if such an incentive is found to be necessary and possible, until such time when local residents develop a willingness to pay for the cost of activities. Even in this case, it must be explained that such an incentive is part of the technical guidance and the actual decision to provide an incentive should take the necessity, productivity implications and educational effects of such incentive for productive activities into consideration.

g   Flexible technical guidance

・Although many local residents have so far had little experience of forest management activities, many of them appear to be eager to learn new techniques so that they can commence various activities using them. Such eagerness is often the result of the way in which technical guidance is provided. Accordingly, new techniques/technologies should be applied in a flexible manner depending on the actual conditions instead of their uniform application. To achieve such flexible technical guidance in the field, guidance which is designed to encourage understanding of the meaning and effects of the techniques/technologies applied to individual work should be provided. In other words, guidance which is designed to enhance the ability of individual persons to expand the scope of application of newly acquired techniques/technologies, i.e. to make them capable of activities based on their own ideas, leads to an increased willingness to act.

(3)   Monitoring and Review of Activity Plans

During the activity implementation period, it will be necessary to monitor the progress situation of the activities. The monitored progress situation may indicate that the original activity plans are over-ambitious in terms of the range of activities, scale and/or quantity. In this case, the problems should be properly analysed and it may be necessary to modify the original activity plans in terms of the range of activities, scale and/or quantity so that the activity plans allow continued activities by local residents.

Examples of the checking items (indicators) for the progress situation are shown in the table below. It is unnecessary to use all of these indicators. Given the fact that monitoring should be conducted by local residents themselves, those which are easy to understand and for which data can be easily gathered by local residents should be selected in correspondence with individual activities.

Indicators Used for Monitoring

Primary Component	Activities		Indicator (s)
Slash and burn farming control	Improvement of cultivated land	・ Earth ridge ・ Rock ridge ・ Contour hedgerow ・ Live fencing ・ Compost input ・ Silvopastral ・ Small erosion control facilities	・ Total length of construction ・ Total length of construction ・ Total length of construction ・ Number of trees planted ・ Volume of input ・ Number of trees planted ・ Number of facilities
Soil conservation			
Forest improvement	Natural forest management	・ Enrichment ・ Improvement cutting and climber cutting ・ Introduction of a firebreak	・ Number of trees planted ・ Implementation area; person-day input ・ Total length
	Man-made forest management	・ Planting ・ Weeding and climber cutting ・ Improvement cutting and thinning ・ Bud pruning ・ Introduction of a firebreak	・ Number of trees planted ・ Implementation area; person-day input ・ Implementation area; person-day input ・ Implementation area; person-day input ・ Total length
Nursery stock production	Collection of seeds Nursing		・ Volume of seeds collected ・ Number of seedlings produced by species
Forest fire control	Fire prevention	・ Formulation and wide use of community rules for burning	・ Number of households agreeing ・ Number of households engaged in burning cultivation
		・ Fire prevention campaign	・ Number of campaigns conducted ・ Number of forest fire occurrences
		・ Wide use of firebreaks	・ Total length
	Fire-fighting	・ Formation of a fire brigade ・ Turning out of fire brigade	・ Number of members ・ Number of turn outs

2. Operation of the Organization

This manual explains the method to facilitate the organization of the participants and its strengthening by the technical team. This explanation is given in terms of the following four processes

① Gathering of data on existing organizations
② Organization of participants
③ Guidance for strengthening of organization
④ Development of follow-up system

(1) Gathering of Data on Existing Organizations

At the preliminary study stage, the technical team should create a database on existing organizations in the community by means of interviews, etc. and should use this database as a reference material for the organization of the participants for the present project.

Study Items	Interview Results
Name of organization	
Circumstances of establishment	
Number of members	
Characteristics of members	
Main functions	
Structure of executives	
Selection method of executives	
Grouping within the organization	
Leadership of executives	
Degree of trust in executives	
Participation situation of members	
Collaboration between executives	
Problems of and tasks for the operation of the organization	
Problem-solving method	
Communication system	
Existence of joint work	
Degree of cooperation among members	
Availability of organization rules	
Membership fee	
Existence of someone with experience of acting as a promoter	

(2) Organization of Participants

1) Necessity for Implementation Body and Understanding of Its Purposes

The establishment of an implementation body (for the project), reflecting the characteristics of the community or its residents, is desirable to act as a body to promote activities rather

than gathering local residents interested in activities to proceed with activities without a clearly defined purpose.

The organization of participants for activities is believed to offer the advantages listed below. The technical team should explain the necessity for as well as importance of the implementation body to the participants to obtain their understanding by means of introducing successful and unsuccessful examples of organization to the participants.

・ To function as the front desk to receive external assistance and to make efficient technical guidance by external organizations easier to implement

・ To try to solve emerging problems through cooperation

・ To provide a place for the exchange of skills/opinions for the participants to learn new skills

・ To facilitate mutual assistance between the participants to compensate for the shortcomings of individual participants

・ To maintain and enhance the willingness of participants to continue activities

2)　Organization

a.　Definition of Implementation Body

The implementation body in each community should be composed of all of the participants and should have a board of executives and groups by activity or area. Each participant should be a member of one or more groups. An example of an implementation body is shown in the figure below.
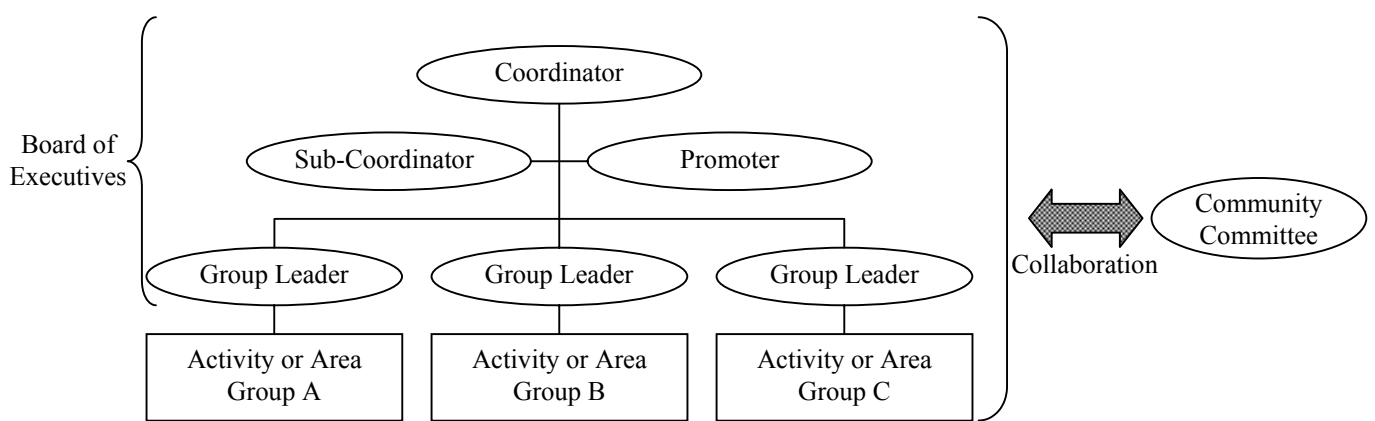
Example of Implementation Body

Notes
1.　The role of the promoter is explained in (4)-1.
2.　Other possible executive positions include a secretary, treasurer and auditor(s) but the introduction of these positions should be examined at a meeting of the participants.

The consent of the community committee should be obtained for the organization of the participants. In this way, the implementation body will become a formal organization linked to the community committee and equality among local residents can be secured. This implementation body should be open to everyone who is interested in the activities. For this reason, the activity implementation situation of the participants must be widely understood among the residents of the community and it is essential for the implementation body to promote activities while constantly sharing the relevant information and maintaining a close relationship with the community committees.

b.   Organization Processes

- Grouping -

Firstly, the participants should be grouped in terms of a specific activity or area of residence to easily achieve the unity of the group members and to facilitate the efficient functioning of the implementation body.

- Selection of Executives and Confirmation of Their Duties -

Executives should be selected to form a board of executives in view of the efficient functioning of group activities and the operation of the implementation body. The main positions of this board of executives should be a coordinator, sub-coordinator, secretary, treasurer and auditor in the case of the implementation body and a leader in the case of each working group. The selection of executives should be conducted by the participants in a democratic manner. Their duties should be concretely defined so that they can easily perform their duties. Each executive should be accompanied by an assistant to ensure the proper performance of the defined duties. Meanwhile, careful consideration should be given to making the necessary arrangements to foster future executives.

- Establishment of Communication System -

A system should be established to ensure the swift conveyance of information among the participants. This communication system may involve the creation of a communication network, the use of circulars and/or the use of primary school pupils, etc.

All of the above processes for organization must be implemented with the consent of the participants.

3)   Functions of Implementation Body

The technical team should propose that the implementation body have the functions described in (2)-1) above and should explain to the local residents that the implementation body

described in (2)-2)-a above should be established to ensure its proper performance of such functions. In this way, the technical team should obtain the understanding of local residents that the board of executives and activity/area groups have the functions described below.

< Board of Executives >

・ To represent all members of the implementation body to act as a front desk to deal with external organizations

・ To operate and manage the implementation body

・ To organize meetings of the participants

・ To lead activities

・ To constantly liaise with the community committee so that information on activities is spread to all residents of the community

< Activity/Area Groups >

・ To act as a unit to improve and ensure the efficiency of an individual activity

・ To act as the smallest unit to ensure the unity of the participants and also as a unit to receive group guidance

While the general functions of the coordinator and leaders of the activity/area groups who are executives are described below, their exact functions and authority must be defined by the entire participants.

< Coordinator >

・ To represent the participants as well as the board of executives

・ To convene meetings of the board of executives, to clarify the progress situation of various activities in the entire community, to identify emerging problems and to find suitable measures to solve the problems

・ To plan and convene general meetings of the participants, to provide information on the board of executives, situation of forest improvement activities and problems identified and to chair meetings to discuss emerging problems by the entire participants

・ To constantly liaise with the community committee so that information on the activities is conveyed to all residents of the community

< Leaders of Activity/Area Groups >

・ To act as the representative as well as front person of a particular group to deal with the board of executives and the technical team

・To clarify the activity situation of the group

・To identify emerging problems in the group and to examine possible solutions

・To assist those participants who have not made much progress or who are finding it difficult to develop a technical understanding of the activities

・To provide technical consultations for group members

・To prepare an activity plan for the group and to conduct monitoring and evaluation of the activities of the group

(3) Guidance for Strengthening of Organization

Organization is the main factor to enhance the indigenous development capability. The technical team should use the indicators in the following table to observe and evaluate the ability of local residents to organize themselves in order to clarify weaknesses and should provide guidance for local residents to rectify such weaknesses. In providing this guidance, the technical team should carefully examine and identify the desirable contents of guidance in view of the reality of the target community while following the guidance principles described in the table below.

Indicator	Key Points for Observation and Evaluation	Guidance Principles
Organization according to need To clarify the degree of capability to establish a system to deal with emerging problems in an organized manner	・ Do local residents gather to discuss problems when necessary? Has any measure to solve a problem been established as a result?	・ In the case of participants failing to get together according to need to solve a problem, the causes of such failure should be identified to remedy the situation as quickly as possible.
	・ How is information given to the participants? Is information shared by members of the implementation body?	・ A communication system and information conveyance system among local residents should be established or reviewed to develop a situation in which information is always quickly conveyed for sharing by all residents.
	・ Has joint work been put into practice?	・ The necessity for joint work should be clearly understood by the participants and its method should be defined.
	・ Are suitable measures in place to ensure the effective functioning of created organizations?	・ In the case of the absence of such measures, it should be made clear whether or not such measures are necessary or if they have not been implemented despite a need for them. ・ If the organization formed is not functioning properly, all participants should be encouraged to analyse the problematic points regarding the activity situation of community organizations with a view to identifying solutions. ・ In those communities where people fail to gather properly or where the homes are scattered, a more appropriate way of providing guidance should be considered, including the formation of small groups based on neighbourhood, families, friends or dwelling areas to act as the basic units for guidance ・ If necessary, organization rules should be formulated and enforced.
	・ Are the leaders of the organizations active? Are the participating residents cooperative?	・ The executives should visit advanced communities to learn know-how for the operation of an organization through the exchange of opinions. ・ All participants should be taught the importance of and necessity for community organizations and community unity. They must also be taught the importance of residents being constantly aware of the problems and of solving them together.
	・ Does the organization have its own rules?	・ The conditions for holding meetings and the freedom of local residents to join or withdraw from the organization should at least be set forth.

Indicator	Key Points for Observation and Evaluation	Guidance Principles
<u>Existence of leading person</u> To clarify the degree of capability of each leading person (coordinator of the implementation body, leader of the community committee, leaders of activity groups and promoters, etc.)	・ How does the coordinator clarify the activity situation of the participating residents? ・ Is there any collaboration between the executive?	・ The state of functioning of various types of meetings and functions of the organization should be clarified by means of checking the progress situation, interviews and/or observation. ・ If there is no collaboration between the executives, discussions should be held with the participants to rectify the situation.
	・ Do the participants trust the leaders?	・ If not, these leaders should be replaced. Alternatively, methods to rectify the situation should be discussed and implemented.
	・ Are the leaders themselves involved in activities to set an example? Do they perform their leadership role?	・ If leaders lack leadership, they should be given the opportunity to examine their actions. At the same time, their roles, functions and impacts should be checked. Participatory training on self-development and human relationships should be organized to make them aware of their leadership responsibility. Personal guidance should be provided for problematic leaders to facilitate solving of the problems associated with such leaders.
	・ Has anyone experienced the role of being a promoter? Does anyone have the required qualities to act as a promoter? Are these persons willing to guide other residents?	・ People with some knowledge and plenty of volunteer spirit should be discovered as potential promoters and special education should be provided for these people. However, their role should be considered to be mainly passive in that they should act on the instruction of the coordinator or teach local residents when consulted. ・ A system should be developed whereby an assistant is always assigned to each leader to ensure continuity of the functions of the leader in question. At the same time, leaders should make efforts to foster future leaders through OJT.

(4) Development of Follow-Up System

1) Deployment of Promoters

The analysis results of the activities of promoters deployed under projects in the past suggest that it is difficult to expect them to perform the functions of active promoters, such as extension workers, while solely relying on their volunteer spirit without any incentive (in terms of financial reward and/or labour support, etc.). However, neither the administration nor local residents have the economic ability to pay the cost of such incentives.

Moreover, it is anticipated that it will be extremely difficult to secure budgetary allocation to employ promoters. In view of this situation, promoters should be selected from among the participants based on the following concepts.

Promoters should be responsible for providing "supplementary technical follow-up when the technical team is absent".

Promoters should possess the following qualities.

・ Strong volunteer spirit
・ Some technical knowledge
・ Good reputation among other participants
・ Management of a farm which can be regarded as a model for others

Likely promoters should be identified from among promoters for existing similar projects and those who are considered to be suitable.

As the activities of the selected promoters will be voluntary activities as in the case of the executives of the implementation body, the role of the promoters should principally be passive as described below.

・ To act on the instruction of the coordinator
・ To teach local residents when consulted

In regard to the functions and duties of promoters, however, "what they can do" must be defined in advance. When educating/training promoters, the technical team should try to make the promoters acquire not only technical skills but also knowledge of leadership, management of plan implementation, operation of an organization and technology transfer methods, etc. which is necessary to allow promoters to perform the above-described roles in addition to technical skills.

2) Follow-Up by Administration

Activities are expected to continue to a certain extent during the period of intensive technical guidance by the technical team. Given the fact that the activities of many forest-related projects in the past stagnated following the end of the project, it is desirable for the administration to develop a system to provide follow-up for the activities of the participants on a periodic basis or in response to the actual need.

It is important for the administration to provide additional guidance with the cooperation of promoters and also to introduce the following measures as required so that the implementation body, which is formed at the time of the technical guidance at an early stage of activities, can continue its activities.

・To provide guidance on the establishment of a network for implementation bodies in the target communities

・To provide information on new technical knowledge and assistance by the administration

・To exchange information with other communities

3. Training Activities

This manual explains the method for the technical team to provide guidance for the activities of local residents. This guidance must aim at enabling the participants to conduct self-reliant as well as sustainable forest management activities in the future. Accordingly, the basic intension of this manual is to enhance the "indigenous development capability" of the participants to realise such aim.

(1) Period of Training Activities and Main Work of Technical Team

The period for technical guidance at the early stage of forest management activities in each community is generally assumed to be 2 – 3 years and this technical guidance should be implemented in three phases. The main contents of the guidance in each phase are described in the table below.

The frequency of the technical guidance should be reduced with the passing of time from the viewpoint of developing a self-reliant attitude among the participants, gradually reducing the dependence of the participants on the technical team. The technical guidance in the follow-up phase should be limited to that which is only provided to meet the concrete needs of the participants. After this early stage of the activities, the technical team should carefully observe the situation of activities in each community and should confine its guidance to the minimum necessity with the use of promoters while maintaining close contact with the implementation body in each community.

Main Work of Technical Team by Phase

Plan Formulation Guidance Phase (approx. 3 months)	Implementation Guidance Phase (approx. 1 – 2 years)	Follow-Up Phase (approx. 9 months)
・Data gathering (see the Guidelines) ・Formulation of an action plan (see the Guidelines) ・Establishment of an implementation body (see 2. Operation of the Organization) ・Implementation of activities designed to increase the motivation of the participants [(2)-1] ・Observation and evaluation of the indigenous development capability (see the Guidelines) ・Formulation of activity plans [(2)-2] ・Formulation of a technical guidance plan [(2)-3]	・Observation and evaluation of the indigenous development capability (see the Guidelines) ・Guidance by the technical team to enhance the indigenous development capability [(3)-1] ・Facilitation of the implementation, monitoring and evaluation of the activity [(3)-2] ・Discovery and education of promoters [(3)-3]	・Visits by the technical team to communities to provide technical guidance when necessary and guidance for executives of the implementation body; commencement of activities by promoters [(4)]

Note: Those in brackets indicate the respective sections where the subject matters are described.

(2) Plan Formulation Phase

1) Implementation of Activities Designed to Increase Motivation of Participants

・Activities designed to increase the motivation and sense of purpose among the participants should be planned and implemented prior to the formulation of activity plans (visits to advanced communities and/or model farmland; environmental education).

・An action plan should be formulated by the technical team with the cooperation of local residents and the technical team should explain the action plan to the participants while checking its compatibility with the needs of the participants by means of field visits together with the participants to visually analyse what should be conducted and how. If the contents of the action plan are not compatible with the needs of the participants, the technical team should modify the action plan if necessary while providing an explanation designed to enhance the understanding and awareness of the participants.

・If a visit to an advanced community and/or a model farm for the purpose of exchanging opinions and experiences is believed to be desirable, the technical team should select a place which can act as a model for the activities of the participants and should make the necessary arrangements to enable the exchange of opinions and experiences between the producers at the selected location and the participants. The advance preparation of a schematic diagramme of the selected model farm should prove effective for such visit.

・If environmental education is opted for, it should be implemented by combining the relevant items shown in the Guidelines so that anyone in the community, regardless of sex or age, can participate. In some cases, the INAFOR and the MARENA should be requested for the direct implementation of environmental education (for example, education on forest fire control).

・As part of the guidance on activities, it is important to foster an awareness on the part of the participants that their own initiative and ideas in addition to the use of the techniques taught will bring them further benefits.

2) Formulation of Activity Plans

・For the formulation of an activity plan, each participant should be requested to draw a conceptual land use map in the form of a schematic diagramme to develop an image of the shape and distribution of his/her land. The planned activities should then be entered on this schematic daigramme.

Example of Conceptual Land Use Map
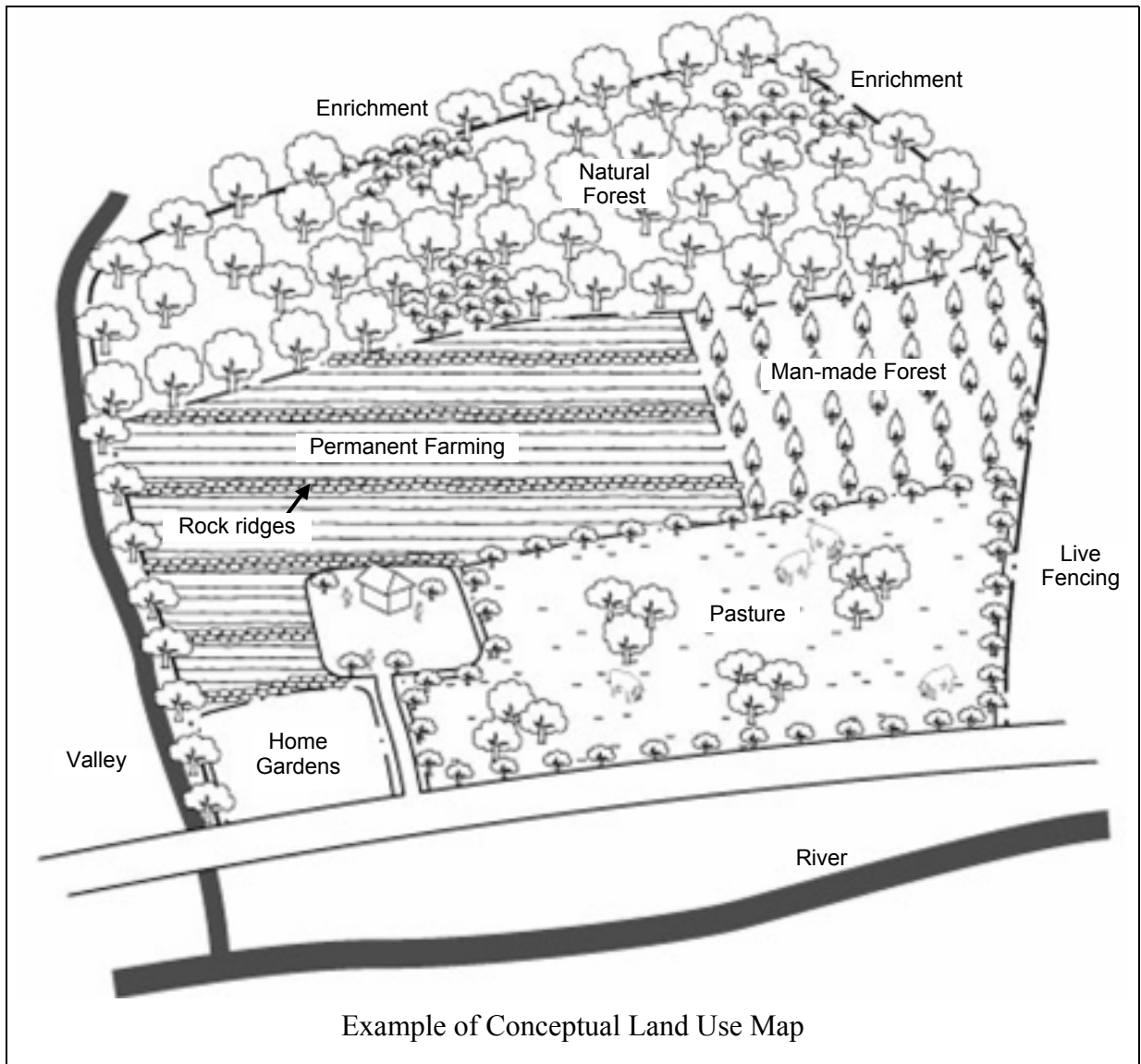
・The work to be conducted by individual participants and the work to be conducted by the assisting side should be distinguished and clearly written for each working group. In principle, the work to be conducted by the assisting side should be limited to the provision of materials and equipment which are essential for the implementation of the technical guidance and the minimum required activities but which cannot be provided by the participants.

・A work calendar corresponding to the planned activities should be prepared for each working group.

Example of Work Calendar: Forest Fire Prevention Working Group

Activity	Month																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
Forest fire prevention campaign							X	X	X	X							
Formulation of community rules for burning	X																
Fire brigade workshop (sponsored by the municipal authority)	X	X															
Introduction of firebreaks							X	X	X	X	X						
Patrolling							X	X	X	X	X						
Visit to neighbouring community							X	X	X	X	X						

Preparation of work calendar

・Each participant shall plan the work volume to be implemented in each year for each type of activity. When deciding the planned volume, the participants should be advised not to plan an excessive work volume in consideration of the required labour for farming, etc.

・The individual work volumes should then be totalled for each working group.

Example of Work Volume by Working Group

Working Group	Soil Conservation		Agroforestry		Reforest-ation	Natural Forest Improvement		Livelihood Improvement	
Activity	Rock Ridge (Vrs)	Contour Hedgerow (Vrs)	Taungya System (Mz)	Live Fence (Vrs)	Firewood Forest (Mz)	Enrichment (No.)	Introduction of Firebreak	Planting of Fruit Trees (No.)	Input of Compost (lbs)
Producer A	30	30	2.50	100	-	100	200	30	10
Producer B	40	50	2.25	80	-	150	300	30	10
Producer C	80	40	1.00	30	2.5	50	200	30	20
Total	150	120	5.75	210	2.5	300	700	90	40

・ In principle, field guidance should be provided in the form of group guidance and individual guidance should not be provided.

・ For joint activities, a schematic diagramme should be prepared as in the case of activities by individual participants. The division of work among the members and other relevant issues should be decided in advance and displayed on a notice board.

3) Formulation of Technical Guidance Plan

The required contents of the technical guidance can be determined by the discovery of weaknesses of factors of the indigenous development capability and their evaluation (see the guidance methods to enhance the indigenous development capability described later).

Concrete guidance methods should then be selected from the following list and a technical guidance plan should be formulated to improve the discovered weaknesses by combining the selected methods in an appropriate manner.

・ Group guidance by activity theme which is accompanied by field practice
・ Study tours to advanced communities
・ Practical training at model farmland in the community
・ Meetings of participants to exchange technical expertise and opinions
・ Theoretical explanation (with illustrations)
・ Distribution of pamphlets/manuals to reinforce knowledge
・ Regular meetings for monitoring and evaluation
・ Discovery of and provision of individual education for potential promoters
・ Gender education

・Environmental education
・Other types of guidance required for the implementation of activities (example: literacy education in a community with a low literacy rate)

The provision of materials and equipment by the assisting side should be limited to those which cannot be provided by the community, taking the need to develop the ownership of local residents and to ensure the continuity of activities into consideration. Those resources which are available in the community should be used or applied as much as possible. The selected guidance methods, materials and equipment to be provided and other relevant matters should be compiled in the technical guidance plan.

Example of Technical Guidance Plan

Month/ Year	Contents	Guidance Method	Target Persons	Provision of Materials and Equipment	Remarks
	Guidance for nursing	Group guidance in the field (potting and seeding); theoretical explanation with illustrations	All participants	Pots and seeds (genizalo; guanacaste)	Other seeds are collected in the community by the participants.

Prior to the implementation of technical guidance, the technical team should fully prepare the explanation contents and the timing schedule, etc. If possible, a form should be provided to enable the checking of the things explained.

(3) Activity Plan Implementation Phase

1) Guidance to Enhance the Indigenous Development Capability

For the implementation of the M/P, the most important goal is for "the participants to continue their activities". Factors close to the participants to "enable the continuation of activities" are the factors of indigenous development capability (technical capability, organizing capability, resources procurement capability and willingness to initiate activities). When these factors are met better, there is a higher likelihood of continual activities.

In view of the above, when providing guidance for communities, the technical team should analyse and evaluate the indigenous development capability in accordance with the key points for monitoring and evaluation shown in the next table and should establish concrete guidance principles for each community with reference to the key points for guidance in the same table.

Monitoring, Evaluation and Guidance to Enhance Indigenous Development Capability

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Technical Capability	Past experience of activity	To clarify how much local residents understand and practice the techniques/skills learned ・ Have they received any guidance on forest and soil conservation techniques/skills through the relevant activity? ・ Are they putting the techniques/skills learned into practice? ・ Are they using the techniques/skills learned correctly?	・ If there is no experience at all or only a little experience, study tours should be organized inside and outside the community to observe the visible results of various activities. These results should then be explained to facilitate the understanding of the participants. ・ If the participants have not continued activities despite their past experience, the likely reasons why they have not continued activities should be analysed to examine ways to change the situation. ・ If activities are not properly conducted despite teaching in the past, the likely reasons for improper implementation should be analysed with a view to rectifying the situation. ・ Opportunities to exchange opinions and experiences between the participants should be provided in the community or in an advanced community so that the participants can compare experiences with others to review their own activities. ・ The contents and level of the technical guidance should be changed to suit the level of experience of the participants to achieve the maximum effects.
	Ability to apply techniques/skills	To clarify the degree of understanding and application ability of techniques/skills ・ Do they understand the technical significance of individual work to be implemented? ・ Do they understand the position of individual work to be implemented in the production cycle? ・ Do they understand the future effects of individual work to be implemented? ・ Have they applied the techniques/skills learned to other situations? ・ Can they conduct the work individually without technical guidance? ・ Do they understand what technical knowledge is insufficient?	・ For guidance on individual work, demonstration in the field should be conducted by a technician. At this time, the advantages of techniques/skills and the reasons for their use should be clearly explained. Demonstration of examples of bad work is also important. ・ The position of individual work in the production cycle and the future effects of the work should be explained in the field. ・ Examples of the application of individual work and techniques/skills should be shown so that the participants can develop flexible technical knowledge which allows them to deal with different situations. ・ Opportunities to exchange opinions and experiences between the participants should be provided in the community or in an advanced community so that the participants can compare experiences with others to review their own activities. ・ Knowledge which is not possessed by the participants should be identified and such knowledge should be incorporated in the subsequent technical guidance plan ・ Illustrations should be used as part of the theoretical explanation of techniques/skills. Pamphlets or manuals to reinforce the knowledge should be distributed.

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Technical Capability	Ability to implement activities in a planned manner	To clarify the degree of understanding of own resources and ability to implement activities in a planned manner ・ Do they understand the extent of their own resources (land and labour)? ・ Do they think about future land use? ・ How do they plan? ・ How have they conducted their activities? ・ Have they observed the implementation processes? ・ Have they reviewed their activities? ・ Have they used the review results to improve subsequent activities?	・ The participants should be taught to check their own resources (land and labour) so that they can formulate activity plans which match such resources. ・ A study tour should be organized for the participants to visit an advanced community of which the conditions (in terms of the land, climate and forests) are similar to those of their own community so that they can develop a future image of the result of their activities through the exchange of opinions and experiences with the producers of the advanced community. ・ Guidance should be guided for the participants to prepare a current land use map as well as a target land use map for the future so that the necessary activities can be planned. ・ The planned targets should be set as short-term, medium-term and long-term targets. Guidance should be provided for the planning process to ensure the steady progress of the plan. The participants should be advised to adopt a long-term perspective and not to make the planned work volume excessively large in view of the amount of labour input they can afford. ・ Guidance should be provided on not uniformly applying the techniques/skills taught so that unnecessary work in view of the local situation is not planned and implemented. ・ Simple monitoring and evaluation methods which can be easily used by individual participants should be considered. Monitoring and evaluation work should be kept to the minimum required and the relevant methods should be taught through OJT. ・ The participants should prepare their own work calendar so that they can plan forest improvement and soil conservation activities which are harmonious with their farming work. ・ The opportunity for the participants to review their activities should be arranged for each working group. ・ The introduction of a support system for those participants with literacy problems should be considered (literacy education; support by a family member or group leader, etc.)

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Organizing Capability	Organization according to need	To clarify the degree of capability to establish a system to deal with emerging problems in an organized manner ・ Do local residents gather to discuss problems when necessary? ・ Is information shared within the community? ・ Are there any community rules and are such rules abided by? ・ What are the existing organizations? ・ Are there any events which are held by the entire community? ・ Is any joint work conducted? ・ Are suitable measures in place to ensure the effective functioning of created organizations? ・ Are the leaders of organizations active and are the participating residents cooperative?	・ The leaders should visit advanced communities to learn know-how for the operation of an organization through the exchange of opinions. ・ All participants should be taught the importance of and necessity for community organizations and community unity. They must also be taught the importance of residents being constantly aware of the problems and of solving them together. ・ If community organizations are not properly functioning, all participants should jointly review the situation of the activities of community organizations to identify the problems and to think about possible solutions. ・ A communication system and an information conveyance system among local residents should be established to develop a situation in which information is always shared. ・ In those communities where people fail to gather properly or where the homes are scattered, a more appropriate way of providing guidance should be considered, including the formation of small groups based on neighbourhood, families, friends or dwelling areas to act as the basic units for guidance.
	Existence of leading persons	To clarify the degree of capability of each leading person (leaders of active community organizations, leader of the community committee, leaders of activity groups and promoters, etc.) ・ How clearly do leaders understand the situation of the activities of participating residents? ・ Do the participants trust the leaders? ・ Are the leaders themselves involved in activities to set an example? ・ Do the leaders actually lead the participants? ・ Has anyone experienced the role of being a promoter? ・ Does anyone have the required qualities to act as a promoter? ・ Are people in the above two categories willing to guide other local residents?	・ If leaders lack leadership, they should be given the opportunity to examine their actions. At the same time, their roles, functions and impacts should be checked. Participatory training on self-development and human relationships should be organized to make them aware of their leadership responsibility. Personal guidance should be provided for problematic leaders to facilitate solving of the problems associated with such leaders. If necessary, the finding of people capable of playing a central role in forest-related activities to replace the current leaders should be considered as an option. In this case, it will be essential to obtain the consent of such people as well as that of other stakeholders. ・ A system should be developed whereby an assistant is always assigned to each leader to ensure continuity of the functions of the leader in question. At the same time, leaders should make efforts to foster future leaders through OJT. ・ In addition to existing promoters for forest-related activities, people with the qualities to act as promoters should be discovered to act as the core for forest-related activities. Special education should be provided for these people to reinforce their knowledge and to stimulate their self-development so that they can function as promoters. In addition, what they should do as promoters should be decided through discussions (refer to the promoter education from farmers to farmers as employed by the UNAG). ・ All participants should examine a system to assist promoters (in terms of finance, labour and assistance in kind).

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Resources Procurement Capability	Ability to utilise resources in the community	To clarify the degree of capability to utilise the resources available in the community (materials, equipment, funds and labour, etc.) (Materials and Equipment) ・ What materials and equipment required for activities are available? ・ Do they understand the available resources in the community? ・ Do they have the knowledge to use something else when the available materials and equipment are insufficient? Do they actually utilise such knowledge? ・ Is there a tendency to be excessively dependent on external assistance? (Funds) ・ Do they have sufficient funding capability to invest in forest management activities? ・ Have they had the experience of combining funds or goods to achieve a common objective? (Labour) ・ What is the situation of waged labour in and out of the community? ・ In what way do family members participate in activities? ・ How is extra labour obtained to supplement a labour shortage?	・ The participants should be guided to check their own resources (current land use and labour). ・ Community leaders should be trained through OJT on how to prepare basic information (population, products and resources, etc.) on the community. They should also be trained to enable them to distinguish between problems which can be solved within the community and problems which require solving outside the community. ・ The participants should be guided to check the materials and equipment required for the planned activities and to think about how to obtain those which cannot be provided on a self-help basis or alternative methods to utilise materials and equipment available in the community. ・ The participants should be guided to develop the habit of distinguishing between what can and cannot be solved within the community and should be taught the necessity of investing in activities on a self-help basis. ・ Feasible measures (introduction of home gardens and others) to create funds for activities should be examined and suitable guidance should be provided. ・ Local residents should be encouraged to consider feasible methods to pool their funds and goods. ・ Gender education should be provided for the participants to make them consider the types and methods of activities to suit the abilities of individual family members. ・ Opportunities should be provided for all family members to discuss the unity of the family and the roles of family members, etc. as part of school education as well as religious education. ・ The types and methods of activities which allow the participation of producers without their own land in activities should be examined.
	Ability to utilise resources outside the community	To clarify the degree of capability to utilise external resources (external organizations and neighbouring communities) ・ Have they had the experience of using an external organization on their own initiative? ・ How do they use the municipal authority and other administrative bodies? ・ Do they effectively use the representatives of administrative bodies and NGOs visiting the community? ・ Have they ever implemented an activity in collaboration with another community? ・ Do they have information on external assistance organizations?	・ Community leaders should be led to visit advanced communities as an opportunity to exchange opinions and experiences and guidance should be provided on know-how regarding the methods to prepare information/data on the community and to request external assistance, etc. ・ A land use map and a resources map, etc. showing the current situation of the community should be prepared to make it easier to induce the assistance of external organizations and also to make the residents of the community understand the situation of land use and resources of the entire community. ・ Community leaders should periodically visit the municipal office to obtain information on the available assistance of administrative organizations and NGOs. ・ Community leaders should be trained through OJT on how to prepare basic information (population, products and resources, etc.) on the community. They should also be trained to enable them to distinguish between problems which can be solved within the community and problems which require solving outside the community. ・ Community leaders should be made to conduct a simple simulation exercise to formulate a community project.

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Willingness to Initiate Activities	Marketability of forest products	To clarify the marketability of forest products ・ Have they ever marketed forest products? ・ Is there any potential for the marketing of forest products in the future? Are there any forest products which can be marketed?	・ The participants should be encouraged to discover forest products, etc. which have marketing potential and to investigate and learn methods to produce, manage and market such products for a profit with a view to identifying the most effective methods. Models should be shown to the participants to stimulate the wide use of such models. ・ In the case where there is an existing market, guidance should be provided on how to create added value. ・ Those which promise a quick income should be found and extension should be attempted in the same manner described above.
	Understanding of the benefits of activities	To clarify whether the benefits resulting from activities are understood or not ・ Is there any need for local residents to implement activities? ・ Do they understand the benefits of their own activities? Do they understand such indirect benefits as soil conservation, etc? ・ Do they understand what should be conducted to gain the potential benefits?	・ The participants should be made to monitor activities inside and outside the community where the results of activities are visible and also to exchange opinions and experiences with the producers in such places to enhance their understanding of the benefits of activities. ・ One good way is to establish model farmland for activities in the community. ・ The benefits should be expressed in concrete numerical figures so that the participants can easily understand the benefits of activities. ・ Each participant should be told to prepare a simple farmland map before and after the implementation of an activity and these maps should be presented at a meeting for group discussion. ・ In the case of soil conservation work, the results must be checked by the participants from time to time. ・ The method to improve farmland through the introduction of multi-purpose trees should be explained to the participants using illustrations and field visits. In addition, the participants should be encouraged to think what they can do with their own farmland.
	Sense of purpose	To clarify whether or not local residents implement activities with a concrete sense of purpose ・ Do they implement each activity for a concrete purpose? ・ Are the purposes of activities realistic or achievable?	・ The participants should be guided to analyse the situation of their own resources and to clarify "what they want to do with them", "what should be immediately conducted" and "what kinds of benefits they want to obtain" so that they can develop a sense of purpose. ・ The participants should be guided to understand the benefits resulting from their present activities through (i) observation of the various benefits of activities in progress in the community or advanced communities and (ii) the exchange of opinions and experiences with other producers. The use of video films for this purpose is an idea. ・ Short-term targets which are close to the daily lives of local residents should be established so that activities can steadily progress to achieve these targets. ・ Forest/environmental education in which parents participate should be implemented as a part of school education and religious education to enhance the awareness of forests/environment among school children and their parents.

Factor	Indicator	Key Points for Observation and Evaluation	Key Points for Guidance
Willingness to Initiate Activities	Leeway in daily life	To clarify how leeway in daily life is linked to the implementation of activities ・ Do they have spare time to be used for forest-related activities? ・ Do the actual conditions of daily life (in terms of food, clothing and housing) allow them to direct their attention to forest-related activities?	・ When it is believed to be difficult for local residents to become involved in forest-related activities because of the pressure of daily life, guidance should be provided on the introduction of agroforestry and home garden techniques, both of which are likely to produce results in a short period of time. ・ When it is believed to be difficult for local residents to conduct the work because of the pressure of daily life, information on measures to shorten the cooking time (for example, through the introduction of improved stoves) and the firewood collection time should be provided, followed by appropriate guidance. ・ Examples of different communities and other information should be provided so that the participants can build a long-term vision of how they want to improve their lives. ・ When the expenditure begins to decrease or the income begins to increase, information should be provided on methods for re-investment and on other relevant matters.

2) Facilitation of the Implementation, Monitoring and Evolution of the Activity

・ Evaluation should be conducted annually.

・ In principle, those activities which are conducted in accordance with a simple PDM prepared for the action plan should be evaluated. In regard to the indicators to be used for monitoring, simple indicators which are easy to understand by the participants should be adopted as much as possible based on the assumption that no technical guidance will be provided by the technical team.

・ To be more precise, ① review of the details of the implemented activities, ② study visits to the implementation sites, ③ clarification of perceived merits of activities and the positive aspects of activities resulting in achievement of the targets (goals) as well as the negative aspects (problems) and examination of the possible solutions for problems and ④ preparation of an activity plan for the following year (in the same manner described earlier for formulation of activity plan) should be conducted.

・ The evaluation components described above should be compiled in the form of a table such as those shown below for display on a notice board.

<p style="text-align:center">Example of Review of Activities</p>

| Components | Main Activities and Results | No. of Participants | | Remarks |
		June, 2002	Oct., 2003	
1. Organization	・ Selection of executives for the implementation body ・ Formation of fire brigades by sector (two fire brigades) ・ Formation of nursing groups (four groups) ・ Formation of groups by activity (six groups); assignment of group leaders; meetings (monthly) ・ Attendance at training on community organizations (three times) ・ Assignment of promoters and training at model farmland (three times)	27	19	・ Materials provided: stationary, pamphlets, signboards and posters
2. Forest Fire Prevention	・ Implementation of forest fire prevention campaigns (four times) ・ Visits of executives of the implementation body to neighbouring communities to extend forest fire prevention activities (seven times) ・ Attendance at an environmental education session and training on forest fire prevention (twice) ・ Formulation and enforcement of community rules for burning ・ Introduction of firebreaks (140 km) ・ As a result of the above activities, the awareness of local residents of the need for forest fire prevention was enhanced but forest fires due to hunting, mischief and the spread of fires from neighbouring communities still occurred. While seven forest fires caused extensive damage in 2001, the damage due to four forest fires in 2002 was contained to the minimum level.	27	19	・ Materials provided: pamphlets on forest fires, stationary, posters, drums and shoulder pumps

Components	Main Activities and Results	No. of Participants June, 2002	No. of Participants Oct., 2003	Remarks
3. Nursery stocks Production and Planting for Taungya System	・ Nursery stocks production at four group nurseries and two individual nurseries ・ Collection of seeds in the community (2 kg) ・ Construction of germination beds for eucalyptus ・ Attendance at training on the construction and management of a nursery (four times) ・ Training on the taungya system (twice) ・ Number of nursery stocks produced: 11,963 (9,253 of forestry species; 2,710 of fruit trees); total of 25 species ・ Planting for the taungya system (5 Mz in two years) ・ Death rate: 75% (2002); 5% (2003) ・ Number of supplementary planting: 840	27	19	・ Species for seed collection: gavilán, jenízalo, guanacaste, aceituno, granadillo maranõn and fruit trees ・ Materials provided: stationary, watering cans, shoulder pumps, sieves, pots, spades, barbed wire and 9,000 seedlings (2002) ・ Taugnya system: two participants in both 2002 and 2003
4. Natural Forest Conservation/ Management	・ Management area of natural forests (85 Mz) ・ Introduction of firebreaks (140 km) ・ Pruning (26 times by two farming households) ・ Enrichment (2,600 seedlings of 20 species for timber production) ・ Attendance at training on natural forest management at the model farm (twice)	14	12	・ Materials provided: pruning saws, files, barbed wire and graft
5. Agroforestry	・ Contour hedgerows (3,600 Vrs) ・ Attendance at training on contour hedgerows (twice) ・ Introduction of live fencing (10,950 Vrs; 5,475 nursery stocks ・ Death rate of stakes: 30% ・ Attendance at training on live fencing (twice)	22	15	・ No materials were provided
6. Reforestation	・ Creation of man-made forests (17.8 Mz; 21,743 nursery stocks) ・ Death rate: 65% (2002); 5% (2003) ・ Total area of weeding (twice a year; 35.6 Mz) ・ Attendance at training on man-made forest management (twice) ・ Introduction of firebreaks (17.8 Mz around reforestation sites) ・ Damage by zompopo: 8% of the planted trees	26	18	・ Materials provided: spades and barbed wire
7. Livelihood Improvement	・ Introduction of home gardens (12.8 Mz) ・ Planting of fruit trees (248 grafts provided and 2,710 seedlings self-produced) ・ Death rate: 16.5% (2002); 0% (2003) ・ Provision of graft fruit trees: avocado, mango, mandarin orange and lemon ・ Attendance at training on fruit trees (three times) ・ Attendance at training on grafting techniques (once)	26	19	・ Materials provided: barbed wire, secateurs and grafts

Example of Analysis of Accelerating Factors for Achievement of Anticipated Results and Problems

Anticipated Results	Analysis Results		
	Accelerating Factor	Problem	Solution
1. Organization	· There is a well-developed organization to implement the planned activities. · The leaders conducted the monitoring of activities. · Both group and individual activities were conducted with enthusiasm.	The municipal authority did not provide support to strengthen the implementation body	The municipal authority, the INAFOR and the police should be requested to collaborate with the activities of the community.
		While participating producers are organized, the community as a whole is not organized.	Producers who did not participate should be invited to participate in the activities to strengthen the community organizations.
2. Forest Fire Prevention	· The community is organized to prevent the spread of forest fires. · Individual producers manage their farmland.· · Firebreaks are established at suitable times and there is a constant watch for the breaking out of a forest fire.	The residents of neighbouring communities have not introduced firebreaks along the boundaries and conduct disorderly burning without informing.	A meeting attended by representatives of the municipal authority and the INAFOR and leaders of neighbouring communities should be held to spread the forest fire prevention campaign and educational activities for forest fire prevention.
		Copies of the community rules for burning are kept only by the group leaders.	All producers should be given a copy of the rules to ensure a full understanding of the rules throughout the community.
3. Nursery stock Production and Planting	· Understanding of joint work · Timely provision of materials and equipment · Strong willingness among the participants · Precise work plan · Establishment of nurseries near planting sites or a water site	The seeds brought in from outside the community did not germinate.	Seeds should be collected from mother trees in the community.
		Some producers stopped nursery activities due to a problem of the division of work at a group nursery.	Individuals should be encouraged to set up their own nurseries to produce seedlings.
4. Natural Forest Management	· Reduction of the number of forest fires · Introduction of firebreaks by the entire community · Implementation of forest operation and enrichment	The level of awareness of the importance of forests is low among producers who do not have forest land.	Environmental education should be provided for school children and their parents to develop interest in the conservation of natural resources in the community.
		Outsiders invade privately-owned natural forests, causing damage.	· Parents should tell their children not to trespass on private land. · The fire brigade should patrol forests in the community during the dry season.

Anticipated Results	Analysis Results		
	Accelerating Factor	Problem	Solution
5. Agroforestry	・ Sufficient rainfall during the rainy season ・ Precise selection of vegetation to create terraces ・ Strong willingness among the participants ・ Appropriate planning ・ Timely planting	Vegetation to create terraces is not sufficiently available.	Vegetation which is not possessed by producers in the community should be reproduced (valeriana, zacate taiwán, zacate limón and gandul, etc.)
		Domestic animals invade the terraced sites, damaging the vegetation planted along the contour lines.	Grazing areas should be designated to avoid damage to the created terraces.
6. Reforestation	・ Planning and execution of timely planting ・ Creation of nurseries in the community to produce seedlings ・ Sufficient rainfall during the rainy season	The outbreak of harmful insects (zompopo) killed 2% of the planted eucalyptus.	・ Application of an anti-zompopo chemical insecticide ・ Manual extermination: destructions of the nests and replacement of soil containing nests with fresh soil ・ Cultivation of fríjol canabalia near nests
7. Livelihood Improvement	・ Provision of grafts from outside the community ・ Experience of fruit tree management among the participants ・ High level of knowledge and skills among the participants ・ Good tending and management practices (ridging, weeding and application of organic fertiliser and insecticide)	Appearance of Mosca blanca and Minador de los cítricos	Production of an organic pesticide using the natural vegetation in the community
		Shortage of fertiliser and organic or chemical insecticides	An organic fertiliser and insecticide should be produced at the right time and an organic fertiliser should be applied during the dry season.
		Insufficient application of good grafting techniques for fruit trees	Grafting should be practiced using the provided reference book for agroforestry. Additional practice should be conducted using the available vegetation in the community.

・ The technical team should facilitate the participants undergoing the monitoring and evaluation processes described above based on their own initiative and the results should be fed back to the activities in the following year.

3) Discovery and Education of Promoters

For the implementation of the M/P, there will not be any budgetary allocation for the employment of promoters. However, promoters will be selected from among the participants. As these promoters will act as volunteers in the same way as the executives of the implementation body, their roles are expected to be passive as described below.

・ To act on the instruction of the coordinator
・ To teach local residents when consulted

However, it is essential for each promoter to be aware of "what he can do" in advance in regard to the functions and duties of a promoter. Promoters should possess the following qualities.

・Strong volunteer spirit
・Some technical knowledge
・Good reputation among other participants

If existing promoters are willing to act as promoters for the planned activities, they should be selected. If not, new promoters should be found among the working group leaders and others. In principle, the technical team should educate/train promoters together with executives of the implementation body through OJT and make them learn not only technical issues but also knowledge of leadership, management of plan implementation, operation of an organization and technology transfer methods, etc. which is necessary to allow promoters to perform the above-described roles.

Promoters are expected to work without any reward. However, it should prove effective if an environment in which promoters find it easier to conduct volunteer work is created. One way of doing this is for all participants to develop a mechanism whereby some kind of economic assistance (assistance for farming work and the provision of food, etc.) is provided for promoters.

(4) Follow-Up Phase

Activities are expected to continue to a certain extent during the period of intensive technical guidance by the technical team. Given the fact that the activities of many forest-related projects in the past stagnated following the end of the project, it is desirable for the administration to develop a system to provide follow-up for the activities of the participants. To be more precise, guidance should be based on those methods which enhance the indigenous development capability described earlier. In addition, the following should be conducted to follow up the activities of the community.

・To clarify the progress situation of activities through interviews with executives of the implementation body and field investigation and to provide guidance on emerging technical and operational problems
・To extend new technical knowledge
・To facilitate the commencement of real activities by promoters
・To provide information on external funds to assist activities

If the activities stagnate, it is particularly important to quickly investigate the reasons behind such stagnation with a view to preparing measures to rectify the situation.

For the above purpose, it is important for the INAFOR and municipal environment offices to establish a system for the constant monitoring of emerging forest and environment-related problems in communities by means of periodic visits to communities or visits on request and constant communication with the M/P implementation body in each community so that measures to solve problems can be immediately prepared and implemented.