PART III:

PARTICIPATORY PARK MANAGEMENT AND SOCIAL STUDY
Participatory Environmental Management Approach

By

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JICA Advisor

SABAH PARKS
Part 1: Participatory Environmental Management Approach

1. What is participation?
A. Participation is a process through which stakeholders influence and share control
   • over conservation/development initiatives
   • over the decisions and resources which affect them

B. Participation is a process which the stakeholders collaboratively
   • Set objectives and create a strategy
   • Formulate project
   • Implement project
   • Monitor and evaluate the project

2. Why Participation?
Because of
   • Efficiency and Efficacy
   • Sustainability
   • Conflict Resolution
   • Economic and Financial Factors

3. Stakeholder Identification (General concept)
Stakeholder can be:
   • Central and Local Government
   • Donors
   • Private sector
   • Local community
   • NGOs, CBOs (Non-government organizations, community based organizations)
   • Research institutions

4. Activities of Participatory approach
   • Strengthen institutional arrangement
   • Promote linkages and networking among Stakeholders
   • Establish political and legislative support
   • Promote involvement of the local community, CBOs
   • Provide incentives to stakeholders
   • Build economic and financial foundation
Part 2: Social Survey (study) and Decision-making Method

1. Types of Social Surveys:
In general, two types of surveys methods are considered:
(1) Quantitative Method
    Qualitative Method.

Comparison of Quantitative and Qualitative Survey Method

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Quantitative Method</th>
<th>Qualitative Method</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Use re-coded numeric forms</td>
<td>• multidisciplinary approach –</td>
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<tr>
<td></td>
<td>• Using structured questionnaire</td>
<td>sociology, economics, anthropology, geography, etc.</td>
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<tr>
<td></td>
<td>• closed-end questionnaire</td>
<td>• Use rapid assessment method, such as Rapid Rural</td>
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<td></td>
<td>Appraisal (RRA), Participatory Rural Appraisal (PRA), Gender Analysis, etc.</td>
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</table>

| Merit (Strong Point)     | • Aims to capture precise figures                                                 | • Can study social relationships, structure, cultural values and norms, perceptions |
|                          | • higher accuracy than rapid qualitative method (in general)                       |     and needs, behavioral patterns                                                 |

| Demerit (Weakness)       | • Time consuming                                                                    | • Not accurate, if survey was conducted with bias                                  |
|                          | • high cost                                                                         | • difficult to obtain qualitative data                                             |
|                          | • needs a number of trained interviewers                                           |                                                                                   |
|                          | • needs time and higher cost for data collection and analysis                       |                                                                                   |
|                          | • needs statistical expertise                                                       |                                                                                   |
|                          | • Inflexible                                                                        |                                                                                   |
2. *Types of Participatory Decision-making Method and Tools:*

Collaborative decision-making method and tools, which support participatory approach, include (1) workshop based method, and (2) community based method. Following is the summary of typical decision-making methods and social analysis method.

**Summary of typical decision-making and analysis methods**

| Collaborative Decision-making method: Workshop-Based Methods | \[ | \] |
|---|---|
| Logical Framework (LogFRAME, ZOPP, PCM) | \[ | \] |
| - Project Planning technique, which brings stakeholders to workshop. | \[ | \] |
| - The main output is a project planning design matrix (PPM/ PDM). | \[ | \] |
| - Objective oriented planning method, and it is closely tied to the project cycle management. | \[ | \] |
| \[ | \] | \[ | \] |
| Collaborative Decision-making method: Community-Based Methods | \[ | \] |
| Participatory Rural Appraisal (PRA) | \[ | \] |
| - PRA is a label of participatory approaches and methods, which emphasize local knowledge, flexibility, and their ownership. | \[ | \] |
| - Originally developed for use in rural areas, PRA has been employed successfully in a variety of settings. | \[ | \] |
| - PRA enables stakeholders (i.e. government officials, local people) to work together. | \[ | \] |
| \[ | \] | \[ | \] |
| Methods for Social Analysis | \[ | \] |
| Gender Analysis (GA) | \[ | \] |
| - Gender analysis focuses on understanding and documenting the differences in gender roles, activities, needs and opportunities. | \[ | \] |
| - It highlights the difference roles and behavior of men and women across culture, class, ethnicity, income, education and time. | \[ | \] |
| \[ | \] | \[ | \] |
3. RRA and PRA

A. Rapid Rural Appraisal (RRA): Assessment/ appraisal method/ technique
- RRA developed in the 1970s and 1980s, in response to the perceived problems of outsiders missing or miscommunication with local people in the context of development work.
- Rural does not necessarily mean only rural, but applicable in urban settings.

B. Participatory Rural Appraisal (PRA): Decision-making method
- PRA uses group dynamics to enable exchanges and the sharing of views and knowledge among various social groups.
- Data collection and analysis are undertaken by local people, with outsiders acting to facilitate rather than control.
- PRA is an approach for shared learning between local people and outsiders.
- PRA techniques are not limited to assessment (appraisal) only.

C. Basic characteristics of PRA
- Participation
- Good coordination between the team of experts and the intended beneficiaries
- Flexibility
- Minimum necessary data can be collected with little time and expense
- Collected data is crosschecked (triangulation)

D. RRA/PRA tools (method and analytical tools)
- Series of “open meetings”
- Semi-structured interviews/questionnaire
- Key Informant interview/ Focus group discussion
- Mapping (resource mapping, community/social mapping)
- Transect walk
- Community history (Historical profile/Trend diagram)
- Seasonal analysis (e.g. agricultural calendar)
- Venn diagram (institutional diagram)
- Matrix ranking, Wealth ranking

See detailed explanation in Annex 1: RRA/PRA Tools)
## 4. Sequence of Social Studies (General Survey Design)

<table>
<thead>
<tr>
<th>1. Preparation</th>
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<tbody>
<tr>
<td>Study existing resources</td>
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<tr>
<td>Define scope</td>
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<tr>
<td>Prepare questionnaires/semi-structured questions</td>
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<tr>
<td>Organize survey teams</td>
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<tr>
<td>Prepare logistics (transportation, travel allowance, etc.)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Execution</th>
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<tbody>
<tr>
<td>Pre-testing survey (questionnaires)</td>
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<tr>
<td>Train Survey team members</td>
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<tr>
<td>Conduct the survey</td>
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<tr>
<td>Monitor implementation progress</td>
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<tr>
<th>3. Data Analysis</th>
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<tbody>
<tr>
<td>Verify data</td>
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<tr>
<td>Summarize/ Input data</td>
</tr>
<tr>
<td>Interpret and analyze data</td>
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</tbody>
</table>

**Figure 1: Organization of a rapid appraisal**

- **A RAPID APPRAISAL**
  - **Preparatory Phase:**
    - Set objectives
    - Select sites
    - Select team
    - Make logistical arrangements
    - Inform village and authorities
    - Review secondary information
  - **Field Work:**
    - Attend to protocols in village
    - Collect data
    - Make preliminary analyses
    - Arrange village feedback protocol
  - **Analysis and Write-up**

- **ONE DAY IN A RAPID APPRAISAL**
  - **Data Collection**
    - (Use various RA tools)
  - **Team Interaction:**
    - Review the day (methodology used, information gathered, group dynamics)
    - Prepare next day
    - Prepare checklist of issues to be examined

**USE INFORMATION**
Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) Tools

By

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SABAH PARKS
Rapid Rural Appraisal (RRA)/Participatory Rural Appraisal (PRA) Tools

1. Mapping

- Community members or villagers, regardless of literacy level, are capable of representing their surroundings visually, and they sketch maps.
- To generate approximate spatial information (not intend to obtain accurate cartographic information).
- Villagers can present and analyze information on land use and key natural social resources, including watersheds, forests, fields, school, and other resources.
- Maps should be drawn on paper in a large open area, which enables to expand the scale of the drawing, encourages more participation because it is visible to a larger group.

Example
Shigeo Sakai, Advisor, Participatory Environmental Management
Mapping: Sulug Island, TAR Marine Park

"Sulug Reef"

Shigeo Sakai, 24 Sept. 2002

Sulug Island

Sulug Sand Beach

Near Sulug Island

Manukan

Sulug

Sulug Island

Salmon Coral

Sea Sponges

Baracuda

Sea Urchins

Clam

Turtles

Rocks

Sea Cucumber

Plastic

Tires

Boat

Sulug Island

Geyser

Emu

Sea Urchins

Turtle

Clam

Salmon Coral

Sea Sponges

Baracuda

Sea Urchins

Plastic

Tires

Boat

Sulug Island
2. **Transect Walk**

- Transect walk is a mobile interview accompanied by several local informants.
- Transect identify Zones, contrasts, changes conditions, and physical features such as soils, trees, and streams in the village environment.
- To obtain land-use pattern, natural resource - river, hills, cropland, vegetative cover, tourism attraction, and infrastructure - houses, schools, land tenure, etc.
- **The walk need not follow a straight line** it will be useful to divide the team into smaller groups, which enable to cover more ground, and get more information.
- The key is to take opportunity to ask questions about location of resources, how they use, who uses, pressure on various resources, rules to access, and conflicts.

*Example*

![Transect A](image)

*Transect of Illukkente village, Sri Lanka*

*Source: Anoja Wickramasinghe, Sri Lanka Case Study on Gender Analysis & Forestry (see Section D)*
**Transect Walk**

**Young Men's Transect, Misera**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Hill</th>
<th>Riverbed</th>
<th>Roadside</th>
<th>Forest</th>
<th>Residency</th>
<th>Market</th>
<th>Forest</th>
<th>Other Trees</th>
<th>Hills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil</td>
<td>Rocky and dry</td>
<td>clay</td>
<td>sandy loam</td>
<td>clay and silt</td>
<td>clay and sand</td>
<td>clay and silt</td>
<td>clay and sand</td>
<td>clay and silt</td>
<td>rocky and dry (clay stones)</td>
</tr>
<tr>
<td>Land use</td>
<td>firewood collection</td>
<td>rice cultivation (dry season), animal grazing, open grazing, changing into vegetable gardens, communication</td>
<td>production</td>
<td>residential area, fruit and medicinal trees</td>
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</tr>
</tbody>
</table>

**Problems**
- water shortage
- erosion

**Interventions**
- Grad. (DAAD), small projects

**Source:** Input to Impact, PRA for Action Aid The Gambia, AAVI EED 1992

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**Young Women's Transect, Misera**

<table>
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<th>Zone</th>
<th>Hill</th>
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**Problems**
- water shortage
- erosion

**Interventions**
- Grad. (DAAD), small projects

**Source:** Input to Impact, PRA for Action Aid The Gambia, AAVI EED 1992
### Transect Walk

**Table 4: Example of information gathered in a transect walk**

<table>
<thead>
<tr>
<th>ZONE</th>
<th>FOREST</th>
<th>FAR FIELDS</th>
<th>NEAR FIELDS</th>
<th>INHABITED VILLAGE</th>
<th>RIVER/BANKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCCUPATION OF SPACE</td>
<td>Trees, charcoal kilns, sacred grove in part of forest, animal passageway to ponds</td>
<td>Men's fields; pasture during dry season</td>
<td>Women's fields, granaries, millet pounding areas. Fields are well manured and fenced</td>
<td>Houses, stables, wells, infrastructure (school, shop, and health facility)</td>
<td>Fishing, washing, laundry</td>
</tr>
<tr>
<td>TREES</td>
<td>Dense trees, more than 50 species</td>
<td>Sparse trees, dominated by 5 species; some trees fenced</td>
<td>Many trees, mostly fruit trees</td>
<td>Many trees, mostly fruit and shade trees</td>
<td>Mangroves</td>
</tr>
<tr>
<td>TENURE OBSERVATIONS</td>
<td>Strict rules concerning sacred forest; rest of forest in open access for harvesting tree products. No trees may be cut without permission of forestry agent (charcoal makers are supposed to have permit)</td>
<td>Fields are privately held during rainy season and access to all resources is controlled. Becomes open access to village residents during dry season; others must ask permission. All fenced trees require owner's permission to harvest.</td>
<td>Rules of access and use are very strict in near fields. Women have permanent rights to these fields that are transmitted from mother to daughter. Access to all trees is forbidden without permission of holder.</td>
<td>Village has recently been &quot;squared off&quot; by the authorities and many conflicts have resulted since people lost trees that they had planted before the new parcels were allocated.</td>
<td>Fishing rights are carefully controlled; catch limits are imposed by committee of fishermen. Other uses of river and banks are open access to residents and non-residents. Degeneration of mangrove swamp due to excessive cutting for firewood and fish drying.</td>
</tr>
</tbody>
</table>
**Sample Worksheet 4 • Example Transect**

Based on author’s fieldwork in Southeast Asia

### Zones

<table>
<thead>
<tr>
<th>Forest</th>
<th>Field</th>
<th>Mixed forest</th>
<th>Field</th>
<th>Stream</th>
<th>Field</th>
<th>Residence</th>
</tr>
</thead>
</table>

### Terrain

| Hills - very steep slopes | Hills - steep to moderate slopes | Small hills | Shallow slope to valley floor | Valley floor | Shallow sandy slope to sea floor |

### Crops

- Rice, maize, cassava, yam, taro
- Intercropping, sweet potatoes, after rice harvest

- Rice, maize, cassava, yam, taro
- Intercropping, sweet potatoes after rice harvest, and then cassava

- Homegardens, tomatoes, peppers, etc.
- Tree crops: coconut and papaya

### Trees

<table>
<thead>
<tr>
<th>Mature multispecies forest</th>
<th>Trees cleared</th>
<th>Areas of forest between fields</th>
<th>Regrowth of trees in fallow fields</th>
<th>Reproducting and regrowth of trees</th>
<th>Trees along the stream bank</th>
<th>Papaya trees grown along the stream bank</th>
<th>Retained trees, some coconut</th>
</tr>
</thead>
</table>

**Tree Management**

- Forest: Small fields, selective weeding, forest regeneration on field boundaries and edge of forest
- Selective weeding, forest regeneration encouraged on all the fallow land
- Second-year fields made in only part of previous year's field, trees allowed to regrow in blocks on the remaining fields
- Trees retained along the stream bank, linear arrangement
- Papaya planted, wildings retained, trees dispersed
- Papaya and coconut planted in the home compound: mature trees retained in village at the time of settlement

**Tree Use**

- Food, fruit, roots, game, etc.
- Construction material: rattan, bamboo, poles, etc.
- Trees which are not completely burned during field clearing are used for fuel.
- Food, fruit, roots, some fuel.
- Fuel, shade
- Shade
- Fuel, shade
- Food (including fruit bats, a favoured food attracted by the papaya), oil, weaving material, shade, windbreak
- Food, weaving materials, oil, shade, windbreak from sea storms
3. **Community History / Historical Profile / Trend Diagram**

- Historical profile/Trend Diagram is a representation of the changes in village life, and an analysis in who has access to resources or control over them.
- Identify the participants/informant in the village who are most knowledgeable about the history.
- Try to get approximate date or time period of the events (e.g. late 1970s, etc)
- Most useful when it focuses on issues about resource governance such as the settlement history of the community (who came when), periods of abundance and scarcity, landmark events (building of roads, bridges, schools) and/or milestones of the community (e.g. floods, droughts, revolutions), notable conflicts in village history (especially related to resource use).

**Example**

![Trend Diagram Example](image-url)
<table>
<thead>
<tr>
<th>Year Range</th>
<th>Events</th>
</tr>
</thead>
</table>
| 1930-1940  | 10 - 12 families  
1 mon (40 kg) rice available  
rainfall up to expectation  
single crop  
law and order better  
famine - government and Zamindar distributed money and rice respectively  
epidemic after famine - many people died  
1 1/2 mon rice to be given back in place of 1 mon to the Mahajan (hoarder)  
there was gunje (big market). They used to carry fish by boat, coconut etc from Dacca and rice from here  
no bank, money and all valuables kept in house  
no hat nearby, no caste bar  
marshy land full of wild tigers, jackals etc  
bullock carts used for transport  
torch used at night  
water from ponds used for drinking  
treatment from fakir available  
dowry to be paid for marrying a girl  
women folk used to wear Hama. No use of tailored dress |
| 1941-1950  | price of rice rose from Rs1.25 to Rs20. It created mass unrest which ultimately turned into a freedom movement.  
cycle came to village after independence  
dug well introduced |
| 1951-1960  | tailor made dress introduced  
brapan came into existence |
| 1961-1975  | change in cultivation, changes in festivals and food habits  
exchange of assets after Bangladesh war  
fishermen, potters in community wither away  
rise in population |
| 1976-1990  | abolition of purdah (veil) in Muslim community  
havoc and loss due to flood  
change in consumable items  
polygamy started  
deterioration of law and order  
as absence of mental peace |
Community History

Figure 3: Example of a historical profile

HISTORICAL PROFILE: MAKA

1850
First 4 families arrive in Maka

1900
Lo family arrives in Maka

1945
Famine

1949
Good harvest

1970
Conflict over land with neighbouring village

1973
Drought

1975
Maka incorporates former Mbaré lands

1979
"Close pasture" limits defined by each family

1979
Start of practice of part of family staying behind when others leave with cattle

1979
D. Sow family joins village under new rules of installation

1991-2
Territorial conflict with neighbouring village

1993
Forest fire, successfully controlled by local population

198
Epidemic

Intensive manuring of fields abandoned due to drought
3. **Seasonal Analysis**

- Seasonal analysis is a representation of recurring patterns in village life.
- The most common seasonal analysis is on agricultural cycles.
- Seasonal analysis reveals links between aspects of village life and the environment.
- Seasonal analysis also documents labor, income, expenditure, crop patterns, river flows, rain, animal fodder, debt, and disease or food availability.
- Provide materials, such as stones, seeds, fruits and sticks, to indicate amounts.

**Example**
**Seasonal Analysis**

### CALENDAR B

**Productive and reproductive activities calendar: Ban Thapon**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tbody>
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<td><strong>Productive activity</strong></td>
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<td>sweet tamarind</td>
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<td>other fruit trees &amp; bamboo</td>
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<td><strong>Reproductive activity</strong></td>
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<td>growing vegetables</td>
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<td>collecting bamboo shoot</td>
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<td>carrying water</td>
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<td>washing &amp; cleaning</td>
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<td>basketing</td>
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<tr>
<td>mattress &amp; pillow making</td>
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<td>construction &amp; repair</td>
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</tr>
</tbody>
</table>

**Legend**
- ○ female adult
- ● female child
- □ male adult
- ★ machine
- — continuous activity
- --- intermittent activity
- B - burning
- C - clearing
- H - harvesting
- LP - land preparation
- P - planting
- PC - pest control
- PL - ploughing
- SS - seed sowing
- T - transporting
- TH - threshing
- W - weeding
- WA - watering

**Source:** Uraivan Tam-Kim-Yong & Uthaiwan Sangwanit, Thailand Case Study on Gender Analysis and Forestry (see Section D)
5. **Venn (Chapatti) Diagram**

- Venn diagram is a representation of community's social/institutional structure, social relationships.
- A large center circle represents the village, and everything inside the circle will be a committee or person in the village.
- All outside figures represent external organizations or individuals who have an impact or relationship to the village.

**Example**

![Venn Diagram](image-url)
Venn (Chapatti) Diagram


Figure 4: Example of a Venn diagram
6. Matrix Ranking

- Matrix ranking is a grid, which represents relative value of preferences.
- Researchers try to understand the villagers' alternatives and options.
- Procedure: (1) choose materials to be used (e.g. paper or ground, seeds, stones, sticks), (2) decide what is to be ranked and list the items (e.g. tree species, crops, etc.), (3) for each item ask what is good / bad about it. (4) Repeat the question to get more characteristics.
- List the ranking criteria in the chart

Wealth Ranking

- Wealth ranking is a tool to determine relative wealth of each community member, and a tool helps to understand socio-economic differences within a community.
- Wealth ranking reveals the community's criteria for “poor” and “rich”.
RelATIVE wealth information is often easier to obtain because participants are less sensitive about revealing their wealth in relation to other community members, than they asked to give absolute figures.

Example

![Image of wealth ranking example](image-url)
### Matrix A

Matrix scoring by old women of crops grown, The Gambia

<table>
<thead>
<tr>
<th>Criteria</th>
<th>maize</th>
<th>sorghum</th>
<th>rice (variety 1)</th>
<th>rice (variety 2)</th>
<th>groundnut</th>
<th>bean</th>
<th>vaniugum</th>
<th>lima</th>
<th>sesame (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilience</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income (cush)</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low labour required</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palatability</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease cooking procedures</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvesting categories</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Matrix B

Matrix ranking and choice of horticultural trees at Nagargaon, near Nainital, Uttarakhand, India.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>APPLE</th>
<th>KHUMANI</th>
<th>PEACH</th>
<th>PEAR</th>
<th>PLUM</th>
<th>LEMON</th>
<th>MALTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weather Resistance</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Market Value</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Disease Resistance</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Use as fodder</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No. of trees at present</td>
<td>50</td>
<td>15</td>
<td>50</td>
<td>50</td>
<td>20</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>No. of trees desired</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>65</td>
<td>45</td>
<td>70</td>
<td>6</td>
</tr>
<tr>
<td>No. of trees desired</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Analyst: Shyaur Lal Arya
Facilitators: Alok Kumar, Sukhbir S. Saudhu, May 1990