DISCUSSION PAPER

RAPID APPRAISAL AND BASELINE DATA FOR REFINED TARGET GROUP IDENTIFICATION

DESAS E’EYA, ULATAN AND PALASA TENGAH
KECAMATAN TOMINI, KABUPATEN DONGGALA, SULAWESI TENGAH

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for

SULAWESI REGIONAL DEVELOPMENT PROJECT
UNIVERSITY OF GUELPH

and

DIRECTORATE GENERAL OF REGIONAL DEVELOPMENT (BANGDA)

DEPARTMENT OF HOME AFFAIRS, INDONESIA

IN COOPERATION WITH

THE CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA)

MARCH 1993
SRDP II

The Sulawesi Regional Development Project, Phase II (SRDP II), aims to improve the welfare of rural populations in Sulawesi, Indonesia, by enhancing the capacity of local planning agencies to plan and implement effective regional development programs. Through a carefully designed program of institutional development, SRDP II assists in developing the skills of local planners in midterm and annual planning as well as in the identification, appraisal, design, monitoring and evaluation of projects which will benefit Sulawesi populations.

SRDP II (1990-1995) is a joint effort of the University of Guelph and the Department of Home Affairs of the Government of Indonesia (GOI). The Canadian Government through the Canadian International Development Agency (CIDA) has contributed C$ 24.8 million to support SRDP II. The Government of Indonesia supports the Project, both directly and indirectly through the contribution of funds, labour and commitment.

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# ACRONYMS

<table>
<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>GKST</td>
<td>Central Sulawesi Christian Church</td>
</tr>
<tr>
<td>IAD</td>
<td>Integrated Area Development</td>
</tr>
<tr>
<td>KPS</td>
<td>Strategic Development Planning</td>
</tr>
<tr>
<td>LKMD</td>
<td>Village Development Board</td>
</tr>
<tr>
<td>LMD</td>
<td>Village Council</td>
</tr>
<tr>
<td>LSM</td>
<td>Self-help or non-government organization</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organization</td>
</tr>
<tr>
<td>PKK</td>
<td>Family Welfare Education Movement</td>
</tr>
<tr>
<td>PKMT</td>
<td>Resettlement Project for Isolated People</td>
</tr>
<tr>
<td>PPL</td>
<td>Agricultural Extension Staff</td>
</tr>
<tr>
<td>PPLD</td>
<td>Agricultural Extension Assistant</td>
</tr>
<tr>
<td>PPWS</td>
<td>Rapid Rural Appraisal</td>
</tr>
<tr>
<td>RRA</td>
<td>Rapid Rural Appraisal</td>
</tr>
<tr>
<td>RT/RK/RW</td>
<td>Neighbourhood, Hamlet</td>
</tr>
<tr>
<td>SAD</td>
<td>Sustainable Area Development Site (12 target desas)</td>
</tr>
<tr>
<td>SMP</td>
<td>Lower Secondary School</td>
</tr>
<tr>
<td>SRDP</td>
<td>Sulawesi Regional Development Project</td>
</tr>
<tr>
<td>TTM</td>
<td>Tinombo, Tomini and Moutong</td>
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<tr>
<td>VSO</td>
<td>Voluntary Service Overseas</td>
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# GLOSSARY

<table>
<thead>
<tr>
<th>Word</th>
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<tbody>
<tr>
<td>abo</td>
<td>bushes, early secondary forest (Lauje)</td>
</tr>
<tr>
<td>alang-alang</td>
<td>Imperata grass</td>
</tr>
<tr>
<td>atap</td>
<td>palm leaf thatch</td>
</tr>
<tr>
<td>Bangdes</td>
<td>Agency for Village Development</td>
</tr>
<tr>
<td>Bappeda Tk I/II</td>
<td>Provincial and District Planning Boards</td>
</tr>
<tr>
<td>desa</td>
<td>village</td>
</tr>
<tr>
<td>Dikmas</td>
<td>As an Administrative Unit Popular Education</td>
</tr>
<tr>
<td>dinas</td>
<td>Local government agency</td>
</tr>
<tr>
<td>doat</td>
<td>Primary forest (Lauje)</td>
</tr>
<tr>
<td>dusun</td>
<td>Sub-division of a desa; hamlet</td>
</tr>
<tr>
<td>gio</td>
<td>Imperata grass (Lauje)</td>
</tr>
<tr>
<td>kabupaten</td>
<td>District</td>
</tr>
<tr>
<td>kecamatan</td>
<td>Sub-district</td>
</tr>
<tr>
<td>keu</td>
<td>Chief, head</td>
</tr>
<tr>
<td>kepala adat</td>
<td>Ritual leader</td>
</tr>
<tr>
<td>kepala jaga</td>
<td>Local leader (of a neighbourhood)</td>
</tr>
<tr>
<td>kepala suku</td>
<td>Leader over a wider mountain area</td>
</tr>
<tr>
<td>Paket A</td>
<td>Literacy program</td>
</tr>
<tr>
<td>pasobo</td>
<td>Agricultural ritual specialist (Lauje)</td>
</tr>
<tr>
<td>pasori</td>
<td>Ritualist responsible for forests and rattan (Lauje)</td>
</tr>
<tr>
<td>Perkebunan</td>
<td>Tree-crop program</td>
</tr>
<tr>
<td>Posyandu</td>
<td>Integrated primary health center</td>
</tr>
<tr>
<td>ulat</td>
<td>secondary forest (Lauje)</td>
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</table>
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Many people contributed to the success of the training program and the study reported here. Thanks are due first of all to the PIMPROS of the TTM project, in Bappeda Tk I and Tk II, and to SRDP advisors Bill Barlow and Tim Babcock who arranged for this training to take place, and who gave much assistance and encouragement along the way.

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In Tinombo, the staff of Yayasan Wahana Bina Mandiri supplied the team with a comfortable place to stay, and were tolerant of our long team meetings taking place in their home. Om Dullah and his family provided food and many other forms of assistance.

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In Palu, the staff of Bappeda Tk II provided the team with a pleasant working space and other assistance, and arranged a Seminar for the team to present its findings. In Halifax, several Indonesian students worked on translation and editing of tables.

Many thanks to all of the above, and to the many others who helped the team in their work.
Part One

Target Group Identification
CHAPTER ONE

INTRODUCTION

The Government of Indonesia, working together with the Sulawesi Regional Development Project, is concerned to improve the economic and social life of the rural poor. In Central Sulawesi, the area selected for integrated area development (IAD) is the kecamatan of Tinombo, Tomini and Moutong in the district of Donggala. The majority of the people of the area are farmers. In transmigration areas, farmers have received development assistance in the form of infrastructure and extension, health and education services. Much of the indigenous population, however, are poor hillside farmers working marginal lands with little access to infrastructure or services.

To meet the objective of poverty alleviation and in the interest of equity (pemerturaan), 12 of the poorest desas have been designated a "Sustainable Area Development Site" and will receive a package of projects and programs designed specifically to meet the needs of poor, indigenous hillside farmers. In order to design programs which will be effective and appropriate to local conditions, information is required which identifies the target group in some detail. Planners need to know: who is to be assisted, how many people, where are they located, what are their needs and priorities, and how can programs be designed to reach them effectively.

Information about target groups is needed by several parties: by Bappeda Tk I and Tk II, in its role as coordinator, by the relevant Dinas at the Provincial, Kabupaten and Kecamatan levels, by NGOs active in the area, and by leaders at the Desa, Dusun and RT level. These parties are all involved in various levels of program planning, delivery, monitoring and evaluation. The information provided through target group identification serves as an "entry point", a "bridge" or a "road map" to initiate the planning process. It tells the various parties mentioned above who the poorest people are, and where they are located. It provides some initial information on the people's needs and priorities, so that representatives from the appropriate agencies know where to start, and which topics might form the basis for meaningful discussions with the community in the process of designing and delivering appropriate programs. It has been noted that "unless such a place or focal point is found, the concept of participation is difficult to implement and practice" (Ohlsson 1990).

Target group identification does NOT tell the agencies in detail what their programs should be, or how they should be delivered. It is the responsibility of the various parties involved in rural development planning to visit the target groups directly to discuss potential programs with them, and to elicit their full participation in program design, delivery, monitoring and evaluation. Effective planning, especially when the goal is to reach the poorest people, must be a participatory process: even with the best information available, "top down" plans and programs will not fully address people's needs and priorities.

Target group identification is part of the Kerangka Pembangunan Strategis (KPS) survey undertaken by Bappeda Tk II as part of a local planning course (LPTPD). Information about the TTM area that was obtained from a KPS survey in 1990, from the Provincial Development Status Review Sulawesi Tengah (Strachan et al 1989), from other secondary sources, and from previous in depth studies (Li 1991) was sufficient to indicate that the poorest desas were the twelve located between Bain'a and Tingkulang, and that the poorest people in these desas were indigenous hillside farmers. The information available was not sufficiently detailed, however, to determine "who, where, what and how many", which is basic data needed as a first step in planning. A consultant was therefore requested to develop a methodology for refined target group identification, and conduct training of government and non-government personnel to undertake this work. Training was carried out mainly through three weeks of field practice in three desas, "learning by doing". The group then wrote up the material, and this report is the collective product of the consultant and training team.

While the training program used the title "rapid rural appraisal (RRA)" (pemahaman pedesaan dalam waktu singkat, PPWS), the team's task went beyond poverty-focused appraisal (understanding the general characteristics of poverty
...what, how many etc" could be answered with more precision. Because it systematically covers all the hillside population of each desa, the baseline data collected can be used not only as a "bridge" to program planning, but also as an aid to program delivery, monitoring and evaluation.

The methodology developed involved a novel combination of rapid appraisal principles and techniques with the systematic coverage expected from complete household censuses and surveys. The approach could appropriately be called "rapid baseline data for refined target group identification".

The approach used also adopted some techniques from the process known as "participatory appraisal", which emphasizes community participation in setting the agenda for study, and leads directly into bottom-up planning where the community is encouraged to identify problems, resources, priorities and alternative solutions. The team stressed participation, and the villagers understood that the data was being gathered in a planning context. However the team's task of target group identification stopped short of a fully participatory planning process. This is more properly the responsibility of the technical agencies (Dinas) and the village organizations (LKMD, LMD etc), perhaps assisted by NGOs (LSMs) working directly with the intended beneficiaries. As noted above, such a participatory planning process might naturally take place as the next step following the refined target group identification exercise.

The approach used was highly effective for accomplishing its specific purpose, and made efficient use of limited time and funds. For other purposes and in other contexts, more conventional rapid appraisals, participatory appraisals and planning exercises, or more complete baseline surveys, may be more appropriate.

This report is presented in two parts, Part One written by the consultant and Part Two, [which is not included in this publication.] written by the training team. In Part One, Chapter Two discusses generic issues that arise in target group identification and presents a general methodology. It also describes the approach and methodology adopted for the present study, which serves as an example of the generic issues discussed as well as explaining the study's particular rationale. It briefly describes some of the field techniques used. Chapter Three presents the key findings that relate to target group identification in the three desas covered. Chapter Four summarizes the main conclusions and recommendations from the study and suggests some approaches to refocussing programs to meet the needs of the rural poor. In Part Two, Chapters Five, Six and Seven describe the detailed findings from the three sample desas studied, and makes many specific suggestions for follow up by government agencies. These can be made available to the reader in the Indonesian language, on request, from the Sulawesi Project offices. Finally, archive material containing the actual lists of households and their characteristics can be consulted by relevant parties at the Bappeda Tk II office if required.
FIGURE 2: Administrative Map - Desa E'eya
FIGURE 3: Administrative Map - Desa Ulatan
FIGURE 4: Administrative Map - Desa Palasa
CHAPTER TWO

TARGET GROUP IDENTIFICATION - APPROACH

Various approaches can be used for target group identification. This chapter discusses some generic issues in the assessment of poverty, and describes the methodology or approach adopted in this study, its rationale, and some possible alternatives. Data collection techniques are described briefly in the next chapter, and fuller details are available in field guides and manuals.

1. DIMENSIONS OF RURAL POVERTY

The central purpose of development efforts in the Project area is to alleviate rural poverty, giving priority to the poorest people. It is necessary to understand some of the dimensions or characteristics of poverty, so that pockets or clusters of overlapping disadvantage can be identified. There are five dimensions of rural poverty (Chambers 1983):

- **material poverty**: lack of assets, little or no land or land of poor quality, few livestock, low productivity of labour, debt, inadequate and unreliable stocks of food and cash to meet basic needs

- **physical weakness**: high ratio of dependents to working adults due to illness, disability, divorce or abandonment, early death or labour migration; poor health due to disease, parasites, malnutrition or frequent pregnancies; low birth weights and high child mortality

- **isolation**: the household is isolated from the outside world, remote in location, far from village centres of trade and information; its members are illiterate, children do not attend school, adults do not attend village meetings or go and do not speak, they receive no advice from extension workers in agriculture and health, and do not have the means to travel to seek work elsewhere

- **vulnerability**: the household has few buffers against contingencies; disasters such as illness, crop failure or other social demands have to be met by selling productive assets such as land, livestock, and trees, which makes the household poorer

- **powerlessness**: the household is ignorant of the law, unaware of its legal rights, weak in negotiating for the sale of labour or assets, and easily cheated by traders, moneylenders, local elites and other powerful people who stand as nets, trapping resources and other benefits that could assist them

These dimensions of poverty tend to cluster and overlap, and are often causally linked. For example, physical weakness contributes to material poverty since it limits strength to work; material poverty contributes to poor nutrition and physical weakness; isolation contributes to powerlessness, and so on. Not all these dimensions are present in every situation, or to the same degree, but they provide a framework for examining situations of poverty.

The extent of poverty tends to be underestimated, because the characteristics of the poorest people make them invisible (Chambers 1983). Their material poverty and poor clothing makes them shy of outsiders, and their houses are not those shown to visitors. When they are hungry and sick, they do not attend meetings, and women who head households and bear the heaviest burdens are often not even invited. The physical isolation of poor people, far from the roadside, keeps them out of sight of visitors, planners, and village leaders who direct flows of information needed for project planning. If visitors are taken on a village tour, they are likely to be shown those places where a project is happening: a school, a health clinic, a farmers group and so on. They will not see the children of the poorest, who are not in school and too far from the health clinic; nor will they talk to the poorest farmers who lacked the resources to join the farmers group.
Planners who require information on the poorest people need to be aware of these possible biases in the information they receive, and take special measures to obtain accurate information directly from poor people, both women and men.

- Early information: Based upon previous studies of the area (Strachan et al 1989, Li 1991a), it was already known that many people lived in the hills, that hill farmers were among the poorest people and formed a likely target group, and that cultural differences as well as physical distance separated them from the coastal zone. The approach developed for refined target group identification therefore set about countering the coastal bias of existing secondary data, and balancing the opinions of the coastally based village leadership with direct observations and discussions with hill people.

- Zone categorization: Based upon earlier studies (Li 1991a), a preliminary categorization of agro-ecological zones into three was adopted: coastal (including foothills), middle hills (1-4 hours walk from the coast, permanent hill population) and inner hills. The middle hill population, which is experiencing problems of environmental degradation, population increase, and production decline had previously been identified as a likely focus for programming, so the most systematic data gathering efforts were focused in that zone.

- All five dimensions of poverty were considered relevant to target group identification, and it was expected that there would be differences between hillside neighbourhoods in terms of these dimensions, as well as differences between the coastal zone and hills. Poor people could be found in each of the zones, but the nature of poverty experienced and the means of overcoming it would differ.

2. DIVERSITY AND RELATIVITY

Diversity in lifestyles is a characteristic of many regions, and needs to be taken into account when assessing material poverty.

- Housing: In the coastal zone of the Project area, bamboo huts that disintegrate after a few years are indicative of poverty and wood or brick houses are signs of relative wealth. In the hills, bamboo houses simply reflect the availability of building materials and the need to move the house site periodically when fields are rotated in order to guard the growing corn.

- Food and clothing: Food habits also differ. In the coastal zone, purchasing the cheaper starches (tubers and commeal) rather than rice is a symptom of poverty, while in the hills, foods are varied according to the harvest and the season, with no clear relationship to relative poverty. Clothing standards are also diverse. On the coast, walking around the village centre in rags is a symptom of poverty while in the hills, old clothes are worn to work in the fields but the wearer may have better clothes or cash to buy clothes stored in the house.

In view of the diversity of lifestyles noted above, how is relative material poverty to be assessed? Consumption criteria can be used to assess relative poverty within a zone, but work less well in between zones. A practical approach is to balance assessment of consumption standards (housing, clothing, food) with an assessment of productive assets (land, trees, labour and skills) since it is these assets that determine the adequacy and regularity of the "stocks and flows" of food and cash to meet basic needs. Assets such as land, trees, labour and skills are also longer term and easier to measure and assess than flows of consumption goods, which can be seasonally as well as culturally variable.

To further broaden and balance the assessment of poverty, the other four dimensions should also be investigated. In this way it is possible to build up a composite picture of the characteristics and systematic variation between regions, desas, agro-ecological zones, neighbourhoods, and between households within a neighbourhood, according to the level of detail and specificity required. Interrelationships can also be noted, as in the following example:
A composite picture of poverty dimensions in the inner hills indicates that farmers have poor consumption standards in terms of housing, clothing and protein, but generally adequate calorie intake from starchy staples. They have plentiful land which is a valuable a productive asset, but, because of their isolation, lack information on how to make their land more productive through marketable crops. Also due to isolation, they are relatively powerless, unrepresented in village meetings and often cheated on prices. Their land rights are vulnerable to encroachment. They are physically weak due to lack of immunization and basic health services.

Similar composite pictures can be derived for the other zones, and for neighbourhoods or households as required, and will be presented in detail later in this report. The approach adopted here does not lead to a single poverty score, but to an understanding and approximate measurement of poverty in its various dimensions that directly assists program planners in seeing what to do: what programs might be useful, for which people, in which places, and with what degree of priority.

3. INDICATORS

The characteristics of poverty outlined above are widely recognized by development analysts and planners concerned with poverty alleviation. The challenge is to develop an approach to poverty assessment which is quick, accurate, and cost-effective, so that resources can be focused on program delivery. A key characteristic of such an approach is the use of indicators.

Every piece of information gathered has a price in terms of time and money, so it is necessary to be selective and use scarce time and resources to the maximum. It is not possible to find out everything about everything. This principle is known as "optimal ignorance" (McCracken et al 1988:12) - distinguishing between information that is absolutely necessary and that which it would be "nice to know" but not essential. The principle applies to both quantitative and qualitative data.

Direct indicators are pieces of information that expressly relate to what is being measured. For example, if information on crop yields are required then crop yields are measured. Indirect indicators are essential pieces of information chosen from among many possible pieces of information to serve as substitutes or proxies to answer questions and/or respond to statements which are difficult to measure. For example, instead of the direct indicator of income, indirect indicators of poverty ... might be: persons are poor if they have to hire themselves out as labour; persons are rich if they can hire labour. Key indicators are essential pieces of information that open doors to understanding... Establishing good indicators will reduce the amount of information that needs to be collected. (Case 1990:39)

Besides their relevance to "open doors of understanding", other criteria for indicator selection are the relative ease and time required to obtain the information; the likelihood of accuracy; and the versatility and multi-purpose nature of the information collected. If the general focus of program interventions is known in advance, indicators can be selected which will be of immediate benefit in program planning and which will serve as a baseline against which changes that take place during the period of project operation can be measured.

Basic demographic, health and education information is widely used as an indirect indicator of physical weakness and isolation, and of a household’s ability to respond to economic opportunity. It is also useful as a direct indicator of government performance in delivering basic services to the population, and serves as a baseline to measure change over time (World Development Report 1990).

Basic demographic data was collected on each household. Establishing the number of active adults and children indicated the household’s dependency ratio. Households headed by women without an adult male son were identified. Households with a strong labour pool indicated by the number of children aged over
Health data This was focused on the number of children aged 0-6, to indicate the number of people needing to be served by government child health programs (a potential target group). The percentage of households who have ever attended mother-child health clinics was used as an indirect indicator of infant, child and maternal health and mortality, as well as a direct indicator of the effectiveness of government health programs in the area. Data on child mortality was considered too sensitive to obtain systematically in rapid interviews (when the data on the household was sometimes provided by third parties, such as neighbours or kin). This data was obtained from a small sample of women in longer more private interviews.

Educational data was used as an indirect indicator of the household's isolation from the national mainstream, literacy, Indonesian language competence, and capacity to benefit from economic development in the wider region, perhaps through out migration. Data was collected on the number of people in the household who have ever attended school for more than two years (used as an approximation for literacy), and those who have ever attended an adult literacy program. Crude adult illiteracy figures were derived by deducting these totals from the total number of people aged 12 and above. Data on the number of children aged 7-12, and the percentage of such children not attending school, served as an indirect indicator of household isolation and a direct indicator of the adequacy of government educational services for the area. For those children attending school, it was noted whether they walked to and from school daily, or lived on the coast closer to the school.

Indicators of material poverty are more complex and locally variable, and can best be established on the basis of local information then pilot-tested for their reliability and practicality. Techniques for establishing economic indicators include the use of secondary data, knowledge and experience of indicators that work well in similar areas, rapid appraisals, and wealth ranking by community members.

The economic indicators used for the present study were established by the consultant based on the data needs of the Project, experience gained through previous rapid appraisals and in depth research in the Project area, field testing and field validation.

A number of possible indicators were considered and rejected:

Daily consumption of food This can be a direct indicator of nutrition and an indirect indicator of material poverty, but previous attempts to gather this information in the Project area had shown that people forget the details of what they eat, have different food preferences in different zones, and are embarrassed to describe their poor diet to outsiders, so the information is slow to collect and often incorrect. Nutrition information, if required as part of a more focused topical baseline, could be obtained more easily and accurately by asking or observing what is in the fields.

House size and quality This indicator was rejected for the reasons noted above: it is culturally variable between the zones, and while it is a good indicator for relative wealth on the coast it is inaccurate in the hills. Also, since the data on households was not collected by visiting each household directly, the house could not be observed, and it was expected that third parties would be shy to talk about the poor state of neighbour's houses. This indicator has been used successfully in Java (see Honadle 1979 cited in McCraken et al 1988:21).

Land area per household This can be an indirect indicator of relative poverty, and direct indicator of agricultural potential, but direct measurement is too time consuming for rapid appraisal and guesses often inaccurate. Also, in the study area, fields are rotated and fallowed (shifting cultivation) so the land area under current cultivation does not reflect the total resources potentially available to the household. Under the customary land tenure system, parents do not divide land among their children during their lifetime, but
lend it to them to use. The younger generation therefore has assured access to parental land but does not yet own it - so questions about land ownership per household could be misleading indicators of the household’s current and future economic potential and land assets.

* **Income** This is used as a poverty indicator in many national and international statistics, but it is slow and inaccurate in subsistence economies where people are not accustomed to translating their production and consumption into market prices.

* **Occupational group** (kelompok mata pencaharian). This is a very good indicator of relative wealth, since only the poorest people engage in certain occupations (such as firewood collection, day labouring etc). This indicator is used in the KPS surveys to identify target groups. It was used to identify “hillside farmers” as the main target group for the TTM Project. However it could not be used for refined target group identification in the present study since it does not uncover more fine-grained distinctions among hillside farmers. However subsidiary occupation or “other sources of income” was used an indicator in the study, as described below.

Economic indicators selected were the following:

* **Productive assets** The number of active gardens per household was used as an indirect indicator of economic status, and an approximate indicator of land available for use. It was also used as a “listing” question, to lead into more detailed questions about what was growing in each garden.

* **Standing crops** These were treated as indirect indicators of economic status, and the extent of production of the principle cash crops was quantified: data was obtained on the number of commercial trees per household (and whether they were productive or not yet in fruit), and how many kilograms of shallot or garlic sets they currently have planted. This information revealed the extent of variation in production and income within a neighbourhood, between neighbourhoods within the same zone, and between zones. The information also serves as basic data to inform the Department of Agriculture what people currently grow, and will help them to initiate discussions about agricultural improvement.

* **Mode of access to land** This was used as an indirect indicator of household economic status, and a direct indicator of land tenure status, since this is a key issue in planning programs such as agroforestry that encourage changes in land use through extensive tree planting. Variations in patterns of access to land between households and between neighbourhoods and zones could be noted. The categories used were: inherited, purchased, borrowed, or opened by the present owner from primary forest.

* **Other sources of income** This information is an indirect indicator of household economic status, since certain activities which have low status and poor returns are engaged in only by the poorest people who have few assets and no more productive alternative uses for their labour (Watson and Holloway 1989). The information is a direct indicator of patterns of variation in income-generating activities between the zones, and provides some insights into potentials and opportunities. The data was collected for men and women separately since their sources of supplementary income differ markedly.

* **Average crop yields, land quality, sources of seed, extension services** This data was collected on a neighbourhood basis, not per household, since the conditions experienced within a neighbourhood were very similar. This data is useful for comparing neighbourhoods and zones in terms of their levels of productivity and agricultural potential.
4. TRENDS, RELATIONSHIPS AND LOCAL KNOWLEDGE

In addition to noting the characteristics of potential target groups according to the set of indicators described above, it is necessary to understand patterns or trends of change. These may be changes in the environment, in resource use, in productive activities, in patterns of settlement or migration, or in social and production relations between men and women and between other kin and neighbours. Any of these changes can affect livelihood positively or negatively for specific social groups within the society.

Understanding social and environmental change is necessary to put the present situation in its historical context and establish which social groups stand to benefit or lose from changes that are taking place. It is not always necessary to quantify changes, but it is important to establish the direction and approximate magnitude and speed of change. Understanding such dynamics helps to assess priorities and the relative urgency of interventions, and may permit the design of programs that prevent or mitigate negative trends and emphasize or encourage trends which are positive for the poor. Changes in key indicators can be used to monitor progress or deterioration in the condition of the poorest people.

Trends and relationships cannot be directly observed or measured, at least not in a rapid and cost-effective manner, and yet this information is crucial to target group identification. Information about relationships and trends can be obtained directly from the people who experience them, since they are knowledgeable about their own situation, and can analyze and describe it to outsiders when asked in a systematic but sensitive and appropriate manner. Relevant techniques include semi-structured interviewing of individuals and groups, life stories, neighbourhood histories and small group discussions. Trusting local knowledge, while constantly verifying, cross-checking and deepening understanding of important issues, is a key principle in target group identification.

- In-depth interviewing of small groups and individuals was carried out in each neighbourhood on a range of pre-established topics: historical change in population and environment, economic activities, access to land, household economic organization, education, health, women’s activities and concerns, social and religious organization.

- Local knowledge for target group identification was tapped very directly and effectively through wealth ranking. A member of the neighbourhood was asked to group all the neighbouring households according to their wealth rank. Respondents very quickly ranked up to one hundred households in 3-7 wealth categories, and then provided information on the criteria they used to do the ranking and the characteristics of each grouping.

Based upon their detailed local knowledge and experience, respondents simultaneously assessed their neighbour's material assets, consumption standard, physical strength or weakness, and the relationships in which it was involved (such as debt, gambling, land or labour buying and selling etc), and came out with a composite measure which outsiders would take much longer to develop, one indicator or characteristic at a time. The results of wealth ranking were then cross-checked with the basic household indicators, leading to a powerful combination of insider and outsider perspectives.

5. DATA COMPREHENSIVENESS

In accordance with the principle of “optimal ignorance”, once indicators have been selected and approaches to qualitative information determined, the scope of data collection must be decided. Depending on the circumstances, data may be needed on every household, or only on a sample of households in each neighbourhood, or only from sample of neighbourhoods in each desa, or only from a sample of desas etc. Appraisals which aim to generate an understanding of poverty issues and a relative measure of poverty in an entire province, district or subdistrict can use a sampling approach (as in the KPS), being very careful in the selection of sample neighbourhoods and
households to avoid roadside and other biases which keep the extent and nature of poverty hidden.

In baseline studies for refined target group identification there are major advantages to obtaining information on every neighbourhood and every household. Biases involved in selecting respondents based upon the recommendations of village leaders are avoided; the full range of diversity of neighbourhoods, households and economic activities is identified; and the participation of the poorest neighbourhoods and households in project planning activities can be carefully monitored. This is especially important since, as noted above, it is characteristic of the poorest neighbourhoods and families that they are isolated both physically and socially, remote from sources of information and unlikely to attend village meetings. Their needs and concerns are often not fully represented by village leaders and elites whose own concerns and perspectives tend to dominate the agenda.

Once project delivery begins, the powerlessness of the poorest people often means that they are excluded from project benefits intended especially for them. When the names and locations of the poorest are known, material assistance from the project can be delivered to them more directly, and their participation in project activities encouraged and monitored.

Establishing a complete list of households by area of residence is the key to rapid baseline studies which need to obtain information on each household quickly and cheaply. In some cases, village authorities already have such lists and the study serves to update and verify them. In remote areas, village lists are often incomplete, and baseline listing serves to identify how many people live in an area as well as noting the names of all adults. Techniques for listing include social mapping and cross-checking with existing lists and census data.

The complete household lists can be used for a variety of data gathering exercises. When there is insufficient time to interview each household directly, basic demographic and livelihood data can be obtained from third parties (relatives, neighbours, local leaders) once the name of the household head is known. Complete lists are required to conduct wealth ranking (see above). Lists can also be used to avoid biases in the selection of households for in-depth interview. Selection can be done from the lists on a random basis, or following a wealth ranking exercise which identifies the different socio-economic groupings in the community.

- **Complete lists**

In the study area, complete lists for each neighbourhood were generated from social maps plotting the physical location of each house, and obtaining the name of each household head. These lists became the basis for gathering household data and wealth ranking.

- **Basic data**

Basic data (using key indicators) was obtained for all households in the middle hill neighbourhoods in the three desas, since this was the main target area. Comparative data was collected on the entire coastal population of one desa. For the two desas with very substantial and remote inner hill populations, only the number of households, their location on a map, and the names of household heads were obtained. Economic and education data was collected on a neighbourhood but not a household basis. This data, although not as complete as that for the middle hills, is more accurate than the national census data or any other current data existing, and serves as a starting point for planning activities in the inner hills.

### 6. TARGET GROUP IDENTIFICATION: SOME ALTERNATIVES AND CONSIDERATIONS

Rapid appraisals and baseline studies are useful elements in target group identification and project planning. They can be used in different planning sequences, and conducted in different ways, according to the requirements of the situation. Some alternatives are the following:
Rapid appraisals:

* **Exploratory RRA:** for obtaining initial information about a new topic or agroecosystem. The output is usually as set of preliminary key questions and hypotheses.

* **Topical RRA:** for investigating a specific topic, often in the form of a key question and hypothesis previously generated by an exploratory RRA. The output is usually a detailed and extended hypothesis that can be used as a strong basis for research or development.

* **Participatory RRA:** for involving villagers and local officials in decisions about further action based on the hypotheses produced by the exploratory or topical RRAs. The output is farmer-managed trials or a development activity in which the villagers are closely involved.

* **Monitoring RRA:** for monitoring progress in the trials and experiments and in the implementation of the development activity. The output is usually a revised hypothesis together with consequent changes in the trials or development intervention which will hopefully bring about improved benefits.

(McCraken et al 1988)

Baselines:

* **Target group identification:** this can be conducted together with, or following, an exploratory RRA, or as a specialized type of RRA (McCraken et al 1988) and is used to provide fuller information about the location and numbers of potential target groups and some information on their needs to be used as a basis for project planning and evaluation.

* **Topical baseline:** provides baseline data on specific issues that have been identified as likely areas for program intervention, such as health, education or farming systems.

* **Participatory baseline (Case 1990):** this is a study designed and directed by community members to obtain information required for project design, monitoring and evaluation in self-help projects and in projects for which the community requires external funding.

Key issues to be considered in selecting an appropriate sequence of planning activities are the following:

* **What data already exists?**

If good baseline data, such as maps, lists, and socio-economic surveys already exist, it may only be necessary to carry out an exploratory rapid appraisal to identify a focus for programming, or move directly to a participatory appraisal in which the community defines its problems and priorities, and identifies possible solutions and resources.

* **What programs are envisaged for the area?**

If the programming focus is already defined and is sector specific (eg education, health), then baseline data can also be very focused. Since the general issues have been pre-identified, an exploratory rapid appraisal may not be necessary, but a topical rapid appraisal with a topical baseline could be useful to determine specific needs and possible delivery mechanisms.

Depending upon the priority given by the community to the topic of focus, the community may be able and willing to carry out much of the baseline study on their own, with limited guidance and encouragement from
officials. For example, if education is the focus, neighbourhoods could list the school age children not currently in school, identify reasons why children do not attend school, identify an appropriate site for a new school building, and propose solutions for addressing other issues such as school nutrition and the provision of school uniforms.

- Is local detail necessary in every case?

After exploratory appraisals have identified key issues and target groups, and topical appraisals have identified appropriate program interventions, it may be possible to extend the program to neighbouring areas experiencing similar conditions without full appraisals being undertaken each time. Only the briefest appraisal may be necessary to establish that key conditions are indeed the same, and that the new area falls within the same "recommendation domain" before moving directly to the details of participatory topical baselines and planning. The concept of "recommendation domain" developed in farming systems research refers to a geographical area for which the same set of basic recommendations and programming approaches apply (McCraken 1988:55).

- Balancing appraisal and active participation:

Rapid appraisals require officials responsible for development planning to visit rural communities, observe conditions, and talk directly to potential target groups. Appraisals are designed to avoid biases and they reveal the hidden aspects of poverty, often changing the attitudes of officials who look down upon poor people without understanding their difficulties. Appraisals thus have educational benefits that go beyond the usefulness of the data collected. These are good reasons for making appraisals regular, required elements in rural development planning and monitoring.

At the same time, it is not always necessary for outside officials to visit an area in order to obtain information about it. Active local participation, facilitated by officials, by village leaders, or by NGOs, can be an effective way to identify problems and solutions and gather baseline data with the added benefit of building local capacities in organization and planning, making programs more sustainable in the long term. However, since biases often enter into community meetings, even those that set out to be "participatory", men rather than women, and richer people rather than poorer people still tend to dominate the agenda.
Appraisals and baselines which set out purposefully to counteract biases and identify the poorest people and their needs can be useful in monitoring community development activities and ensuring that the poorest are not overlooked or excluded. Both outsider appraisals and community participation are required, and the appropriate balance will depend on some of the other factors described above.

The need for the present study, and the rationale for the approach adopted, was described above in Chapter One as "rapid baseline data for refined target group identification", focused upon the poorest people, covering all the major sectors (ie not restricted to one topic), with community participation in data gathering but no full village or neighbourhood level participatory planning exercise.

7. TARGET GROUP IDENTIFICATION: TECHNIQUES USED

The set of techniques used for data collection are described only briefly here. Fuller information can be obtained from the training manual being prepared by SRDP. A key principle of RRA is that a number of different methods are used to cross check information and help to ensure that, though rapid, the data obtained is reliable. This principle is known as "triangulation" or using three methods, obtaining three points of view and so on.

* Village meeting

The first activity in each desa was a desa meeting attended by desa officials, cadre (such as cadre Posyandu, PPLDs) and representatives of specific groups such as women and people from the more isolated RTs. One or several maps were drawn of the desa and dusuns, and these served as a basis for discussion of population settlement areas; facilities such as schools, roads and footpaths; activities and programs; and problems and potentials in various areas of the desa.

At this meeting an agenda for visiting the hillside neighbourhoods was confirmed, and the leaders in each neighbourhood were warned to expect our visit.

* Neighbourhood/ RT visits

The training team divided into two (5 members in each team) in order to be able to cover all the mountain neighbourhoods. Each team visited one neighbourhood per day, and covered about 5 neighbourhoods in a period of 5 days, 4 nights. Nights were spent in the neighbourhoods at the house of a resident, and evenings were used for in-depth interviewing.

* Introductions

Upon arrival in each neighbourhood, the team introduced itself and explained the purpose of the visit to the people gathered at the house which served as the meeting place. Usually about 50% of the men in the neighbourhood attended, together with some women.

* Mapping

The first data gathering activity was to draw a map of the neighbourhood. This was drawn by the residents, usually on the ground, using sticks, stones, leaves and seeds as tools and markers. On the map were plotted the footpaths, rivers, water sources, areas of primary forest, secondary forest, grasslands, tree gardens, and each house was plotted. Two team members worked with the residents on the mapping process, which took 1-3 hours.
* Complete list

From the houses plotted on the map, a list was made of every household head in the neighbourhood. This list then became the basis for other data collection activities.

* Basic household data and key economic indicators

Team members divided the names on the list, and, using two simple forms, obtained information on every household. If a representative from the household was present, they were interviewed directly. If not, then a neighbour or kin member or the Kepala RT who knows about the household members and their farms provided the information instead. Using this approach, basic data was obtained on 90-100% households in a period of 1-3 hours (depending on the number of households).

* Group discussion: women

While the other data collection processes were taking place, a group discussion was held with all the women who were present. Topics covered included work and income sources, health and education. In these women-focused groups, the women were less shy and shared much information with the team. Usually a female team member was responsible for these discussions.

* Group discussion: general

Before the residents returned to their homes, a closing discussion was held to thank them for their cooperation, and to ask for their views on the problems and potentials of their neighbourhood. Topics covered included economic issues, education and health.

* In-depth semi-structured interviews

While the above activities were taking place, or in the late afternoon and evening after the majority of residents had returned to their homes, team members undertook in-depth interviews with local residents and leaders, both women and men. These interviews were structured by a set of topics and sub-topics that had previously been agreed by the team, but they did not follow a rigid format. The interviewer was able to respond to the information provided, and probe for additional information when the respondent mentioned an issue of special interest to the team. Topics covered included economy, health, education, neighbourhood history, changing patterns of resource use, patterns of leadership and local customs.

* Transect

This is a diagram drawn to represent the terrain of the neighbourhood, with its various characteristics such as slope, soil, natural vegetation, crops, problems and potentials. It is based on observation and on discussion with residents.

* Observation

Team members wrote notes on the state of the land and vegetation, houses, hygiene, general health, skin disease and water availability. They also noted aspects of the research process, whether the people were relaxed or nervous, open or shy etc.

* Wealth ranking

This activity was carried out by a resident working with a team member in a quiet place where there were
few interruptions. This activity should be repeated two or three times in each neighbourhood by different respondents (eg women, men, rich, poor), but due to time constraints was generally only carried out once.

Data compilation

After 4-5 days in a desa, the team took a day to organize the material collected, write up interview notes clearly so that they could be read and used by other team members, and check over the maps and data collection forms to ensure they were clear and complete.

Data analysis

After completing the study in three desas, the team returned to Palu and began to compile and analyze the data. This process included a number of steps

- compiling the household data collected on the neighbourhood data forms into simple tables, reviewing the interview notes and writing a description of the neighbourhood (the RT reports, see Part Two)

- putting the basic quantitative data from each neighbourhood into desa tables (see Chapter Three)

- reviewing the RT reports and desa tables together with notes from the desa level meeting to develop an analysis of the desa as a whole

- summarizing the key information obtained which relates to target group identification, and tells the decision maker where the poorest people are, what are the dimensions of poverty they experience, and some approaches that might be used to assist them (see Chapter Three).

If required, a more detailed step in the analysis can be undertaken to identify the poorest households in each neighbourhood. This process uses a scoring system to count the assets of each household that were included in the basic economic indicator data, and comparing these scores with the results of the wealth ranking exercise.

Where there is a close match between the indicator data and the wealth ranking, this implies that both the key indictors selected and the quality of information obtained were reliable and can be used as a basis for planning at the neighbourhood level. Where there is a poor match, this implies that the data is unreliable. In general, the match between these two data sources was good, and the household economic indicators and the wealth ranking data can be used with confidence.

Identifying the poorest households is especially important for monitoring, since the poorest people are most often left out of project activities and benefits, and extra care is needed to ensure that they participate and benefit fully as planned.
CHAPTER THREE

TARGET GROUP IDENTIFICATION - RESULTS

It was noted earlier that poor people can be found in all parts of the SAD, but the nature of poverty experienced and the means of overcoming it differ. This chapter presents the key findings that relate to target group identification in the three desas covered in the study. It demonstrates how the key indicators and information on trends can be used to identify the groups most affected by poverty in its various dimensions, and uses these indicators to compare the three zones and the 26 RT's. Implications for programming are noted here, and followed up by a set of recommendations in Chapter Four.

The sources of information for target group identification are the desa tables, which summarize quantitative material, field notes containing information from in-depth interviews, and the RT reports presented in Part Two which were written by the training team and provide background and analysis of each RT.

Percentages in the desa tables provide the first quick guide to identifying potential targets: which RT's have especially low rates of school attendance, high illiteracy, weaker or less diverse economies and so on. In addition to percentages, numbers are also important: a larger RT may have only 30% illiteracy, but this may affect 50 people, while a smaller RT has 50% illiteracy, but this affects only 15 people.

Where a larger number of RTs have to be compared, and interventions prioritized, a rough scoring system that summarizes key data can be used to help the decision maker hold various pieces of information in mind simultaneously. The scoring system used in this chapter compares six pieces of data. School attendance and adult literacy as indicators of isolation; corn and rice production as indicators of food security and land quality (rice can only be produced on more fertile land); and shallot and tree crop production as indicators of cash flow to meet basic needs such as clothing, medicine, kerosene etc.

The scoring is based on the percentage of households in each RT that have each asset, 0-9% scoring 0, 10-19 scoring 1 etc. For trees, the score is based on the percentage of households owning the most popular tree species. This approach is people based, and focuses upon equity - how widespread is ownership of or access to a particular asset within a zone. It does not measure quantities of production - how many trees do they have, how high is their education and so on. For more details and for an understanding of the situation in each RT, it is necessary to turn to the data in the desa tables and to the RT texts. The food and cash scoring system is most accurate for the hill areas, where farming is the principal source of income. It is probably less useful for the coastal area where non-farm incomes such as labouring, trade and salaries are significant: it makes the coastal zone seem poorer than it is.

Totals in the tables are kept separate for each category (education, food, and cash). An emphasis on food or cash represents quite different livelihood strategies. Strong arguments could be made that a balance between the two is best: good food production but little cash leaves a household unable to provide for many of its needs, such as clothing, education and medical care; but overdependence on cash production can leave the household very vulnerable to production failures (disease) or to price falls, especially for tree crops produced for distant markets. For this reason a "grand total" would be misleading, since the RT with highest overall score may not have the best strategy for long term livelihood improvement. Likewise the effects of isolation on an RT should be kept separate from its food and cash production.

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1 Note that the demography table provides an age group breakdown only for the population that was surveyed - a percentage of all households in the RT. To estimate the actual number of children 7-12 years old, or adult illiterates in an RT; the numbers shown in the table have to be divided by the percentage of the population that was covered in the RT survey (found in Table 1 for each desa).
Practical programming interventions for the hill zones, especially facilities such as small mountain schools, will need to be based on a certain population size. If the number of children in one remote RT is not sufficient to support a primary school, is there a location in between two RTs that could serve a bigger population? For answering such questions, the maps are useful, since they show where the RTs described in the tables and the RT reports are located.

For answering many other questions - such as why a certain RT has a high rate of tree ownership, or a low rate of food production, it is necessary to turn to the background information in the RT reports, which explains the social characteristics of the RT and the economic and other constraints and opportunities encountered by the residents.

The priorities noted for each zone are only potential targets and the mechanisms that might be used: the information in the study tells planners where to look and which interventions might be relevant, but a process of consultation with village officials and with the people in the RT affected is needed in order to determine their priorities, and to discuss details and appropriate delivery mechanisms.

The analysis in this chapter is focused at the zone and RT levels. For many types of programming, such as schools, health services, and agricultural extension, this is the relevant level of intervention (see the next chapter). The tables show aggregate scores per RT. However in every RT there are many poor households with little food and very little cash income, and it is always possible that the poorest people may be found in RTs with highest cash scores. Where it is necessary or useful to identify the poorest households within an RT, the scoring methods described in the previous chapter can be used.

The four zones used in the study are coastal, foothills, middle hills and inner hills. Inevitably there are cases which could be considered "borderline" having characteristics of two zones: The main criteria for each zone are the following.

Coastal: coastal plain, accessible to Trans-Sulawesi highway by vehicle, and close to the centre of desa activities.

Foothills: at the edge of the coastal plain and the hills; oriented towards the hills for a major part of its livelihood; somewhat remote from the centre of desa activities; some exploitation at rattan.

Middle hills: majority of the population have their main house in the zone, and are full time food and cash farmers with limited sources of non-farm income (including rattan). Walking distance to the coast is 1.5-4 hours. The land is small secondary forest, brush and alang-alang grass.

Inner hills: population is totally dependent on farming, and subsistence food crops rather than cash crops predominate. Fallows are longer, 5-15 years, so mid-size secondary forest predominates Rattan is exploited. There is little primary forest.

A summary of the population distribution between the zones will help to show the significance of each zone in the desa as a whole.
TABLE 1: POPULATION DISTRIBUTION BY ZONE (HOUSEHOLDS) - THREE DESAS

<table>
<thead>
<tr>
<th>ZONE</th>
<th>E’eya</th>
<th>Ulatan</th>
<th>Palasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>129 (34%)</td>
<td>205*</td>
<td>253*</td>
</tr>
<tr>
<td>Foothills</td>
<td>89 (23%)</td>
<td>122</td>
<td>24</td>
</tr>
<tr>
<td>Middle hills</td>
<td>161 (42%)</td>
<td>96</td>
<td>208</td>
</tr>
<tr>
<td>Inner hills</td>
<td>0</td>
<td>47(187?)**</td>
<td>215</td>
</tr>
<tr>
<td>Total hill zones</td>
<td>250</td>
<td>265(405?)</td>
<td>447</td>
</tr>
<tr>
<td>Total households all zones</td>
<td>379</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>(RRA 1992)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalam Angka (Kecamatan)</td>
<td>294</td>
<td>470</td>
<td>700</td>
</tr>
</tbody>
</table>

* The population for the coastal area of Ulatan can be very roughly estimated using the desa total from Kecamatan Dalam Angka 1990, minus those counted in the 1992 RRA for the hill zones ie 470-265= 205. For Palasa Tengah, official statistics show a total population of 3550, which is approximately 700 households, so the number of coastal households can be calculated roughly as 700-447 = 253.

** There are reported to be another 140 households in the inner hills of Ulatan, but this has not been verified.

*** These totals are not known, because the RRA fully covered the coastal zone only in E’eya.

**COASTAL ZONE**

**POPULATION**

Since the main focus of the study was on the middle hills, complete household data on the coastal zone was collected for only one of the three desas (E’eya), for use as a comparison. In E’eya 34% of the desa population (129 households) live in the coastal zone, in Dusun 1 RT 1/2, and Dusun II RT 4.

The PKMT area in Ulatan (where only a partial survey was undertaken) was also included in this zone because the 100 houses provided there in 1987 for the resettlement of hill people (so-called suku terasing) are now mostly inhabited by coastal people. The hill people have returned to their places of origin in the hills, because the land provided for them on the hills being the PKMT site was too small and also too dry to support them. The coastal zone of Ulatan contains about 44% of the desa population.

While many of the program issues noted here are typical of the coastal zone as a whole, the detailed RT level recommendations pertain only to E’eya.

**ISOLATION/ POWERLESSNESS/ EDUCATION**

Physical isolation is not a problem for wealthy people since the Trans-Sulawesi highway is there; some people (eg poorer women market traders with very small capital) cannot afford bus fare and so still walk along the road: in this case material poverty contributes to physical isolation, even though the facilities (roads and busses) are there.

Social isolation is present - in coastal E’eya 92% of children go to school, but 41% of adults are illiterate, and many
the PKMT area of coastal Ulatan, 43% of school age children are not in school, but only 11% of adults are illiterate, most having attended school or literacy programs (Paket A). Note also that adult literacy and school attendance are not correlated: many uneducated parents are very strongly motivated to send children to school.

Communication between desa leaders and the coastal population is frequent, and the village heads generally know each person by name. All village officials (village chief, LKMD, LMD, ketua PKK) are selected from the coastal zone, and it is predominantly the concerns of coastal people (especially those who are better educated and more wealthy) that are represented in village meetings. Although they are close to the centre of power, not all coastal people share equally in that power. The RT system is present, but not active as a focus for communication and self help activities.

* increase school attendance
  need: PKMT Ulatan, approx 32 children
  approach: extension, scholarships

* adult literacy
  need: RT1/2 E'eya, approx 170 adults
  approach: paket A (adult literacy combined with skills training)

* activate RT system for communication and self help
  need: poorer RTs in the coastal zone, that need organization and leadership
  approach: village leadership to foster and encourage improved communications

MATERIAL POVERTY/ LIVELIHOODS/ VULNERABILITY

Only 7% of coastal households in E'eya do not have farms; 67% have either two or three farms. This implies that farming is still significant to the coastal population, either as a principal form of livelihood or as an additional source of income. It also implies that access to farm land for coastal people is relatively widely distributed: it is not only a few wealthy families who have farms, although the productivity of the farms varies greatly with the size and the capital invested. Access to farm land is mostly by inheritance: 80% of the farm plots in current use were inherited, 14% were purchased, and 5% were first cleared by the current user.

Cash crops are the most important: only 17% of coastal households in E'eya grow any corn, the main food crop. 6% grow shallots. The most popular crops are cacao trees owned by 50% of households, clove trees, owned by 43% of all coastal households, kapok owned by 32%, cashew owned by 22%, and coconut, owned by 18%. Observations show that coconuts are the dominant crop on the coastal land, and the low rate of ownership of coconuts by E'eya people reflects the fact that the trees (with the land) have been bought up by people from outside the desa over the years. The boom in tree planting by coastal people has been taking place in the foothills and middle hills.

Market trading provides a good income for about ten women in the coastal zone of E'eya who have a trading capital of Rp50-100,000 and can travel as far as Sigenti and Moutong. Some of these people have received capital from the PKK revolving credit funds. Membership of the PKK and distribution of these funds has been quite unequal: only 35 people are members. The majority of coastal women who engage in trade have a capital of only Rp3-10,000, which limits them to trade in vegetables or making snacks to sell in the local E'eya market. Other economic activities engaged in by poorer women include making clay pots (belanga tanah) (about 20 women), sewing mattresses from locally grown kapok, and netting milkfish fry (nener).

Women interviewed are interested in tree planting, and expressed a very strong desire to have their own trees, "so our rights are clear, so no-one could disturb us, and so our rights would be protected if our husband took another wife". Individual ownership would reduce their vulnerability to loss of assets through men's actions. They feel that if they had their own seedlings, they could cooperate and engage in mutual help with their husbands or other kin
(if they are widowed or divorced, or not yet married), so there would be no problem of access to labour.

Non-farm income sources for men include market trading, labouring in the coconut sector, finding rattan, and skilled trades such as wood work (tukang kayu) and brick laying (tukang batu). For women, market trade and making clay pots for sale are the main activities.

A respondent described wealth ranks in the coastal zone as follows: the richest people have many trees, good houses with TV and electricity, and profitable sidelines such as trade. The second group have some trees, but their main economic strength comes from the trading activities of the women in the household. The third group consists of young couples, many of whom have a good education, but who do not have steady employment and have not yet been able to establish tree gardens. The poorest group includes labourers in the coconut sector, fishermen, and women who make clay pots and sell snacks.

According to the respondent, the main hope for economic improvement for the two lower groups comes from tree planting, but their daily incomes are so insecure that they cannot afford to do the work of establishing farms. Their motivation is high, however, and land could be found for them if an assistance program was started.

Economic vulnerability in the coastal zone is caused by the short term and precarious nature of most income opportunities, especially those of the poorest. Fish catches are unreliable, and many do not have equipment; labouring jobs have to be sought out from day to day, and there are always many willing workers for the few jobs available. Social networks connecting labourers to coconut tree owners are important for livelihood, since the owners give work and also lend land under their trees for people to build bamboo houses.

For someone who does not secure a cash income for the day, it is common to stay hungry. Social networks among kin cannot always provide food in these situations, and people are often forced to take rice from the small local stores (toko, kios) on a credit basis.  

* trees for poorest households  
  need: those with no trees; E’eya 60 households (about 150 men, women, and economically active children aged 12-18)  
  approach: Specially designed tree-crop program, extension

* women to participate in tree planting as individuals  
  need: those with no trees; E’eya approx 100  
  approach: Specially designed tree-crop program, extension

* credit for poorest women for market trade and small scale production (clay pots, mattresses)  
  need: poorest women; E’eya approx 100  
  approach: PKK, with special training on how to make credit accessible to poorest; training to improve product quality and market potential

PHYSICAL WEAKNESS/ HEALTH

There are a total of 74 children aged 0-6 in the coastal zone of E’eya. Women Posyandu assistants (kader) estimate that about 30-40 children actively attend the regular Posyandu clinic, although very few of the respondents in the household interviews stated that they had ever attended a Posyandu, suggesting that the numbers attending may be smaller. No Posyandus are held in the foothills or middle hills. This implies that, at best, 50% of the coastal children are being served, and none at all of those in the other zones. The women noted that they have tried various extension approaches, such as house to house visits in the coastal zone, but have met with little success. Fresh approaches are required.

Access to clean water is a serious problem for coastal people in E’eya, especially in Dusun I, RT I and II.
Material poverty affects health: one case study reported a man ill with TB who sold all his trees to pay for medicine, and is now destitute, while others have died from this disease because they cannot afford treatment.

* improved basic health care
  need: non-attenders at Posyandu; E’eya 40 child 0-6, mothers
  approach: active Posyandu extension

* clean water
  need: Dusun I E’eya; facilities for 71 households

TRENDS AND IMPACTS

A long term historical trend in the coastal zone has been the sale of coconut trees and land to outsiders. This has weakened the control of coastal people over the local resource base. They are now seeking land in the hills. This trend has potential benefits for the coastal people who have the capital to invest in hillside tree farming, but excludes the poorest who cannot afford this investment. It also has potentially negative impacts on those who live in the foothills and middle hills, since it reduces the land available for them to use to maintain or extend their own farming activities.

* Ensure careful targeting of economic assistance eg trees to poorest households within each RT

  Approach: use indicator and ranking data - there is so much economic diversity in the coastal zone that the RT here cannot be used as basis for programming

* Monitor where in the hills coastal people are planting trees, either on their own initiative or under government programs, and ensure that their impact is not negative for hillside populations

  Approach: strengthen recognition of traditional land rights; use maps; directly verify the tenure status of land before it is allocated for new uses; consult with hillside populations as well as with coastal beneficiaries

TABLE 2: SUMMARY - COASTAL ZONE SCORES

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<th>adult literacy</th>
<th>tot. educ.</th>
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FOOTHILLS

POPULATION

The foothills are located on the border between the coastal plain and the hills, and the population there undertake a mix of economic activities in the hills and on the coast. In E’eya, 23% of households are in the foothill zone, in Dusun III/7 Alau (32 households) and Dusun II/5,6 Bainokintar (57 households). Ulatan has no RTs meeting the characteristics of this zone.

Bambasiang in Palasa was made into a resettlement site for 100 households by the government in 1969, but the people abandoned the site soon after. In 1975, a second attempt at resettlement was made by the GKST, and 70 households moved there. They too returned to the hills within a few years, because the land around the site could not support so many people. Now only 7 households are permanently resident at the site, some others keep houses there but live mostly at their farms.

ISOLATION/ POWERLESSNESS/ EDUCATION

The foothills population are somewhat remote from the centre of desa activity. In some cases the areas are accessible by vehicle, but for people without transportation a walk of 0.5 - 1 hour is required to reach the area. In the case of Bambasiang, a major river must be crossed without a bridge, although most of the path is good and, with some improvements, it could be reached by vehicle.

The foothills population is not always well represented in village meetings, and the RT system is not yet functioning to ensure that their concerns are brought forward in village decision making processes.

The GKST mission station at Bambasiang, with a full time health worker, a primary school and weekly church services acts as an information centre for the Christian population in the middle and inner hills. A centre serving the Muslim population of the foothills is being developed at Palangkal, below Bambasiang, where there is a small market and a regular monthly Posyandu. The people served at Palangkal are socially and economically more oriented towards the coast than the population served by Bambasiang.

In the foothill zone, rates of school attendance are lower and illiteracy rates higher than in the coastal zone, although schools are available within 0.5 hour’s walk. The foothills population in Bambasiang is an exception with good access to education, through a school started by the GKST mission, and 89% of children are in school, while 40% of adults there are illiterate. In E’eya RT7, only 60% of children aged 7-12 are in school and 64% of adults are illiterate. In E’eya RT 5/6, 80% of children are in school, and 58% of adults illiterate.

• improve accessibility
  need: foot or vehicle bridge connecting Bambasiang to village centre
  approach: planners and technical people consult with village leaders

• improve communications
  need: all foothills RTs which are marginal to information flows
  approach: support and encouragement from village leadership to activate RT system for communication, self help, organization and local leadership

• increase school attendance
  need: RT 7 E’eya; approx 14 children
  approach: extension and scholarships for poor families; school facility combined with RTs 8 and 9 (see below)
need: RT 5/6 E'eya, 122 people; RT 7 E'eya, 60 people
approach: Paket A

MATERIAL POVERTY/ LIVELIHOODS/ VULNERABILITY

The foothill population is strongly dependent on farming, with almost all households having at least one farm, and the majority having 2-4 farm locations. In Bambasiang, 85% have 2 or 3 farms; in E'eya RT 7 71% have 2 or 3 locations, and in RT5/6 82% have 2 or three locations. More than 80% of farm locations are inherited.

There is more subsistence food farming among foothill dwellers than in the coastal zone. In Bambasiang, 95% of households grow corn, and 35% also grow rice. The land is considered fertile now that there is only a small population in the area. However, when 70 households were resettled at Bambasiang, the deteriorating quality of land in the vicinity caused most of the mountain people re-settled there to return to their former lands. If population is to be attracted back to Bambasiang, techniques for intensification are needed.

The majority of households obtained their land through inheritance, but in E'eya RT 7 26% of land was purchased. Those who purchased land are using it for tree farming.

E'eya RT7 has less corn (only 14 % of households) since the land is very dry. E'eya RT 5/6, 78% of households grow corn, but the population there complains of losses to wild pigs. These areas, like much of the foothill zone, have marked dry seasons and corn can only be grown for part of the year.

Short term cash crops are significant in some areas. 65% of households in Bambasiang grow shallots, and 13% in E'eya RT5/6 grow groundnuts.

Tree farming is popular, and the rate of tree ownership is similar to that in the coastal zone, indicating that about half of all households have been able to participate in the "tree boom", but half have so far been left out. In Bambasiang, 45% own cacao trees, 25% own cashews and 20% own cloves. In the foothill areas of E'eya (RT5/6 and 7), 59% own kapok, 46% own cacao, 22% cashews, 19% coconut and 16% cloves.

Because of the dry season and generally poor land, foothill farmers do not have an assured food supply, and must look for other sources of income during all or part of the year. They must also try to save money earned from other jobs to support them during the critical period when they need to prepare their farm plot for planting.

Men's other sources of income are: finding rattan in the inner hills and labouring in the coconut sector

Women's other sources of income include small scale trade, growing vegetables for the market, and making winnowing for sale.

* Support for food farming
Need: farmers who grow corn for subsistence; E'eya RT5/6 45 households and 20 in Bambasiang, Palasa
Approach: techniques to conserve soil fertility; fencing from wild pigs

* Support for tree farming
Need: women and men that have no trees; about 12 households Bambasiang, and 40 households in E'eya RT 5/6 and 7
Approach: perkebunan program, extension
* Support women’s other trade and production activities
  Need: poorer women
  Approach: extension and improved seeds for market vegetables; credit for trade.

* PHYSICAL WEAKNESS/ HEALTH

There is very limited attendance at Posyandu by this group, although the facilities are not too far. The majority of children, and mothers are not being served. In Bambasiang there is a health worker provided by the GKST, but he has to cover a very wide area and does not have the resources to attract kader to provide regular Posyandus. At Padangkal (below Bambasiang) a regular Posyandu has recently been established and attendance is improving.

Lack of money prevents many people from obtaining access to medical services, such as TB treatment.

* Improve primary health care

  Need: non-attenders at Posyandu, approx 150 children in the 2 desas, E’eya RT 5/6 approx 70, RT 7 approx 35, Palasa Bambasiang approx 45.
  Approach: active Posyandu with extension and outreach.

TRENDS AND IMPACTS

As in the coastal zone, a divergence is taking place between those households (about 60%) who are beginning to plant trees in the hills as a major new source of income and the poorest 40% who are left out because of lack of capital resources. Households growing short term crops (corn, shallots) also noted declining yields due to slowly deteriorating soil fertility and increased losses due to disease and to wild pigs.

* Act to maintain and improve subsistence production

* Ensure that poorer households participate actively in tree programs

TABLE 3: SUMMARY - FOOTHILL SCORES

<table>
<thead>
<tr>
<th></th>
<th>school attendance</th>
<th>adult literacy</th>
<th>tot. educ.</th>
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<th>rice</th>
<th>tot. food</th>
<th>shallots</th>
<th>trees</th>
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MIDDLE HILL ZONE

POPULATION

This zone contains a significant concentration of population: 42% of E’eya (161 households), 20% of Ulatan (96 households) and 208 households in Palasa Tengah. 15 out of a total 16 RTs in this zone were surveyed. The majority of the population are permanent hill residents who descend from the original pioneers in each RT, but a growing minority are coastal people who have bought land in the middle hills and have temporary homes there.
ISOLATION/ POWERLESSNESS/ EDUCATION

Physical isolation is a characteristic of this zone. The RTs range from 1.5 to 4.5 hours walk from the nearest school facility along footpaths and across rivers. In most cases the nearest school is on the coast. Produce has to be carried down to market and supplies such as salt, sugar, soap and kerosene carried back up. However the population of this zone does not perceive physical isolation as a disadvantage: they need to be close to their hillside farm lands. Lack of educational facilities close to their homes is the main characteristic of isolation as they experience it.

Many people in this zone have had some experience at lowland resettlement sites (PKMT Ulatan, Bambasiang in Palasa) where they lived for about 1-4 years. Although they have now returned to the hills to use their ancestral lands, they still look to the lowland resettlement sites as centres for information, which they obtain through their church services or informally from the mission workers. They also use the health and other services provided by the mission at the sites.

For the Muslim populations who were not part of the resettlement efforts (the middle hills of E’eya, Pasilanang and Siulanga in Ulatan) attendance at the mosque down in the coastal zone also provides an opportunity to obtain information on village affairs.

Desa officials sometimes visit the middle hills, but in general information flow is poor, so that desa officials are often unaware of the needs and concerns of hill populations, and hill populations are unaware of the opportunities and responsibilities of participation in desa meetings and activities. Many people in the middle hills are sceptical that the coastally-based village authorities really take the needs of hill people seriously, and give many examples of assistance intended for them never reaching its target.

The rate of school attendance in the zone varies depending on distance and the characteristics of the population in the RT. In E’eya, the lowest rates of school attendance are in Ogomanu, where there are no children from RT 10, and only 35-45% in RT 11 and 12. The remaining RTs (3, 8 and 9) have only 45-70%. In Ulatan, the rates of attendance are also very uneven: 98% in Pasilanang and Siulanga, only 46% in Bainogio, and 9% in Bolili and Tamugu. The Pasilanang children stay with relatives on the coast to attend school, an advantage reflecting the closer coastal connections of this RT. In Palasa, the rates of school attendance are more even, with 50-75% of children in school.

A self-help school has been built at Lambori in Palasa, and the teacher who began by working for the GKST mission has now been confirmed as a government teacher (pegawai negeri).

The mission supported school at Bambasiang that serves the middle hill population of Palasa noted that attendance at school is irregular and performance poor. The reasons are economic. The children have to walk long distances to school but have no breakfast and bring no food or cash with them, so they are too hungry to learn effectively. They also need to work on their family’s farm, or earning cash for school expenses. The teacher noted a regular cycle to school attendance: during the drier season when farm work is less intense, children drop out of school and go with their parents to find rattan for sale, help carry the rattan down to the market, then buy school clothes and return to school. Provision of school uniforms and a meal or nutritious snack at school would greatly increase school attendance. For snacks, the teacher has prepared a budget of Rp2000 per child per month.

Illiteracy is widespread. In E’eya Alau RT 8 has 37% illiteracy, and the remaining middle hill areas have 66-72%. In Ulatan, Bainogio has remarkably low illiteracy, only 10% due mainly to relatively high rate of school attendance. Three middle hill RTs have 39-51 percent and Tamugu has the highest rate at 85%. In Palasa, three RTs have 66-74% and the lowest rate is in Tamalang with 40%. Tamalang may have a higher percentage of coastal people.

The GKST mission working with Dikmas has an active literacy program in Bambasiang, Silipoyo (60 students) and Siloia/Polaboal (9 students). The students study on their own, and visit the tutor (the GKST health worker) whenever
TABLE 4: SUMMARY - MIDDLE HILL SCORES

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<th>school attendance</th>
<th>adult literacy</th>
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INNER HILLS

POPULATION

The population in this zone includes 47 households in Ulatan at Gagala, and possibly another 140 households further inland, as yet unsurveyed (and mostly not registered with village authorities), and at least 215 households in Palasa. This represents a population of about 300 or, including the most inland households, more than 1000 people in Ulatan, and about 1140 in Palasa.

ISOLATION/ POWERLESSNESS/ EDUCATION

Some of the inner hill population (at Gagala in Ulatan and Siloia/Polaboal, Oguang and Ogotop in Palasa) had some experience in the two resettlement sites noted earlier (PKMT Ulatan and Bambasiang Palasa). Since they have returned to their original ancestral lands, they express a strong desire to stay where they are, with better services, especially education, brought closer to them.

The GKST is now undertaking a "local resettlement" project in Pongutusan and another at Lambani, encouraging people from the hillsides in up river Palasa to settle at the new sites which are closer to their farmlands (Pongutusan is 1 day’s walk from the coast and Lambani is 2 day’s walk from the coast). There are plans for small schools and other services at the sites.

Communication and cooperation between the government and the GKST mission are especially important at this time,
they are in Bambasiang.

* improve information flow between desa officials and RTs

need: RTs which are usually not represented at desa meetings
approach: active outreach by desa officials, including RT visits and early notification of village meetings; managing meetings so that all voices are heard, including those of hillside residents

* improve communications facilities

need: areas for which isolation is perceived as a problem, eg those cut off by flooded rivers or with paths too poor to be used by service providers
approach: small bridges, improved footpaths

* increase school attendance

need: areas with large numbers of children not in school
E'eya
1. Ogomanu about 55 children 7-12, few in school
2. Alau about 70 children 7-12, plus 60 from Bobalo, about 50% not in school
3. O goreno - 40 children 7-12 - 60% in school but walking long distance

Ulatan
1. Bolili/Tamugu about 60 children 7-12, very few in school
2. Bainogio about 30 children 7-12, 46% in school but far [could a suitable site be found between Bainogio and Bolili?]

Palasa
1. Tamalang about 44 children, half in school
2. Koja about 35 children, half in school [could a suitable site be found between Tamalang and Koja?]
3. Silipoyo, Sidauga - may not have enough children to support schools - look for alternatives such as school food program to make it easier for them to attend school in Bambasiang

approach: small mountain schools; school meal or nutritious snack and uniforms for all mountain children.

* adult literacy

need: areas with larger numbers of adult illiterates; E'eya - Ogomanu, Alau and O goreno each have 100-150 adult illiterates; Ulatan - Bolili/Tamugu, Siulanga and Pasilanang each have 50-100 adult illiterates; Palasa - each RT has 55-70 adult illiterates

approach: Paket A; coordinate with GKST initiatives

MATERIAL POVERTY/ LIVELIHOODS/ VULNERABILITY

Farming is the basis of the hillside economy. Almost all households have at least one farm, and the majority of farmers in all three desas have 2-4 farm plots. Most obtain access to their land through inheritance. A smaller number
of farm plots are bought, borrowed, or opened from primary forest by the current user.

The patterns of access to land in the different RTs are an indicator of changing social and economic conditions. Higher rates of purchased land indicate that land is becoming relatively scarce, and often indicate that outsiders (usually coastal people) have entered the RT looking for land to grow tree crops. There is no land purchasing in areas where few tree crops are grown. The RT with the highest rate of purchased land is E’eya Ogomanu RT 10, with 35% of farm plots obtained through purchase; all the other middle hill RTs have 0-8%.

Interviews in the RTs indicated that many coastal people have bought land in some areas: the numbers in the tables may be too low, for two reasons. First, coastal people with houses and farms in the hills tend not to live there permanently but only to visit, so they were not present for the survey and are over-represented in the "not surveyed" category. People who have bought land in an area but have not built a house were missed by the survey, since the list of households to be interviewed was based on a map that plotted houses. Secondly, some people may be reluctant to admit that they have bought land, since they are unsure about the legal status of their informal transactions. Finally, in some areas the coastal people planting trees in the middle hills do have ancestral roots in the hill zone, but moved to the coast decades ago. They are now reclaiming their ancestral land, increasing land pressures for their distant cousins who remained permanently in the hills. These coastal returnees tend to record their land status as "inherited".

Land borrowing is not very common (mostly less than 5%), but Bainogio in Ulatan has a high rate: at least 17% (perhaps more since the origins of many gardens there were not recorded). The land in Bainogio is suitable for shallots, 85% of households growing this crop, which may explain the high rate of borrowing since land is most commonly borrowed for short term production.

Clearing of primary forest land is uncommon in the middle hills, and has not taken place for many decades. The land recorded under this category was opened by the older generation of residents many years ago, usually in their youth (ie the 1950's), and even then they were only clearing the last little pockets of usable forest land, the majority having been cleared originally by their parents and grandparents. O goreno in E’eya, and most RTs in Ulatan have rates of land opening of 5-8%. In Palasa, Tamalang and Koja have slightly higher rates, about 12%.

Food production is important to the hill economy, and is a useful indicator of two characteristics. Corn is grown by all resident hill farmers and there are no fixed seasons, although there will always be a few households that are between corn harvests and have no current corn gardens. Where less than 80% of households were recorded as having current corn gardens, this indicates a strong move towards cash crop production among the residents and a corresponding shortage of land for food production; it may also indicate the presence in the RT of coastal people who are mainly tree farmers and are not interested in subsistence production since they have capital and other sources of income to sustain themselves. This data provides a cross-check on land access data as sources of information on population movements into the hills. The areas with this characteristic are as follows:

In E’eya, O goreno (62% have no corn); Ogomanu RT 11 (66% have no corn); and in Ogomanu RT 10 (also noted above for high rates of land purchase) 84% of households have no corn. Interviews with households in Ogomanu confirmed that they perceive an acute shortage of land for food production, although not all households yet have yielding trees as a viable alternative source of livelihood. In Ulatan, in Pasilanang 87% of households grow corn but a significant percentage of households - 27% were absent, probably on the coast. In Siulanga and Bainogio about 80% grow corn, and about 12% residents were absent. Boli and Tamugu have high rates of subsistence production, both corn and rice. In Palasa, 75% of Tamalang households have corn, and in Koja 77% but in Koja 20% of households (mostly coastal) were absent for the survey. In Sipopo and Sidauga 100% of households grow corn.

A measure of food security is created by the custom of sharing harvests of new corn among neighbouring and kin, so that those whose harvest was poor or whose crop is not yet ripe can be assured of food to eat. When their own harvest is successful, they in turn give food to their neighbours.
In prolonged dry seasons when none of the corn yields well, the middle hill population has three sources of emergency food supply. They go down to the coast and look for wage work either in their own desa or elsewhere along the coast; they stay in their own area and prepare the wild root crop ondol; or they walk far into the inner hills and ask farmers there for food, as a gift or in return for coconuts, dried fish, old clothing or other items. Despite the range of options available, the population can suffer very severely during droughts, and there are reports of many falling ill as a result of poor diet and excessive hard work trying to find enough food to stay alive.

Areas where hill rice (padi ladang) is grown indicate good land resources which are relatively fertile, since this crop cannot grow in poor soils. The main cause of soil infertility is insufficient fallowing, so areas that grow rice are also areas with more land per household, where land can be rested for 5 years or more. RTs with significant rice production are as follows: E’eya, Ogomanu RT 12, 28%; Ulatan, Bolili and Tamugu with 70-85%; Palasa, Koja with 51%.

Shallots have been produced as a cash crop in some areas of the hills for several decades. The more degraded areas with thinner soils and more alang-alang are actually preferred for this crop. Production has declined in recent years due to disease which wipes out the crop and leaves the farmer with no sets to replant. Only farmers with capital can afford to purchase shallot sets to begin production again, although some obtain sets on loan from traders or neighbours and have to repay with a proportion of the crop. Therefore areas with high rates of shallot production indicate both suitable land and a relatively well off population.

Areas with significant shallot production are as follows: E’eya, Ogomanu RT 10, 24% and RT 11, 18% (perhaps due to the presence of coastal people with capital resources, since RT 12 has only 7%). In Ulatan, several RTs have high rates: Pasilanang 89%, Bainogio 85%, Bolili 79%, Siulanga 39% and Tamugu 38%. In Palasa, Silipoyo and Sidauga have very high rates, 90-100%. Tamalang has 33% and Koja 22%. On the household level, the presence or absence of a shallot crop is a good indicator of household welfare, although not considered as important by respondents in wealth ranking exercises, perhaps because of its short term and chancy nature, since you never know when a shallot crop will fail completely.

Tree farming is described as the hope of the future by most middle hill RTs, and the number of trees owned per household was the main criteria used by local residents in ranking the relative wealth of their neighbours. Rates of tree ownership vary significantly across the RTs, depending on the land, capital and labour resources of the residents and coastal newcomers. Full details of tree varieties and numbers per RT are provided in the desa tables. A quick overview can be obtained by seeing the percentage of households in an RT that own the most popular tree crop for that RT.

In E’eya: Alau RT 8, 43% own kapok; RT 9, 80% own cacao; Ogoreso 79% own cloves; Ogomanu RT 12 60% own cacao; RT11 67% own cloves; RT10 76% own cocoa. In Ulatan: Pasilanang 84% own cloves; Siulanga 81% own cloves; Bainogio 90% own cloves; Bolili 67% own cloves; Tamugu 57% own cashews. In Palasa: Tamalang 100% own cloves; Koja 85% own cloves; Silipoyo 57% own cloves; Sidauga only 15% own cloves.

Both women and men grow shallots, often independently, and while most consider tree crops to be jointly owned, women expressed a desire to have their own trees in order to increase their security and that of their children should divorce occur. (Divorce is quite common in this area, as is many other areas of Indonesia, though no hard data was collected). Many households also divide the corn and rice fields into the personal plots of husband, wife and older children, so that each has a sense of achievement from their own efforts in production, although they often cooperate and help each other.

As in the coastal zone, non-farm incomes for men and women are distinct. Men carry shallots down to the coast, travel to the inner hills to collect rattan for sale to dealers, find candlenuts (kemiri) in the forest to sell, or do wage work for coastal people who have tree gardens in the hill areas or down on the coast. Sources of rattan are becoming more and more remote, and the dealers use a credit system to trap rattan workers in debts which some describe as "being tied up by the throat" (ikat leher). Rattan workers are not free to gather rattan anywhere, but only
in the territories to which the dealers have laid special claim through agreement with certain inner hill leaders.

In addition to growing shallots and groundnuts on their own farm plots, women make winnowing trays for sale at the market, and grow vegetables which they carry down to sell to coastal market traders.

Ranking exercises revealed a surprising factor in household welfare: gambling is widespread in some RTs, and men may quickly lose all their trees and the land on which they are planted. Some of the discrepancies between ranking data and indicator data are due to gambling, since people reported the land and trees that they once owned, afraid to admit that they have recently all been lost through gambling. In some cases people are still paying taxes on land and trees they no longer own. Gambling is very destructive of household welfare, and has been an important factor in the sale of land to outsiders, including coastal people.

TRENDS AND IMPACTS

Major transitions are in progress in the middle hill zone. Over the decades soil conditions have been slowly deteriorating due to inadequate fallows, and food production under these conditions is seldom sufficient to meet basic needs. Shallots, which have provided cash to buy staples as a supplement to food production are declining in yield due to disease. Farmers are eager to adopt new tree crops as a viable form of production for hillside lands.

Farmers have no experience in tree production, and often select the wrong species for the land available, plant them without shade, and use poor quality seed. Hence they do not yield well. There is also a long waiting period (3-7 years) before the trees produce.

The new trees occupy large areas of land formerly used for food and short term cash crop production (shallots etc). Farmers are experiencing a lack of land for food production, and are forced to use one field repeatedly without fallow. Many are now moving into the inner hills seeking land for food production, making the household unsettled and even more remote from school and other facilities, and putting pressure on inner hills RTs.

Adding to the pressure on middle hill lands are people from the coastal zone buying land for tree planting. Middle hill farmers sell land to meet their short term cash needs, in exchange for seedlings, or in order to meet gambling debts. However their resource base and future options are greatly reduced as a consequence.

Poorer RTs and households that have been unable to plant trees are being left behind in this economic transition, and also find that their access to land for food is restricted with no alternative source of income available. These RTs and households need to be assisted to keep up with the others, so that they do not find themselves landless and displaced.

Women are potential losers from the transition to tree crops if their ownership rights to trees are not recognized. In many cases women receive a share of the household’s trees on divorce, but in other cases they do not, since the husband considers the trees his personal property. Many men have also lost trees through gambling.

Middle hill farmers are very interested in new techniques to help them produce food crops sustainably on less land, now that the fallow system they used previously is no longer working well. They do not wish to move further into the inner hills, but currently have no alternatives. They also wish to improve the productivity and survival of their trees. Appropriate high quality extension services would therefore make a very high impact at this stage.

* improve levels of production in all hillside areas
  need: no RTs have adequate nutrition standards or cash incomes, and all need improvement, although the poorest RTs could be assisted first.
  approach: active extension services in each RT
* improve knowledge of new tree crops to increase productivity
  need: all hillside areas where trees are being planted
  approach: active extension services knowledgeable about tree planting on slopes under small
  holder conditions with limited capital for cash inputs and sensitive to need to integrate trees
  with food production

* maintain or increase production of food crops
  need: all hillside areas where residents retain an interest in food crop production but have
  less land or land of lower quality because of pressure from tree crops
  approach: active extension services knowledgeable about integrated hillside farming systems
  and methods to improve productivity and sustainability with low cash inputs (such as contour
  planting, composting, mulching, live fences of nitrogen fixing trees etc); experimentation with
  farmers to identify and test improved seeds suitable for the hillside environment

* provide inputs (seeds, seedlings, fence posts, tools etc)
  need: RTs where less than 69% of households have tree crops (score 6 or less in the table
  above), monitoring to ensure that the poorest households with no trees at all do participate
  and do obtain their share
  approach: extension service (PPLs, PPLDs) inform RT of date of input delivery to roadside
  and RT members all come to collect their share (checking names with RT list); immediate
  follow up by PPL/PPLD with delivery monitoring and extension session

* women and young people as well as men to participate in and benefit from all agricultural improvements
  approach: training of extension workers to recognize women and young people's work and
  expertise; active encouragement and extension efforts to achieve full participation;
  distribution of inputs based on complete lists; recognition of individual ownership rights to
  land and trees

* develop diversity of short term cash crops
  need: women (who have fewer opportunities for off-farm income than men)
  approach: extensions and improved seeds for vegetable production with good market
  research and support (tomatoes with better market value, carrots that could be transported
  to Palu or Gorontalo markets etc)

* curb gambling
  need: RTs where permanent weekly gambling houses are operating
  approach: leadership, education, police action, non-recognition of land sales resulting from
  gambling

* discourage or restrict the purchase of middle hill land by coastal people
  need: areas experiencing land pressure, especially those most accessible to the coast but also
  others
  approach: identify tree planting sites for coastal people on land that is not used by anyone,
  such as certain areas of foothill land too dry or stony for food production; identify suitable
  tree species (kapok; cashews)

PHYSICAL WEAKNESS/ HEALTH

Basic primary health care is not available in the middle hills. Children aged 0-6 comprise 25-35% of the population,
and few if any have been immunized. Many women complain of anaemia due to frequent child bearing. Infant
mortality appears to be high, but no statistical data is available. Tetanus is one cause of death in new borns; young
children suffer from diarrhoea, infections and fevers.

Skin infections, including yaws, are widespread in the area, and mostly untreated. A few cases of untreated leprosy were also identified, especially in Silipoyo. The yaws program has not reached many of the hill areas for which it was targeted, due to the unwillingness or perhaps lack of time available for health staff to hike into the hills. In Palasa the medicines were given to the GKST health worker to administer, but he cannot treat the thousands of people in the area without active participation of government health workers whose responsibility it is to service the population.

Families treat illnesses by traditional spiritual means, but seem to use few plant-based remedies (leaves, roots etc). If these treatments fail, they purchase remedies at the market or from the small stores on the coast. Occasionally they take patients to the health centre (Puskesmas) on the coast, but they are generally afraid of the costs involved, and often seek medical help too late.

Middle and inner hill households in Palasa are served by a health centre in Bambasiang run by the GKST. The health worker there is greatly liked and respected, and is willing to travel to distant RTs when needed. He also provides medicine for a lower price than the Puskesmas, or even free for patients who have no money. However he has to serve a very large area and thousands of people from the remote hills of Ulatan, Palasa and Tingkulang, so he cannot meet all the demand for services. The GKST is often short of financial resources to pay for materials.

A regular Posyandu service has now been established at Padongkal (in the foothills) which services some of the population of Silipoy and Sidauga, but these services are not yet available in all middle hill areas.

Women in the middle and inner hills expressed a strong interest in primary health care programs, stating "who does not want to see their children strong and healthy". They claim not to be afraid of immunization, although some extension education might be necessary to explain its benefits.

Women expressed an interest in family planning. They stated that they did not want many children, since it makes it hard for them to work on their farms. A few have obtained family planning services, and some have tried but dropped out because of inadequate counselling and follow up.

* improved basic health care, including immunization, family planning, and diarrhoea treatment
  need: all hillside RTs
  approach: active high quality Posyandu regularly visiting the RTs; good training in outreach and extension methods; use of local women as kader to assist; oralite program.

* program to treat skin infection in the hill RTs
  need: all hillside RTs not yet serviced
  approach: health staff to visit the RTs directly to deliver services and provide extension education about prevention of the diseases being treated

* increase familiarity of hill population with medical services
  need: all hillside RTs
  approach: RT visits by Puskesmas staff, explaining their services and facilities, and encouraging people to bring certain types of illnesses to them for prompt medical attention
so government resources (health staff, medicines, teachers etc) and GKST experience in working with remote populations in the SAD area are effectively integrated. The GKST cannot undertake to service the whole inner hill population with its own limited resources, but parallel or competitive services provided by the government would be wasteful and confusing to the inner hill people.

It is yet to be seen whether people will make their permanent homes at the resettlement sites, or only stay to visit since their farms are some distance away and need to be guarded. Establishing schools and "service centres" closer to the inner hill populations and their farmlands is a move very much in tune with the desires of the people, and also with current government policy for isolated peoples which is known as guidance and services in their own area (pembinaan dan pelayanan di tempat).

Although in many areas the RT system is not yet in place in the inner hills, each inner hill group of 20-50 households living in a particular area (named after a river or mountain) has its acknowledged leaders and a definite social identity. The local leaders are the political or administrative leader (kepala suku), spiritual leader (kepala adat), agricultural ritualist (pasobo) and controller of forest lands and rattan (pasori). The kepala suku is recognized by the village head to speak for the group, and in most cases it is the acknowledged local leader that the village head "appoints" to take care of the group. In some cases a powerful kepala suku or kepala adat is recognized over a wider area covering several neighbourhood groups, but there are also leaders in each group who take care of daily affairs.

Inner hill populations are generally unrepresented at village meetings, and seldom have their concerns noted as high village-level priorities. Their main means of communication with the village leadership is informal, taking place when their own leaders (kepala suku) visit the village head on a trip down to the market, or when the village head sends for them to discuss and urgent matter.

In Palasa, the inner hill people had never met the previous village head, and the current head has only been in office for a short period of time. The the head of Dusun V in Palasa operates as a conduit of information for the inner hills, but it is inappropriate for one person to exercise control over such a large population, and for them to have no direct contact with the main village institutions (village head, LKMD, LMD, PKK etc) that are supposed to represent and assist them.

In general, the inner hill people are quite powerless and easily ignored or exploited. They are not aware of their legal rights, and they are afraid of harassment by coastal people. They are frequently cheated by traders and money lenders. They can usually be found in breach of some rule, such as annual renewal of identity cards, and some have no cards and are afraid to walk down to the coast. They understand the importance of voting, but in the past have been harassed at voting time and are afraid of the process. When they go down to the market, they have no place to sleep, and are harassed by coastal people for trying to find shelter under the eaves of houses when it rains.

Inner hill people describe how, when they wish to learn about what is happening in the village, or about new crops (such as the new tree crops), they walk around the market, listen to people talking, and observe. Their strong desire for information, and the difficulty they have in obtaining information, could be the basis for simple, cost-effective extension programs run on market days.

The Church and its workers provide a significant source of informal guidance, information and assistance to the inner people in handling the difficult and often hostile world of the coast. Increased education would also help greatly.

Rates of education and literacy in the inner hills are very low, due to excessive distances. The RTs wish to have small schools and literacy centres close by, and are prepared to engage in self-help activities to build rough facilities. Only one inner hill location has a high rate of school attendance: Siloa/Polabo in Palasa, where all 13 school age children walk down the river to the school at Bambiasiag founded by the GKST. In some other inner hill neighbourhoods (notably Oguang) children previously attended school, but stopped after a child was drowned crossing the river on the way to school. Illiteracy is 90-100% in the inner hills.
The GKST has planned a set of initiatives to service the inner hill areas. It requires resources for small self-help school building and honoraria for teachers in schools which it hopes will, eventually, become officially recognized and finances. The GKST plans a school and literacy centre at Pongutusan for the people of Sintual, Sinampis and Tampo. It has already started operating a school and literacy centre at Lambani for Osom, Tampo and Paladunduan. It plans another centre at Gagala for the people of Gagala, Lemotasi, Awudali and Tempo. Gagala falls within the administrative boundaries of Ulatan, but is serviced by the GKST from Bambasiang. Some of the population further inland has not been registered, and the boundaries between Ulatan and Palasa are unclear.

* improve information flow between desa officials and inner hill populations
  need: all areas not represented at desa meetings
  approach: active outreach by desa officials, including visits and early notification of village meetings; managing meetings so that all voices are heard, including those of hillside residents

* improve access
  need: areas for which isolation is perceived as a problem, eg those cut off by flooded rivers or with paths too poor to be used by service providers
  approach: small bridges, improved footpaths

* monitor and support up-river settlement/services development by GKST
  need: Pongutusan and Lambani
  approach: desa officials and education, health and social service (Depso) departments participate in programming and use government resources to expand, supplement and improve coverage initiated by the GKST

* increase access to primary education and adult literacy
  need: all inner hill areas
  Ulatan: Gagala about 65 children 7-12, very few in school
  Palasa:
  1. Pongutusan and Lambani: at least 50 children 7-12, (probably more than 100 if distant households move in towards the settlement areas) none in school; probably 2 sites needed
  2. Oguang 35 children, few in school
  3. Ogotop 20 children, none in school [could a suitable site be found between Ogotop and Oguang?]
  4. Siloia/Polaboal: 13 children attend school in Bambasiang, but walk very long distances and have to cross the river - could alternatives be found?

MATERIAL POVERTY/ LIVELIHOODS/ VULNERABILITY

Subsistence food farming is the basis of the inner hill economy, and in the most remote areas, the majority of households have only one farm plot (Tampo 97%, Pongutusan 75%). Elsewhere the average is 2 plots.

Gagala in Ulatan has more plots per household (3-5), and some other characteristics of the middle hill zone. It is included in the inner hills because of its remoteness and because it shares a second characteristic of the inner hills: at least 20% of its current gardens first cleared from primary farmers by the present generation of farmers.

In most inner hill areas in Palasa, more than 40% of land was cleared by the present generation, and in Tampo the rate is 97%. However this does not indicate that primary forest is actively being cleared now. Traditionally, once a group has cleared sufficient land for themselves to use, they stay in the area for many generations, reclearing secondary forest regularly every 10 years after it has had time to regenerate. The group at Tampo may only have
moved into the area in the last 10-20 years (perhaps after returning to the hills from their period of "resettlement" at Bambasiang). They are now in process of reusing their old gardens, ie using land that they cleared themselves, but cleared decades ago. In Ogouang, only 19% of the land in current use was cleared by this generation. Most was cleared by their parents and grandparents.

Subsistence food production is of major importance. In the inner hills of Palasa, 100% of households grow corn, and in most areas 100% also grow rice. The rates for rice are lower in Ogouang (85%) and Siloia/Polaboal (32%). In Gagala, Ulatan, 67% grow corn and 72% grow rice.

Due to the fertility of the soil, especially in the most remote areas where fallows are 10-20 years, yields of food crops are extremely high. Good harvests of rice can be stored to support the family during poor years, illness, land clearing, hunting or other activities, and rice is not often sold. Corn is produced in such abundance that sometimes it rots before it is eaten, since it does not store well. Some corn is sold in the coastal market, but the distance is so great that the time and cost of carrying the produce to market makes the sale unattractive. A farmer could walk all day down to the market carrying a load of corn, and return with only Rp1000. When neighbours act as porters for corn, they are paid with half the profit from the sale.

While farmers have plenty of food, they find it very difficult indeed to obtain cash for kerosene, salt and, occasionally, dried fish, clothing or batteries. In Gagala 56% of households grow shallots, but in the inner hills of Palasa the rates are much lower: none in Pongutusan, 3% in Tampo, 9% in Ogotop, 13% in Ogouang and 21% in Siloia/Polaboal. Groundnuts are grown by 32% of households in Ogotop, and 28% in Gagala, but few households elsewhere in the zone.

Tree farming is much less common than in the middle hills, although the farmers are very interested in this activity. Unlike the middle hills, they have enough land resources to devote to tree farming without seriously disrupting their food production. Pongutusan and Tampo have virtually no households with any trees. Ogouang has only 11% owning cloves. Ogotop has more trees, 32% of households owning some cocoa, and in Siloia/Polaboal 42% have cocoa while cashews are owned by 32%. In Gagala, tree farming is more established, with 39% owning cloves, 31% owning cocoa, 17% owning cashews and 17% owning candlenut (kemiri).

Sources of cash income for men are rattan collection, and selling wild candlenuts (kemiri). Some rattan is sold to dealers (and the workers are trapped in the same debt relationships as those in the middle hills). Others sell rattan as strips used for ties, and carry it down themselves directly to the market. In some areas rattan has started to be in short supply because of excessive exploitation by the dealers and their workers.

Women obtain cash income from making tapis from bamboo and rattan, which they themselves carry them down to market.

* Develop cash crops with market potential

Need: RTs with least access to cash to meet basic needs for clothing, medicine and education; all inner hill RTs if possible
Approach: Tree crop programs, shallots, garlic and vegetables for local markets,

* Develop other products that make sustainable use of forest resources

Need: RTs with least access to cash to meet basic needs for clothing, medicine and education; all inner hill RTs if possible
Approach: LSMs work directly with villagers to investigate possibilities such as honey production; rattan products; crafts; medicinal plants etc.
PHYSICAL WEAKNESS/ HEALTH

The health situation in the inner hills of Palasa is very similar to that in the middle hill areas. There is no primary health care or immunization, there is high infant and child mortality, and diarrhoea, fevers and skin diseases are prevalent. The population is served by the same GKST health centre at Bambasiang, but the distances to be travelled in order to find medical assistance are even further. The population at Gagala in Ulatan also go down to Bambasiang for assistance rather than to the Puskesmas in Palasa.

* primary health care services

* health extension, education

* effective programs for curing skin infections

TRENDS AND IMPACTS

The most serious trend for inner hill populations would be loss of control of their land and forest reserves, which are their main assets. So far, this has not occurred, but pressure from middle hill farmers seeking land in the inner hills is beginning to increase. Any road construction making the inner hills more accessible to coastal people would change the situation very rapidly, as the farmers could easily be displaced from their lands by powerful outsiders with capital resources to develop large tree gardens. The inner hill population is very vulnerable to displacement, since they are physically and socially isolated and not aware of their legal rights.

The inner hill population is aware of the need to adapt their lifestyle to changing conditions. They want stable cash incomes to meet a variety of new cash needs, and they wish their children to be educated. However they are not interested in moving away from their ancestral lands, since they would have no source of livelihood if moved somewhere else. They require a large area of land, since their agricultural system requires that gardens be left to rest for about 10 years to protect the environment and restore the fertility of the soil. The challenge facing them is to transform gradually, in step with their own desire and preferences, with assistance but without pressure or force from outside.

The activities of the GKST in the inner hills have in general been beneficial to the population, and they have much valuable experience in the area. There is an opportunity to extend government-LSM cooperation and to develop new patterns of working in remote areas.

TABLE 5: SUMMARY - INNER HILL SCORES

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<th>school attendance</th>
<th>adult literacy</th>
<th>tot. educ.</th>
<th>corn</th>
<th>rice</th>
<th>tot. food</th>
<th>shallots</th>
<th>trees</th>
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FIGURE 6: Zone Map - Desa Ulatan

Legend:
- Provincial Road
- Kabupaten Boundary
- Kabupaten Road
- Desa Boundary
- Desa Road
- Dusun Boundary
- Foot Path
- River

Symbols:
- School
- Mosque
- Church
- Office
- Market
- Health Centre

Scale: 1:25,000
FIGURE 7: Zone Map - Desa Palasa

1. Inner Hill Zone
2. Middle Hill Zone
3. Foot Hill Zone
4. Coastal Zone

- Provincial Road
- Kabupaten Road
- Desa Road
- Foot Path
- River
- Kabupaten Boundary
- Desa Boundary
- Dusun Boundary

- School
- Mosque
- Church
- Office
- Market
- Health Centre
CHAPTER FOUR

RECOMMENDATIONS FOR REFOCUSSING PROGRAMS TO MEET THE NEEDS OF THE RURAL POOR

This chapter sets out some recommendations for refocussing programs to meet the needs of the rural poor. It is based on the results of the present study, together with experience gained by the consultant from earlier studies in the Project area. It does not set out detailed program plans for each sector, but addresses substantive issues of focus and approach that may assist planners to design programs that are effective and appropriate to conditions in the 12 target desas. Some of the approaches proposed may have wider applicability in the province, but further appraisal work would be necessary to verify this and make local adjustments.

1. RECOGNIZE DIVERSITY IN THE PROJECT AREA, BUT SEEK OUT PATTERNS THAT CAN BECOME THE BASIS FOR RECOMMENDATION DOMAINS.

The 12 desas selected for special focus under the Project cover a considerable range of diversity. However, based on secondary data, on exploratory appraisals, and on limited baseline data collection, it has been possible to detect patterns and regularities. Once these patterns have been identified, they can become the basis for recommendation domains, in which an established package of programs suitable for the zone is offered for detailed consideration by all the neighbourhoods within the zone.

Programs piloted successfully and experience gained in one neighbourhood within the zone can be extended to others. This approach can save time and money in the data gathering and planning stages. It is not, however, a substitute for community participation in establishing priorities and adapting programs to local needs, since this is always necessary to ensure program sustainability.

In the Project area, the three agroecological zones (inner hills, middle hills and coastal) can be treated as recommendation domains, to which a consistent package of programs would be relevant.

2. ADAPT PROGRAMS AND DELIVERY APPROACHES TO LOCAL CONDITIONS

Many standard Government programs are appropriate for, and much needed by, the poorer people in the Project area, especially those in the middle and inner hills. However some adaptation is needed to make the programs appropriate to local conditions.

The SRDP/TIM Project has the opportunity to pilot new approaches to program delivery for remote populations with a potential for replicability in many other areas of Indonesia. Such innovations are very timely, since the government is moving away from its previous policy of moving remote populations to more accessible areas (resettlement) to providing services to them in their own communities, where they have lived for generations and where they have land, trees and other resources that are the basis of their current and future livelihoods.

Suggestions for consideration include:

* Training

Government officials need training on how to undertake rapid appraisals, baseline data gathering, target group identification, participatory local level planning, and program delivery, monitoring and evaluation in remote areas. This training can build upon existing programs and skills, but needs to be well designed and widely delivered. It should include sensitization to cultural differences, information on lifestyles in the area concerned, practical techniques for participatory programming, and logistical information on how to work
effectively in such areas.

• Active extension and monitoring

Many government programs operate passively, that is, the program exists, but no extraordinary efforts are made to ensure that it is effectively reaching the people most in need. For example, Posyandus operate every month in all the target desas, and routine reports note that the program “is running well”. No monitoring is undertaken to compare the number of people attending the Posyandu with the number of children under 5 in the village population. There are similar problems with education and agricultural services.

A more active extension approach to government services is needed if the poorer and more remote populations are to be reached, and if the people who deliver services are to regard reaching these people as a regular and significant part of their responsibilities.

• Incentives

If government officials are to hike long distances, and stay overnight in hillside neighbourhoods in order to engage in baseline data gathering, participatory program planning, program monitoring and evaluation or program delivery they require incentives commensurate with the physical and social difficulty of the situation. Such incentives should relate to actual performance of duties in remote areas, and should be structured into routine program budgets so that they become sustainable over the long term.

The national government has already recognized this issue in offering incentive pay to teachers in remote locations. This principle needs to be operationalized, and extended to other services such as regular Posyandu and special health programs (yaws, leprosy) and agricultural extension services when delivered directly in the hills.

• Use of local cadre and assistants

In view of language and cultural familiarity, and comfort with hiking long distances, greatest impact and sustainability in program delivery will be achieved by recruiting cadre directly from the communities concerned. In addition to village level cadre, assistants should be recruited from each of the target neighbourhoods, with a focus on the middle hills. Such assistants could act as local organizers and contact people in each of the program areas, liaising between the neighbourhood and government or non-government agencies with which the neighbourhood is collaborating.

For example, neighbourhood women health assistants could help the posyandu staff by gathering women and children together on the designated date for a visit to their neighbourhood, and assist with long term extension efforts in the neighbourhood so that more and more of their neighbours begin to attend regularly.

Neighbourhood agriculture assistants could help the PPLs and PPLDs, and could receive more intensive guidance on new techniques which they pass on to other farmers. This is the same as the contact farmer (kontak tani) concept.

An assistant or small neighbourhood committee could assist in education efforts, coordinating plans for mountain schools, informing parents and children, recruiting people for adult literacy programs, and assisting the teacher with community liaison.

The assistants should be selected by the neighbourhood, based upon their leadership qualities, energy, communications skills and commitment to working with neighbours. Literacy should not be a requirement for selection, and training of the assistants should be highly practical, making use of direct demonstration
and pictures rather than texts. Compensation for the assistants could be in the form of relevant materials: a first aid kit; agricultural tools; school supplies etc.

* Make effective use of communication opportunities

Mountain people, especially those from the middle hills, do visit the coastal market frequently. Government and non-government agencies as well as desa leaders could make use of the opportunity provided by market days to hold village meetings which mountain people attend, to hold Posyandus, to hold agricultural extension demonstrations and discussions, and to display posters informing villagers of plans and events that concern them. This is a very practical and cost effective means of communication, to supplement direct visits by desa leaders, government officials and NGO staff to the hill areas.

3. STRENGTHEN LOCAL CAPACITIES FOR PROGRAM PLANNING AND MANAGEMENT

Communities need to be able to generate plans and programs to meet their own needs on a self-help basis. They also need to be able to interact effectively with government planners offering programs, so that local priorities can be assessed and programs locally adapted, delivered, monitored, evaluated and sustained.

NGOs, such as those already working in the Project area, could play a much stronger role supporting the development of community capabilities. Community development efforts in remote regions are labour intensive, and require some specialized approaches. It may be appropriate and cost effective for government agencies to work closely with NGOs as partners in program delivery.

It is especially beneficial to work with NGOs that are committed to long term work in the Project area. This would include some of the Church groups that have for many years offered health, education and limited extension services to hillside farmers, and have the relevant expertise, language skills, and the confidence of the community, but lack consistent funding to expand their services. It could also include Palu based groups, especially if they are involved in training local cadre.

As far as possible, when NGOs are working directly in program planning and delivery, their services should be paid for out of regular development budgets so that they become full, regularized partners in long term development activities focused on the hillside areas.

4. ADOPT THE NEIGHBOURHOOD (RT) AS THE OPERATIONAL UNIT FOR PROGRAM PLANNING AND MANAGEMENT AT THE LOCAL LEVEL

While the zones can be used as recommendation domains, they are too large and diverse to be used for detailed, participatory program planning and delivery. Desas are administrative units, but in the Project area the desas cross-cut the three zones. Since the village officials and elites live on the coast, desa level planning tends to be biased in favour of the coastal zone, while the hill areas (where up to seventy percent of the desa population lives) are neglected. In several desas, dusuns also cross cut the zones, so that the same problems of bias apply. The dusun population is still too large, diverse and scattered to act as an effective social unit.

The next level below the Dusun is the neighbourhood (called the RT, RW or RK, depending on the desa), or in some cases simply having a neighbourhood name (often related to a local mountain or river) but no official RT number. This was the unit used as the focus for data collection in the baseline study.

Neighbourhoods comprise approximately 30-50 households. The neighbourhood has clear geographical boundaries which place it within one of the three zones, so that its members face similar bio-physical conditions (location, soil, rainfall, forest resources etc). It has a defined social identity, all the members know one another and most are closely linked by kinship.
A leadership structure exists in the neighbourhood, combining official roles recognized by the desa authorities (kepala RT, kepala jaga) and traditional roles recognized by the community, such as the kepala adat, kepala suku, pasobo and pasori. The leaders are capable of calling the neighbourhood together to hold meetings and discussions.

The baseline data indicates that there are some economic differences between households within the neighbourhood, but there is a relative similarity in their asset status and production patterns. In terms of other characteristics, such as isolation and access to health and education services, all members of the RT are in the same position.

Based upon these criteria, the neighbourhood is the most appropriate social unit to plan and sustain local programs, both on a self help basis and in collaboration with government or non government agencies. A focus upon the neighbourhood will avoid some of the biases and nets which have contributed to the isolation and powerlessness of the hillside communities, preventing them from receiving services and benefits intended for them.

As far as possible, programs should be planned and should operate directly at the neighbourhood level, with direct communication between the neighbourhood and government or non-government agencies responsible for programs. It is naturally important to keep the village development committee informed, but experience shows that hill people will benefit more if there are fewer intermediaries filtering information and arranging the delivery of goods or services according to their own interests and priorities.

Within the neighbourhood, close social ties including kinship should increase information flow and enhance the neighbourhood group's capacity to actively monitor programs, reducing the risk of misuse of power and resources by neighbourhood leaders.

In general, distribution of deliverables such as seedlings, tools or other valued items, should be on an equal basis within the target neighbourhood, so that the sense of equality, cooperation, and mutual responsibility is encouraged. Attempts to single out the poorest may shame them, or may be sabotaged by neighbourhood leaders who also perceive themselves as needy.

Complete neighbourhood lists serve as a simple and effective means of monitoring that every member of the neighbourhood has really obtained their share. In recognition of some internal diversity and stratification within the neighbourhood, and the tendency of the poorest to be relatively isolated even within their own neighbourhood, it is necessary to monitor the participation of the poorest households more closely.

The approach proposed here implies that the neighbourhood becomes, effectively, the "target group", treated as a social unit and encouraged to take responsibility for all its members, as well as for local resources and resources and programs introduced by government or non-government agencies.

5. WORK WITH INDIVIDUALS, WOMEN, MEN AND CHILDREN, RATHER THAN HOUSEHOLDS, IN PROGRAMS TO INCREASE INCOMES AND PRODUCTIVITY

In the Project area, women inherit the same land rights as men. In each garden plot, the women, men and children of the household each own separate crops. This traditional system encourages each member of the household to be independent and to take responsibility for production of food and cash crops. In this way children are taught to work hard, and women, whether married, widowed or divorced, have access to their own stocks of food and cash to use according to their own priorities. Other income from wage labour or craft production, is also kept separately by the person who earns it. Men sometimes manage their personal income themselves, or they may give it to their wives to manage. Children may save cash with their mother, using her as a "bank", but retain clear rights to use the cash themselves when they need it.

Recognizing the benefits of the traditional system, project activities to increase income should operate at the level of individuals, rather than households. Since women and young people, as well as men, desire to own tree crops and have in some cases already started planting them, any project assistance such as seedlings, tools, fence posts,
fertilizer and extension advice and training should be given equally to them.

The present practice is to give inputs to men as assumed heads of households, but this disadvantages women, whether married, widowed or divorced, since they lose on three counts: they do not receive an equal share of direct project benefits; they are not assured of a share of the income generated by the inputs (seedlings etc); and they find that the land to which they also have inheritance rights is being planted with trees and claimed as private property by their husbands and other male relatives.

Women stated strongly that they would be more secure in their rights to land, trees, and income generated from new crops if they received their own individual share of inputs, especially seedlings.

For young people the same recommendation applies. It would be especially beneficial to assist people in the 12+ age range to establish productive gardens, so that their crops would be yielding well by the time they marry and need to provide a secure economic base for a young family.

Gambling is a further consideration. In many parts of the Project area, gambling is a serious problem, and men have been known to gamble away all their land and trees. If their wives and children have clear separate ownership rights to land and trees, the husband could not touch their property and women could continue to provide for themselves and their dependents. Particular care should be taken to ensure that changes in land tenure status, property registration and taxation recognize women and, where appropriate, young people as owners or co-owners of resources, and do not subsume their rights within those of the household.

Besides the major crops, womens' and mens' income generating activities tend to be different. Women in the middle hills grow vegetables for sale. Coastal women engage in small scale trade and sew kapok mattresses. Inner hill women produce household items such as mats and winnowing trays. Opportunities may exist to increase incomes through any of these activities. Men work more often for wages in their own neighbourhood or outside. Many men in the Project area are trapped into debt relations with rattan dealers, and therefore to not receive full pay for their labour. This situation can best be addressed by increasing the productivity of farm production and encouraging other independent income generating activities that avoid exploitative relationships.

6. PROCEED STEP WISE, BEGINNING WITH SIMPLE INTERVENTIONS WITH A GOOD POTENTIAL FOR BOTH COMMUNITY AND GOVERNMENT LEARNING

It is not possible to undertake all innovations at once, and some phasing is advisable. Ideally, the program would begin with one simple intervention which is highly acceptable to all of the neighbourhood groups, produces a visible impact quickly, and can serve as a vehicle for increasing management capacities at both the desa and neighbourhood level. This intervention would have short and long term spin-offs to other program areas. Possible interventions are listed below, in approximate order of priority according to the principles noted above. None of them are high cost, and all of them could be widely or universally applied within the middle and inner hill areas within a period of two years, with a high impact on the major dimensions of poverty.

- Small mountain schools:

Need: Throughout the hills people stated a very strong desire for their children to attend school. Lack of education, literacy and Indonesian language skills are major factors in the isolation, vulnerability and powerlessness of hill families, as well as contributing to material poverty (lack of alternative occupations) and physical weakness (lack of knowledge about health, family planning etc.)

Approach: In order to begin to offer education services quickly and to demonstrate the benefits of collaboration, small mountain schools could be started as a partnership between the education department and neighbourhood groups. There are already several mountain schools in three of the target desas (Lombok, Bobalo and Dusunan) which are highly successful, and the model can now be replicated over the whole
Neighbourhood responsibilities: counting and listing the number of school age children in their neighbourhood; holding open meetings and discussions to select a site that would be convenient for outside visitors, close to water, and accessible to a minimum of fifty children; supplying labour to build a temporary school building; estimating the cost of local materials such as wood planks, thatch and rattan, purchasing materials and accounting for funds provided by the education department.

Education department responsibilities: initial visit to each site to discuss program approach and responsibilities; subsequently visiting each site to check on the registration and site selection process, check the budget, and hand over funds to the community for building materials; provision of one teacher per school, who is a native of the area. If no fully qualified teachers are available, partly qualified teachers or SMP graduates should be given an honorarium to work as temporary teachers in order to begin the program.

Program spin-offs: The approach proposed gives the neighbourhood experience in acting as a unit to manage resources and achieve common goals. It also gives the government agency experience in working with hillside communities to develop programs suitable for the area. In areas where small mountain schools have already been established, they have served as a "bridgehead" for other government and non-government agencies to begin their work. Posyandu Cadres health program staff (yaws, etc.) and PPLDs began to visit the hill areas once a school was established and they were able to count on the teacher's help to gather the community, translate, and provide a place to stay overnight.

The school building provides a meeting place for many purposes, and people often move their houses closer to the school, forming the beginnings of a more concentrated settlement pattern.

Cost: materials: approximately Rp100,000 per school, average three schools per desa (depending on population and conditions), 12 desas, Rp3,600,000. Salaries: from reallocation of teacher salary budgets in unused schools along the roadside and other sources, in recognition of the right of all Indonesian children to receive an education.

Other funding: if resources can be found for uniforms, books and one nutritious meal per day for all mountain school children this would greatly increase learning effectiveness and virtually guarantee 100% attendance. The provision of meals could become part of an income generating project for women (growing more beans, vegetables, fruit etc to sell to the school, and providing labour for cooking). Eventually, school meals could become a self-help project for the neighbourhood.

Active primary health care:

Need: Indonesia has an excellent system of primary health care through Posyandus to which the mountain people also need effective access. This program directly addresses poverty caused by physical weakness (poor health, frequent pregnancies and high infant and child mortality).

Approach: Posyandu staff should be trained, encouraged and given incentives to extend their services to hillside neighbourhoods on a routine basis. Special training should emphasize communication skills, respect for mountain people, patience and persistence, so that cadre do not become discouraged if few people attend on their first visit. They should quickly identify women in the neighbourhood who can act as local assistants.

As noted above, good use could also be made of market days to communicate with people coming down from the hills, or to offer Posyandu or other health services. Posyandu staff who begin to visit hill areas
regularly could, with help of their local assistants, soon map out cases of frambosia, leprosy, TB and other diseases that are the subject of special health programs, increasing the efficiency of service delivery.

Cost: Incentives for posyandu staff, village level cadre and assistants; materials and equipment to service more of the village population, aiming at 100%.

Agricultural improvement

Need: Material poverty (inadequate and unreliable stocks and flows of foods and cash to meet basic needs), low productivity of labour, declining food crop yields and deteriorating soil conditions all indicate the need for a program of agricultural improvement.

The reasons for these adverse trends were described in an earlier chapter, and suggest that agricultural issues need to be addressed with some urgency. Agriculture remains the best focus for long range income improvement, supported where appropriate by improved credit and marketing, and by local processing facilities that could be developed on the coastal zone when production levels warrant.

Approach: Agricultural innovation needs to be addressed step wise. In the long term, an appropriate farming system for the area is integrated agroforestry, combining food crops, short term cash crops, and long term commercial tree crops. Such a system retains the product diversity that poor farmers need for livelihood security, and can be adapted to the variable soil, land and water resources of each farmer’s plots. Monoculture tree plantations and excessive dependence on commercial export crops should be avoided (see Li 1991a and 1991b).

An agroforestry system cannot be introduced all at once, but more effectively introduced one innovation at a time, with the maximum number of farmers participating (see Bunch 1985).

The emphasis of the steps proposed here is on appropriate extension services and community participation leading to a self-sustaining process of agricultural improvement, with only minimal material inputs (seeds, tools etc) provided by the government to ensure that all hill farmers, including the poorest, are encouraged to participate.

The extension system is beginning to operate effectively in the six target desas in Kecamatan Tinombo, where it has received a boost from the presence of a VSO dryland agricultural specialist and an effective, committed project motivator trained in agriculture. Field training of PPLs and PPLDs is being conducted regularly, so that their knowledge of dryland farming issues is increasing. The good start made here needs to be expanded.

So far, the extension efforts have focused upon men-only farmer’s groups, which often do not include the poorest farmers, and which, in some cases, are comprised of scattered individuals who do not work together or share information.

The extension program needs to reach every mountain neighbourhood in all twelve target desas, beginning with a few tested, effective innovations that can be widely adopted and that help to develop and improve the extension system.

A possible sequence of steps is as follows:

Training of extension workers: This needs to be continued and increased, and should include cultural sensitivity, understanding of traditional farming systems, respect for farmer’s experience, communications skills, and extension skills appropriate to remote locations where most farmers are illiterate.
When new PPLDs are recruited, they should be from the desa (and dusun) where they will work, speak the local language fluently and understand that their task involves regular work in hillside neighbourhoods.

Their first task is to visit each neighbourhood and ask the people there to select local farmer representatives as assistants (kontak tani), both men and women, to act as liaison people for the neighbourhood. If possible, these assistants should receive some training (perhaps at the agricultural station in Bobalo) so that they can pass on information and begin to assist their neighbours independently of visits by the PPLD.

Contour planting: This is already being undertaken by some farmers groups in part of the Project area, and could be greatly extended since it is simple, effective and incurs no additional costs or risks to the farmers. It can be used to initiate discussions with farmers over problems of soil erosion, particularly in fields where long term tree crops are being planted.

Intensified food crops: It was noted earlier that there is an impending crisis of food production in the hills, as tree crops occupy more of the land leaving little space for food, or relegating food crops to steep and eroded fields with inadequate fallow.

The search for land for food crops has caused some middle hill farmers to move into the inner hills, a trend with adverse long term consequences for both people and environment. Urgent efforts are needed to increase food production on farmers plots in the middle hills, by using a variety of techniques such as contour planting, mulching, improved seeds, fencing from wild pigs etc.

Short term cash crops such as shallots, ground nuts and vegetables should also be encouraged, and shallot disease problems addressed, since people depend on these crops to meet daily needs.

Tree crop extension advice: Although many farmers are planting tree crops, they need advice on issues such as species selection, site suitability, spacing, seed quality, shade, fertilization, pruning, and disease control. Without, such advice, many of the trees currently being planted on the farmers own initiative will not yield well, leaving the farmer worse off than when food and other short term crops were planted on the same land. Improving the quality and survival of trees already being planted is as much a priority as providing seedlings.

Inputs, seedlings, tools etc: When they are to be provided, priority should be given to neighbourhoods with fewest cash resources to purchase inputs themselves. Once the neighbourhoods requiring inputs have been selected, inputs should be distributed equally within the neighbourhood, based upon the complete neighbourhood list. This ensures fairness and eases the task of monitoring.

To improve the efficiency of delivery and distribution, a PPL should be present when inputs (such as seedlings, seed, fenceposts, fertilizer, tools) are delivered to the desa by the contractor, and should check off the names of the neighbourhood members who come down to the village office to collect their share on the designated day. Collection of inputs could be integrated with an extension session, in which PPLDs and neighbourhood farmer representatives assist.

Initiation of integrated agroforestry Discussion of the concept of integrated agroforestry needs to be initiated in each neighbourhood, so that individuals and the neighbourhood as a whole can begin to assess their land and other resources and develop a long term plan. This process should proceed together with the resolution of land tenure issues (see Li 1991a; Ruwiastuti and Blowfield 1991).

An appropriate goal is that after two years, all farmers in the Project area should have a basic understanding of agroforestry principles, they should have learned and practised some relevant skills (such as contour planting, fencing, mulching, tree care) and they should be participating in an effective extension system that will assist them in the long term process of agricultural intensification and improvement.
Small bridges and path improvement

Need: Physical isolation is a problem perceived as more serious by government officials unaccustomed to climbing than it is to mountain people, who frequently walk down to the markets. The priority with which it needs to be addressed should therefore be discussed more fully with each neighbourhood, with village leaders, and with representatives of government and non-government agencies whose responsibilities require them to walk into the hills. An early priority might be small bridges at a few key river crossings, to facilitate communication and avoid drownings or the ruin of produce when rivers are flooded.

Approach: Developing an integrated village wide plan for improved communications (bridge and improved footpaths as required) would be a good exercise for village leaders in participatory bottom-up planning. They would be required to call down representatives from each neighbourhood, draw maps, discuss needs, prioritize, and make budgets and schedules for perhaps a five year communications improvement plan. Officials from P.U. together with Bangdes and NGO staff could facilitate discussions at the neighbourhood and village level, and ensure that the needs of the more remote and poor neighbourhoods are properly represented.
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