Sustainability Indicators for Natural Resource Management & Policy

Working Paper 5

Stakeholder Analysis and Local Identification of Indicators of the Success and Sustainability of Farming Based Livelihood Systems.

David Howlett, Richard Bond, Phil Woodhouse and Dan Rigby

July 2000

ISBN: 1 902518870

The effects of policy and institutional environment on natural resource management and investment by farmers and rural households in east and southern Africa

(Department for International Development Research Project No. R7076CA)

Development and Project Planning Centre, University of Bradford, UK

Centre for Agricultural, Food and Resource Economics

Institute for Development Policy and Management, University of Manchester, UK

Economic Policy Research Centre, Makerere Campus, Kampala, Uganda

Agricultural and Rural Development Research Institute, University of Fort Hare, South Africa

BACKGROUND TO PROJECT AND WORKING PAPER SERIES

This paper is one in a series of working papers prepared under a research project on '*The Effects of Policy on Natural Resource Management and Investment by Farmers and Rural Households in East and Southern Africa'*.

This is a collaborative research project implemented by Agricultural and Rural Development Research Institute[1], the Development and Project Planning Centre[2], the Economic Policy Research Centre[3], the Institute for Development Policy and Management[4] and the Centre for Agricultural, Food and Resource Economics[4]. The project is supported by the UK Department for International Development (DFID) under the Rural Livelihoods Department's Policy Research Programme. The project commenced on 1 July 1998 and is to run for a three year period.

The overall goal of the project is to assist in the development of more effective, equitable and sustainable participatory management of renewable natural resources in sub-Saharan Africa. The purpose of the research is to identify the links between the sustainability of different farming systems and agricultural policy in South Africa and Uganda.

This is to be achieved through a series of case studies in South Africa and Uganda which will examine "the success or sustainability" of small and large scale systems from a range of perspectives including: farmers, communities, scientists, planners and policy makers. This will include the identification of criteria used to assess the "success" of these systems, and the adoption or development of verifiable and measurable indicators of this "success". The impacts of different polices on the degree of success of these systems will be assessed in terms of their effect on farmers' management of, and investments in, their natural resources, and in the development of sustainable rural livelihoods.

This paper '*Stakeholder Analysis and Local Identification of Indicators of Success and Sustainability of Farming Based Livelihood Systems'* is the fifth in the series of the project working papers. It describes a method to identify the stakeholders in small and large scale farming based livelihood systems, and to determine their perceptions of its success, the status of their livelihood assets and the indicators they use in this assessment. The results of these studies for Uganda and South Africa are to published in further working papers in this series.

This research was funded by the Department for International Development of the United Kingdom. However, the findings, interpretations and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed to the Department for International Development, which does not guarantee their accuracy and can accept no responsibility for any consequences of their use.

[1] *University of Fort Hare, Alice, Eastern Cape, South Africa*
[2] *University of Bradford, Bradford, West Yorkshire, United Kingdom*
[3] *Makerere Campus, Kampala, Uganda*
[4] *University of Manchester, Manchester, United Kingdom*

THE AUTHORS

David Howlett is a lecturer in Natural Resource and Environmental Management, Development and Project Planning Centre (DPPC), University of Bradford.

Richard Bond is a lecturer at the Institute for Development Policy and Management (IDPM), University of Manchester.

Dan Rigby is a lecturer in Environmental Economics, School of Economic Studies, University of Manchester.

Phil Woodhouse is a senior lecturer in Environment and Rural Development, Institute for Development Policy and Management (IDPM), University of Manchester.

PROJECT WORKING PAPERS TO DATE

1. A Review of Indicators of Agricultural and Rural Livelihood Sustainability.
2. A Framework for Research on Sustainability Indicators for Agriculture and Rural Livelihoods.
3. Natural Resource Management and Policy in Uganda: Overview Paper.
4. Natural Resource Management and Policy in Eastern Cape Province, South Africa: Overview Paper.
5. Stakeholder Analysis and Local Identification of Indicators of the Success and Sustainability of Farming Based Livelihood Systems.

For more details on the project, this paper, and others in the series, please contact the UK or African co-ordinators:

- *David Howlett -tel. +44 1274 235286, email d.howlett@brad.ac.uk*
- *Phil Woodhouse - tel. +44 161 275 2801, email phil.woodhouse@man.ac.uk*
- *Godfrey Bahiigwa – tel. +256 41 541024, email bahiigwa@eprc.or.ug*
- *Peter Lent – tel. +27 40 6531154 , email pclent@ufh.ac.za*

Project details and downloadable copies of working papers are also available on the project's web site:

- *http://les.man.ac.uk/jump/indicators.html*

TABLE OF CONTENTS

1. INTRODUCTION

One of the aims of this project is to develop a set of indicators of the sustainability of farming-based livelihood systems that can be used to assess or monitor the impact of policy and institutional change on these systems. The research will produce two set of indicators. The first is the "external" set of sustainability indicators identified by the research teams based on the literature and country studies (reported in Working Paper No 2). This paper describes a methodology for identifying a second set comprising local indicators of success. From these local and external sets of indicators it will be necessary to select a smaller, combined set of indicators will then be measured and monitored. Criteria for the selection of these indicators are discussed in the overall research framework (Working Paper No. 2).

To achieve the project's objectives a clear distinction is made between the success and sustainability of systems. What is considered to be a "successful" farming based systems may, or may not be considered to be sustainable. Different stakeholders in any given context are likely to give different answers to whether a system is successful and/or sustainable. Key questions are therefore:

- What criteria are used to determine the success of systems, by whom, and for what purpose?
- How do these criteria of success compare to criteria of sustainability? The two may or may not be the same.
- How can a set of sustainability indicators be developed which are both useful to policy makers and relevant to, and representative of, farmers' realities and concerns?

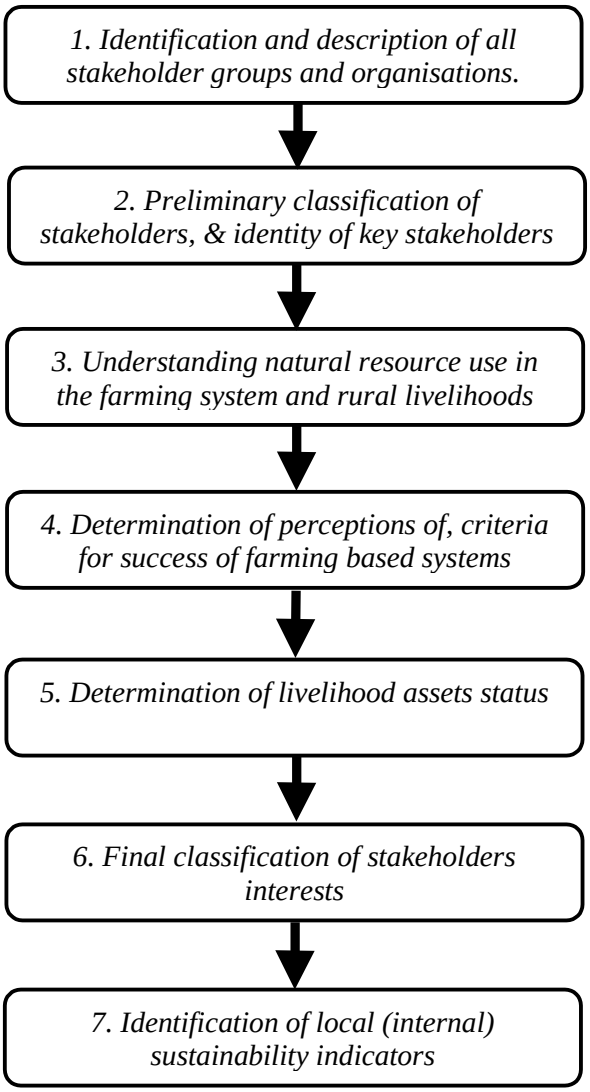
This paper presents a method to determine the perceptions of success of different stakeholders of farming based livelihood systems, the criteria they use in making this assessment, and the status and access primary stakeholders have to livelihood assets. This methodology is divided into five parts:

- understanding the farming based livelihood systems and the identification of stakeholders in the system;
- classification of stakeholders in terms of function, interests, importance and power/access to livelihood assets/capitals;
- identification of the perceptions of success of farming-based livelihood systems;
- determination of assets considered important in farming-based livelihood, and the access different farmers have to these assets; and,
- identification of local stakeholders', or 'community level' indicators of success of farming-based livelihood systems.

A flowchart of this methodology is given in Figure 1. From the application of this methodology the following six outputs are expected:

- Description of the farming-based livelihood systems.
- Identification of different groups and organisations with a stake in the farming based livelihood systems of the case study areas. This will include formal and informal groups and organisations such as: farmers and households (differentiated by wealth status); villages; NGOs; community-based organisations; government agencies; and private and commercial organisations.

Figure 1 Research steps for stakeholder, livelihood and indicator analysis



- Description of the interests of these different groups, and the identification of key stakeholders who should be actively involved in the research.
- Perceptions of the success of the farming (livelihood) systems of the different key stakeholders. This should include the identification of core issues and challenges to natural resource management in case study areas.
- An assessment of key assets for farming based livelihood systems.
- Identification of local indicators of key stakeholders to assess/monitor the success of farming based livelihood systems of the case study areas.

The full results of the application of this methodology in the case study areas in South Africa and Uganda are to be published in subsequent working papers in this series. Examples of these results are used in this text to illustrate the methodology.

2. IDENTIFICATION OF STAKEHOLDERS

2.1 Overview

The approach to stakeholder analysis in this methodology is based on the adaptation of stakeholder analysis for projects (Montgomery 1995, DFID, 1995, and Howlett, forthcoming). This adaptation takes two forms: firstly, translation from a project to a natural resource system scenario; and secondly, through the addition of extra steps and details to enhance the analysis for research purposes.

The following steps assume that the case study areas have been identified and the individual farming systems within those areas are briefly described. The steps are applied to each system even though there may be overlap and interdependence between systems. The purpose of this section is to ensure that all the key stakeholders, in what may be complex systems, are identified. Not all the steps may be necessary in all areas, and therefore judgement on their use is required. The methodology should be applied flexibly with effort made to ensure that the steps are not simply followed mechanically. The initial identification of stakeholders will be undertaken using a combination of three methods:

1. Preliminary list of stakeholders based on the research team's prior knowledge of the systems under study, and interviews with key informants with a good understanding of these systems.
2. Farming systems analysis of the case study areas using participatory methods and workshops.
3. Visits and interviews with key informants and primary stakeholders.

2.2 Preliminary listing of stakeholder groups

For the majority of farming systems there will already be an understanding of these systems and on the different groups and organisations involved with these systems. This may either be based on personal knowledge or published papers and reports. These should be used to produce a preliminary list of stakeholders groups.

2.3 Farming system analysis

This analysis of stakeholders should be followed in the field by a farming system analysis with a small selection of 'key informants'. These will either have been identified from the initial list of stakeholders and/or in consultation with local agricultural extension officers and other relevant authorities or organisations. These should be predominantly, but not exclusively, direct producers from the system (i.e. mainly farmers in this research) and be representative in terms of the range of size and investment levels within the system. Depending upon the nature of the group and logistical practicalities a workshop should be held to undertake the following participatory activities which are described in more detail in Annex I:

- *Seasonal Calendars* to understand the basic annual rhythms of the production system. This will be an excellent 'warm-up' to the subject but may not be necessary if the farming system is well understood.

- *Flow Diagramming* to elicit the main tangible and intangible inputs, processes and outputs of the production system. This will indicate where secondary stakeholders might connect with the system.
- *Venn Diagramming* to elicit the range of organisations and individuals involved in the system, their overlap and relationships and their importance to the functioning of the system. This will be an essential step unless an alternative method can identify all stakeholder groups.

It should be noted that if there is a very good prior understanding of the farming system then it may not be necessary to undertake all or any of these activities.

2.4 Preliminary classification of stakeholders

The preliminary list of stakeholders should now be amended based on the output of the farming systems analysis. This list is now used to classify the stakeholders and to identify the key stakeholders for further research activities (See section 5).

3. PERCEPTIONS OF SUCCESS

3.1 Overview

An essential part of the research is to determine the perceptions of the success (or failure) of systems by different stakeholders, and then to relate these to the sustainability of the systems. This is undertaken through participatory workshops and/or semi-structured interviews with key informants from the different stakeholder groups. For instance, a group workshop for farmers and other local stakeholders from the same area is both a sensible and feasible approach. However, for other stakeholders such as distant suppliers or traders, policy makers, large commercial farmers, individual interviews may be the best approach. It may be appropriate to use both workshops and interviews.

3.2 Participatory workshop

This workshop activity can be combined with the farming systems analysis provided time allows. The outline for this is given below.

- *Criteria of success* identified by asking the group their perceptions of the success of the farming system and the criteria they use to judge this success or failure. To minimise researcher bias initially, no particular guidance should be offered, but the group's initial responses should be recorded.

- Once this has been done, a *brief* discussion should probe for any further criteria, using the 'five capitals' (Box 1) of the Sustainable Rural Livelihoods framework as guidelines (Woodhouse et al, 2000 and Carney, 1998). This should be undertaken with probing questions in relation to the different capitals and sustainability some examples of which are:

  Natural capital: How can farmers be successful despite natural misfortunes (e.g. poor weather, pest attack, poor soil, etc)?

  How would you recognise a successful farm, (a failing farm) from its appearance?

  Physical capital: What kinds of investments (in equipment, buildings) have you observed successful farmers to make?

  Human capital: How should a successful farm benefit the family? (in what ways)

  Should a successful farmer's children expect to help him run (expand) the farm or take up careers outside farming?

  Financial capital: Are there any differences you have observed between marketing, credit, savings arrangements of more successful and less successful farmers.

  Social capital/ issues: What social advantages and / or responsibilities does a successful farmer have in the community?

It is recognised that these particular questions may not be appropriate to all (or any) of the study area. They are given to illustrate how the five capitals can be used to prompt the discussion in terminology that the group may more easily understand. They will need to be reformulated so as to be appropriate to the specific social context. The aim should be to give the group an opportunity to identify additional criteria by which they would identify a farm's success. It should not be seen as a requirement to produce an exhaustive list of criteria responding to every one of the 'five capitals'. Where discussion identifies further criteria of

success they should be added to the list of those identified initially. Finally the group should be asked to rank the listed criteria in order of importance.

3.3 Semi-structured interviews

For different stakeholders it may be more appropriate to conduct a series of individual interviews. It may also be useful to conduct individual interviews with stakeholders who attended the workshop to cross check, or triangulate information. These interviews should be semi-structured where a series of open questions are asked, followed by more specific questions depending upon the responses to the open questions. Examples are listed below. Responses to these questions should be recorded (either in writing and/or with a tape recorder[5]). The precise form and content of the discussion will depend on the stakeholder and the case study area.

Examples of initial/general questions:

- What are the main sources of peoples' livelihoods/incomes in this area?
- Tell me about the farming systems of this area?
- How successful is farming around this area?

Examples of more specific questions:

- How can you tell if a farm is successful?
- What are the main obstacles you see to expanding agriculture/incomes in the area?
- How do you think farming will be in 5/10 years time?
- Also see those questions relating to five capitals mentioned in section 3.2.

An example of indicators used by local stakeholders to determine success and failure of farming in one of the Ugandan case study sites is given in Table 1.

[5] *If you use a tape recorder you should of course seek the permission of the interviewee first!*

Box 1 Livelihood assets and capitals

Assets are considered to be stocks of different types of 'capital' that can be used directly or indirectly to generate livelihoods. They can give rise to a flow of output, possibly becoming depleted as a consequence, or may be accumulated as a surplus to be invested in future productive activities. The SL framework identifies five basic types of capital that comprise assets for livelihoods: natural, physical, financial, human, and social:

Natural capital consists of land, water, and biological resources such as trees, pasture, and wildlife. The productivity of these resources may be degraded or improved by human management.

Physical capital is that created by economic production. It includes infrastructure, such as roads, irrigation works, electricity supply, and reticulated water, and also producer goods such as machinery.

Human capital is constituted by the quantity and quality of labour available. At household level, therefore it is determined by household size, but also by the education, skills, and health of household members.

Financial capital consists of stocks of money or other savings in liquid form. In this sense it not only includes financial assets such as pension rights, but should also include easily-disposed assets such as livestock, which in other senses may be considered as natural capital.

Social capital includes any assets such as rights or claims that are derived from membership of a group. This includes the ability to call on friends or kin for help in times of need, support from trade or professional associations (e.g. farmers' associations), and political claims on chiefs or politicians to provide assistance.

From Carney, 1998

Table 1 Uganda example of local indicators of success, failure and sustainability

Indicators of a successful farm	*Indicators of a failing farm*
Clean, well maintained garden (appearance)	Unweeded, poorly maintained garden
Practicing of soil and water conservation	Lack of soil and water conservation technology
Post harvest storage (stores/granaries)	Lack of storage facilities (store/granary)
Perimeter trenches to prevent invasion of weeds from neighbouring gardens (couch grass)	Lack of perimeter trenches against weeds from neighbouring gardens
Timing of farming operations	Late timing of farming operations
Spacing (lines)	Poor agronomic practices
Planting improved seeds	
Having selected good trees in coffee plantation	
	Lack of interest in farming by the farmer
Indicators of sustainability of a farm identified by farmers	
Availability of capital for investment	
Utilisation of extension advice and knowledge	
Soil fertility	
Sufficient amount of land	
Household interest in the farm enterprise	
Utilisation of indigenous/ traditional knowledge	
Foresightedness	
Availability of market for produce	
Presence of good roads	

4. LIVELIHOOD ASSETS STATUS

4.1 Overview

The next step of the research is the determination of assets considered important in farming-based livelihoods by local stakeholders, and the access different farmers have to these assets. In this methodology this is to be achieved by the preparation of a "livelihood assets status framework matrix". The purpose of this framework is to provide a simple, quick, and easily understood assessment of the status of access, endowment and or utilisation of the different capitals based on local understanding and perceptions of stakeholders in the system.

The framework is based on the five capitals of the sustainable livelihoods framework (Box 1) and describes the low and high status in access, use and/or endowment of the five capitals as defined in locally understood terms and perceptions. This is an adaptation of the method of 'Quality of Life Assessment (Bond & Hulme, 1992). For each capital a different range of word pictures, scenarios or indicators are determined by the relevant stakeholders to represent the best and worst scenarios in their view. The outline of this framework is shown in Figure 2, where each capital has arbitrarily been given different numbers of pictures.

The framework is then used to assist in the interpretation of local criteria of success, the identification of local indicators and to assess the success of the systems from the perspective of different stakeholders. This information can then also be used to compare between different systems and the status of different groups within the same system.

Figure 2 Outline of Asset Status Framework

Capital	*Description or picture of access, utilisation, and/or endowment of capital*									
	Low or worst status									*High or best status*
	1	2	3	4	5	6	7	8	9	10
Natural	Picture A					Picture B				
Physical	Picture A				Picture B			Picture C		
Human	Picture A					Picture B				
Financial	Picture A		Picture B			Picture C		Picture D		
Social	Picture A				Picture B			Picture C		

Each cell contains a word picture of a stage or a series of quantitative/qualitative indicators appropriate to an individual farm. A scale is given along the top of the matrix to allow scoring of each cell.

4.2 Deriving the framework

To use local perceptions of the five livelihood capitals a broad-based group of local stakeholders needs to be convened for the purpose of developing a matrix of locally meaningful descriptions of 'Low' and 'High' asset status. The group will require a clear explanation of the method in the local language by a facilitator who is clear about the differences between the five capitals. Invitation should be given to describe the low and high

situations first. If the group wish to describe other stages in between, this could include anything from two to five situations/scenarios/pictures.

While it is important to allow the group the freedom of describing as many stages as they feel reflect the 'known' situations within the area, it is not essential that intermediate stages are defined, particularly if the participants in the exercise appear to have difficulty in doing so. It should be noted that where 'high' and 'low' asset status are described in quantitative terms (e.g. land area, number of cattle) one or more intermediate values can be simply identified without further discussion. It *is* essential that clear descriptions of the lowest and highest status of each of the five types of asset are given. The enumerator should regularly test that these correspond to known situations in the area.

For certain groups of stakeholders the use of a workshop may not be practical. To determine the framework for these groups four to five individuals should be interviewed and asked to complete the framework. A composite framework is then developed based on these responses.

The example shown in Figure 3 shows that criteria of 'worst' and 'best' asset status will involve strongly normative criteria, particularly with respect to 'human' and 'social' capital assets, that reflect the social position of those participating in the workshop. In some cases it maybe that the workshop represents the wealthy or more powerful. If this is the case it will be necessary to conduct further workshops or interviews with the poorest or most disadvantaged groups.

Figure 3 Example of livelihood asset status framework, Uganda

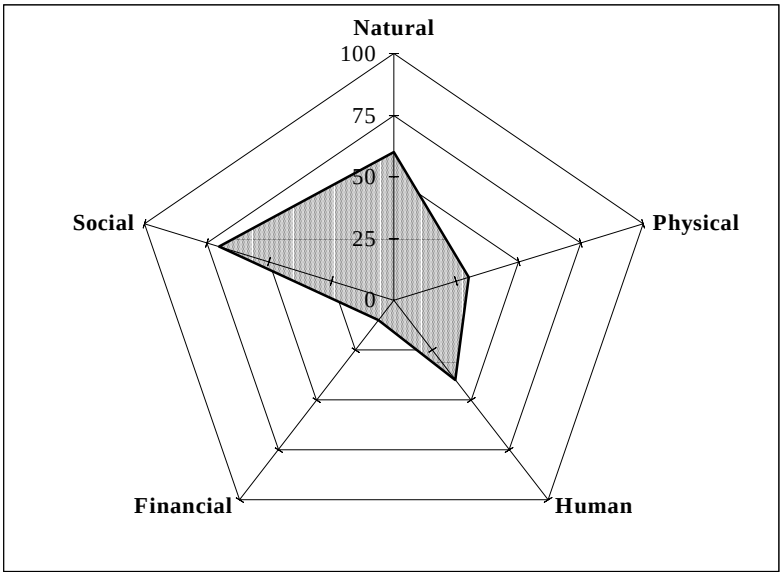
Low status *(access, utilisation, endowment)* *High status*

Natural	• Barren rocky/sandy unproductive soils • Hilly slope • No rain • ¼ - ½ acre • Water is far (>3 miles) • Monkeys and pests • No trees • Poor yields	• 1 acre Partly fertile • Water is not that far, about 2 miles (6 bibanja) away • Food secure, does not sell but grows enough for him and his family	• 2 – 3 acres • Medium soils	• Larger piece of land • Water available	***Score 90*** • Good soil • Nearby water source • Rains when needed • Well looked after • No pests or animals / vectors or vermin • Gently sloping land • 5 – 20 acres of land
Physical	• Small hoes of poor quality • Begs / borrows implements • Does not have gum boots or protective clothing • No good seeds • No spraying • Dilapidated homestead structures • One pair of trousers • Could be near road but it may not be useful to him • No latrine, poor quality • A few saucepans	• 2 hoes (bad quality) • Dresses reasonably well • Has spraying pump • House is semi-permanent structure, mud walls, iron sheet roof	• Can hire a tractor • Enough hoes • Sells surplus produce • 2 spraying pumps • Well maintained homestead buildings with latrine		• Tractor • Transport for heavy things • Enough hoes, about 10 • All necessary implements • Improved seeds • Store / granary • Near an all-weather road (less than ½ km away) • Wheelbarrow • Spraying pumps • Electricity supply • Gum boots / protective clothing • Clean house • Has own means of transport
Human	• Polygamous or small family • No food • Poor health • Easily angered • Does not heed advice • Children are not educated • Illiterate / uneducated • No workers • Ill-informed, poor agronomic practices	• Can read and write but does not plan, cannot take decisions, speaks English • Has some agricultural knowledge • About 3 – 5 temporary workers • Large family, about 8 children • Attends seminars • Children are educated		• Healthy family members, enough food • Reasonable family size (2 adults, 5 children) • 4 – 10 permanent workers • The farmer is literate (able to read documents) • Adequate labour • Well informed • Children are educated • Has reliable market information	
Financial	• No one lends to them, not even friends • Pays tax of Ush 10,000 or does not pay any • No collateral • No assets • No coats, clothes • 1 goat • No savings • No money in the house • Even begs • Cannot afford school fees	• Has some money to buy essentials, but does not bank • Is most vocal against financial increments during school meetings • Has 1 or 2 cows • Pays taxes (Ush 16,000) • Sells some coffee, which may be raw • May sell other crops as well to meet his essential needs	• Has a bank account • Pays taxes • MP has lunch at his house • Has a motorbike that he uses for transport business • Can afford pesticides and fertilisers		• Best market information • Has at least 10 cows • Banks • Has credit facilities • Property in town • Opinion is sought • NGOs can lend him money • Has other professions (traders, lawyers, civil servants) • Tax Ush 80,000 • Extension workers visit him the most
Social	• Does not try to emulate his neighbours • Is always visiting and begging for food • Does not pay taxes • Has no friends • Can even leave his door open, no-one can rob him, there is nothing to rob • Gets free booze (maybe a drunkard) • No-one lends him money • Stigmatised • Trusted, can be used to run lowly errands • No-one respects him • No responsibility, even at LC1 Does not dine at the Chairman's house • His suggestions are disregarded • Doesn't go to seminars • No original ideas of his own • Actively participates in all village activities e.g. digging graves • Has no say in meetings	• Attends funerals • Interacts / associates with the worst because that is where he is afforded respect • Tries to work with organisations, but they do not respect him	• Trusted, can get elected to executive positions in local councils • Organisations are ready and willing to work with him • Fits in with both best and 2nd worst; is a link • May not necessarily participate in community activities but he will be present • Can be Chairperson of LC1		• Not easily approachable • Elitist, mixes with his own class / peers • Isolated • Can be elected to local bodies in absentia • Trustworthy • Does not attend local functions, sends money • Dresses his family • Children are educated • Has gum boots • Participates in agricultural competitions • Has his ear to the ground • Extension workers visit him the most, as well as all the other organisations

4.3 Enumeration of assets

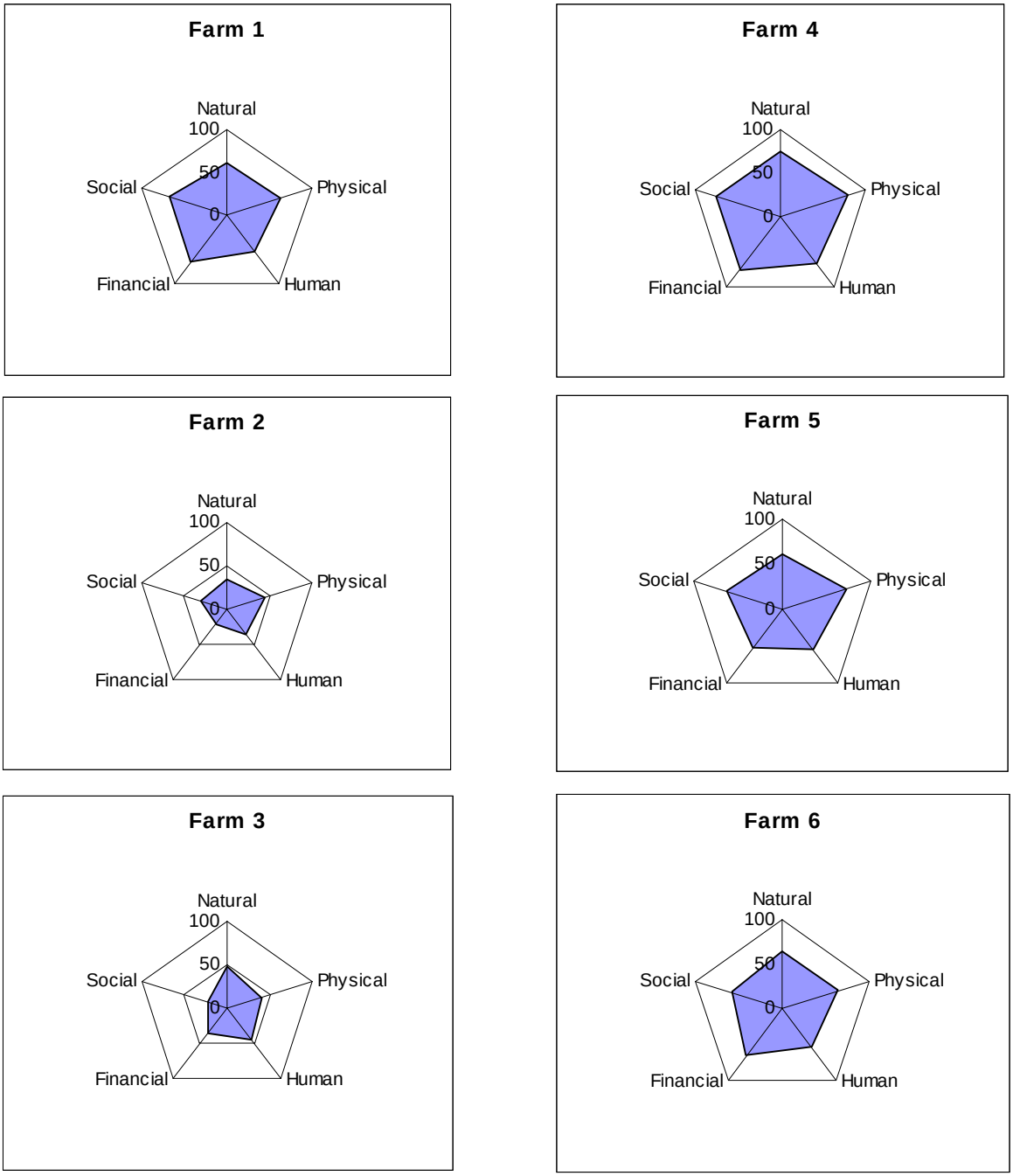
Once developed, a framework can be used for rapid assessment at the farm/household level through a combination of direct observation and questioning to assess which picture for each capital most closely represents the situation of the household. A score from 1 to 10 can also be assigned for each capital depending upon where the household falls – the worst having the lowest score, and the best having the highest. Scores of the most representative cell are counted or intermediate positions can be estimated. The scores for each capital can also be depicted on "an asset polygon" or "a livelihood cobweb" for a more rapid visual appreciation (these cobwebs are discussed in Working Paper 1). An example of a cobweb is shown in Figure 4.

Figure 4 Example of livelihood asset cobweb



Using these cobwebs a comparison can be made between different farmers or households systems, a comparison of the same system over time if this information is available, or a relative comparison of different systems. This would be based on the assessment of livelihood status according to local experience, therefore strict quantitative comparisons are impossible as experiences of the best and worst scenarios will naturally vary between farming systems and countries. For example, two farm households with a maximum score with respect to, for example, financial capital will have different *actual* levels of financial capital if they are from very different areas – where the boundaries of the asset status framework represent very different levels of capital. This relative scoring system must be borne in mind when comparing polygons/cobwebs across areas. Examples for different farm households in South Africa are given in Figure 5. The asset scores of individual farm/households are also used to confirm and understand the classification of the stakeholders and to assess the validity of the asset framework.

Figure 5 Asset status of different farm households in Eastern Cape, South Africa



5. FINAL CLASSIFICATION OF STAKEHOLDERS

5.1 Information required

The listing and initial classification of the different stakeholders started with the first step of this methodology. This section completes the stakeholder analysis based on the information already gathered, and on brief visits[6] to the organisations and primary stakeholders involved with the system for one or both of the following purposes:

- To obtain a profile of primary stakeholders with whom they are in contact in order to classify the size of operation. In practice it is relatively rare that organisations maintain comprehensive lists of primary stakeholders (e.g. farmers) with which they have contact. Estimates of the importance of an organisation to the system may need to be assembled from the description of the organisation and any quantitative information (e.g. turnover, area served, absence of competitors etc) obtained through interview.
- To obtain a brief description of the organisation/stakeholder in order to understand how they engage with the system (their importance to it) and what control they have over key capitals. This may include:
    - ◊ Formal status and remit;
    - ◊ Function in the production system;
    - ◊ Gains and losses from involvement in the system; and,
    - ◊ Ownership or control of assets (i.e. the five "capitals").

5.2 The classification

The classification of stakeholders is usefully recorded in a tabular format (see the example in Figure 5). It should be noted that there may be many different groups or organisations who have an interest or stake in the system. It is important to produce a comprehensive list, and not to just focus on the primary or secondary stakeholders. Some of these more "remote" stakeholders may have important effects or control over the system. In order to identify key stakeholders for the next stage of analysis, as much as possible of the stakeholder table needs to be completed, especially the last two columns. The better the information, the better the understanding of how the stakeholders interact with the farming system under study and the greater the time savings and quality of analysis in later stages of the research.

[6] *In practice it may not be possible to visit all stakeholders and a selection of the key stakeholders will have to be undertaken.*

Figure 5 Example of part of a stakeholder classification table for Uganda

Stakeholder		*Institutional Sector*	*Function/Interest*	*Importance to System*	*Power Over Capitals*
Class	*Name*				
Primary	Farmer	Private Individual / Household (Agriculture)	Crop production (banana/coffee farming system)	*Vital* ▪ Primary producer ▪ Vital in food and cash crop production ▪ Key decision maker over resource use and farm output	*Moderate* ▪ Controls human and natural capital ▪ Moderate power over social capital ▪ Minimal power over financial/physical capital
Secondary	Modern Farm Supply Shop	Private Enterprise (Input Supply)	▪ Provision of physical capital (hoes, slashers, fertiliser, pesticides, seeds) ▪ Provides advice to farmers regarding input use ▪ Provides credit to reliable clients	*Important* ▪ Vital to quality and quantity of production ▪ Significant to farm operations	*Low* ▪ High power over physical capital ▪ Limited influence over human and financial capital
Secondary	Extension Officer	Public, Local Administration (Ministry of Agric. Animal Industry and Fisheries)	▪ Demonstrates ideal farming practices for maximum yields ▪ Provides advice on how best to use existing resources ▪ Fosters emulation of good farming within the community	*Important* ▪ Vital to provision of advice ▪ Important to quality and quantity of farm yields ▪ Optional influence over fostering social interaction	*Moderate* ▪ High power over human capital ▪ Moderate power over physical capital ▪ Marginal power over social capital
Secondary	MedNet Subsidiary of World Vision	Private, Non-Profit Service (Micro Finance Institution)	▪ Provision of credit ▪ Provision of business advice ▪ Linkages of clients to other institutions ▪ Linkages with other MFI's ▪ Influencing group membership ▪ Approximately 25 farmers receive credit per month	*Important* ▪ Important in terms of providing credit ▪ Significant in giving business advice ▪ Marginal in terms of linkages	*High* ▪ High power over financial capital ▪ Moderate over human capital ▪ Moderate over social capital
External	Secretary for Production at District Level	Public, Local Government (Elected politician at District Level)	▪ Oversees agricultural production in the district ▪ Linkages with central government ▪ Represents district agricultural production interests at a national level	*Important* ▪ Facilitates operations of extension officers ▪ Important link in addressing constraints at a district level ▪ Important to social interaction at district level	*High* ▪ High power over social capital ▪ Moderate power over physical capital

Primary stakeholders should be sub-divided by scale and by any significant variations in the system (e.g. coffee with bananas or bananas with coffee). All primary stakeholders should be considered as vital or important. The power over capitals of the primary stakeholders is derived from the asset status assessed for a sample of the group. Secondary stakeholders will have their importance given by the Venn diagramming ranking and their power over capitals should be summarised from the semi-structured interview. The steps to the classification are now described.

1. *List and Classify all Stakeholders:* according to the following categories and sub-dividing where significant differences are evident.

- *Primary Stakeholders:* Individuals, households (usually) or organisations who are directly involved in significant production from the natural resource base of the system concerned.
- *Secondary Stakeholders:* Individuals, households or organisations (usually) who are providing tangible or intangible inputs, or dealing with outputs or otherwise supporting the functioning of the system. Judgement will be required as to how far such 'chains' are included. This group may include government and non-government organisations who have an interest in the system or control over one or more of the five capitals. This could include Agriculture Extension services, marketing and input suppliers and other sectoral agencies, rural credit organisations and banks, developmental and environmental NGOs.
- *External Stakeholders;* Those other interested individuals, households or organisations who indirectly gain or lose from the system as it functions or as it might reasonably be expected to change, either through known trends or likely shocks. They may not be many but should be included in the analysis. They may include landless people in areas of large-scale farming, seasonal farm labour, competitor producers in other areas, wildlife support groups in areas of expanding agriculture, downstream producers deprived of water etc.

2. *Institutional sector*: determine the most appropriate sector and institution. The following guide to institutional categories is suggested:

- Public
  - Central government
  - Local government
- Membership
  - Membership organisation
  - Co-operative
- Private
  - Non-profit service
  - Enterprise
  - Individual / household

3. *Rank Importance (of the stakeholder) to the Functioning of the System;* in terms of productivity, equity or sustainability. This ranking will be qualitative and one of the following terms should be used to describe the importance: vital; important; optional; or , marginal.
4. *Rank Power or Influence of the stakeholder* over the capitals relevant to the system in terms of high, moderate, low/marginal, variable or unknown. If a secondary stakeholder has high power over even one capital, then they should rank as high since the nature of their specialisation may preclude interest in other capitals.

The stakeholder table in Figure 5 is the outcome of these four steps.

5.3 Identification of key stakeholders

The analysis is likely to have produced a relatively long list of stakeholders. It is now important to determine who are the key stakeholders in the system. These will be the groups who have either high importance and/or high influence. It is these groups who will be the focus of the research.

By this stage there will be a thorough understanding and description of the system and the stakeholders, which will facilitate selection of a group to produce a meaningful determination of their perceptions and indicators of success. It will also provide a useful understanding of key parts of the sustainable livelihoods framework of the primary stakeholders for the next stage of the research.

6. IDENTIFICATION OF LOCAL INDICATORS

A key part of this research will be the identification of local, community or grassroots ("internal") indicators of the success of the system. A first step is to tabulate the lists of ranked 'criteria for success and failure' (example given in Table 1) and identify a corresponding indicator for each criterion. This activity may be undertaken by the research team in the first instance, bearing in mind that indicators must be measurable in the subsequent phase of fieldwork, and should stand a reasonable likelihood of being easily understood by the stakeholders in future discussions. Note that separate lists of criteria of success may have been produced by visits to individual farmers, and separate tables must therefore be produced for each list of criteria, at least initially. A further source of indicators is from the asset status frameworks and an interpretation of the criteria used to develop the different pictures. An example of a set of local indicators grouped under the five capitals is given in Figure 6.

Figure6 Uganda Internal Indicator Set Organised under the 5 Capitals of the SL Approach

NATURAL	*PHYSICAL*	*FINANCIAL*	*HUMAN*	*SOCIAL*
• Size & appearance of bananas • Absence/presence of weeds • Soil fertility • Reliable rains/weather • Availability of water, pasture, trees • Quality of stock, breed • Yields (crop, milk) • Sufficient land • Pests & diseases • Soil degradation • Sloping land	• Availability of market, roads & infrastructure • Paddocks, parlour & cattle crush • Post-harvest storage • Improved seeds • Modern farming methods • Farm implements • Organic fertiliser • Housing quality	• Income level (particular activity as main source of • Income, supplementary sources) • Capital for investment • Disposable assets • Price of farm products	• Soil & water conservation • Spacing of crops/de-suckering • Extension advice • Record-keeping • Labour availability • Experience Acquired • Use of indigenous knowledge • Level of quality of education • Access to health services • Family size • Adequate food	• Status & prestige in society • Leadership role • Security of land tenure

7. THE NEXT STEPS

The next step of the research is to compare the local (internal) and external set of indicators and to produce a combined set of indicators for testing. This will be reported in a following working paper.

8. REFERENCES

Bond R. with Hulme D 1992 'A Review of the Operations of the Opportunity Trust / Maranatha Trust', IDPM, University of Manchester.

Carney, D (ed.). 1998. Sustainable Rural Livelihoods- what contribution can we make? DFID.

DFID 1995 'Stakeholder Participation and Analysis' Social Development Division, DFID.

Howlett, DJB. (forthcoming) Project Planning for Sustainable livelihoods. Earthscan.

Montgomery R. 1995 'Short Guidance Notes on How to Do Stakeholder Analysis of Aid Projects and Programmes' CDS, University College of Wales, Swansea.

Mukherjee N 1993 'Participatory Rural Appraisal: Methodology and Application', Concept, Delhi.

Pretty, J., Guijt, I, Thomson, J and Scoones, I. 1995. Participatory Learning and Action - A Trainers Guide. International Institute for Environment and Development.

Woodhouse, P., Howlett, D. and Rigby, D. 2000. A Framework for Research on Sustainability Indicators for Agriculture and Rural Livelihoods. Working Paper No 1.

ANNEX I PARTICIPATORY METHODS FOR FARMING SYSTEMS ANALYSIS

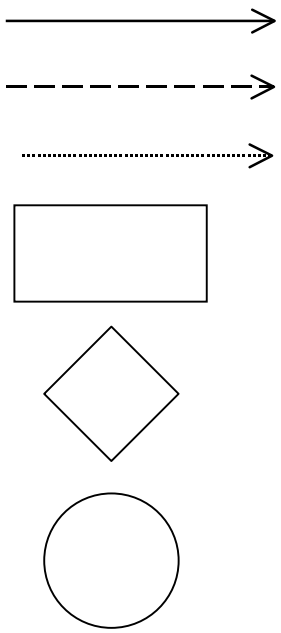
1. Seasonal Calendars

This standard participatory rural appraisal (PRA) technique starts by charting the main climatic variable (usually rainfall) for more than a year's cycle. Actual records or participant experience can be used as appropriate. Below, and in line with this chart several rows of a thematic nature are constructed. Themes reflect the main productive activities and conditions e.g. the growth period and stages of a crop, livestock movements / calving / sickness etc. Crop price variation can also be charted as well as the related cycles of natural resources used. This consideration of cycles within the annual rhythm of seasons helps to identify the processes relevant to the system for further analysis.

To develop a seasonal calendar this is best undertaken with a mixed group, predominantly producers of different scale, location and activity, but also with extension and other stakeholders knowledgeable about the system. A maximum number of participants would be around 30 and a minimum of 3 facilitators (main facilitator, recorder and assistant). Where a detailed knowledge of the farming system already exists this step may be left out. It is likely to take between 2 – 4 hours.

2. Flow Diagramming

Flow diagramming is best undertaken with a set of agreed symbols to illustrate flows of tangible and intangible inputs and outputs including different outcomes. Although the logic may not always be strictly correct, it should convey the participant's understanding of how the system generally works. A simple representation may have a picture of the main crop(s) at the centre and simple arrows representing inputs and outputs/usage. To fulfil the stakeholder identification purpose details of where inputs come from and where outputs go along with some idea of unit prices is useful. Again if the system is well understood and a careful Venn diagramming exercise is conducted, then this stage may be omitted. The group will be as for farm calendars above and this might take a couple of hours at most. If undertaken this should be run before the Venn Diagramming. A selection of suggested symbols and their meaning is given below.



Flow of tangibles, e.g. materials, products, wastes, migration.

Flow of intangibles, e.g. services, information

Financial flows, (with order of value / unit of (in)tangible

Stages / functions

Alternatives

End products

3. Venn Diagramming

In this version of the method circles represent the different stakeholders associated with the functioning of the farming based livelihood system. The size of the circle represents the importance of the stakeholder to the productivity, equity or environmental sustainability of the system. The circles may overlap to represent the degree of interaction between them e.g. not touching would mean no meaningful interaction, overlap of various degrees meaning more or less interaction and one circle within another would imply a subordinate function. Chains of contact may be shown. Alternative institutions for one function can either be shown separately or incorporated within one circle.

Careful explanation of the method is needed and adequate discussion of the various forms of secondary stakeholder from all sectors (including for example, 'neighbouring farmers' and 'local market' and not just formal organisations). When only one or two participants have knowledge of an organisation it should still be included as they may represent an important group of producers. When listed, pre-formed card discs with size and colour to indicate four grades of importance can be used for voting on importance of the organisation, the maximum wins and in a tie numbers voting more or less important can be considered. The picture or name of the organisation is then transferred to a card of appropriate size/colour. At the final stage a (larger) card disc representing the farmer is placed and the organisation cards are arranged around it to illustrate interaction by overlap. Care is needed to illustrate not only interaction with the farmer but inter-organisational interactions, and chains of contact.

4. Semi-structured interviews (edited version taken from Pretty et al. 1995)

Semi-structured interviewing (SSI) is central to participatory methods, and can be defined as: Guided interviewing in which only the topics are predetermined and new questions and insights arise as a result of the shared discussions. Key points to note are:

- While SSI's appear informal and the conversation is carefully guided by interviewers;
- Interviewers can use visualisation methods to encourage participation and develop rapport;
- Interviewers use a prepared interview guide or checklist;
- Interviewers pose open-ended and unbiased questions, and rarely use directive questions;
- Interviewers will probe responses to questions to go beyond "standard" answers;
- Interviewers can pursue new avenues of questioning as the SSI develops to generate hypotheses and propositions that require further testing;
- Interviewers are careful to judge responses by considering context and using triangulation to cross-check information;
- Interviewers take a neutral attitude, listen carefully and pay great attention to non-verbal cues;
- Interviewers record the interviews in detail either during the interview or immediately afterwards (a tape recorder is useful provided all agree to its use);
- Interviewers should build an environment in which the interviewee feels secure and more willing to answer in an open, honest and reflective manner;
- Interviewees are encouraged to ask questions of their own to the interviewers, and to have the opportunity to complete statements and offer responses without interruption;
- Interviewees have a right to know how the information gathered will be used.