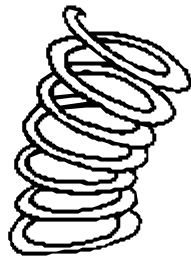


## CHAPTER 3: WHAT ABOUT THE LAND USER?

### *3.1 First Consider the Land User*

Although land degradation is a physical process, its underlying causes are firmly rooted in the socio-economic, political and cultural environment in which land users operate. For example, for some land users poverty may be a key factor that leads to land degradation since poor land users may become stuck in a cycle of degradation, where their poverty precludes investment in the land, lack of investment leads to further land degradation, and degradation to more poverty. Consequent upon the downward spiral are low crop yields, adverse food security and little surplus production for sale, thus reinforcing the poverty of the land user. Other issues such as security of tenure, alternative income-earning opportunities and labour constraints are additional land user factors important in determining overall land degradation status.



Farmer-perspective field assessment needs to recognise these complex relationships between the land and society, and how land users may find it economically rational to degrade their soils until conditions change that then induce them to protect against further land degradation. Only by understanding the forces influencing farmers' actions can the field researcher begin to comprehend the dynamic interactions between socio-economic factors and land degradation. With this realisation, the researcher may start to appreciate the consequences of land degradation for land users (Chapter 7) and to address the design of interventions that bring benefits both to society and to land users (Chapter 8).

A classic example of how economic imperatives have conditioned people to degrade their land is found in southern Africa. Lesotho has the unenviable reputation of having the most severely degraded land on the continent. This is partially explained by the underlying physical conditions (easily-erodible weathered



**Figure 3.1: Discontinuous Gully in Lesotho**

basalt) and partly by poor standards of farming. Overgrazing by cows is endemic and conservation measures are routinely ignored despite substantial subsidies and campaigns by aid agencies and the government. Yet, Lesotho's human population is not particularly high and many of the soils could be quite productively farmed. So what is going on? Lesotho's so-called farmers are nothing of the sort – they are migrant labourers in South Africa, returning home for holidays, to bring up children and to live in retirement. Their money they bank in cattle to graze (and overgraze) the open access hills. For any individual it would be economic madness to devote time and resources to improving the land. The economic payback would be so small compared to the income of migrants working South Africa's gold reef or coal mines. To ignore this complex reality would mean a failure to appreciate *why* land degradation is occurring and *how* conservation measures would be spurned – that is, until the balance of economic investment changes to favour improving Lesotho's own land resources.

This example from Lesotho demonstrates that various factors can initiate and enforce land degradation. Land degradation has occurred, and continues to occur, in both developing and

more developed countries regardless of political systems and wealth. However, an important distinction can be made since the proportion of the population directly affected by land degradation, to the extent that livelihoods are adversely affected or even threatened, is much greater in less developed countries than in developed areas.

The field assessor needs to ask careful questions of local people, involving them diplomatically in the analysis of why land degradation may be happening. The new Sustainable Rural Livelihoods<sup>1</sup> framework is a useful platform for bringing the relevant issues together. The kinds of questions to which the field assessor will need answers are set out below. Clearly, this cannot be an exhaustive list since particular circumstances will warrant the collection of specific types of information. These questions are not designed to be asked directly of the land user, but are prompts to the assessor that the information is needed. The information must be collected in a way appropriate to the circumstances of the land user. Often a roundabout approach, involving a series of more simple questions, each building on the last, will be effective in eliciting information from the land user in a non-threatening way. (See Appendix IV for suggested readings.)

- What encourages you to protect your land from degradation? Income; value to your children's inheritance; pressure from other land users, the chief; subsidies to undertake conservation; inspection by the extension officer; pride and morality; and so on?
- What discourages you to protect? Economic opportunities elsewhere; poor market for crops; high cost of labour and/or implements for conservation; lack of land security; and so on?
- How is your livelihood supported by the natural environment? For example, local medicinal plants, good grazing resources, abundant fuelwood (or the opposites).
- How is your livelihood affected by your skills and knowledge? What about indigenous techniques of

<sup>1</sup> The Sustainable Rural Livelihoods approach has been developed by the UK's Department for International Development, particularly for use in Natural Resources projects. The framework has been designed for the analysis of livelihoods. It aims to incorporate the many and varied strands of rural livelihoods and to recognise the interactions and changes between these strands.

managing land resources, and your adaptations of recommended practices?

- How is your livelihood affected by the money you have available? Consider all sources of income, such as cash remittances, income from crops and livestock, selling of labour.
- How do other people locally help you? Relations, local societies, co-operatives? Do these enable you to carry out farming practices you could not do by yourself?
- How is your use of the land affected by other factors, such as markets, roads and communications, availability of tools or advice, and ability to access the right seeds and information?

This is not an exhaustive list, of course. But considering these questions initially with local farmers will give the field assessor a much better grasp of what factors are important to the land user and how the presence or absence of these factors may induce or prevent land degradation. Such knowledge is just as important as direct measures of land degradation (Chapter 4) or its effect on production (Chapter 5).

### ***3.2 Factors Affecting Land Users and Land Degradation***

The following list gives an indication of the breadth of issues that affect land users' decisions about activities that may have a consequence for land degradation. Because they introduce factors which may control land users' priorities and practices, these issues are relevant, whether or not land users directly undertake conserving activities. For practical purposes, conservation is the reverse of degradation – the following issues may either encourage or discourage a farmer to undertake resource-conserving practices.

1. Land tenure: Security of land tenure affects farmers' willingness to invest resources in land improvement and protection against degradation. Insecurity of land tenure shortens the time-frame used by farmers for decision-making, making it less likely that measures which protect against land degradation will achieve a return in the



planning horizon of the land user. Where the occupier of land is unsure of the future, extraction (or 'soil mining') will occur to ensure that these resources are not lost to the individual. A farmer with clear title to the land is more likely to consider investment of money, labour and land in conservation because benefits in production which may only accrue after many years will still be retained by the individual who implemented the measures. Common property resources are especially vulnerable to land degradation. However, the field assessor needs to distinguish carefully between 'open access' where land users have virtually free rein to use whatever resources they can grab, and 'common pool' resources where access is controlled. Common pool resources are much the more prevalent, and local societies' means of controlling land degrading activities on these resources should be assessed. A good example is the *ngitili* of northern Tanzania, which are dry season grazing reserves held commonly by the local elders on behalf of the village community. All in the village have access to these, but this is carefully controlled to avoid the resource becoming overused, or one individual grabbing an excess share of the limited grazing.

2. Poverty: Poverty affects how land users manage their land. It reduces the options available, ruling out some conservative practices because they require too much investment of land, labour or capital. Similarly, poverty tends to encourage farmers to focus on immediate needs rather than on those whose benefits may materialise only in the long term. This is not to say that poor farmers are land degraders, while the rich are conservers. Several studies have shown exactly the opposite. In Ethiopia, for instance, some poor farmers have been reported to invest more in their land than the rich, probably because they are almost wholly dependent on their land. The foreclosing of expensive land use options may make the poor develop and apply simple but very effective technologies such as trashlines, earth mounds and ridges, or intercrops. Poverty

may also induce rural people to abandon farming and migrate to towns, with a consequent benefit to the land. What the poor cannot do is expend huge effort in digging bench terraces or hiring bulldozers. These measures, available only to the rich, may be effective in controlling land degradation, but they need continual maintenance and commitment by the land user – obligations which the rich may not be prepared to undertake – if they are not to fall into disrepair and induce further land degradation. Poverty is, therefore, a somewhat ambivalent factor, that needs careful analysis and interpretation in its effect on land degradation.

3. Pressure on the Land:

A growing population, for example, puts greater demands on the land. Farms are split into ever-smaller units as land is shared out amongst family members. Land



shortage acts as an incentive for land users to push the boundaries of cultivation into more marginal areas, less suited to continuous use. Increasing numbers of people require more food, more water, more fuelwood and more construction materials, all of which must be sourced from the environment. An indirect effect of land pressure is the requirement for more extensive infrastructure. More roads, more transport, more housing and more utilities all have the potential to lead to increased land degradation. However, as with poverty, the evidence for a direct link between increasing populations and degradation is ambivalent. Indeed, several studies have shown how populations may adapt to new circumstances through developing new technologies and adjusting old. In some places, where markets and rural infrastructure have allowed, increased population density appears to have been the spur to sustainable intensification. Extensive land degrading practices such as fuelwood extraction and large herds of livestock have given way to intensive, well-managed small farms, employing

manuring, composting, agroforestry and other beneficial practices. So, care is needed before making specific judgements about the effects of population on land degradation – but the issue must still be addressed.

4. Labour availability: Labour is normally the most limiting constraint of smallholder farmers. Competition for available labour is especially intense between laborious activities such as constructing terraces and off-farm employment that can bring immediate returns. The prevention of land degradation involves the investment of labour, both at the initial stages and on an ongoing basis for maintenance. Land users often overcome labour (and other capital) shortages by implementing conservation measures gradually, spreading the work over several seasons or years. Indirectly, the investment of family and hired labour is crucial to land degradation in enabling more intensive (and generally more conservative) production systems to be undertaken. Gender divisions of labour are also important: practices such as land preparation, tillage and weeding are normally assigned to one gender. If that gender has limited labour available at the right time, then there may be implications for land degradation which need to be noted.



**Figure 3.2: Constructing Ngoro Pits, Tanzania**

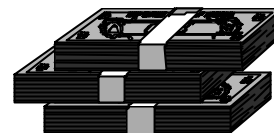
Traditionally these pits are only constructed by women – a good example of gender division of labour.

In a situation where labour is already a scarce resource, it may not be possible to supply the additional labour required to avoid degrading activities or to undertake conservation. Migration to urban centres is

a common feature of rural communities in developing countries. Whilst this may reduce the immediate pressure in terms of the numbers to be supported from a single smallholding, the loss to labour may increase the risk of degradation.

5. Economic incentives:

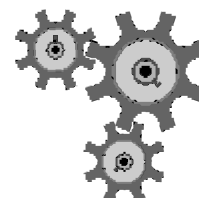
There are a number of ways in which the markets may affect a land-user's decision about degrading or conserving farming practices.



- Price structures for agricultural produce often favour the urban purchaser over the rural vendor. As a result it may not be possible for a land user to recover the costs of more expensive non-degrading production methods in the selling price achieved for produce.
- Alternatively, quick profits may be possible by maximising production in the short term. The effects of potentially degrading activities may be ignored or, where additional inputs such as fertilisers are used, masked.
- High risk may attach to agricultural production due to market volatility or political instability. Land users may be less prepared to invest in the land where the potential returns are uncertain.
- Economic instruments such as subsidies and other incentives distort farmers' priorities. Conservation measures in many countries attract direct financial inducements based upon measurable values, such as metres of terrace or number of trees planted. Such distortions often carry through to the withdrawal of subsidies, when farmers are no longer prepared to practice conservation without payment – a situation that is now common in South Asia, leading to considerable worries about the effects on land degradation.

6. Appropriateness of technology:

Technologies developed on research stations may prove to be inappropriate when introduced to land users since research plots rarely mirror the actual conditions pertaining to smallholdings.



For example, techniques may take too much land out of production, need too much labour to construct or maintain them, or compete with crops for water or nutrients. Where land users have had previous

negative experiences with conservation technologies, they are likely to be reluctant to adopt new conservation plans. Similarly, where previous conservation attempts have been ineffective either through poor design and inadequate extension or poor execution and maintenance, land users may be unwilling to invest time, effort and space in new technologies.

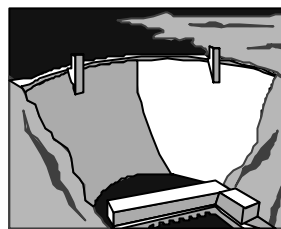
7. Economic and

financial returns: Most decisions made by land users are based upon economic rationality as



perceived by the land user. Such rationality controls the willingness to invest in any practice, especially in demanding measures needed for land degradation control. Where a farmer's individual cost:benefit assessment concludes that the benefits of a prevention/ conservation course of action do not outweigh the costs, then the rational decision for that farmer is not to undertake the works. Where insecure tenure is also a factor, the anticipated benefits are reduced by the short-term time horizon of the land user. Field assessment is usefully supplemented by relatively simple cost:benefit analysis techniques, such as discounted cash flow analysis. With farmer participation, the financial worth of investing labour, land or capital in any land improvement may easily be assessed, using a criterion such as Net Present Value, Internal Rate of Return, or returns to land/labour/capital. These techniques are beyond the scope of these *Guidelines* but the Bibliography and short discussion in Chapter 2 provide more guidance.

8. Off-site versus on-site costs: Costs and benefits incurred on-site (the farmer's field, for instance) are private or personal to that land user. Costs incurred, say, as a result of sedimentation into dams and rivers off-site are a consideration for society. Few land users will be prepared to invest private resources solely for the benefit of society, unless society supports such activities through subsidies (see 'economic

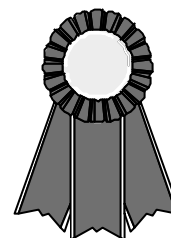


incentives' above). Where the land user does not bear the full costs of land degradation, the incentive to take

action to reduce land degradation may be insufficient for the land user to change practices or adopt new technologies. Costs that are incurred downstream of a land user's plot are unlikely to be incorporated in land use decisions. The field assessor needs to note *where* the land user's activities are having an effect – on-site or off-site – and *who* is being affected.

9. Power and Social Status:

Some components of production are driven by a need to preserve social standing or to enhance prestige. In some cultures weddings and funerals are associated with an elaborate show of wealth. To pay for this, farmers may overuse their land. Common in pastoralist communities is the association of herd size with wealth and social standing. This association is one of the reasons why herders deliberately keep as many animals as possible, despite their impact on rangelands. The field assessor needs to be aware of cultural traditions in so far as they affect land use decisions.



These factors are not mutually exclusive. They may be cumulative and interactive. They all need attention as part of the diagnosis of why and how land degradation is occurring or not occurring.

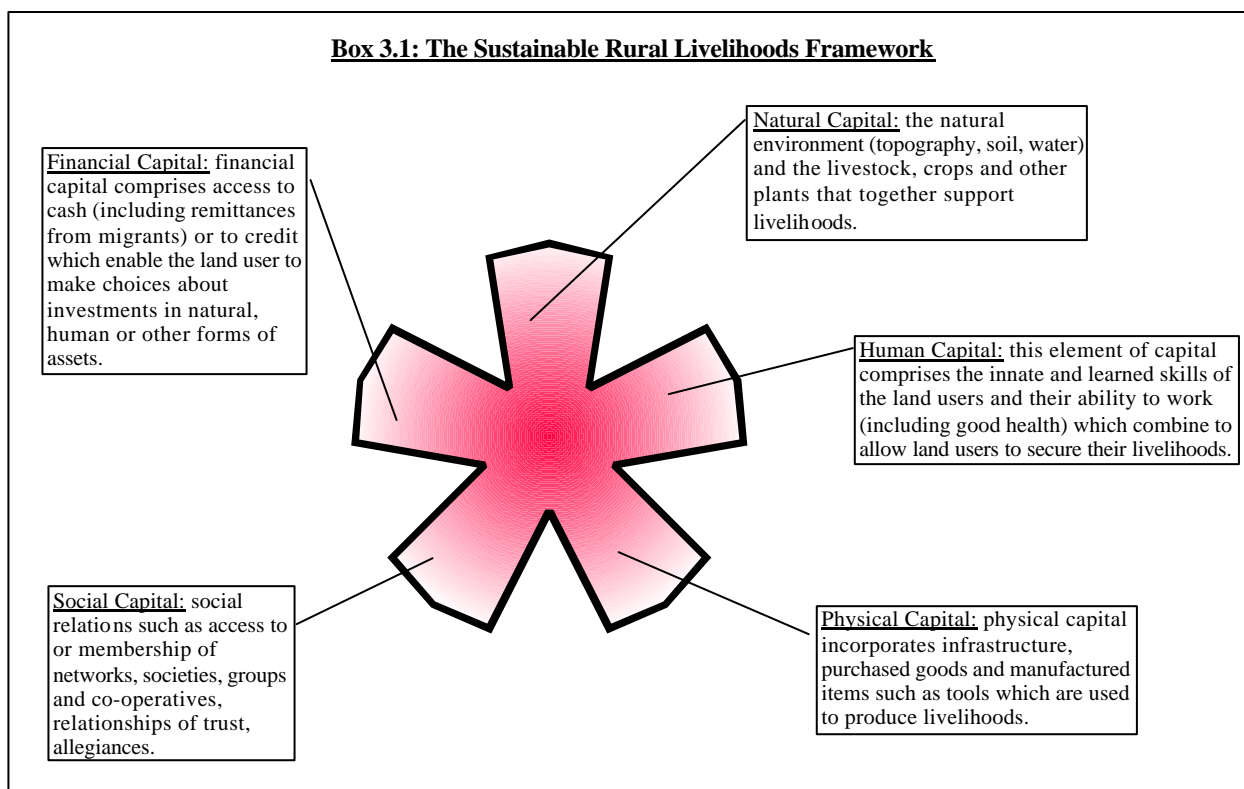
**3.3 Sustainable Rural Livelihoods (SRL)**

Categories of Asset

In looking at land degradation the purpose is not only to determine whether land degradation has been, or is, occurring. Any consideration of land degradation must also address the root



### **Box 3.1: The Sustainable Rural Livelihoods Framework**



causes of the degradation, and ultimately seek ways in which the degrading activities can be reversed. Many rural livelihoods depend on the natural environment, thus any permanent diminution in the productivity of that environment will have adverse effects on the ability of families/household units and communities to support themselves.

The factors that affect the decision to degrade or conserve land are related to the resources available to the land user. Recently, resources have been subdivided in what is known as the Sustainable Rural Livelihoods framework into a number of different elements or 'capital assets'. These categories of asset can be used to describe the various types of 'capital', or resources, available to land users. As such they provide a framework for analysing the situation of land users, which may be helpful in identifying sets of circumstances that may combine to make some households more likely to degrade their land than others. The diagram in Box 3.1 summarises the five categories of capital.

In general, individuals, households and communities have different access to each type of capital. Lack of one category of capital may be compensated for by another. For example,

physical capital in the form of a plough may take the place of human capital where there is a shortage of labour. One form of capital can be converted to another. Financial capital (cash) may be used to acquire human capital (labour), physical capital (fertiliser) or natural capital (land or livestock). Similarly, social capital, through group membership, may make it possible to draw on community labour at harvest or other busy times.

Access to capital assets is prescribed by society, by way of formal rules and socio-cultural norms. Thus factors such as gender relations, marital status, education, caste and age influence access to assets and services. Within a household, too, access to assets is also an ever-changing equation, determined both by social conditioning and by relations between household members. Levels of capital assets are not static but change from season to season, and from year to year, as a result both of actions by household members and by agents outside the household, at community, regional or national level.

The concepts of resilience and sensitivity, discussed in connection with the effects of changes and shocks on landscapes and ecosystems, can be applied, in much the same

way, to the livelihoods of individuals, households and communities. These livelihoods are also more or less resilient, and more or less sensitive, to changes or shocks. The resilience and sensitivity of households may be directly related to how they deal with the capital resources available to them. Shortages of one or more types of capital may increase the risks of shocks and changes.

### The SRL Framework and Field Assessment of Land Degradation

The SRL Framework gives a useful means of organising the many types of information relating to the land user, the production system and their potential influence on land degradation. In particular, the framework can highlight circumstances that make land degradation one possible outcome of future activities, or where a transfer of capital from one type to another may affect the potential for degradation. The intention for the field assessor of land degradation is NOT to undertake a full livelihoods analysis, which is beyond the scope of this publication, but to present a systematic coverage of the aspects of the land user's circumstances that control the biophysical processes of land degradation. The objective is to collect data potentially useful to support the more direct field assessment methods in Chapters 4 and 5, and to provide the explanation for the patterns of land degradation observed.

Table 3.1 illustrates how land degradation could be considered in conjunction with the capital assets framework. It gives examples of how changes in the level of assets available to a household may affect both land degradation and conservation. It is important to note that increases in a particular capital asset do not automatically lead to less land degradation or more conservation. Nor does the converse hold true. There are many other factors, not least the

interaction with other capital assets, which affect the outcome of changes in capital assets.

Table 3.1 enables the field assessor to note various positive and negative elements of capital assets in relation to their potential influence on land degradation. However, the SRL framework should also encourage comparisons between the situations of different land users, and over time. In some cases, the relative capital wealth of a household will be evident. For example, the comparison of a landlord with a landless peasant may indicate that the former has a greater capital stock than the latter. However, because capital can be added to, or lost, the balance between these two individuals may change. If the landlord's position in the community were undermined (social capital), for instance by a change in government, this would equate to a depletion in the landlord's capital wealth. This might have knock-on effects on the willingness of labourers to work for him (thus affecting human capital) which in turn could necessitate the payment of higher wages to those labourers, reducing the landlord's financial capital. Conversely, a landless peasant may substitute his human capital for natural capital. Thus, the peasant's livelihood may be secured, and financial capital accumulated, through the use of skills and knowledge in paid employment.

Because capital is continually changing over time, and because there are so many different components of each type of capital, initial observations concerning access to capital may be misleading. In addition, how these different types and components of capital can be combined is a difficult question. Ultimately this is dependent on the importance to livelihoods of particular components of capital, in specific circumstances. The analysis of the whole picture requires a detailed understanding of people's livelihoods.

**Table 3.1: Illustration of the Field Assessment of Capital Assets**

Capital Asset	Examples of How Land Degradation and Conservation Might Be Affected By:	
	Increasing Capital	Decreasing Capital
Natural	<ul style="list-style-type: none"> <li>- Extensification of farming onto larger areas of land leads to poorer land management and more degradation;</li> <li>- Increased livestock numbers contribute to additional land degradation;</li> <li>- More conservation undertaken if land is no longer a limiting factor;</li> </ul>	<ul style="list-style-type: none"> <li>- Intensification onto smaller units of land results in more conservative practices and less degradation;</li> <li>- Greater production required off a smaller portion of land leading to 'soil mining' and degradation;</li> <li>- Reduced levels of livestock lead to less land degradation;</li> <li>- Greater efforts may be made to conserve the remaining natural asset base ;</li> </ul>
Physical	<ul style="list-style-type: none"> <li>- Labour-saving farming practices may enable more time to be spent on conservation;</li> <li>- Inappropriate technologies may increase the risk of land degradation;</li> </ul>	<ul style="list-style-type: none"> <li>- Deteriorating local roads lead to reduced market opportunities and lack of investment in land management;</li> <li>- Lack of spare parts for tractors mean no maintenance of conservation structures, breakage in storms, and severe degradation;</li> </ul>
Human	<ul style="list-style-type: none"> <li>- New techniques and skills may be applied to land management practices resulting in less degradation and/or more conservation;</li> <li>- New skills or education enable family members to take off-farm employment, reducing the labour available to undertake farm work and increasing degradation;</li> <li>- New skills in farming enable better practise and reduced land degradation;</li> </ul>	<ul style="list-style-type: none"> <li>- Out-migration reduces demand from the land, leading to less land degradation;</li> <li>- Out-migration reduces labour availability leading to poor farming, more degradation and less conservation;</li> <li>- AIDS/HIV kills active farm labour, causes land abandonment and decreases land degradation;</li> </ul>
Social	<ul style="list-style-type: none"> <li>- Admission to a co-operative may provide access to better information, technologies or community labour to take action against land degradation;</li> <li>- Marriage may strengthen kin networks and foster new relationships and allegiances which may be called upon to supplement family labour for the construction of conservation works;</li> </ul>	<ul style="list-style-type: none"> <li>- Disputes with neighbours may isolate a household and make it difficult to access community labour groups, for example to undertake planting, harvesting or conservation works;</li> <li>- Divorce may affect the ability to draw on kin networks at times of stress;</li> </ul>
Financial	<ul style="list-style-type: none"> <li>- Increased access to finance/credit enable land users to undertake expensive conservation works;</li> <li>- Increased remittances from urban-based family members allow farmers to divert attention from the land and encourage poor standards of farming.</li> </ul>	<ul style="list-style-type: none"> <li>- Sudden decrease in income results in plundering of natural assets or the diversion of essential labour to meet essential expenditure;</li> <li>- Reduced availability of credit for fertilisers forces farmers to rely on compost and manures, thereby reducing land degradation.</li> </ul>

For the field worker, Participatory Rural Appraisal (PRA)/Participatory Learning and Action (PLA) can provide insights into local people's perceptions of their circumstances and the possibilities open to them. Some of the techniques may be useful in identifying capital assets. Thus, PRA/PLA techniques may be used to discover factors of the land user which impinge on decisions which might alter the status of land degradation. PRA/PLA may

result in local people, themselves, determining how best to deal with land degradation problems and how to select among possible conservation solutions.



### 3.4 Participatory Land Degradation Assessment

Participatory Rural Appraisal (PRA) is "a family of approaches and methods to enable rural people to share, enhance and analyse their knowledge of life and conditions, to plan and to act" (Chambers, 1994). PRA techniques typically involve local people in the identification of an issue, such as land degradation, the assessment of its impact on their livelihoods and the selection of the most appropriate means of addressing the problem identified. The participatory approach seeks to involve all groups in society – men and women, young and old, rich and poor. Different perceptions by different groups of people can then be taken into account in selecting the most appropriate solutions.

PRA tools and techniques can be divided between several categories depending on the purpose of the tool or technique. Some are designed to discover the ways in which rural people perceive and use *space* and *time*. There are other tools for establishing preferences and differences (*ranking and classification*), for describing and understanding linkages (*flow diagrams*) and for establishing *decision-making* processes. The attributes of each category of tool are:<sup>2</sup>

1. **Space:** Rural people often allocate space in intricate ways, especially if there is strong differentiation in quality of land and access to it. PRA tools such as sketch maps and transects can be used to compile an inventory of resources. The objective of, for example, a sketch map derived in a participatory way is to arrive at rural peoples' perception of their natural resource situation. Maps and transects can provide complex information such as who uses a particular resource, when and how. The advantage of maps is that they break down communication barriers, help focus attention on issues to be discussed later, encourage observation of things which are not normally even thought about by local



**Figure 3.2: Researcher in Discussion with a Farmer in his Field**

people or the field assessor, and ensure that diversity is taken fully into account. Transects are in effect systematic walks through an area to note community land use and practices and to compile detailed spatial information. Their principal advantage is that 'outsiders' such as the field assessor are aware of all village land use activities as a baseline for further enquiry.

2. **Time:** 'Time tools' are probably the best known, most used and most diverse. They include calendars, historical profiles and timelines. They are used to record change over time of many events such as pests and diseases, food availability, progress of a gully, deforestation, as well as changes in important explanatory variables such as population growth and droughts. The advantage of time tools is that a range of information on a number of issues can be gathered in a relatively short time. They can be used to test possible relationships, such as change in agricultural practices and soil quality. The value of the information depends on memory recall, and the further back in time, the less is the recall. Nevertheless, the validity of time tools is enhanced in that they are usually used with groups of people rather than individuals.
3. **Ranking and classification:** The use of ranking tools generally has been described as "playing analytical games". The simplest is the ranking of problems or attributes as first, second, third order of importance/seriousness. More complex tools allow for more description or exceptions. Ranking

<sup>2</sup> We are grateful to Christine Okali for allowing us to base this part on her unpublished teaching notes

tools are especially useful for monitoring and evaluation exercises where, say, the applicability of a set of soil conservation technologies is being discussed. Stakeholder analysis is a particular form of classification tool that enables identification of all interest groups, with the view to aligning interventions to the needs of individuals or groups in society. In use in PRA, the classification of stakeholders is best done to identify the major differences in perception, attitude, resources and capabilities of various groups recognised by local people. Wealth ranking is one type, relating to capital assets and how people view others in relation to themselves. This sort of ranking and classification has been used to stratify subsequent samples of the population to ensure participation by all groups in the community, to establish the criteria which a community uses to differentiate its own population, and to establish who gains and who loses by any activity.

4. Flow diagrams: Establishing links between activities, events and outcomes is an essential part of rural analysis. Tools for this include systems diagrams, problem trees and simple activity flow charts. The first is best known, where for example links between parts of a farm and aspects of the household livelihood can be established. Flow diagrams are an efficient way of identifying links where problems may be occurring, such as illegal cultivation of steep slopes because of lack of land. Problem tree analysis can be used to gather possible causes of problems and to guide the investigator to possible options for intervention.
5. Decision-making: This category of tools is used to describe sources of decision-making within communities and decision-taking steps for particular activities. Venn diagrams describe the decision-making groups, and the relationship between these and other groups. Decision trees describe the implications of specific decisions on resource management, and are useful for

ensuring that all decisions required to achieve an outcome are taken into account.

In using PRA tools and techniques, information is obtained using semi-structured interviews, interviews with key informants and group discussions.

- Semi-structured interviews: interviews with land users are important to gain an understanding of individual motivations and the rationale for particular courses of action or inaction.
- Interviews with key informants: discussions with community members can yield important insights into the social and economic structure of the community. Local names for soils and plants can be identified, along with key aspects of how features of land degradation have changed over time.
- Group Discussions: Social groupings and how they affect access to and control of assets can be identified through group discussions.

These categories of tool, and the specific tools themselves, aid the field assessor to gain a far better understanding of important factors related to land degradation, especially attributes of the community and how various stakeholders perceive their situation in relation to the quality of the land.

Table 3.2 illustrates how a number of different PRA tools and techniques could be used to investigate the different types of capital asset described in the SRL framework. The table looks at how these tools can be applied at the household and at the community level. The scenarios in this table are examples only and are not an exhaustive list of how to apply PRA techniques to investigate capital assets – each situation requires its own careful, structured analysis.

**Table 3.2: Investigation into Capital Assets Using PRA Techniques**

<i>Tool</i>	<i>Capital Assets</i>	<i>Investigation</i>	
		<i>Household</i>	<i>Community</i>
Mapping	Natural	Farm layout, access to water, roads	Land uses, water sources, common property
	Social	Relationships between household members	Kin-based networks, other social groupings
Timelines	Natural	Changes in farm size, adoption of new crops or cropping practices, fertilisation techniques	Changes in productivity, soil quality, climate
	Social	Marriages, deaths, number of dependants	Co-operative networks, local institutions
Wealth Ranking	All	n/a	Local people's perceptions of relative resource endowments
Ranking & Scoring	Physical	Importance of access to tools/farm machinery	Access to, and cost of, infrastructure
	Financial	Importance of different cash crops	Relative importance of different sources of cash and credit
	Natural	On-farm variety of crops, trees and other useful species	Species diversity and abundance

PRA tools and techniques can be used to allocate land users into groups with similar attitudes, approaches and resources. They may identify risk areas, not only in terms of land characteristics, but also social, cultural and political circumstances within the local community. Appendix IV includes suggested further reading on these and other PRA techniques. However, the best way of learning participatory land degradation assessment is to do it. To discover the many surprising insights revealed through participatory interactions is the best introduction to making more accurate land degradation assessment – the subject of the next chapter.