0. COURSE OUTLINE

0.1 Introduction

These guidelines are for the training of research and extension personnel in a rapid appraisal methodology for identifying potential agroforestry interventions in peasant land use systems. They are illustrated through reference to a training course carried out in the Shurugwi communal area, Zimbabwe, from 7 March to 8 April 1988. This course was conducted under the aegis of the Commonwealth Science Council and the Forestry Commission, Zimbabwe, and funded by the Ford Foundation. It is the first occasion the particular training methodology outlined here has been implemented, although its form owes much to the existing literature on rapid appraisal and the identification of technical interventions. This is acknowledged in the discussion of methodological issues.

The course consists of five steps (Figure 1):

Step I: Orientation
Step II: Review of Historical and Background Information
Step III: Form of Production and Natural Resource Survey and Analysis
Step IV: Identification of Potential Agroforestry Interventions
Step V: Appraisal of Agroforestry Interventions

Each step is described and illustrated within these guidelines.

0.2 Course Objectives

The general aim of the course is to train graduate scientists, forestry and agricultural extension staff in a rapid appraisal methodology for the development of agroforestry in peasant farming systems.

In the Shurugwi course further specific objectives were to:

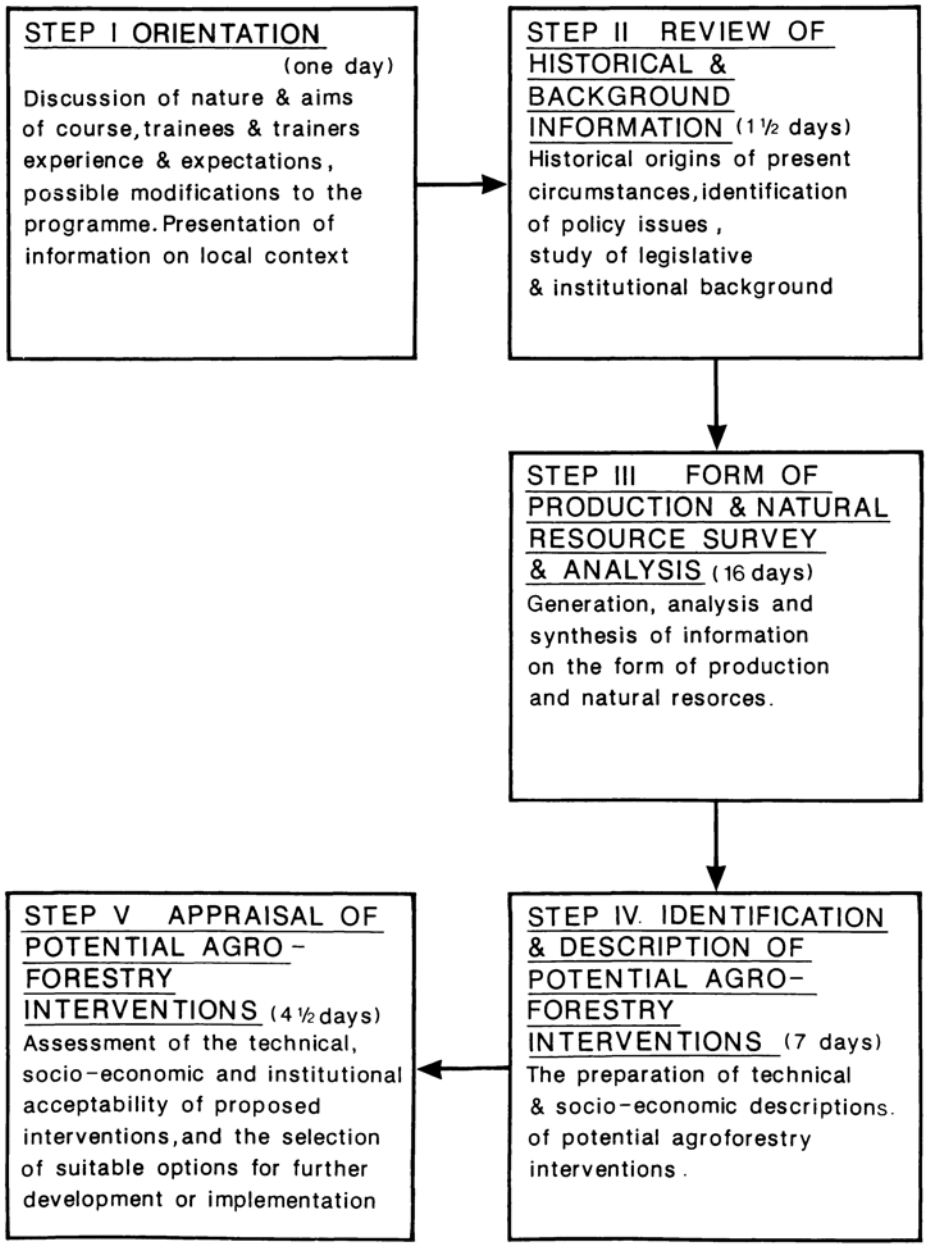
* learn about the production strategies of local farming households and how they are constrained;
* describe and analyse the contribution of trees to household production strategies;
* appreciate the ecological and economic inter-relationships among woody plants, arable production, livestock and other enterprises;
* understand the present roles of trees in soil and water conservation;
* work with local households to develop improved ways of using and managing woody plants;
* identify gaps in knowledge about agroforestry and propose appropriate research and extension activities;
* understand the nature of institutions responsible for planning and implementing agroforestry interventions in order to facilitate these activities and the linkages between institutions.
* identify and appraise potential agroforestry interventions;

The results of the Shurugwi exercise will be published as a research report and contribute to the Commonwealth Science Council 'Amelioration of Soils by Trees' programme of which the course was a component.

0.3 The Organisation and Use of These Guidelines

Figure 1 illustrates the structure and summarises the content of these Guidelines. The training programme begins with the Orientation of the team in Step I, proceeds through the Review of Historical and Background Information (Step II) to the Form of Production and Natural Resource Survey and Analysis (Step III). The

Figure 1. Programme Outline



information from the earlier steps is then synthesised and used in the Identification and Description of Potential Agroforestry Interventions (Step IV). These are subjected to Appraisal in Step V.

The information produced during a step forms the input for the subsequent step, so that data from one step must be analysed and synthesised before the next can begin. In practice, however, the discovery of gaps in the data frequently necessitates a return to earlier steps, so that the research is more iterative than the sequential process suggested by Figure 1.

Each step is divided into:

(i) an introduction which previews and justifies the content;

(ii) a set of objectives and outputs, defining the purposes and specifying the information the steps should produce;

(iii) a list of activities; and

(iv) a description of each activity. These include: plenary sessions and group discussions; interviews with individuals; meetings with groups of farmers; literature reviews; analysis of aerial photographs; briefings on methods; natural resource surveys; meetings to formulate and appraise interventions.

These Guidelines are intended for both trainers and trainees, but we expect they will attach different priorities to the various parts of the Guidelines. Trainers and trainees are likely to want to read sections 0.1 – 0.3. The remaining sub-sections of the Course Outline will probably be of more interest to trainers.

Trainers and trainees will both be concerned with the content of the remainder of the Guidelines. To get an overall impression of structure and purpose, they should read the Introductions and Objectives of each step in sequence. Descriptions of methods are obtained by reading the individual activities.

Detailed illustration of methods in action is obtained by reading the examples from the Shurugwi training exercise. **Such examples are indicated by the presence of a grey shaded strip down the side of the page. Pages which contain both text and examples have a strip down half of the page.**

0.4 Rapid Appraisal Philosophy

The course methodology is based firmly on four principles:

1. training team members should identify potential agroforestry interventions through working with farmers and other local people and by investigation of natural resources (interactive research);

2. interactive research is best learned through application, not lectures;

3. interdisciplinarity is a prerequisite;

4. agroforestry interventions should be developed from an understanding of the constraints and conflicts that exist within rural society over access to production resources.

0.5 Working with Farmers – Some Principles

In working with farmers two principles are especially important:

* we will be imposing upon farmers and should therefore avoid unnecessarily disrupting their activities;

* much rural research, project and extension work is biased in favour of certain categories of people: rural elites (those who are less poor and more influential);

males; users of services and adopters of practices; and active people who are present in the area (i.e. those who are sick, old and migrant are not taken into account).

Principle 1 requires us to be sensitive in how we work with farmers. We should visit them or hold meetings at times which are most convenient.

Principle 2 requires us to adopt sampling and cross-checking methods which overcome biases.

0.6 Group Activities and Discussions

The interactive nature of the training methodology requires group work. There is a danger that group activities or discussions become unfocussed and therefore unproductive. Training groups should therefore agree on clearly defined objectives, methods of working and outputs. In group or plenary discussions there should always be a chairperson and an agreed agenda. The steps in the programme and activities within a step link together as a process. Every step and activity produces an input for use in other steps, and failure to progress in any one step can disrupt others. Participants need to be aware of this because the democracy of any participatory exercise can easily encourage endless debate and indecision rather than coordinated action.

0.7 Institutional Grounding and Course Preparation

The training course needs to be linked closely to national institutions, and should be fully supported by one host institution. The host institution should be involved from the outset, and all those appointed as trainers need to be involved in the preparation for their course.

0.8 Guidelines Style

"Guidelines" is not a prescriptive training manual, for that would run counter to the philosophy of the course. Our approach is learned through application, it relies on iteration, requires flexibility and the direction of the research should not be dictated by a manual.

Several issues central to the methodology were raised during the course. As rapid appraisal relies on learning through experience, we have used our experience to contribute to the discussion of these issues. This discussion follows in the next section.

0.9 Some Methodological Issues

The five week training exercise conducted in the Shurugwi Communal Area was experimental. The training methodology was designed specifically for the course. Nevertheless, we have borrowed from other techniques for training people who work with small-scale farmers. These include:

* literature on Rapid Rural Appraisal (RRA), particularly the 'Proceedings from the 1985 International Conference on Rapid Rural Appraisal' (Khon Kaen, 1987);

* the 'D&D User's Manual', International Council for Research in Agroforestry (ICRAF) 1987, based on their own agroforestry diagnosis and design methodology;

* Conway's (1985) 'Agroecosystem Analysis for Development' prepared with assistance from the Aga Khan Rural Support Programme;

* the Agriplan Training Manual, Overseas Development Group, University of East Anglia, for use in Zambia in 1981 and Nepal in 1985;

* notes and group reports from the 'Workshop on Farmers and Agricultural Research: Complementary Methods', Institute of Development Studies, University of Sussex, 26-31 July 1987.

Much of this literature is recent. Consequently several issues concerning short duration research with farmers, and the training of people to undertake it, remain unresolved. Most issues that generated vigorous debate

during the Shurugwi course have already been recognised in the literature. The following discussion therefore serves two purposes. At a specific level it is designed to inform those implementing similar courses to ours. And more generally it contributes to the wider debate on rapid appraisal.

0.9.1 Course Title

The Shurugwi course was called 'Training in Problem Diagnosis and Project Design for Agroforestry'. This was too narrow a description of what was undertaken. The survey and analysis phase produced much more than a list of diagnosed problems. More important was the understanding gained of the production strategies of households in the study area, the social relations of resource access and control, and farmers' own classification systems for natural resources. Analysis at this fundamental level rather than at the more superficial one of 'problem identification' is necessary for an effective research and extension strategy.

The term 'project design' creates a misconception of the second phase of the training programme. 'Design' implies a finality which was unattainable and undesirable in the time available. Potential interventions were identified, specified and described. These were not fully prepared for implementation but were appraised in terms of their appropriateness.

A process was started in which these interventions were discussed with the farmers and their views obtained. However, in order to implement them it would be necessary to have more long term and repeated discussion with farmers concerning specific technical and management issues related to the interventions. Nevertheless, a range of central research, extension and rural development issues was identified and explored. These require further investigation and work with the rural community.

0.9.2 Farmer and Trainee Involvement

Participation is harder to achieve than is often supposed. Too often what is labelled "participation" is something much less than the democratic ideal. Arnstein's (1969) "ladder" illustrates this (A ladder of citizen participation, *Journal of the American Institute of Planners*, July, pp216-224).

8. Citizen Control	
7. Delegated Power	Degrees of citizens' power
6. Partnership	
5. Placation	
4. Consultation	Degrees of tokenism
3. Informing	
2. Therapy	Non-participation
1. Manipulation	

In a training course a realistic pre-assessment should be made of what level of participation is possible. If full partnership of farmers and trainees cannot be achieved, then a term other than 'participation' should be used. Whatever term is used should be clearly defined in order to avoid raising unattainable expectations amongst trainees. The term 'involvement' is used in these Guidelines.

0.9.2.1 Farmer involvement

Involving farmers in a rapid appraisal exercise may range between imposing an externally-devised programme on them and making them partners in design. In the first extreme trainers decide the course schedule then ask farmers to conform and perform designated roles. Treating farmers in this way reduces the potential for learning through interaction with them.

If more profitable interaction is to take place, farmer leaders should be able to influence the design of the farmer-related activities and the course schedule. It is therefore recommended that members of the training team spend at least a week in the survey area prior to the start of the course. The purpose of the course should be explained to local leaders. If accepted, potential benefits for farmers then need to be negotiated. For example, farmers may feel they will gain sufficient benefit if they receive feedback on potential interventions, or they may wish some guarantee of a definite follow-up taking place.

Another subject that needs discussing with local leaders is the different activities that farmers might be involved in and the amount and distribution of time required. The leaders can identify what farming and household activities farmers will be undertaking while training is taking place, and therefore how best the course activities can be designed and scheduled to fitin. An arrangement could be made for reciprocating the time taken of individuals, for instance, by agreeing to assist them with agricultural tasks.

During these preliminary talks trainers should also discuss with farmer leaders the socio-economic range of household types required for interviews, so tht individuals can be met and their agreement to participate sought in advance of the course's commencement. Finally, the role that local institutions will play needs to be agreed. As well as assisting with the organisation of farmers, members of these will need to be interviewed as part of the research.

0.9.2.2 Trainee involvement

In a rapid appraisal training course there is insufficient time to achieve full democratic participation by trainees. The major decisions regarding course content and struture have to be made in advance by the training team, with some amendment following preparatory discussions with local farmer leaders. The extent of the influence that trainees can have in the nature of the course is thus limited to 'degrees of tokenism'. It is possible for trainees to be involved in day-to-day decisions on the course direction, although they will not be equal partners with the trainers. What does this mean in practice? From the Shurugwi experience we make the following suggestions:

(i) trainees should have the right to discuss methods and activities before carrying them out, so that descriptions of methods should be prepared in advance and presented to trainees for discussion;

(ii) a more difficult dilemma is whether there should be consensus among trainees on an activity or method before undertaking it. If trainers are responsible for making the decisions, then in the event of trainer-trainee conflict, trainers' views necessarily prevail;

(iii) 'learning by doing', discussed below, should involve trainees adequately in the design, execution, analysis and reporting of different activities.

0.9.3 Learning by Doing

A principle of the training philosophy is that a rapid appraisal methodology that emphasises working with farmers can only be learned effectively through application. A fundamental premise of RRA is that in a short but concentrated period of fieldwork researchers can learn progressively. The outputs of one step form the inputs to the next. Issues are identified, linked refined and focused. All taking part in the course have to think each step through, and all field activities must be carried out in practice. They cannot be substituted by lecture room role play sessions, for then the outputs fundamental to the continuity of the procedure are not obtained.

Another premise of RRA that enables rapid and progressive learning is that it is interactive. It relies on 'rapid rounds of field interaction that result in the accumulation of increasingly accurate knowledge' (Khon Kaen, 1987: 6). In the Shurugwi training course there were two main rounds or iterations. The first was the survey and analysis stage, and the second was the identification and

appraisal of potential agroforestry interventions. Within each iteration, information went through a cycle of being generated, detailed and assessed.

0.9.4 Interdisciplinarity

For a training course to be interdisciplinary rather than multi-disciplinary, all activities need to be conceived and executed in an integrated manner. As a negative example, in the Shurugwi course, activities which involved working with farmers were called social survey methods, and were described in a separate step from the surveys of natural resources which did not involve farmers directly. In fact, natural resource information was being generated by working with farmers. This led trainees wrongly to regard the social science and natural resource methods as discrete, even though their work was integrating the two.

For this reason the survey and analysis iteration of the rapid appraisal methodology has been rewritten as one step comprising independent resource surveys and working with farmers. Specific techniques, for example soil sampling, of course belong to a single discipline. Nevertheless, the way soil sampling was used was determined by information obtained from farmers, in particular decisions on which soils to sample and how to apply the results. These are interdisciplinary decisions, rather than the preserve of soil scientists.

Interdisciplinarity does need to be worked at. Even if the survey step is conceived as a whole, breakdown may occur in the synthesis of survey information. In the Shurugwi course this was conducted under socio-economic, soil resource and vegetation headings. However, it is then vital to ensure that the inter-relationships between sectors are identified. Suggested ways of achieving this include the use of flow charts and resource interaction matrices, and identifying resource constraints and opportunities affecting different categories of farmers.

0.9.5 The Status of Information

One of the major debates on RRA is the status of the information produced. Can information approach the quality and depth that may be obtained from longer research studies? As Grandstaff et al (1987) point out: 'Many people feel that rapid studies are automatically less reliable than conventional research' (p. 7). The crux of their counterargument is that 'the iterative nature and multidisciplinary (*sic*) perspective of RRA allows even a new team to gather momentum quickly (p. 7). Information gathered by RRA inevitably suffers in quality and quantity from the rapidity with which it is collected, for example in its bias towards the season and the year in which it is collected. However, when collected by a well organised interdisciplinary group working iteratively and at high intensity, many of the potential problems of quality and quantity can be avoided. To be successful an RRA exercise has to be intense, but this intensity can only be sustained for a short time.

Important principles of RRA can be identified from the Shurugwi course. The first is to draw upon the available literature and first-hand experience of the study area which trainers or trainees might have, to produce an analysis of key historical and background information and issues. This guides the survey step of the RRA.

Second, the range of households included in the sample analysed is critical to the reliability and usefulness of the information gathered. This means the criteria agreed with farmer leaders for the selection of households are crucially important. If a single criterion is used, such as wealth, then others which result in distinct differences between households, such as the gender and age of the head(s) may be inadequately covered in the choice that is made.

Third, the quality of the information obtained depends on the nature of the interaction between researchers and farmers. This might appear obvious but it belies the difficulty of developing mutually rewarding relationships in the brief time available. Discussions in interviews and meetings might be rather superficial and reveal little more than some of the biases of either party. Some

trainees were worried about responses which they felt were inaccurate and insincere.

To cross-check and improve the quality of information the most important methodological principle is that of triangulation (Khon Kaen, 1987: 13-14). In the Shurugwi exercise triangulation of two types was carried out – of people, and of methods.

Triangulation of people means that information received from individuals or groups was checked with others. For instance, information received in a meeting on management by the VIDCOs of communal woodlands was checked in individual interviews. This is not full triangulation, since the information received on the same subject from two different sources is mediated through a third group, the survey team. Full triangulation would involve the bringing together of different local groups known to have conflicting interpretations and the attempt to achieve some reconciliation or clear understanding of these.

The second type of triangulation was that of methods. For instance, information received from farmers in the introductory meetings on their own soil classification was checked by the survey team by two further methods. First, in the company of elders who knew the area well, the survey groups walked transects. This provided an opportunity for the different soil types to be identified by the elders and observed by the survey teams. Further observation was carried out in the informant interviews, leading to a number of questions about the nature of the local classification and the principles on which it was based. After this, formal physical and chemical soil sampling was carried out to complete the examination.

The idea behind triangulation should be taken beyond the simple notion of checking "facts" to include the understanding and testing of alternative world views and belief systems. Members of rural societies view their world from a perspective different to that of outsiders. Only through understanding the coherence of insiders' views can outsiders evaluate the comparative value of these views in explaining and predicting phenomena.

Triangulation provided us with a way of organising the activities carried out in the two iterations of the training course. In the survey and analysis iteration, information is first generated, then detailed, and finally assessed and correlated. In the second iteration – identifying and appraising potential agroforestry interventions – it is the interventions that are in turn generated, detailed and assessed. The way this operates is clarified in the account of Steps III to V.

Our conclusion is that rapid appraisal can provide a valuable complement to longer term research studies. However, as the latter are difficult and expensive, rapid appraisal information should be sufficiently rigorous to stand on its own, and provide a basis for research and extension.

0.9.6 Time

The management of time is crucial in a rapid appraisal exercise. In the Shurugwi course of 5 weeks the scheduled programme was completed, but participants complained of over-work. Six working days were used in a week and the hours were long, though for the participants not extending after their evening meal. Trainers worked a seven day week, usually late into the night.

It has been suggested that workloads could be eased by reducing the course content and substituting role play or lecture sessions for some of the fieldwork. However, the counterargument to this has been stated earlier. First, the Shurugwi course was an experiment with a training methodology that involved farmers. Second, for RRA to work those taking part must be able to learn rapidly and progressively. This requires that outputs from one activity become inputs to the next. No step can be cut out and artificially enacted.

Another option suggested is that for government personnel the course be held in two halves, one iteration at a time. But again, if the intensity of the fieldwork is mitigated by a time-gap the rapid and progressive learning requirement is threatened. In addition the result

is in effect that two courses, instead of one, have to be organised. This may present logistical problems and increase some costs.

Although the above two options have drawbacks, it is not easy to offer other simple solutions for reducing working time. We would rather emphasise that the managing of time is an important aspect of the art of RRA, while the success of any rapid appraisal exercise is dependent on the linkage between activities. If this is managed well, not only will more be learned but time will be saved. Any activity not wholly relevant to the procedure would be omitted. And by the logic of the linkage between activities being clear, participants would require less time to understand and to carry out the next activity.

Another issue is that the information generated must not exceed what can be managed in the available time. There are two points here. Through the exercise key subject areas should be identified and information gathering focussed on these. In this collection, formats should be used whereby the information can be analysed quickly and easily. Summary and analysis of quantitative data was time-consuming and threatened to delay the completion of two steps. Lotus 1-2-3 proved an effective spreadsheet for our data, and we recommend that if trainers have preparation time in the field, one useful task would be to prepare appropriate spreadsheets and formulae beforehand. Ways of achieving these ends are suggested in the subsequent detailed discussion of course activities.

It is likely that the better time is managed and linkages between activities established, the more participants will learn and the less they will complain of overwork. We do not guarantee it, however – and do not believe either that trainers themselves, if they are to mount a successful course, can avoid long and hard hours.

0.9.7 Composition of the Training Team

The training team in Shurugwi comprised 13 trainees, four technical and local advisers, one organiser, and four trainers. This number of trainers and advisers is necessary to obtain the necessary disciplinary spread. It would be possible, however, to increase the number of trainees by another five persons without jeopardising the quality of the course so long as enough transport and facilities were available.

All participants were graduate scientists – three social scientists and ten natural scientists – and a few had Masters degrees. This educational level is appropriate for the approach used. The social scientists benefitted from exposure to natural science methods, while contributing professionally to the social science aspects and vice versa. The trainees came from Kenya, Malawi, Tanzania, Zambia and Zimbabwe, and worked for a variety of research and extension institutions, government and non-governmental. The mixing of researchers with extension staff proved particularly fruitful in the formulation of agroforestry interventions.

The trainers, advisers and course organiser included: a rural sociologist; a soil scientist; an agroforestry extension officer; a forestry research officer; an agroforestry research scientist; a specialist in tropical forestry and agroforestry; a plant scientist; and two range ecologists/livestock production specialists.

Our experience showed a good typist with word processing skills should be a member of any future team: we found it difficult to keep up with the production of teaching materials relying on our own typing.

0.9.8 Equipment

Access to reliable transport is a major factor in the success of this kind of programme. Hired transport was used – one four-wheel drive pick-up, two stationwagons and a saloon. Other equipment which proved important included:

two Zenith portable computers with printers
Wordstar program
Lotus 1-2-3 spreadsheet ▶

one photocopier
time series aerial photographs
stereoscopes
compasses
surveyor's chains
tape measures
overhead projector and accessories
flip chart and accessories
detailed typographic maps
chinagraph pencils
soil augers
spades
Munsell soil colour chart
abney level

A Background to Shurugwi Communal Land Area of Zimbabwe
A Summary

The History of the Communal Areas

The present-day Communal Land Areas of Zimbabwe originated as the "Native Reserves", the residual land not taken by the white settlers as they occupied "Rhodesia". Demarcated as "Tribal Trust Land" by the racial Land Apportionment Act of 1930, the indigenous population, comprising around 94% of the total, was allocated just over 40% of the land area. Settlers, 6% of the people, received half the total land area. Three quarters of the Tribal Trust Lands are in agroecological zones III, IV and V, where agricultural potential is low. The Commercial (settler) Farming areas are better endowed climatically and with good soils.

Independence was secured in 1980. By 1982, 56% of the population (now much larger) still lived in these same reserves, renamed 'Communal Areas'. Apart from land which is being acquired very slowly in the Commercial Farming Areas through resettlement schemes, this land resource is fixed. Thus, more and more pressure is being placed on its productive capacity as the population increases. For instance, in 1969 there were 25,000 people in Shurugwi Communal Area but by 1987 this number had almost doubled to 49,000, a density of 50 people/sq km.

The pressure on the land which is already poor in resources, precludes use of traditional shifting cultivation or any system of fallow rotation. The combination of these factors has led, in many communal areas, to deforestation, inadequate food and fodder, and, it is claimed, to land degradation.

The Organisation of Shurugwi Communal Area

Shurugwi Communal Area comprises 5 wards of 6000 people each. This training and research exercise took place in Ward 3 which is divided into five villages.

Three 'training groups' worked in one village each. These were called Matamba, Mavedzenge and Makandire. Each village has its own Village Development Committee (VIDCO). This is set up to manage the affairs of the village. The VIDCO is composed of the following:

(i) members elected by the villagers – 4
(ii) members who represent youth – 1
(iii) member who represents the Women's organisation –1

A VIDCO Chairperson and Secretary are elected by the VIDCO to represent the village at ward level. The training team worked with the VIDCO as well as with farmer groups.