Acknowledgement

(Elliptical)
Explanations

(Elliptical)
# Table of Contents

Chapter 1  “Strengthening skills in participatory monitoring and evaluation” workshop .................................................................................................................1

Chapter 2  Workshop program ..............................................................................2

Chapter 3  Main contents ......................................................................................3

Day 1 (July 20, 1999) ................................................................................................3
  <Activity 1> introduction of participants .........................................................3
  <Activity 2> expectation of workshop .............................................................3
  <Activity 3> project introduction ..................................................................4
  Exercise 1 defining “participatory”, “monitoring” and “evaluation” ............5
  Objectives ........................................................................................................5

Day 2 (July 21, 1999) ................................................................................................6
  6 key questions of PME wheel: 6 related key questions should be answered in PME activities .................................................................6
  Exercise 2 Defining objectives of PME (why?) ..............................................7
  Category ..........................................................................................................7
  Exercise 3 Defining the object of PME (what?) ..............................................9
  Exercise 4 Defining indicators of PME ..........................................................9
  Introduction and discussion of indicator criteria .........................................9

Day 3 (July 22, 1999) ................................................................................................10
  Exercise 5 defining implementers and beneficiaries of PME (who and for whom) .............................................................10
  Exercise 6 The timing of PME (when?) ..........................................................10
  Exercise 7 How to monitor and evaluate (how? selecting tools) ..................10

Day 4. (July 23, 1999) ................................................................................................11
  Comparison of conventional ME and PME ....................................................11
  How to start PME activities ...........................................................................11

Chapter 4  evaluating the workshop ...................................................................12
  Exercise 8 Evaluating the workshop .............................................................12
  Review of every day activities: .....................................................................14

Chapter 5: preliminary PME design of two project teams ...............................15
  1. CBNRM-GAAS project team .....................................................................15
  2. PARDYP-KIB project ................................................................................16

Appendix ...........................................................................................................19
  Ice breaking .................................................................................................19
  Participants list .............................................................................................19
Chapter 1  “Strengthening skills in participatory monitoring and evaluation” workshop

Ronnie Vernooy

1. Background

2. Proposed activities

(from the binder)
Chapter 2  Workshop program

Day 1 (July 20, 1999)
15:00~16:00  welcome address; introduction of participants and workshop
16:00~16:30  introduction and formulation of expectations
16:30~17:00  introduction of projects
17:00~18:00  defining 3 core concepts

Day 2 (July 21, 1999)
9:00~9:30  review of day 1
9:30~10:00  ice-breaking (grouping)
10:00~11:00  relationship of 6 core concepts, why need PME?
11:00~11:20  tea-break
11:20~12:20  what?(outputs, outcomes, impacts and reach)
14:30~15:30  discussing what to M&E in two projects
15:30~15:50  ice-breaking (square forming)
15:50~17:30  defining PME indicators of two projects; discussing indicator criteria(1)

Day 3 (July 22, 1999)
9:00~9:30  review of day 2
9:30~10:30  discussing indicator criteria (2)
10:30~11:15  ice-breaking (grasping dragon tail); tea-break
11:15~12:15  who and for whom?
14:30~15:30  when?
15:30~16:15  ice-breaking (monks fetch water); tea-break
16:15~17:30  how?(introducing tools). Selecting tools for two projects

Day 4 (July 23, 1999)
9:00~9:30  review of day 3
9:30~10:30  conclusion
10:30~11:30  tea-break
11:30~12:15  evaluating workshop
12:15~12:30  close address and wrap up
Day 1 (July 20, 1999)

(Activity 1) introduction of participants

Objectives:
(1) To start the training in a relaxed environment
(2) To create open and relaxed environment for participants

Method:
Participants are divided equally into two teams. Each person has his own order numbers in his own group. The two people with the same number are classified into one group. Both of them introduced to each other about their name, birth place, major, job, hobby and the most favorable flower(s) and tree(s), then write on one flipchart. Meanwhile, they draw the sketch of partner on the same paper. Then, each people introduce his partner.

(Activity 2) expectation of workshop

Objectives:
1. to formulate the expectation of the workshop
2. to adjust the workshop contents

Method:
1. The facilitator distributes cards to participants and explains the requirement:
   - using bigger letters
   - one word (sentence) in one card
   - concise
2. participants write down his (her) expectation to the workshop
3. participants explain his (her) expectation. The facilitator and one volunteer write down them on the flipchart, then classify these expectations
4. memorizing his (her) own expectations and reviewing them at the end of workshop to know whether them are realized or not (for evaluating training effects)
5. 30 minutes.

The followings are the classified expectations:
- Core concepts of PME
  1. what’s PME?
  2. what’s the background of PME and why need PME?
  3. what’s the difference of PME and ME?
4. what advantages PME has?
5. what limitations PME has and how to overcome them?

Planning and implementing PME
1. how to plan PME?
2. how to operate PME?
3. what’s the criteria of a successful PME?
4. how to prepare PME report?

Others
1. learn from each other
2. study well, play well and eat well

Feedback: the facilitator introduce that the training plan meets most requirements of the participants.

(Activity 3) Project Introduction

Objectives:
1. to make the participants to be familiar with each other’s project
2. to prepare for further training activities

Methods and results:
Each group write down their specific objectives and main research activities on the flipchart or cards.

People and resource dynamics in mountainous watersheds project (Kunming Institute of Botany/The Chinese Academy of Sciences)

<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Main activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. to understand water resource balance in small watershed scope</td>
<td>1. to establish hydrological data monitoring network</td>
</tr>
<tr>
<td>2. to evaluate resource degradation process</td>
<td>2. PRA and GIS assessment</td>
</tr>
<tr>
<td>3. to monitor water and soil erosion and soil fertility change</td>
<td>3. to monitor water and soil erosion on different land utilization</td>
</tr>
<tr>
<td>4. on-farm test and demonstration of soil fertility management</td>
<td>4. to evaluate soil fertility</td>
</tr>
<tr>
<td>5. test of measures controlling soil degradation</td>
<td>5. demonstration of non-mechanical measures for water and soil conservation</td>
</tr>
<tr>
<td>6. to analyze socio-economic factors affecting soil degradation</td>
<td>6. capacity building of community/researchers</td>
</tr>
<tr>
<td></td>
<td>7. improvement of agroforestry and agro-ecological system</td>
</tr>
<tr>
<td></td>
<td>8. topic study (geology, climate, hydrology, forestry, gender and water resources etc.)</td>
</tr>
</tbody>
</table>
**Community-based natural resource management in mountainous areas of Guizhou Province, China** project (Guizhou Academy of Agricultural Sciences)

<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Main activities</th>
</tr>
</thead>
</table>
| 1. To study and characterize the structure, function, effects and problems of community and natural resource management systems of 4 villages in Changshun county, Guizhou Province | 1. PRA, RRA investigation  
2. formulation of research plan and interventions |
| 2. To transfer, test, adapt and evaluate on-farm and community-based resource management interventions, which might be technical, institutional or social, that have been successful in Dabuyang and Xiaozhai or other villagers, to the four new study sites, and to develop participatory extension and technology development approaches. | 1. forestland: formulation of forestland management regulations  
2. arable land: on-farm training, demonstration and extension of practical technologies  
3. wasteland: experiment of animal feeding, economic trees and agroforestry  
4. water resource: improving water facilities, instituting water resource management  
5. other resources: edible fungi |
| 3. To continue to monitor and evaluate villagers nutritional and health conditions in terms of food and livelihood systems and changes therein. | 1. tracking investigation of nutrition structure  
2. improving environmental and sanitary facilities |
| 4. To enforce and build village level social service organizations and institutions, and empower them with resource tenure and related rights for resource management. | Establishing production base for high-quality rice and edible fungi |

**Exercise 1 defining “participatory”, “monitoring” and “evaluation”**

**Objectives:**
Clarify “participatory, monitoring and evaluation”

**Methods:**
1. Using short descriptions or key words to describe the core concepts of participatory, monitoring and evaluation. Write down on the cards.
2. The facilitator and participants classify these definitions
3. 45 minutes

**Results:**
*participatory:*
- sharing experiences and lessons with others; all stakeholders have responsibilities, obligations, and accountabilities and can benefit from the activities; democracy
- researcher--farmer--technician--government (multi-role participation); beneficiary-centered, all the stakeholders conduct the project; everybody cares
about the project; all the stakeholders take part in the activities; joint-participation monitoring:

- identifying problems, proposing adjustments and improving project; reviewing past, present and future, and identifying the improvement; measuring project implementation on quality and quantity; adjusting project activities, results and objectives continually
- supervising; using some indicators to oversee project from the outsider’s view; all project members understand the whole process gradually; recording and assessing the whole implementation process; administering and measuring
- examining whether predetermined objectives are achieved or not; examining project execution; measuring the gap between activities and objectives; examining and reviewing periodically; tracking examine
evaluation:
identifying the completion extent of objectives; integratedly assessing execution results according to objectives; examining whether the objectives are achieved or not; evaluating project execution effect; judging and overviewing whether project is successful or not; evaluating project activities and outputs; commenting; reviewing, examining; one viewpoint and attitude.

Day 2 (July 21, 1999)

6 key questions of PME wheel: 6 related key questions should be answered in PME activities:
why: why need PME? (i.e. the objectives of PME, e.g. improving project plan and implementation etc.)
what: what to M&E? (i.e. the contents of M&PE)
for whom: for whom is M&E? (e.g. local government, local community, donor etc.)
who: who will do M&E? (local government, researcher, community villagers etc.)
when: when to M&E (timing, e.g. harvesting season)
how: who to M&E? (tools, e.g. matrix scoring, semi-structure interview, field visit etc.)
### Exercise 2  Defining objectives of PME (why?)

**Objectives:**
To clarify the reasons of monitoring and evaluation

**Method:**
Exercise 2a: objectives of PME
1. the facilitator distributes cards to the participants, participants write down their understanding of the reasons of PME on the cards. Then the facilitator and participants categorize these cards.
2. 15 minutes

**Results:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Why PME</th>
</tr>
</thead>
</table>
| **Objective** | ● To understand execution and effect so as to guarantee the project succeed  
● To achieve better project results and to have better social effects  
● To improve project research so as to realize predetermined objectives  
● To achieve the best results and to make the community benefit from them  
● To make better, higher-level project and to conform to the people’s wish more and more  
● To know feedback from local people and overview whether the project succeed or not |
| **Method** | ● The beneficiaries examine, adjust and evaluate project process and results  
● To Review, reflect and adjust activities  
● To understand project process and existing problems, so as to adjust research  
● To guarantee participation and equity in the project implementation process  
● To have local people to participate in the whole project process |
| **Others** | ● To formulate improved recommendations for future activities  
● To understand local natural resources and socio-economic status |

### Exercise 2b  Objectives of PME (GAAS and PARDYP teams)
1. two teams do this exercise separately
2. turn to your own project and list the possible goals of implementing PME. If you have more than one goal, please try to list them in order of importance.
3. select one member of the team to present to the plenary how the group did the exercise and what the results are
4. 30 minutes
detailed results can be seen in chapter 5.

➢ 4 levels of PME

Defining 4 key concepts:

outputs: the concrete and tangible products, process and research results of participatory activities. These include, information from participatory baseline, new technologies, new approaches, new community institutions and organizations, number of people trained, number of farmers involved in on-farm experiments, number of reports or publications produced from the research, etc.

outcomes: effects or changes. short term or immediate impacts of (participatory) project research. They are tangible or intangible, positive or negative, and expected or unexpected. They encompass both “functional” effects of participatory research (e.g. greater adoption and diffusion of new farming practices) or intangible “empowering” effects (e.g. improved community confidence or self-esteem, improved local ability to resolve conflict or solve problems).

impacts: overall changes in the community (negative or positive) and may include overall social and development goals. Desired impacts of participatory research for natural resource management include sustainability of livelihoods and natural resources, empowerment of communities, decreased poverty, improved equity, and so on. Development impacts are influenced by many factors external to the project and are often observable only in the long term. Consequently, assessing the impact of a participatory research project is extremely difficult. For evaluation purposes, it is more realistic to consider outcomes as “intermediate” signs of impact.
reach: the scope of who is influenced by the research combined with who “responds” or acts because of this influence. For example, local community, local government, experts, households, adjacent communities, etc. reach is closely related to equity.

Exercise 3  Defining the object of PME (what?)

Objectives:
Each project member defines and formulates object(s) of PME

Method:
1. Two project teams do it separately
2. Define the possible object(s) of PME in each project and try to rank them in order of importance on a flipchart. Explain the reason(s) for the selection.
3. Select one member of the team to present to the plenary how the group did the exercise and what the results are.
4. 45 minutes
   The results can be seen in chapter 5.

Exercise 4  Defining indicators of PME

Exercise 4a. Defining PME indicators of two projects separately

Method:
1. It is done in 2 teams
2. Translate the object(s) listed in exercise 3 into clear and measurable indicators. Each object should have at least one indicator. Write down on the cards or flip chart.
3. Select one member of the team to present to the plenary how the group did the exercise and what the results are.
4. 30 minutes.

Introduction and discussion of indicator criteria:
The facilitator explains details by using the beer banana case. The criteria should be SMART: specific, measurable, attainable, relevant, and timely.

Beer banana case:

The indicators still have some other characteristics:
- Indicators are related to each other, one objective may have different indicators
- Indicators are direct or indirect measurement of executive objective(s). Direct indicator is better, indirect indicator is more viable in most occasions, information and data can be collected thereof.
- Indicators are the reflection of the people’s value who select or determine them. For example, community indicators may not be accepted or understood by researchers.
- Combination of indicators: one single indicator can’t tell you enough information.
Indicator combination is necessary sometimes.

- Indicators are transferable and seasonal. They need to be reviewed and adjusted. Goal and executive objective may change, so indicators will change accordingly.

**Day 3 (July 22, 1999)**

Exercise 4b. discuss and improve indicators of PME

**Method:**
1. this exercise is conducted by two project teams. Discussing PME indicators of 1 or 2 project activities and explain to the plenary.
2. improve other indicators.
3. 30 minutes.

The detailed results are in chapter 5.

**Exercise 5  defining implementers and beneficiaries of PME (who and for whom)**

**Method:**
1. this exercise is done in two project teams. Define for each of the listed objects and related indicators who will conduct and for whom these will be relevant. Be as specific as possible, referring to your project.
2. select one member of the team to present to the plenary how the group did the exercise and what the results are.
3. 45 minutes.

The detailed results are in chapter 5.

**Exercise 6  The timing of PME (when?)**

**Method:**
1. this exercise is done in two teams. Define a calendar for each of the listed PME activities defined in the exercises carried out so far.
2. select one member of the team to present to the plenary how the group did the exercise and what the results are.
3. 30 minutes

The detailed results are in chapter 5.

**Exercise 7  How to monitor and evaluate (how? selecting tools)**

Exercise 7a. common tools for PME
1. this exercise is done in plenary
2. indicate which tools you know about or have heard of that are useful for doing PME
3. 30 minutes

**Results** (common tools):
secondhand data collection; field observation; participatory observation; questionnaire; sampling investigation; semi-structure interview (group or individual); key informant interview; matrix scoring; well-being ranking; seasonal calendar; resource mapping; labor force division; history recording; interview; trend analysis; genealogy; randomly listing; and etc.

Exercise 7b. defining tools for two projects

**method:**
1. this exercise is done in two project teams(CBIK and GAAS)
2. identify the appropriate tool(s) for each of the identified PME activities and write down on flipchart and card. No more than two tools for each activity.
3. select one member of the team to present to the plenary how the group did the exercise and what the results are.
4. one hour
detailed results are seen in chapter 5.

**Day 4. (July 23, 1999)**

**Comparison of conventional ME and PME**

<table>
<thead>
<tr>
<th></th>
<th>Conventional ME</th>
<th>PME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why need M&amp;E</td>
<td>Accountability</td>
<td>Adjustment in process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Empowerment</td>
</tr>
<tr>
<td>M&amp;E what</td>
<td>Predetermined indicators</td>
<td>Local indicators</td>
</tr>
<tr>
<td>Who M&amp;E</td>
<td>External evaluators</td>
<td>Stakeholders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>community members</td>
</tr>
<tr>
<td>M&amp;E for whom</td>
<td>Donors, researchers</td>
<td>Stakeholders</td>
</tr>
<tr>
<td>When to M&amp;E</td>
<td>Upon completion</td>
<td>Frequent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regular</td>
</tr>
<tr>
<td>How to M&amp;E</td>
<td>Review</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td></td>
<td>distancing</td>
<td>simple tools</td>
</tr>
<tr>
<td></td>
<td>big report</td>
<td>direct results</td>
</tr>
</tbody>
</table>

**How to start PME activities**
Step 1: to discuss objectives of M&E with stakeholders
Step 2: to understand 6 core concepts of ME
Step 3: to prepare how to use the ME results
Step 4: to identify scope of ME
Step 5: to select tools flexibly
Chapter 4  evaluating the workshop

Exercise 8  Evaluating the workshop

Objectives:
1. to understand the results of the workshop
2. to know one evaluating method----H-form

Method: (See the binder in detail)
1. several large pieces of white paper
2. determining the question being discussed.
3. sticking your colorful paper on the score you plan to give and write down the reasons.
   If you have suggestions, please stick them at the bottom of the “H-form”.
4. 30 minutes

Results:

Question 1: do you like this training method?

Positive reasons
motivating thinking
Well prepared
Easily understood

Negative reasons
Sometimes it is difficulty to get the main idea
Lack of system

Suggestions
Materials such as paper, board should be more varieties and more convenient

12
Question 2: what’s your participation degree in the workshop?

Positive reasons
- Visualization
- Innovative contents
- Relaxed environment

Negative reasons
- Language barrier

Suggestions:
- More exchange of KIB and GAAS on PME plan

Question 3: do the workshop meet your expectations?

Positive reasons
- Understanding concepts and methods of PME

Negative reasons
- Language barrier

Suggestions:
- Lecture on case analysis and report writing
Question 4. how about the application of this training?

Positive reasons

Clear training objectives

Negative reasons

Suggestions:
Providing opportunity for two projects to introduce their projects process

Review of every day activities:
Every day, two volunteers review, rethink and summarize activities and contents of the whole day. At the beginning of the next day, they take 15 minutes to report the results by using visualized and participatory method.
There are two review methods, see pictures below:
Chapter 5: Preliminary PME plan of two project teams

1. CBNRM-GAAS project team

1.1 why conduct PME?
- To identify problems, to analyze reasons, to find out solutions, and to improve project plan and implementation
- To find out to what extent the project research meets the needs of the local people, local government and researchers.
- To find out to what extent the project facilitates the sustainable utilization and management of natural resources.

1.2 what will be Monitored and evaluated? (water utilization and management)

<table>
<thead>
<tr>
<th>Water Resource management</th>
<th>Output</th>
<th>Outcome and Impacts</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) effective management group</td>
<td>(1) Improved management capacity of community organization</td>
<td>Households within or outside the project area, local governments, local hydraulic department, project researchers and visitors.</td>
</tr>
<tr>
<td></td>
<td>(2) effective management regulations</td>
<td>(2) value of and attitude toward resource use</td>
<td></td>
</tr>
<tr>
<td>Indicator</td>
<td>Improved services of management staff</td>
<td>Timeliness of water distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fairness of water distribution</td>
<td>Easiness of water fee collection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased irrigated areas (village level and household level)</td>
<td>Decreased conflicts in water distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effectiveness of facility operation</td>
<td>Labor mobilization in building &amp; maintenance of facility</td>
<td></td>
</tr>
</tbody>
</table>

| Who                        | Management group | Local households |
|                           | Beneficial household | Researchers |
|                           | Researchers | Local government |
|                           |           | Village committee |
| For whom                  | Local government, | Local government, |
|                           | Target community, | Target community, |
|                           | Hydraulic department, | Researchers |
|                           | Researchers | |
| Tools                     | Matrix scoring | No. of visitors |
|                           | Semi-structured interviewing at household level & group level | Times of experience sharing with other researchers |
|                           | Sampling survey | No. of villages, which have adopted the measures of water resource management of the project |
|                           | Community resource mapping | |
|                           | Self-monitoring book | |
2. PARDYP-KIB project

2.1 Why conduct PME?

<table>
<thead>
<tr>
<th>To improve project</th>
<th>To identify problems during implementation process</th>
<th>To identify new problems and requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donor requires</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To improve participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To summarize experiences and lessons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To make the project easily accepted</td>
<td>To win more trust</td>
<td>Capacity building of participants</td>
</tr>
</tbody>
</table>
2.2 What’s the contents of PME?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Outputs</th>
<th>Impacts</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water resource management</td>
<td>Water balance</td>
<td>Ecology</td>
<td>Government, water plant, reservoir, villagers, researchers</td>
</tr>
<tr>
<td></td>
<td>Water quality</td>
<td>Management regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potentiality</td>
<td>Economy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery of Degraded upland</td>
<td>Selected tree varieties</td>
<td>Ecology</td>
<td>Community, forestry department</td>
</tr>
<tr>
<td></td>
<td>Degradation reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technologies, management method</td>
<td>Management regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recovery of plantation, change of soil fertility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agroforestry experiment</td>
<td>Planting Economic trees</td>
<td>Increasing cash income</td>
<td>Participating farmers</td>
</tr>
<tr>
<td>Experiment on water and soil conservation, on soil fertility change</td>
<td>Indigenous knowledge</td>
<td>Ecology</td>
<td>Farmers, Community, Government</td>
</tr>
<tr>
<td></td>
<td>Water and soil loss of different land utilization</td>
<td></td>
<td>Extension department</td>
</tr>
<tr>
<td></td>
<td>Experiment on water and soil conservation (bamboo planting, upland agriculture)</td>
<td>Economy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economic green manure (tea garden)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity building for mastering practical technologies</td>
<td>Establishment of nursery on farm</td>
<td>Change of participants’ attitude</td>
<td>Community, Farmers</td>
</tr>
<tr>
<td></td>
<td>To master practical technologies</td>
<td>Economy</td>
<td>government</td>
</tr>
</tbody>
</table>

2.3 Indicators

<table>
<thead>
<tr>
<th>Activities</th>
<th>Outputs</th>
<th>Impacts</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community capacity building on practical technologies</td>
<td>Establishment of farmer’s nursery</td>
<td>Change of participant’s attitude</td>
<td>Community, Farmers, Government</td>
</tr>
<tr>
<td></td>
<td>*No. of nurseries</td>
<td>* 60% households hope to participate in training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*No. of high-quality seedlings</td>
<td></td>
<td>* No. of government in training preparation</td>
</tr>
<tr>
<td></td>
<td>*germinating rate of main varieties</td>
<td></td>
<td>* Times of external visiting</td>
</tr>
<tr>
<td></td>
<td>*Mastering practical technologies</td>
<td>Economy:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*20% farmers take part in training, male to female is 2 to 1.</td>
<td>* seedling cost decreased by 1/3 decrease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*60% replicate of success</td>
<td>* 30% households benefit from project</td>
<td></td>
</tr>
</tbody>
</table>
### 2.4 PME indicator system of community capacity building on practical technologies

<table>
<thead>
<tr>
<th>Establishment of sustainable household nursery</th>
<th>Change of community’s attitude on new technologies</th>
<th>Increase of cash income</th>
<th>Community, household and government</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of nursery</td>
<td>Germinating rate of main trees</td>
<td>Seedling cost decreased by 1/3</td>
<td>No. of government in training preparation</td>
</tr>
<tr>
<td>No. of high-quality seedlings for each nursery</td>
<td>60% households hope to take part in the training</td>
<td>30% households benefit from the project</td>
<td>Visiting times of external visitors</td>
</tr>
<tr>
<td>Specific farmers; Researchers</td>
<td>Project; farmer with nursery</td>
<td>Nursery manager; household, forestry researcher</td>
<td>Donor; other projects</td>
</tr>
<tr>
<td>Farmer, researchers, forestry station, forestry department</td>
<td>Project; policy maker; donor</td>
<td>Donor; project implementer; household</td>
<td>Donor; Project</td>
</tr>
<tr>
<td>Project members; farmer representatives</td>
<td>Project leader, one researcher, township staff, director of local government office, women leader, primary school teacher, representatives (male and female), student representatives</td>
<td>Forester in project team, nursery manager, forestry station</td>
<td>Project members help the related project villagers</td>
</tr>
<tr>
<td>Household, nursery is viable, but external technology support is necessary</td>
<td>Providing experiences on establishment of nursery to other projects</td>
<td>Community self-awareness and development</td>
<td>Key to success is selecting appropriate beneficiaries</td>
</tr>
<tr>
<td>Farmer, researchers, forestry station, forestry station, agricultural station, other projects</td>
<td>Participatory method to evaluate germinating rate</td>
<td>Advanced nursery technology</td>
<td>Government participation is one of the key factors</td>
</tr>
<tr>
<td>Forestry section; nursery managers</td>
<td>Process and approaches to motivate community; Experiences and lessons in project design, implementation, monitoring and evaluation; Utilizing effectively project activities to influence community</td>
<td>Demonstration; extension</td>
<td>Extension approaches</td>
</tr>
<tr>
<td>Policy makers; Donor; other projects</td>
<td>Improving nursery technologies; adjusting main tree varieties</td>
<td>Using selecting criteria, experiences and lessons to select beneficiaries; providing chance for study tour</td>
<td></td>
</tr>
<tr>
<td>Forestry station; other project researchers; other nursery managers</td>
<td>Other households within the watershed</td>
<td>Project institution; local government leaders; other projects</td>
<td></td>
</tr>
<tr>
<td>Other project managers, other households within the watershed</td>
<td>Other projects; government extension sections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project members should often give on-site instructions</td>
<td>Project members; village leader</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planting seedling; improving environment; increasing economic income; accumulating experience; for extension; realizing project objectives</td>
<td>Adjusting project design; enforcing achievement extension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving nursery technologies; adjusting main tree varieties</td>
<td>Using selecting criteria, experiences and lessons to select beneficiaries; providing chance for study tour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process and approaches to motivate community; Experiences and lessons in project design, implementation, monitoring and evaluation; Utilizing effectively project activities to influence community</td>
<td>Demonstrating extension; using selecting criteria, experiences and lessons to select beneficiaries; providing chance for study tour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community mapping, questionnaire, participatory observation</td>
<td>Resource flow chart, questionnaire, participatory observation, second-hand data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matrix scoring, key informant interview</td>
<td>Community mapping, questionnaire, participatory observation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**For whom?**

- Nursery farmer; community; researchers
- Specific farmers; Researchers
- Project members; farmer with nursery
- Project leader, one researcher, township staff, director of local government office, women leader, primary school teacher, representatives (male and female), student representatives
- No. of government in training preparation

**Who?**

- Farmer, researchers, forestry station, forestry department
- Project members; farmer representatives
- Nursery manager; forester in forestry station
- Project leader, one researcher, township staff, director of local government office, women leader, primary school teacher, representatives (male and female), student representatives
- County Forestry Bureau, village leader, project member

**What to learn**

- Household, nursery is viable, but external technology support is necessary
- Providing experiences on establishment of nursery to other projects
- Participatory method to evaluate germinating rate
- Community self-awareness and development
- Key to success is selecting appropriate beneficiaries
- Government participation is one of the key factors

**Potential users**

- Household, agricultural department
- Other households within the watershed, donor, local forestry station, agricultural station, other projects
- Forestry section; nursery managers
- Policy makers; Donor; other projects
- Forestry station; other project researchers; other nursery managers
- Other project managers, other households within the watershed
- Project institution; local government leaders; other projects
- Other projects; government extension sections

**How**

- Project members should often give on-site instructions
- Planting seedling; improving environment; increasing economic income; accumulating experience; for extension; realizing project objectives
- Improving nursery technologies; adjusting main tree varieties
- Process and approaches to motivate community; Experiences and lessons in project design, implementation, monitoring and evaluation; Utilizing effectively project activities to influence community
- Demonstrating extension; using selecting criteria, experiences and lessons to select beneficiaries; providing chance for study tour
- Adjusting project design; enforcing achievement extension
- Increasing extension and study times

**Tools**

- Matrix scoring, key informant interview
- Community mapping, questionnaire, participatory observation
- Resource flow chart, questionnaire, participatory observation, second-hand data
- Institute structure, key informant interview
Appendix

Ice breaking

Activity 1: Grouping (Elliptical)
Activity 2  Squaring forming (Elliptical)
Activity 3  Grasping dragon tail (Elliptical)

Participants list  (Elliptical)