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STRATEGY FOR RESEARCH ON RENEWABLE NATURAL RESOURCES

NATURAL RESOURCES SYSTEMS PROGRAMME
FINAL TECHNICAL REPORT

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R7805

Project title

Understanding Household Coping Strategies in Semi-arid Tanzania: Annexes 1A-1G

Project Leader

Mike Morris

Organisation

**Natural Resources Institute
University of Greenwich**

NRSP Production System

Semi-arid

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**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1A

**Proceedings of the Inception Workshop:
Understanding Household Coping
Strategies in Semi-arid Tanzania, &
Human and Social Capital's Role in
Natural Resources Management**

**Joint Project Inception Workshop
31st July - 2nd August, 2000
Sokoine University of Agriculture, Morogoro**

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE
and the
NATURAL RESOURCES INSTITUTE

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

1. Introduction.

1.1 The Department of Agricultural Economics and Agri-Business at Sokoine University of Agriculture (SUA), which is headed by Dr E Mbiha, hosted the inception meeting for two parallel research projects (R7805 & R7806) being funded by the UK Department for International Development (DFID) through the Natural Resources Systems Programme (NRSP) managed by Hunting Technical Services. SUA, who lead on R7806, *Human and Social Capital's Role in Natural Resource Management in Tanzania*, were represented by Dr E Mbiha, Dr E Lazaro, Dr E Senkondo and Dr F Taruka. NRI, who lead on R7805, *Household Coping Strategies in Semi-arid Tanzania*, were represented Mike Morris¹, Neil Marsland², John Butterworth³ and Richard Lamboll⁴. Each organisation is sub-contracted to collaborate on the other's project. Dr. E. Mbiha. The two projects will run until early next year - originally planned for 31 January, but as a result of this meeting and subject to NRSP agreement - with 31st March as the completion date.

1.2 There is considerable overlap in personnel involved from NRI and SUA in these projects, as illustrated in the following table:

Table 1: Personnel

Household coping strategies		Social and Human Capital	
NRI	SUA	SUA	NRI
Mike Morris	Dr. E Mbiha	Dr. E Mbiha	Mike Morris
Neil Marsland	Dr. E Lazaro	Dr. E Lazaro	Richard Lamboll
John Butterworth	Dr. E. Sekondo	Dr. E. Sekondo	John Butterworth
Peter Golob	Dr. F. Taruka	Dr. F. Taruka	Peter Golob
Ray Coker	Other		Ray Coker
	T. Stigmata (Local Perspectives)		
	M. Walsh (Mbomipa project)		

1.3 Given the overlap in personnel and also the close relationships between the subject matter and structure of the two projects, it was decided to have a joint inception meeting involving NRI and SUA staff. The meeting was held over three days: 31st July to 2nd August, and was followed by field visits to key target institutions. These took place on Thursday 3rd and Friday 4th August in Dar Es Salaam, and Dodoma.

1.4 *There were three key objectives of the visit:*

- To reach agreement on time-tabling of scheduled activities under each project and the roles and responsibilities of individuals from NRI and SUA.
- To begin the process of engagement with key stakeholders for both projects.
- To contribute to strengthening institutional relationships between NRI and SUA and other Tanzanian institutions.

¹ 30.07 to 11.08

² 30.07 to 04.08

³ 30.07 to 04.08

⁴ 02.08 to 05.08

2. Joint Project Inception Meeting: Morogoro 31st July – 2nd August.

2.1 Participating in this three day meeting were:

SUA	Emmanuel Mbiha (EM) Evelyn Lazaro (EL) Ephraim Senkondo (ES) Florens Turuka (FT)
NRI	Mike Morris (MM) Neil Marsland (NM) John Butterworth (JB) Richard Lamboll (RL) – Attended on August 2 nd only.

2.2 The meeting covered the following themes:

- Differences and similarities between “Understanding Household Coping Strategies In Semi-Arid Tanzania” and “Human and Social Capital’s Role in NR Management in Semi-Arid Tanzania”.
- Detailed allocation of scope, tasks, responsibilities and timings for literature reviews, brainstorming seminar and on-going consultation process.
- Less detailed timetabling of other project activities.

During the meeting several **action points** were noted. These are reproduced in the form of action point summaries under relevant sections of this report.

2.3 Differences and similarities

Participants acknowledged that there were both differences and similarities between the 2 projects. This was the subject of a brainstorming session. The following table is based on the brainstorming.

Table 2: Some differences and similarities between the 2 projects

	Coping Strategies (CS)	Human & Social Capital (H&SC)
Project Goals	Diverse coping strategies for poor HHs in semi-arid areas developed.	Strategies for integrated management of crops and livestock production which benefit the poor developed and promoted at catchment level.
Scale and focus⁵	<ul style="list-style-type: none"> • Focus on: small-holders; agro-pastoralists, parstoralists in semi-arid areas. • Focus on peoples strategies, but can be multiple scales depending on research issues: from individual intra-household to ethnic group or large geographical area. • Not restricted to NR strategies • The focus is on livelihood strategies for the poor. 	<ul style="list-style-type: none"> • Focus on small-holders in semi-arid areas. • A focus on management practices. • A focus on the catchment as the primary stratification criterion. • NR focus. • The focus is on the management practices of the poor.

⁵ A key issue is how to achieve a poverty focus in both projects in practice. Options for the HSC project include to target poor catchments, and poorest communities within catchments; specifically target 'poor' and 'rich' catchments

Level of investigation of integrated use of natural resources	Lower	Higher
Project structure	Three outputs and five basic stages: literature review; brainstorming seminar; fieldwork; uptake meeting; final report. Consultations throughout.	Three outputs and seven basic stages: literature review; brainstorming seminar; fieldwork I; report; fieldwork II; uptake meeting; final report. Consultations throughout.

- **Action point** – each institution to return to the NRSP call and comment further on differences and similarities

2.4 Scope, tasks, responsibilities and timings

Participants concentrated on the tasks to be undertaken over the next 3 months. There are three key tasks:

- Literature review
- Brainstorming seminar
- On-going consultations (to continue throughout the projects)

It was acknowledged that the structure of these tasks would be the same for both projects, although responsibilities could and would differ.

2.4.1 Literature reviews

Table 3: Time-scale and responsibilities for tasks.

Task/ sub-task	Provisional time-scale	Responsibility
1. Literature collection and collation.	Start immediately, references and annotations shared continuously.	NRI - European/UK Sources, Web search and collation, Regional sources (East Africa, Southern Africa, Sahel). References shared. Two copies of each document kept. SUA – Tanzania (especially grey lit.) & Regional sources (East Africa, Southern Africa, Sahel).
2. Production of annotated bibliography	Completed and circulated by mid-September (15 th)	Whole team , by persons finding/ with comparative advantage in relation to each document
3. Production of literature review	Good draft by end-September and available for sharing at seminar. Finalised after seminar by ?	Editorial team – For CS 2 (ultimately responsible) at NRI + 1 at SUA (responsible for some input, sharing with other team members in their organisation).

A number of potential sources for literature were identified – see Table 4 below. New literature can be added to the existing bibliography for the projects (see appendix 2). It is intended to set up an interactive bibliography system that can be accessed by all on both project teams.

Table 4: Literature sources

Source	Location
Donors	Offices in Tanzania e.g. DFID
Tanzanian Universities	IRA, UDSM (Theses, dissertations, working papers)
UK Universities/ institutes	Sheffield ODI IIED NRI (inc. LDRC archives)

	IDS
Other Universities	Arizona State University
Networks	ALARM
	DONET
International research institutes	ICRISAT
Consultations with key informants	
Project specific reports in Tanzania	SASA (UDSM)
Poverty focused programmes	REPOA
Drought focused initiatives	
Soil and water management focused programmes	RELMA, Nairobi
Livelihoods focused programmes	
SADDC	
NGOs	SOS Sahel CARE ACTION AID
Websearch	IIED

ALARM	Arid Lands and Resource Management Research Network for Eastern Africa.
DONET	Dodoma Environment Network
SASA	Sustainable Agriculture in Semi-arid Areas
RELMA	Regional Land Management Unit
UDSM	University of Dar Es Salaam
ICRISAT	International Centre for Research in the Semi-Arid Tropics
ODI	Overseas Development Institute
IIED	International Institute for Environment and Development
IDS	Institute of Development Studies (Sussex, UK)

At the end of the meeting, several points of detail had been agreed, but several more had yet to be finalised. These serve as **action points** for the literature review.

Table 5: Literature review progress

Completed	Remaining
<ul style="list-style-type: none"> scoped process 	<ul style="list-style-type: none"> individual responsibility
<ul style="list-style-type: none"> final and intermediate dates 	<ul style="list-style-type: none"> protocol for exchange of references
<ul style="list-style-type: none"> institutional responsibilities 	<ul style="list-style-type: none"> composition of editorial team
<ul style="list-style-type: none"> started scoping on literature sources 	<ul style="list-style-type: none"> table of sources
<ul style="list-style-type: none"> guidelines for citations 	<ul style="list-style-type: none"> format for annotations and review

2.4.2 Brainstorming seminar

As for the literature review, several aspects of this event were discussed and agreement reached on important issues. Seven tasks were completed with two remaining.

Table 6: Brainstorming progress

Completed	Remaining
<p>1. Draft objectives:</p> <ul style="list-style-type: none"> to validate literature reviews, and identification and prioritisation of gaps to build links with key stakeholders (other research organisations/ target institutions for uptake of research) further to consultations, may include support/ suggestions fieldwork assistance on methodology direction of fieldwork (+ more generally) continuation of team building & interactions NRI/SUA & interdisciplinarity 	<p>Develop programme/ agenda/ responsibilities for inputs/ select facilitator (MM with ?), prepare invitation letter/ pack</p>

2. Timing: 17/18 October (with subsequent planning on 19/20 October)	Responsibility for logistical arrangements (SUA) including booking venue
3. Pool of potential invitees: Project stakeholders listed	
4. Draft budget: Total budget around £2300 (£1300 H&S + £1000 CS)	
5. Number of participants: Maximum 35: about 10 from project team + other SUA, invite up to 15 with costs paid, may expect some extra who pay their own costs say up to 10.	
6. Invitations: Suggest invitation doesn't distinguish between the two projects. This may be confusing to participants.	
7. Venue: Morogoro, outside SUA. Perhaps TANESCO Training Institute	

2.4.3 On-going consultations

These were seen to be a very important part of both projects because they would encourage engagement in the process of the research and increase prospects of successful uptake of outputs. Through consultations, the project teams will gather a wide range of perspectives, contacts as well as literature. In order to set a framework for consultations, meeting participants developed a list of stakeholders in rural livelihoods and NR management (see Table 7).

Table 7.1: Stakeholders

Stakeholder groups	Details and contacts
Local Government and locally implemented programmes	<p>Civil Servants (district, division, ward, village):</p> <p>Extension workers; District Executive Director (DED); District Natural Resources Officers (DNROs); District Community Development Officers (DCDO); Ward Secretary; Village Executive Officer</p> <p>Local Reps (councillors etc)</p> <p>Ward Councillors represent at district level; Village Government (elected chairperson & committee)</p> <p>Projects</p> <p>HASHI, Hifadhi Ardhi Shinyanga; HADO, Hifadhi Ardhi Dodoma. HIMA, Hifadhi Mazingira (Iringa – DANIDA); Mbomipa; IFAD Project (Dodoma/Shinyanga)</p>
People in semi-arid areas (groupings include ethnicity, religion,	<p>Pastoralists (Maasai, Hadzabe)</p> <p>Agro-pastoralists (Wagogo, Barbaig)</p> <p>Smallholder farmers</p> <p>Traders/ informal sector</p> <p>Refugees</p> <p>Displaced people</p> <p>Estate workers</p>
Large commercial farmers	
Local community groups (NR focus)	
Village government	
Trainers/ Training institutions	<p>ICE; SUA (Faculty of Forestry, Faculty of Agriculture) UDSM; NGOs; Outreach networks (e.g. DONET ALARM Extension Service TANRIC); MoAC (Division – Information); Media (Radio, TV, Newspapers)</p> <p>Training institutions – forestry, wildlife, fisheries</p>

Table 7.2: Stakeholders - research institutions

Research Institutions
<p>SUA:</p> <p>Soil & water management group; Wildlife group; Dept of Agr. Educ. & Ext. Int. Forestry Res. Institute Project (IFRI); SUA-TU project; UEA PRP project on 'livelihood diversification'</p> <p>Tanzanian organisations:</p> <p>Ministry of Agriculture & Research (OIC Hombolo Research Institute, Dodoma); Tanzania Forestry Research Institute (Dr Nshubenuki/ Mr Masanyika); IRA, UDSM: (Dr Faustin Maganga); Economic Research Bureau (Dr. Maro); (ERB), UDSM; FARMESA (Mr Alex Nalitlela) ALARM; ESRF (Dr Haji Samboja); REPOA (Prof. Joseph Samboja/ Dr Likwelite); Tanzania Wildlife Research Institute (TAWIRI); Local perspective; Independent consultants</p> <p>International bodies:</p> <p>ICRISAT; ICRAF (Dr.R. Otysina); ILRI; NRSP Policy research programme (PRP); NRI.</p>

Table 7.3: Stakeholders - NGOs

NGOs
SOS Sahel; CARE; ACTION AID; OXFAM; Save the Children Fund (SCF); World Vision International (WVI) (Wilson Lutainulwa); IMARA (William Postma); SNV (Faith Patrick); VSO; Concern Universal; Local NGOs (Environmental etc); TANGO (NGO Umbrella Body); IUCN Project (Impacts of land management in Usambara mountains on water resources)

Table 7.4: Stakeholders - Private sector

Private Sector: (Includes: formal/informal, farm/ non-farm, small-scale/ large-scale, forest/ non-forest, private individuals/ households/ companies).
Small-scale exploitation (timber/ charcoal) may be licensed or illegal (Natural Resources Officers can provide local detail (tobacco curing, bushmeat, charcoal, hunting licences). Also District Trading Officers are useful entry point.)
Non-farm rural activities; Marketing (e.g. tobacco traders);DIMON, TLTC Livestock traders; Agricultural suppliers (equipment etc.); Small-industries development organisation (SIDO); Irrigation – small-scale and government schemes; Users associations (locally based private sector initiatives e.g. WUAs); Plantations and estates; Consultancies (Local perspective); Tour operators/ entrepreneurs; Conservation initiatives

Table 7.5: Stakeholders - Policy makers

Policy makers:
Government Agriculture (inc. farmer education and extension dept) Natural Resources (Forestry & beekeeping dept, fisheries dept., wildlife & conservation dept) Min. of Lands Min. of Industries & Trade Prime Minister's Office (National Poverty Eradication Strategy) Office of the Vice-President National Environmental Management Council Marketing Boards Ministry of Finance (Macro-prices, SAPS) Planning Commission (Presidents Office) Min. of local govt. Legal system/ judiciary
UN e.g. Rio (Convention on Conservation of Biodiversity, GEF) WTO
International binding conventions/ policies

Table 7.6: Stakeholders - Donor community

Donor community
World Bank, UNDP, DFID, DANIDA, FAO, UNICEF, IFAD, WFP, NORAD, CIDA FINNIDA, SIDA, USAID, IMF, African Development Bank, International NGOs

Table 7.8: Stakeholders - DFID

DFID
<p>Research Programmes RNRRS programmes e.g. NRSP, CPHP, CPP, PRP, LPP, AHP, FRP,</p>
<p>Advisers Alana Albee (Social Dev.) Jon Salmon (NR advisor) Waheed Sarriff Samji (Civil Society Advisor) Senior Natural Resources Advisor (Martin Leach)</p>
<p>Projects MBOMIPA Usangu wetlands</p>

After listing of stakeholders was completed, a matrix for further categorisation was generated. Completion of this matrix will assist project teams in planning of stakeholder consultations.

Table 8: Function criteria and stakeholders matrix

STAKEHOLDER TYPE	Practitioners	Policy	Planning	Research	Implementation	Teaching/training
Local Government programmes						
Smallholder farmers						
Large commercial farmers						
Local community groups (NR focus)						
Village government						
Trainers/ Training institutions						
Researchers/ Research institutions						
NGOs						
Private Sector						
Policy makers						
Donor community						
DFID						
NRSP						
NRI						

During the meeting, a 1 page flyer was prepared and a checklist of stakeholder questions was drawn up. These are attached as appendices.

With respect to stakeholder consultations, several tasks remain to be completed. These are listed in the following table:

Table 9: Stakeholder consultations progress

Completed	Remaining
<ul style="list-style-type: none"> draft list of stakeholders to be consulted 	<ul style="list-style-type: none"> Completing list of contacts for listed institutions and expanding list as appropriate confirming correct categorisation
<ul style="list-style-type: none"> shortlist of stakeholders for initial visits to DSM 	<ul style="list-style-type: none"> mapping of stakeholder consultation onto project process
<ul style="list-style-type: none"> template for matrix 	<ul style="list-style-type: none"> identification of criteria relevant to different parts of the project (seminar, meeting, fieldwork, visits, stage 2 and beyond)
<ul style="list-style-type: none"> action points re elaborating stakeholder matrix agreed 	<ul style="list-style-type: none"> agree protocol for engaging stakeholders
	<ul style="list-style-type: none"> draft questions for consultation glossary of terms (e.g. poverty, livelihoods, semi-arid) to be developed in Swahili

2.5 Time-tabling for other parts of the project

The timetable was reviewed and suggestions made for amendment. The dates agreed for the two projects were as follows:

- Household coping strategies to run mid-July 2000 to end March 2001
- Human and social capital to run start August 2000 to end March 2001

These dates are subject to NRSP approval.

It was agreed that the brainstorming seminar for both projects should be held on the 17/18 October, immediately followed by design of fieldwork on 19/20 October. Both projects should aim to start the fieldwork in the week beginning 23 October. There is a 6 week allocation for fieldwork, thus fieldwork should be finished by early December. Final dissemination / uptake meetings are scheduled for the week beginning 29 January 2001, with the proposed deadline for final reports being 31st March 2001.

2.6 Further action points

- Criteria for selecting and inviting seminar attendees finished by end of August 2000

2.7 Reflections on the meeting process

At the end of the meeting, participants gave their views on process.

EM - length was not too short, and not too long, but about right. EL - meeting was a bit slow at first, but we have got to know each other and interaction has progressively improved. MM – breaking up into groups for specific tasks worked well and was well reviewed when presented. RL - The stronger the consensus on the rationale for tasks before breaking into small groups, the better. NM – discussion on differences between 2 projects could have come sooner. RL – got to allow time for brainstorming to take place. This did evolve. JB – could have done more brainstorming. NM – didn't clearly clarify objectives for the meeting at the beginning. MM – could have circulated draft objectives and then the agenda. MM – it was very interesting and relevant to hear about previous work. Should aim to do this more

Key: EL = Evelyn Lazaro; EM = Emmanuel Mbiha; MM = Mike Morris; RL = Richard Lamboll; NM = Neil Marsland; JB = John Butterworth.

Appendix 1: Stakeholder Flyer (File: Annexes (1A-1G)-1A-Appendix 1)

Appendix 4: Checklist for consultations with stakeholders

The interview should aim to identify the following:

- what is the mandate of the stakeholder (i.e. authority base, type of activity e.g. research, policy, implementation etc., and geographical mandate if any)?
 - what are the aims/ mission of the stakeholder?
 - what are the existing/ past activities of the stakeholder?
 - from the stakeholders perspective, what are the key issues in natural resources management in semi-arid areas?
 - what sources of information/ knowledge are available (documents, key people etc.) ?
 - who do you work with e.g. networks, formal, informal?
 - what are the sources of funding of activities?
- [would be useful to think of translation of these terms in Swahili]
- *Livelihood strategies* – How is this understood? How are livelihoods issues incorporated into the stakeholders programme?
 - *Poverty* – How is poverty understood and addressed by the stakeholder?
 - *Human & social capital* – are these terms understood? prompt with examples if not. How relevant do they perceive human & social capital to be? Are other terms used?
 - What are the future plans/ opportunities?
 - What are key constraints and strengths may relate to uptake of the research findings (e.g. manpower, resources, structure)?
 - What are the stakeholders interests in relation to the research (participating in seminars, receiving report, facilitating fieldwork etc.)?
 - what recommendations do they have on approach to the studies and why (e.g. locations etc.)
 - can they suggest other organisations that we should contact?
 - make sure contact details are obtained (E-mail address etc.)

Please note any comments on how further consultations may be improved.

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1B

**Proceedings of the Seminar on
Livelihoods and Natural Resource
Management in Semi-arid Tanzania**

**Joint Project Seminar
31st October - 1st November, 2000
TANESCO Training Institute, Morogoro, Tanzania**

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE
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Welcome address

Dr Mbiha welcomed participants and opened the seminar.

Introductions

Dr.Mahoo (Chairman) asked participants to introduce themselves. A participants list is included at Annex 1.

Expectations

Participants were then invited to note down on cards their own expectations from the seminar. These were later used to evaluate the seminar (see later section).

Introduction

Objectives

Dr Mbiha initially outlined the objectives of the seminar:

1. To share concepts, approaches, literature and experiences relating to livelihoods and NR management in semi-arid areas.
2. To identify issues, questions – hypotheses – and research needs associated with livelihoods and NR management in semi-arid areas.
3. To identify successful interventions, good practice and ‘best bets’ to achieve improvements in livelihoods and new approaches to NR management in semi-arid areas.
4. To strengthen and develop linkages within and between stakeholders with interests in the well-being of people in semi-arid areas.

Outcomes/indicators

The expected outcomes of the seminar are:

1. Concepts, approaches, literature and experiences shared and documented.
2. Issues, hypothesis and research needs identified and documented.
3. Successful interventions, good practice and ‘best bets’ identified and recorded.
4. Contact list distributed, opportunities relating to field work identified (& later, seminar report distributed).

Activities/Issues

Over the scheduled two days for the seminar, Dr Mbiha outlined the planned activities to work towards these outcomes.

Day 1

Expectations by stakeholders

- Research team presentations
- Stakeholder presentations
- Group work 1. Stakeholder groups
 - Addressing set questions
 - Identification of constraints and opportunities

Day 2

Groupwork 2. Mixed groups

- Identify issues, hypotheses and research and other needs

- Explore and develop issues with evidence/justification
- Explore overlap and differences within groups
- Develop hypotheses, associated “best bets”
- Identify research/other needs
- The way forward

Process

A continuous build-up of issues and themes from presentations and discussions

Issues

1. What is the role of human and social capital in achieving the goals of your institution?
 - How does it influence the functioning of your organisation?
 - Does your organisation recognise these as issues?
 - Do others you work with recognise these as issues?
2. How is your organisation taking into account changes in livelihoods.

Themes

Issues analysis will build into the identification of major thematic areas in which participants are involved in.

Break

Presentations

Dr Ashimogo opened the second session, and invited Mike Morris to present.

Mike noted that during the break the cards with written expectations had been put up for participants to view, and that they would be revisited tomorrow.

Background: Overview of DFID's Natural Resources Systems Programme (by Mike Morris; see also the NRSP website: <http://nrsp.co.uk/>)

DFID's poverty agenda: Issues, dimensions and perceptions

The 1997 UK Government White Paper on International Development sets out DFID's commitment to poverty elimination, and the proposed means to realise this end. The internationally agreed target is a reduction by half in the proportion of people living in extreme poverty by the year 2015.

The means is defined as the promotion of sustainable development, and three specific objectives have been defined to help create a supportive social, physical and institutional environment for poverty elimination.

- policies and actions which promote pro-poor sustainable livelihoods
- better health, education and opportunity for poor people
- and, protection and better management of the natural and physical environment

With respect to the research community, the White Paper recognises that knowledge, research and technology underpin DFID's work and states that 'The elimination of poverty and the protection of the environment require improved access to knowledge and technologies by poor people'. DFID aims to achieve this improvement through continued investment in research and research capacity in developing countries, and working in partnership with the science community in the UK and internationally. Wide dissemination of the outcomes of research in order to derive maximum benefit from them also is specified as an important activity.

The Renewable Natural Resources Research Strategy (RNRRS)

DFID's Renewable Natural Resources Research Strategy (RNRRS), covering the decade 1995-2005, focuses on the generation of new knowledge in natural and social sciences, and on the promotion of the use of this knowledge to improve the livelihoods of poor people in a sustainable way through better management of renewable natural resources (RNR).

The bilateral component of RNRRS comprises 11 programmes, each addressing relatively distinct technical fields of the RNR sector. Each programme manages a rolling portfolio of projects designed to deliver outputs, which contribute to the attainment of defined outputs for the programme as a whole.

A key strategic requirement is that the proposed research must be demand-led with the real needs of poor people clearly identified. Collaborative research, whereby UK expertise works in partnership with developing country institutions, is strongly encouraged and is more or less a prerequisite for implementation of some programme portfolios. Programmes must be proactive in promoting the use of the knowledge that projects deliver. To this end, uptake pathways must be well defined and activated. Good communication with target institutions (i.e., institutions which should take up the products of research) should be in place from an early stage of project implementation in order that an identified target group of poor people can derive benefits from the research products.

The Natural Resources Systems Programme

The Natural Resources Systems Programme is one such programme; and Sokoine University of Agriculture and the Natural Resources Institute of the UK are presently collaborating on two projects within the NRSP.

For its **goal** the **Natural Resources Systems Programme (NRSP)** has the improvement of the livelihoods of poor people who are largely dependent on the natural resource base.

The **purpose** of **NRSP** is to generate benefits for **poor people** by the application of new knowledge to natural resource management.

It is anticipated that these benefits will be shown in sustainable production increases, more secure and more efficient production, increased employment and improved access to the benefits of NR production for **poor people**, by 2005.

The research projects that SUA and NRI are involved in, relate to semi-arid production systems, and are part of the first stage of a two stage research structure. Specifically this first stage relates to bringing together existing information on NR endowments, economic trends and social structures, into a synthesis of current understanding of livelihood options and strategies for given areas. It is also anticipated that this first stage will enable the establishment of good local partnerships.

The second stage will relate exclusively to the development, validation and adoption of new strategies.

The first project, which is being led by SUA explores the 'Role of Human and Social Capital in Natural Resource Management'. Its **purpose** – the eventual impact, after the completion of the project – is that:

*The role of human and social capital in catchment management will be understood and new approaches to NR management that benefit **the poor** developed and validated.*

The second project, led by NRI is about 'Understanding Household Coping Strategies in Semi-Arid Tanzania'. Its **purpose** is that:

*Livelihood strategies and assets of **the poor** in semi-arid Tanzania, will be comprehensively understood, together with the factors that have shaped those strategies, including social, economic, institutional and environmental change.*

Dimensions and perceptions of poverty

If the purpose of DFID's NRSP semi-arid systems programme, to generate benefits for **poor people**, is to be realised - and within this the purpose of these two projects, then we first need to understand what poverty is, and what causes it. We also need to acknowledge that poverty has many dimensions, is complex and dynamic, and that it may be perceived or conceptualised, and measured, in different ways. Without such an understanding, proposed interventions are likely to be unsuccessful.

Traditionally, economists have defined poverty in terms of the inabilities of, or deficits associated with, poor people. People who fail to generate income or to secure the basic needs for survival, are deemed to be poor. At one extreme, such people have been seen as being primarily responsible for their own predicament. However, poverty goes beyond income levels, and is increasingly associated with access to resources, assets and services - healthcare and education. It is about lack of control, even where there is access, and about low status and isolation within the community. The poor have less autonomy, they are less able to lay claim to equitable treatment or to the human rights increasingly enshrined in national constitutions; they are least likely to benefit from concepts of dignity, and more likely to suffer from feelings of powerlessness and hopelessness.

In Tanzania as elsewhere in sub-Saharan Africa, a majority of the poor live in the rural areas and are predominantly dependent on renewable natural resources for their livelihoods – through agriculture or pastoralism, or from fisheries, forests or wildlife. Furthermore, it has also been estimated (UNDP) that 70% of the absolute poor are women, with women-headed households amongst the poorest and most vulnerable in many communities. And returning to different perceptions and different experiences, it is noted too that the experience of poverty, is profoundly different for men and women. Gender inequality may not be caused by poverty - rather by the subordination of women - but is probably compounded by poverty. Poverty reduction measures, which do not address gender-specific poverty problems, may have only limited impact.

Causes of poverty

Reflecting on the causes of poverty in Sub-Saharan Africa, the World Bank (1996) identifies the following:

- Inadequate access to employment opportunities.
- Inadequate physical assets, such as land and capital, and minimal access to credit even on a small scale.
- Inadequate access to the means of supporting rural development in poor regions.
- Inadequate access to markets where the poor can sell goods and services.
- Low endowment of human capital.
- Destruction of natural resources, leading to environmental degradation and reduced productivity.
- Inadequate access to assistance for those living at the margin and those subject to transitory poverty.
- Lack of participation; failure to draw the poor into the design of development programmes.

(Source: World Bank, 1996, as cited in Griffith G., Kindness H., Goodland A. and Gordon A., 1999, Institutional Development and Poverty Reduction, Policy Series 2, Natural Resources Institute, University of Greenwich.)

The voices of the experts - the poor themselves - on poverty include:

- Men own everything because when they were born they just found it like that - Kanazi village, Kagera.
- The one with nothing has everything taken from him the one with something has more given to him - Oldadai, Arusha.
- We are not living. We are just surviving - Women's group, Utende, Mtwara.

(Source: Narayan, D., 1997, *Voices of the Poor: Poverty and Social Capital in Tanzania*, The World Bank, Washington, D.C.)

While there are many perceptions of poverty and its causes, the views of the poor through participatory poverty analyses demonstrate its complex and multi-dimensional criteria. Such perceptions of poverty surely complement or extend those narrower perceptions typically captured by economic methods which rely on aggregated consumption or expenditure indicators at the household level.

Dr Ashimogo summarised the discussion.

Human and Social Capital's Role in Natural Resource Management in Semi-Arid Tanzania (by E. Senkondo)

The paper presented is included in Annex 3.

Q1 (Dr Mdoe): How did it come about that the two projects decided to work together?

A (Senkondo): Partly because the two projects have related objectives, and to avoid overlaps and increase efficiency.

A (Morris): Primarily because NRSP invited research proposals under these headings simultaneously, and both organisations responded to both calls. It was subsequently a pragmatic decision to work together prompted by NRSP.

Q2 (Mtakwa): You aim for demand-led research? From whose point of view? Is it the farmer? But problem of knowledge. Not clear to identify causes and results.

A (Morris): As outlined in my presentation, it is generally agreed that this is very important. However, as with the issue of scientific knowledge and indigenous knowledge, bridging the gap continues to be a challenge.

Q3 (Tandori): We have done well in macro-economic stability but poverty indicators on the ground are not changing? Why? Where are we going wrong with policy interventions?

A (Mdoe): Is it because corruption has affected poverty alleviation projects with money being siphoned off?

Q4 (Mahoo): How do we bring in farmers ideas, knowledge, views, issues on board?

A (Marsland): This is a short project but even within this period we should consult farmers on ground. We are trying to do this through a good understanding of existing literature which reflects farmers views, also plan to undertake fieldwork which will include talking to farmers.

A (Ashimogo): researchers are just starting and have a long way to go.

Q (Maganga): I enjoyed Senkondo presentations. You are thinking of a catchment for the focus of the work? Have you identified which one?

A (Senkondo) No. Not yet.

Q (Harriet): Policies may be pro-poor, but is the environment conducive to implementing them? Are macro-policies contradictory?

A (Jose): We are not informed of impact of macro-policy at micro-level. This should be a focus for research.

Q (Hado): You said interventions have failed in the past? How well are we able to assess that?

A (Senkondo) It is a challenge to identify why many interventions have failed.

Understanding livelihood strategies in semi-arid Tanzania: concepts, themes and questions (by Neil Marsland)

The paper as presented is included as Annex 4.

Livelihoods and Diversity Direction Explored by Research LADDER (by Ntengua S. Y. Mdoe)

This new project will work in areas including semi-arid areas (Morogoro) based upon traditional irrigation, management of wild resources and horticultural production (Umgeta). It is based upon a previous study in the Kilimanjaro District in 1997. Included wealth ranking, PRAs, selection of a sample. Key results were:

Per capita income in nearby villages (near district HQ) was significantly higher than those further afield. Electricity was important in one village. Differences in assets between poor and rich. Income portfolios showed that coffee made a small contribution compared to intensive dairy production. Other sources of income have replaced the traditional coffee. This diversification allows farmers to survive when coffee crop is poor. Livelihood strategies were categorised for different income groups. Poor likely to specialise in crop production, the better-off specialise in non-farm (e.g. kiosks) and mixed crop-livestock production (incl. intensive dairy).

Research shows between do diversify. Depends on location and opportunities.

A written paper is included in Annex 5.

The role of the President's Office in poverty alleviation, sustainable livelihood and natural resource management in semi-arid areas of Tanzania (by Clifford Tandari)

See Annex 6.

Presentation of a project using SL approach: The Sustainable Management of the Usangu Wetland and its Catchment (SMUWC) (by Faustin Maganga)

Project contains several components of which SRL is one.

Objectives of research

- To examine NRM practices in the context of complex rural livelihoods (pastoralists, cultivators, irrigation)
- Not simply economic and material

Research questions

(i) Livelihood mapping

What is the range of livelihood and how can these be characterized? What is the role of natural resources relative to other activities in the household economy, especially of the poorer household? Who benefits/suffers from change to natural resources and other livelihood activities and how are these effects felt?

Social capital, associational life and public participation

What networks do people have which help to shape their livelihood? How does membership of groups and clubs impact on livelihood? And are those most affected fully represented in public decision making institutions?

Moral and cultural understandings and social institutions

How does culture and tradition shape people's resource use and management? How does it shape the way in which people take decisions and act collectively? Who are the important leaders in this respect and how much 'borrowing' and collaboration across different culture?

Conflict and cooperation

What type of conflicts takes place in villages, particularly over natural resources? What are the differences in understandings, which might lead to conflict? What is the evidence for cooperation as well as conflict and how are the two linked? What are the principle ways by which conflict is resolved, either in a traditional or 'modern' setting?

Methods

- Wealth ranking
- Seasonal activities
- Gendered activities
- Timelines/ family histories
- Trend charts
- HH interviews
- Other interviews/ observation

Findings

Work still ongoing

Soil water management in semi-arid areas of Tanzania (by Dr Mahoo)

Dr Mahoo presented work on rainwater harvesting, also undertaken as part of the NRSP.

(Need to get overheads)

Collaborating Institutions

Source of funds

Justification

Objectives

Main activities

Results

A paper on a new project in rainwater harvesting was given out at the end of project workshop

Issues, questions and research needs associated with livelihoods and NRM from SCF (by Dr Lopez José)

SCF starts with a definition of the problems, the types of constraints faced by farmers, and then seek solutions with or without the involvement of the community. But projects are more efficient when community involved. Also SCF aims to influence policy and the use of information by decision makers.

SCF uses a household food economy approach. How people get access to food and income and how they spend their money. From this baseline information the impacts of droughts on the poor, for example, can be understood (in combination with wealth ranking).

A major research need in our work is determining whether there is any change in the context e.g. a shock perhaps caused by policy. Need to understand what is the impact

of such contextual changes. For example, district level policies during a drought have included the authorities stopping the local brewing system; but baseline studies show this is an important source of income for the poor, providing up to 40% of their income.

Protection of the environment is also another key issue. Firewood and charcoal production is often a major activity for the poor.

SCF asks communities to contribute towards project implementation; but this is not without problems e.g. Tanzanian...social fund. Ask 20% funds from community. If main problem is water supply and it costs \$35000. The contribution across 500 households may be TSh 20 000 per household. Can be 300 times the disposable income.

The household economy at rural level is useful for understanding these issues at micro-level.

Discussion

Q1 (Mtakwa): Why do farmers carry on planting early when 7 out of 10 years the rains come late? Need to understand the cause of farmer practice e.g. residue burning related to Masaai grazing. It may be because of hunger e.g. to plant before seed is eaten. Also vermin problems are less with dry planting.

A (Ashimogo): These issues will be addressed

Q2 There is conflict between policy makers and the local situation e.g. when poor are stopped from brewing to preserve food. Also people have to stop irrigating vegetables during the Oct-Dec period. There is a need to strike a balance.

A (Ashimogo) This is a similar issue about whether people should sell green rather dry maize when green maize gets 3 times the price.

A (Mahoo) Farmers also burn crop residues to reduce pests.

Q3 (Marsland): There is an increasing issue about how farmers adapt to change, some practices are very old and deep-rooted. When there is a change how quickly do farmers react by changing their practice. How do they do this and adapt?

A (Jose): In some case farmers react quickly e.g. farmers in Shinyanga who diversified into rice. But in most cases, is there room for diversification? Farmers have little income or capital and may not be able to diversify their livelihoods even if they are willing to do it, do they have capacity?

A (Mdoe): True. Most farmers end up selling labour and continue being poor. Policies are also important and may inhibit e.g. not allowing people to grow maize as a cash crop.

A (Hilda, IRA): In Mkomazi poor farmers depend much upon NR from the environment e.g. fuelwood, making charcoal, wild vegetables etc and may then re-invest these resources. Policies that restrict harvesting or fishing have a major impact. Some of the resources are degrading and others not.

A (Morris): The access that poor farmers have to information, and the way they understand that information is key to whether farmers adopt new or improved technologies. The poor typically have less access to information and almost certainly therefore have less choice.

A (Jose): Prices is a vital component. The rural poor are not selling their harvests because income is minimal. This is rational. Price fixing will not help the poor as they are not selling. Need to undertake context and farmer decision-making.

Q (Lamboll): Farmers' rationale and political rationale are very different. Has much effort gone into researching the latter? Are they informed by research?

A (Marsland): There is research on research - policy linkages, but this work is not necessarily communicated well.

Q (Karua): Awareness of farmers is very important for them to adopt anything. Is this addressed?

Q (Mdoe): What role do researchers play in poverty eradication strategy?

A (Tandari): The strategy does aim to make use of research and support these in identified key areas (page 57/58).

A (Ashimogo): Why is this not advertised?

A (Tandari): A research agenda is being finalised.

Q (Mahoo) What is on the ground towards achieving poverty eradication?

A (Tandari): They include work in education, health, local government reform, initiatives in agricultural sector, strategy papers are being produced in rural development and poverty eradication.

Q (Mtakwa): Coordination of projects is lacking. A similar project is being planned under TARPII

A (Maganga): This is linked to the question of interest groups. Policy makers, the press, exaggerate or misunderstand facts. Interests in planting trees for example, UNDP funded.

Q (Lazaro): How are teams between men and women formed e.g. in fishing? Are they real teams?

A (Kiwasila): Politicians have interests but some are not informed. They want to hear what they want to hear from research.

Q (Tandari): You say diversification is a function of markets that are influenced by globalisation. How can we make this an opportunity and not a threat?

DAY 1 SMALL GROUP SESSION 1 – facilitated by Richard and Evelyn

The group was divided into groups according to institutional background as follows:

1. NGOs (and consultant)
2. Researchers – SUA/IRA
3. Researchers – NRI
4. Local and central government

The guide questions were explained. In small groups carry out the following exercises.

1) The Role of human and social capital

1.1 From your own personal perspective what do you think is the role of:

- (a) human capital
- (b) social capital

in people's livelihoods and **particularly** natural resource management in semi-arid areas of Tanzania.

1.2 How do the goals and practice of your organization relate to:

- (a) human capital
- (b) social capital

1.3 In the livelihoods of target groups/ people you are working with, what do you see as the role of:

- (a) human capital
- (b) social capital

particularly relating to natural resource management?

2) Livelihood strategies in semi-arid Tanzania

2.1 From your own personal perspective:

- (a) What changes do you see in people's livelihood strategies in semi-arid areas of Tanzania?
- (b) What are the causes of these changes?

2.2 (a) How are livelihood strategies of the target groups/ people your organization is working with changing?

- (b) What are the causes of these changes?

2.3 How is your organization taking into account:

- (a) Changes in people's livelihood strategies
- (b) The causes of the changes.

3) Constraints, opportunities and issues

3.1 Identify constraints/ opportunities/ issues relating to livelihood strategies of people in semi-arid areas of Tanzania

3.2 Identify constraints/ opportunities/ issues relating to natural resource management in semi-arid areas of Tanzania.

Presentation by group 1. NGOs (and consultant)

1.1 (a) Is the skeleton for livelihood strategies

- Role:
- influence social capital
 - influencing NRM
 - determinant of types of constraints, opp. & issues

(b) –Influence and determine positively and negatively the response of human capital to livelihood /NRM

-Determine decision making and initiatives eventually the overall impact of interventions

1.2(a) –awareness creation

- training and capacity building
- we work with partners (NGOs), CBOs, Govt. Departments ..)

2 (a) –more groups formed and strengthened

- more diversification
- strategies are more fragile
- increased conflict for NRs

(b) -external shocks (weather, mkt, policy, ...)

- Structural adjustment
- land degradation
- population pressure increase

Q (Mike) The point that human capital feeds into social capital is very interesting. It is true, but there are also exceptions.

Q (Marsland) The phrase ‘skeleton for livelihood strategies’ suggests human capital as an entry point for understanding livelihoods.

A (Jose) Both human and social capital can be the entry points.

Presentation by group 2. Researchers – SUA/IRA

1.1 ROLE OF HUMAN AND SOCIAL CAPITAL

(a) human capital

- knowledge, skill, health

Role; -how to harvest NRs

- perception to make informed decisions
- sustainable use/management
- facilitate resource allocation
- adoption of new technologies

Health: ability to labour

(b) social capital

- group networking
- institution formal/informal
- culture

Role: Organizational e.g.

- labour mobilization (mguse)
- financial mobilization (upatu)
- kuwekesha
- norms of proper behavior

1.2 goals and practice of IRA/SUA

(a) human capital

- training, research, TOT
- new orientation approaches

b) social capital

- Very little
- Outreach (farmers) network

1.3 Role of human capital

i) Students: training (human)

- ii) Farmers: networking (social)
- 2.1 a) Livelihood strategies
 - Changes
 - a) More diversification / commercialization
 - b) From pure pastorals to agro-pastorals
 - c) From livestock keeping to cultivation and vice versa
 - b) causes of changes
 - a) Market orientation
 - b) Livestock diseases / theft

2.1 How S.U.A, IRA take account of changes

- a) Changes in methodology / approaches
 - Prioritization of research
 - Demand driven research
 - Applied research
 - Dissemination

Q (Marsland) On the diversification issue, are we seeing the creation of a rural proletariat with people ceasing to be farmers?

A (Hilda) There is a common problem of shortage of land among the youth.

A (Tandari) There are generational gaps which are important? We should move from saying to doing? Need to disseminate research findings.

Presentation by group 3. Researchers – NRI

- 1.1(a) Human capital
 - education (vocational knowledge/skills especially)
 - health (HIV/AIDs)
- (b) Social capital
 - effect of heterogeneity e.g. ethnicity, refugee, gender.
 - accessing information
 - reduce transaction costs
 - negative impact on NRM

- 1.2 (a) overeducated
 - under experienced
- (b) poor linkage with other institutions and within

2.0 Livelihood strategies

- 2.2 (a) diversification –bushmeat (focused on coping)

Rural-urban differences are growing

- (b) SAPs
 - Population expansion
 - Drought
 - HIV/AIDs
 - Decentralisation
 - Corruption
 - Institutional failure

- 2.3 (a) changing type of research/consultant in development
 - working with southern institutions
- (b) -intellectual enquiry
 - commercial interests

Presentation by group 4. Local and central government

Role of human and social capital

1.1(a) Empowerment of people toward better management of their natural resources
the so empowered person will have increased access to the means/factors of production.

(b) Role of social capital

- Shape the decisions on projects
- To gain approval/disapproval
- May be an incentive/disincentive toward development e.g. division of labour/income

1.2 (a) Awareness raising/meetings and education through extension agents

(b) Involvement of community through village etc environmental committees in decision making

1.3(a) Makes them refrain from abuse of NRs /create environmentally sound techniques

(b) Promote/harmonise strategies toward their projects. Organise themselves toward development projects e.g. conservation measures

2(a) Changing from using bigger trees and branches to smaller tree and roots in charcoal making

(b) diminishing bigger tree or far.... Women are enterprising in business (food vendor, food crops)

2.2 Zero grazing coming into action

- diminishing natural grazing resources land degradation

2.3 Encouraging them taking change agents for advice

Day 2 – Small group work session 2 on issues, understanding and research needs

The group was divided into small mixed (stakeholder) groups, given a series of issues, constraints or opportunities (developed during day 1 and grouped by the facilitators using the livelihoods framework) under two themes and asked to address the following:

1. Identify any further issues relevant to your themes.

For each theme, answer the following questions:

2. Currently, how are these issues or constraints being addressed, or opportunities exploited? Consider both research and /or practice (give examples if possible, including: when, where, who in semi-arid Tanzania).
3. Where issues are being addressed, what are the key lessons (both positive and negative), best practices, and innovative approaches?
4. What are the key questions emerging? Can specific gaps / deficiencies in knowledge and uptake be identified? Identify possible type/approach for research, subject and geographical area.

Consider poverty throughout, as a cross-cutting theme

The groups and allocated themes were as follows:

Group 1 (Lopez, Morris, Hilda, Ashimogo, Lazaro) – Policy, livelihood strategies

Group 2 (Katunzi, Marsland, Senkondo, Mwaluko, Mtakwa) – Institutional / processes,

Outcomes

Group 3 (Kaaya, Lamboll, Mbiha, Katemana, Mdoe) – Assets, shocks and trends

Group 4 (Karua, Butterwoth, Maganga, Tandari, Mahoo) – Livelihood strategies, conceptual issues

Group 1 presentation

Lack of understanding of macro economic policies by stakeholders

Inadequate involvement of communities into policy formulation process

Policy makers not necessarily informed by research

Lack of understanding on policy impact on livelihood strategies

Need to understand the impacts of shocks including policy changes at local level

Decentralisation

Lack of integration of sectoral policies

Structural adjustments

Lack of land use plans

Insecurity of tenure

Issues- Strategies to revamp the agric. Sector

Constraints -Removal of subsidies, policy changes, lack of appropriate technology and lack of extension services

Is there a conducive environment at the micro-level for pro-poor policies?

Policy statements v/s Policy implementation – gaps

Policy makers not necessarily informed by researchers

- Researchers holding workshops, disseminating research information and inviting policy makers to meetings.
- Ministry of agriculture hosting annual meetings for relevant institutions.
- Inclusion of policy makers on university boards.
- Some research funds require ministry employees to be involved.

Lessons?

- Limited follow up
- Lack of institutional linkages
- Are research findings formulated / presented so that they can be incorporated into policy formulations – language – content.

Lack of understanding of policy impacts on livelihoods / households

- Use of house-hold analysis framework
- Impact assessment studies
- Monitoring – but context poorly understood

Lessons?

- Need to disaggregate at micro level
- Need for specific research examining impact on livelihood strategies

Decentralization

- SCF lending support at district level
- IRA undertaking studies for L.G on rest practice for community development and NRM
- (Constraints) – limited tax base, funds do not necessarily stay at district level
- Resources not available
- Reg. Commissioner advised by district officials
- Block grants dependent on resource base & revenues?

Constraints

Weak link of communication between technical staff and their respective ministries
Land tenure – conflicts – customary tenure systems being challenged

Land tenure

Constraints

- Conflict – understanding the nature
- Customary tenure system being challenged by new regime
- Commercial farming in marginal lands
- Establishment of land board for securing land for investors (national level)
- Establishment of production committee (at village level)
- Insecurity of tenure in rural areas – preventing long term investments
- Perpetuation of poverty

1. survey of village land and offering title deeds

constraints – resources are limited

opp – land use plans

Policy statement versus policy implementation

Constraints

- Policies not implemented as intended
- Follow up mechanisms not in place
- Lack of resource for policy implementation (human and financial resources)
- Lack of awareness and understanding of the policy statement (horizontally and vertically)
- Potential conflict between national policies and local by-laws

Local people impoverished in terms of losing power

Regulatory mechanism

C (Tandari) It is true that resources must be put in place to support policies. Enabling the regulatory framework should also appear. Harmonisation is also required.

C (Marsland) Need to acknowledge that there is a lot of work on SAP policies and impact although the nature of impact is contended. On decentralisation would like to hear views on how corruption will affect this. One of the implicit themes of the presentation was chronic policy failure with an impotent state. Does this imply that the state is not an issue or does not have a bearing on the livelihoods of the poor?

Q (Mahoo) Don't agree that there is a lack of communication between technical staff and ministries. But it is a weak link.

Group 2 presentation

A series of clusters were identified:

1. The state at local and central levels
2. Government services
3. Markets
4. Civil society organisations
5. Linkages between organisations
6. Intervention approaches

Under each of these clusters the following cards with issues, constraints, opportunities etc were placed:

1. The state at local and central levels
 - Corruption
 - Existing government structures at local level
 - Supportive political atmosphere

- Decentralisation
- 2. Government services
 - Inadequate and inefficient infrastructure/services
 - Inadequate extension services
 - Weak institutional support
- 3. Markets
 - Limited markets
 - Market information
- 4. Civil society organisations
 - CBOs (Membership orgs)
 - International NGOs
 - Co-operatives
 - Local NGOs
- 5. Linkages between organisations
 - For the poor, vertical linkages/ horizontal linkages different between wealth groups/areas
 - Linkages between stakeholders
 - Research-policy-practice linkages
 - Communication between institutions (culture, north/south, language, interests, approach)
- 6. Intervention approaches
 - Is a catchment approach is best for managing all natural resources (water, forests, land etc.)?
 - Location specific agricultural interventions

Key research areas identified were:

1. The state at local and central levels
 - Impact of corruption and misallocation of resources at local level (village and district level) associated with decentralisation of local government
2. Government services
 - research on self help schemes
 - Informal credits and link between informal and formal financing (Dr. A. K Kachuliza)
 - Traditional irrigation
 - Self help infrastructure development
3. Markets
 - Observation: Farmers address the constraint by forming groups
4. Civil society organisations

Examples of linkages between CBOs COOP/NGOs

A. Good practice

- ICRAF/HASHI in Shinyanga
- HADO in Dodoma
- VI Agroforestry in Musoma/Mara works with CBOs and private people
- DONET in Dodoma

B. Unsuccessful

- Capital Development Authority in Dodoma

C. Relationship between international and local NGOs: positive & negative effects on livelihood strategies.

D. Cooperatives

- Top down - Political based and corrupt - (old ones)
- CBO – based – good - (new ones)

E. NGO Coordination

Lack of coordinating body

5. Linkages between organisations

6. Intervention approaches

Due to shortage of time, the group did not look at livelihood outcomes. The cards under this theme were:

- Is political rationale informed by research?
- Changing social identification (pace, democracy)
- Negative perception (poor blaming, discrimination)

C (Mahoo) Should not focus just on corruption at local /district level. It is also at higher levels.

C (Mahoo) Main evaluation of HADO is not positive. The SIDA/NRME evaluation was not positive.

A (Senkondo) We were focused on markets as institutions. Not all constraints to marketing.

A (Katunzi) There are good examples in HADO of working with CBOs.

A (Marsland) There is corruption at the higher level, but we want to focus at the local level.

The hypothesis that decentralisation may change the balance of corruption so that it is **more** of a problem at local level.

Q (Maganga) People are challenging government proposals to control NGOs closely. This is not necessarily positive.

A (Hilda) There is a problem of poor monitoring of NGOs and there is also a tendency towards bureaucracy and corruption. Briefcase NGOs.

A (Tandari) The government is trying to formulate policy with NGOs as key stakeholders.

A (Hilda) There is a lot of corruption at local level associated with allocation of resources e.g. land along irrigation canals.

Group 3 presentation

Cards related to assets were placed as follows:

Human capital	Social capital	Natural capital	Physical capital	Financial capital
Education	Norms, networks	Shortage of land among use	Irrigation	Cost of inputs relative to price of produce
Skills	The link between social capital and poverty	Abundant land	Inadequate and inefficient infrastructure	Financial resources scarce to farmers (credit services)
Knowledge	The link between social capital and NRM	Adequate water bodies for irrigation		
Improving access to information	E.g HADO formation of environmental groups to avoid conflicts. Must work with village government.	Water scarcity		
Abundant manpower	E.g. practices. Tree planting, zero grazing, tress nursery establishment			
Human capital determines constraints and opportunities and conceptions of these Relationship between human and social capital	What has been the wider impact of HADO e.g. health (milk), land conflict, water regime FTPP facilitates: training, capacity building, research, case studies E.g. FTPP facilitation of community study tour from Dodoma to Siungida/ Babati E.g. Joint Forestry Management/			

Community based forest management at division level

Cards relating to trends were placed as follows:

Population pressure	Climate change	Land use practices	Poverty	Globalisation
Population increase varies with ethnic group e.g. Wagogo higher than compared with Warangi & Wasandawe	Insufficient rainfall	Overgrazing	Food security Perceptions of poverty e.g. livestock, mineral wealth	Knowledge Trade Mining Homogenisation
Child mortality rates increasing?	Projects that address efficient RWH e.g. Migesado, Wamma	Deforestation	Small scale mining research project on reducing the loss of mercury (Earth Greenery Activities Japan EGAJ)	
Traditional birth control methods reduced	People provide labour and support the technicians. People start fund and contribute on getting the service.	Dodoma: forest land is being used for agr by people who need land (also charcoal, firewood, poles). Increasing trend. Who? Local (traders, labour, farmers), urban based (traders, commercial, farming). Why? Cost sharing, R-U links increasing needs, changing lifestyles.		
Free birth control prog in all dispensaries & clinics. Peoples response? HIV/AIDS? National prog., regional clusters, lower? Trachoma, Muumi, hospital at Kongwa, Helen Kellen Int. Malaria increasing? Nationwide programme, treated nets, free to pregnant women, less in Semi-arid areas? How do health interventions affect poor people and NRM in SA areas.	Sustainability? Access for the poor?	Interventions – urban-based youth projects e.g. DOYOCREDA an NGO geared towards youth credit scheme. Rural group formation for easy loan credits Most credits orgs. Are targeting women. Implications? Salinisation (+shock)		
		Soil erosion		
		Declining soil fertility Livestock numbers		

Cards relating to shocks were:

Climate e.g. El Nino
Drought
Govt. campaigns e.g. cassava, sorghum
Research on drought resistant groups e.g. SUA, Ilonga
Appropriateness of introduced crop varieties e.g. pest susceptibility
Livestock dying/ migration during drought
Impact of HIV/AIDS

C (Mahoo) Salinisation in Dodoma should be seen as a trend. Hombolo irrigation project was badly planned.

C (Marsland) People's identity and perception of land is a fascinating area. It takes particular research skills to get to grips with these, and may be beyond the current project.

C (Jose) Idea was good to provide priority for the poor, but the poor could not afford to participate. Need to understand background.

C (Tandari) Many people do not recognise they are poor.

A (Marsland) These must be a lot of material on perceptions of poverty in Tanzania.

Group 4 presentation

Livelihood Strategies

Off farm income earning activities

- Poaching
- Smuggling
- Prostitution
- Drugs and alcohol
- Mixed formal and informal activities e.g urban agriculture
- Stone/sand mining
- Stone crushing
- Food vending
- Water vending
- Small scale mining e.g Dodoma, Shinyanga (diamond), Usangu (gold)

Migration (uncontrolled)

Agriculture diversification / intensification

- Processing e.g drying

Risk minimization e.g staggering plant, rice/maize

- Crop using residual moisture
- Rainwater harvesting
- Informal savings and credit schemes
- Selling livestock

Men and women – cooperation in teams

How and how quickly do farmers adopt to change?

Off-farm income earning activities: Theft (esp. livestock)

2. --Mara, Arusha, Mwanza, Shinyanga, Dodoma, Singida, Tabora

- -Vigilante group(sungusungu)
- -Cross-boarder meeting and security (district and national)
- -Making animals
- -Research in Usangu (SMUWC) showed all ethnic groups involved

3. Peoples use social capital (where government cannot ensure security)

- -Marking (but reduces value of skin)
- -Dogs
- -Identity

4. To identify thieves (perceptions' ethnic groups)

Migration

2. -Rural-Rural as well as rural-urban

-Agriculture as well as agro-pastoralists (e.g.Usangu)

-Difficult for villages to control –chiefdom undermined

-Impact on wet land, land degradation

-Rich (with cattle) and are poor

-A lot is settling

- 3.- expansion of protected areas
- Land use planning to reduce conflicts
- Promotion of new rural areas/electrification

4.- impacts of inheritance practices on youth migration eg Usangu, Kilimanjaro, Kagera, Mara.

Agricultural intensification

- Irrigation (rice in Kahe, Kilimanjaro)
- Intercropping (traditional)

Generally the poor are not intensifying, but extensifying. This may involve migration (e.g Chalinze/Segeera).

- Inputs are expensive and therefore they cannot intensify (loans and corruption).
- Government discouraging burning which has environmental benefits.
- There is a need to retain traditional varieties (there are risks)

3. ESRF/UDSM research on credit and poor

4. Although policy is to intensify, farmers cant have access to information, credit or inputs.
- Need to influence policy makers
 - Land tenure
 - Poor infrastructure and markets
 - Low input intensification methods

Examples of poor intensification in Dodoma and Mwanza (Richard)

Transport is a major constraint

Time (labour) is a major constraint to intensification – especially the poor

Agricultural diversification

- 2) - new crops – rice (Sukuma)
- mixed cropping – compost – intensification
 - horticultural production for export (Arusha/Moshi/Coast- Kibaha/Chalinze)
 - government encouraging modern methods e.g zero grazing
 - but DC's benefit from tax on cattle
 - traditional vegetable varieties

Use of common pool/property resources

- New game reserves (Usangu) forcing out cattle/fishermen.
- Lack of responsibility – open access
- Grazing
- Fish
- Wildlife
- Minerals – weak tenure

Community management

Weak tenure e.g Rufiji Delta and Prawns

Review National Land/Wildlife/Agro policies

Risk minimization

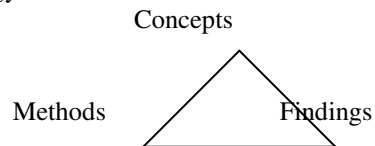
- Kitang'ang'a (IK) = Minimum tillage/zero grazing SAME/MWANGA
- Kuberega (IK) ? DODOMA
- Plant quickly after initial rains (labour, capital constraints)
- Inter-village cultivation (different soils etc)

- Staggered planting
- Rice/Maize mixture (switch to rice in Mwanza during *El Nino*)
- Using residual soil moisture (Iringa wetlands, Vinyungu)
- Stopping residues being grazed (e.g using pigeon pea)
- Processing e.g drying of vegetables, sweet potatoes

Conceptual and methodological issues

- **Demand led research**

- Is there follow up to monitor response of farmers to research findings?
- Is research policy research friendly?
- Is research language simple enough for farmers to understand?
- Problems in working with the poorest of farmers
- Use of livelihood framework
- Water conservation management techniques
- How do we bring the farmers views and ideas into play?
- A household economy approach is useful for understanding issues at micro-level
- Epistemology of research:



- Need basic as well as applied research (long-term benefits)
- A framework imported from abroad may not be relevant
- But approach does build upon assets/resources of poor
- Where is conflict and conflict management
- Need to see if it works in Tanzania and modify
- Language –cum research be taken up
- Capacity building
- DFID website: what is the address for this? people haven't seen the SL framework.
- Working with poorest of poor e.g. IFAD project on stream flow diversion poor cannot afford to contribute
- Should target the poorest of the poor if the approaches are not appropriate
- Need appropriate intervention

Conclusion and evaluation of the seminar

Dr Mbiha reflected on the participants expectations. This were considered by the participants and placed on a scale as follows:

Not met	Partially met	Fully met
Workable best NRM techniques identified and prioritised	Progress that we lead us to sustainable livelihoods	To make/ develop contact with the various stakeholders
To know the outputs of NRM work in semi-arid areas	To share experiences on NRM in semi-arid lands	Contact with like minded researchers and learn more on methods
	To understand what different stakeholders are doing in the area of rural livelihoods	Pro-poor techniques to project planning and implementation
	To know experiences on food security work	Gender issues in general
	To identify common research needs	Workable coping strategies
	To come out with new approaches to reduce poverty	Network with various stakeholders on NRM
	Poverty alleviation in semi-arid	Identify research issues on

zone	livelihoods and how it relate to H & S capital
To better understand different stakeholder perceptions of NRM issues in semi-arid areas	To understand more about livelihoods and coping strategies

Quite a few observations were fully met, several partially met and a few were not. This reflects the general feeling of the group.

The workshop objectives were also considered and participants voted on success in achieving them (2 for fully met, 1 for partially met, 0 for not met). At this point 16 participants were present, hence 16 reflects on average partially met and 32 fully met.

The results were as follows:

1. 21
2. 16
3. 10
4. 24

Thanks were given to participants for attending, SUA for hosting, the staff from SUA assisting with logistical support

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Annex 2: Seminar Timetable

	Tuesday 31 October	Wednesday 1 November	
8.45 – 9.15	Registration (30 mins) Chair: Dr. Henry Mahoo	Introduction to Constraints & Opportunities	9.00 – 9.15
9.15 – 9.30	Welcome Address (15 mins) Dr Mbiha	Introduction to Small Group Work: <ul style="list-style-type: none"> • Explore & develop issues with evidence/ justification • Explore overlap and differences within groups. • Key issues to be framed as hypotheses – any associated ‘best bets’? • Identify research/other needs 	9.15 – 10.45
9.30 – 9.45	Participants introduction (15 mins) & written expectations		
9.45 – 10.00	Introduction (15 mins) - <i>Mbiha</i> <ul style="list-style-type: none"> • Objectives & purpose • Activities & Issues • Outcomes 		
10.00 – 10.30	BREAK Chair: Dr. Ashiomogo		
10.30 – 10.45	Programme Presentation (15 mins): Background/overview to NRSP - <i>Morris</i>		
10.45 – 11.05	Project Presentation (20 mins): The role of human and social capital in NR management - <i>Senkondo</i> .	BREAK	10.45-11.05
11.05 – 11.15	Questions/Discussion/Issues (10 mins)	Group Displays and Presentations in Plenary.	11.05 – 13.00
11.15 – 11.35	Project Presentation (20 mins): Household Livelihood Strategies - <i>Marsland</i>		
11.35 – 11.45	Questions/Discussion/Issues (10 min)		
11.45 – 12.25	Stakeholder Presentations (10 mins each) Livelihood Policy Prog. (Mdoe) Vice Presidents Office, IRA (<i>Maganga</i>), Rainwater Harvesting (<i>Mahoo</i>)		
12.25-13.00	Questions/Discussions/Issues		
13.00 – 14.00	LUNCH	LUNCH	13.00 – 14.00
14.00 – 14.20	Stakeholder Presentations (cont): SCF CARE	The way forward: Synthesis of successful interventions, good practice & ‘best bets’ – with a view to plan research projects.	14.00 – 15.00
14.20-14.30	Questions/Discussion/Issues Lamboll & Lazaro		
14.30 – 15.00	Introduction & rules to Small Group Work <ul style="list-style-type: none"> • Addressing set questions 		
15.00 – 15.20	BREAK	BREAK	15.00 – 15.20
15.20 - 16.20	Small Group Work: <ul style="list-style-type: none"> • Addressing set questions (cont) • Identification of constraints & opportunities. 	The way forward; Practical ways of working with stakeholders	15.20 – 16.20
16.20 – 17.00	Group Presentations (<i>Marsland &</i>	Round up: Evaluation against	16.20 – 17.00

	<i>Senkondo</i>)	seminar objectives & stakeholder expectations.	
19.00 -	Dinner	Closing	17.00 – 17.20

Annex 3. Human and Social Capital's Role in Natural Resource Management in Semi-Arid Tanzania (by E. Senkondo)

1 Introduction:

Tanzania's semi-arid lands are characterised by environmental degradation and increasing poverty (UNDP, 1997; Narayan, 1997). Increases in human and livestock populations have led to soil erosion and land degradation, and hence to poor productivity and low carrying capacities. Despite erratic and poorly distributed rainfall, extension has for many years promoted cultural and husbandry practices which increase outputs. Emphasis on the availability of water has traditionally received little attention. During the dry season, domestic and livestock use in many semi-arid areas, is dependent on ground water, and women spend several hours per day fetching water. Soil and water management have been recognised as key factor in increasing crop and livestock outputs in the semi-arid areas (Christianson and Kikula, 1996). Competition for scarce resources (eg water, grazing, forest products) between and within different sets of resource users - pastoralists, agro-pastoralists, and smallholders, conservation, tourism and hunting interests - has already led to conflict (Lane and Moorehead, 1996; Igoe, 1999; Ndagala, 1999).

Within the changing social, economic and environmental context - albeit much of it beyond local or even national control - innovative technical solutions have however, largely failed to mitigate bio-physical factors such as low and unpredictable rainfall, declining soil fertility etc, let alone address the complex and dynamic links between poverty and environmental degradation (Boesen et al, 1996; Christiansson and Kikula, 1996; Mascarenhas, 1995).

While there have been many projects which have focused on aspects of catchment management, either to seek increased productivity, or to address issues of degradation and promote sustainable agricultural practices, there has been no systematic evaluation of the respective human and social capital requirements, in the diverse practices associated with NR management and conservation. Similarly there has been no systematic evaluation of the incentives and constraints on individuals to conserve resources, used either privately or in common, or of the social costs and benefits associated with the management of common pool resources.

There is thus an outstanding need to develop a comprehensive understanding of current management practices for resources used both privately and in common, and to evaluate their impact on the sustainability of catchment resources as a whole. Specific understanding of the interactions between human and social capital and resource management practices, and the identification of researchable constraints, is a prerequisite to the development of new resource management strategies which will benefit - or not penalise - the livelihoods of the poor.

Finally, if the identification of researchable constraints, is to lead to the development of new approaches to NR management which benefit the poor, then target institutions need to be signed up, both to the identified developmental problem and to the project's outputs. If structural, orientation and resource constraints can, and are to be overcome, then a strategy of engagement with target institutions, will be required.

2 Human and Social Capital:

Human and social capital are the constituent components of livelihood assets that are incorporated in the sustainable livelihood framework. The other assets are natural capital, financial capital and physical capital. As pointed out in Ellis (1999) assets, or the lack of them, are fundamental to livelihood strategies, and for this reason policies and projects that target individuals or families and that already possess assets, are likely to improve the incomes of those who are already better-off. Indeed farm policies may have this effect due to the not-always- correct suppositions (i) that the poor are mainly poor farmers, and (ii) that there are multiplier effects of rising farm income beneficial to the assetless poor.

Livelihood framework is a tool aimed at improving the understanding of livelihood with particular emphasis to the poor. It contains the main factors that affect people's livelihood, and typical relationship between these. It follows therefore that in order to have an understanding of the role of human and social capital it is important to be familiar with the sustainable livelihood framework

2.1 Human Capital:

Human capital represents the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives.

Human capital can be looked at different levels of analysis ranging from household level to national /water shade systems. At household level for example, human capital is seen as a factor of the amount and quality of labour available. This is determined by the household size, age composition, level of skills or training, leadership potential and health status only to mention a few.

There is a relationship between the determinants of human capital and poverty. For example poor health and or lack of education are regarded as core dimensions of poverty. This implies that addressing the role of human capital has implications on poverty reduction and thus addressing livelihood objectives.

2.1.1 Human health

Health is widely defined, but the two definitions below, capture the broad meaning of human health. Health is generally defined in terms of current overall functioning and capability to deal with future stress (Waltner-Toews and Wall, 1997). WHO (1976) adopted a broader view of human health as a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity.

The components of human health and other resources are linked in a mutually reinforcing way. For example the experience of AMREF in Kenya (Beteyi 2000) shows that a healthier population can produce more food , can manage productive resources much better and generate higher incomes, which can lead to further improvements in nutrition, health and education.

Biteyi, (2000) points out that in the quest for improved human health it is important to recognise the synergistic relationship that exists between human health, poor accessibility to potable water, poverty, poor food and nutrition, and environmental degradation.

Specific research activities are available on individual diseases that paralyse human capital. The greatest challenge today is the epidemic attributed to Acquired Immune Deficiency Syndrome (AIDS). A comprehensive approach with examples in Eastern Africa is covered in Barnett and Haslwimmer (1995). Using information from Tanzania, Zambia and Uganda, the study focussed on impact of the HIV/AIDS epidemic on farming systems and therefore on rural livelihoods. Specifically it focuses on the ways in which morbidity and mortality associated with HIV/AIDS are affecting farming systems and rural livelihoods. Like any other disease, HIV/AIDS results in direct costs, mostly medical and funeral expenses, and indirect costs, which are labour related. Potential income is lost because of the illness and death of individuals and the diversion of labour to the task of caring for the sick.

2.1.2 Education

The significance of education, both formal academic education and workplace skills, for improving livelihood prospects is established by a great number of studies, and poverty is closely associated with low levels of education and lack of skills. There is little doubt that rural education is under stress in many countries. The demands made on educational systems by rising populations is one important factor, the

cost of updating educational materials another. Parental contributions to the upkeep of schools are increasing, with inevitable implications for differential access that excludes those unable to meet such contributions. This makes innovative approach to educational delivery at village level a priority in the future.

2.2 Social capital

The term social capital has found its way into economic analysis only recently, although various elements of the concept have been present under different names for a long time. The economic literature on the role of institutions, which goes back at least to the 1920s, is especially relevant. The focus on institutions has been revived recently in the “new institutional economics” literature. In the political science, sociological, and anthropological literature social capital generally refers to the set of norms, networks, and organisations through which people gain access to power and resources, and through which decision making and policy formulation occur.

The narrowest concept of social capital is associated with Putnam (Putnam 1993; Putnam and others 1993). He views it as a set of “horizontal associations” between people: social capital consists of social networks (“networks of civic engagement”) and associated norms that have an effect on the productivity of the community.

While originally this concept of social capital was limited to associations having positive effects on development, recently it has been relaxed to include groups that may have undesirable outcomes as well, such as associations with rent-seeking behaviour (for example, the Mafia in southern Italy) and even militia. The key feature of social capital in this definition is that it facilitates p coordination and cooperation for the mutual benefit of the members of the association (Putnam 1993).

There are a number of other definitions of the social capital. However the most encompassing view of social capital includes the social and political environment that enables norms to develop and shapes social structure. In addition to the largely informal, and often local, horizontal and hierarchical relationships of the first two concepts, this view also includes the more formalised institutional relationships and structures, such as government, the political regime, and the rule of law, the court system, and civil and political liberties. This focus on institutions draws on North (1990) and Olson (1982), who have argued that such institutions have an important effect on the rate and pattern of economic development.

Literature points out that there have been many debates about social capital. The debates have generally been in the following areas

- The role of different forms of social capital in achieving sustainable livelihoods.
- How social capital can be assessed and whether it can be measured.
- The distinction between different forms of social capital (some cause social exclusion).
- Whether social capital can be ‘created’ through externally catalysed processes.
- The role of social capital in fostering good governance and a stronger civil society (and whether these have knock-on effects on economic growth).

In the context of the sustainable livelihoods framework social capital is taken to mean the social resources upon which people draw in pursuit of their livelihood objectives such as

- Networks and connectedness-either vertical (patron/client) or horizontal (between individuals with shared interest) that increase people’s trust and ability to work together and expand their access to wider institutions, such as political or civic bodies
- Membership of more formalised groups which often entails adherence to mutually-agreed or commonly accepted rules, norms and sanctions
- Relationships of trust, reciprocity and exchanges that facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor

Whatever definition of social capital used, there is growing evidence to show that social capital can have an impact on development outcomes such as growth, equity as well as poverty alleviation. Associations

and institutions provide an informal framework to organise information sharing, coordination of activities and collective decision making. Bardhan (1995) has argued that what makes social capital work is peer monitoring, a common set of norms and local-level sanctions. The well known case of the Grameen Bank in Bangladesh illustrates how these factors can be used to overcome the poor's lack of access to credit markets. In some areas, such as Babati (Duru Haitemba), local people have been granted permission to manage forest resources in the name of Joint Forest Management (JFM). The role of social capital in natural resource management is also vivid among people living in national parks buffer zones (MBOMIPA in Ruaha National Park and Udzungwa Mountain National Park).

Being based on mutual trust and reciprocity, social capital has direct impact on other types of capital.

- Social capital can help increase in people's incomes and saving (Financial capital)
- Social capital can help reduce the 'free rider' problems associated with public good or common properties thus an effect on the management of common resources (physical capital) and maintenance of shared infrastructure (physical capital)
- Social networks facilitate innovation, the development and sharing of knowledge, giving a close relationship with human capital.

The analysis of social capital looks at the quality of various types of connectedness that affect people for better or worse. This capital is manifested in associations such as religious organisations, trade/consumer associations, resource user groups, political parties, financial services groups. Because it lowers the costs of working together, social capital facilitates co-operation. People have the confidence to invest in collective activities, knowing that others will also do so. They are also less likely to engage in unfettered private actions that result in negative impacts such as resource degradation. The benefits conferred by social capital include:

- risk management and social insurance (social capital – for example the ability to call down support from kin – can act as a buffer against the effects of shocks and adverse trends);
- better management of common and shared resources, through group action;
- reduced costs of conducting business, including lowering transactions costs and increasing the ability to exploit economies of scale;
- increased capacity to innovate (e.g. through membership of farmers' research groups which are well connected to research agencies) and to sustain activities beyond the life of projects;
- improved access to information and services (including better overall links between external organisations and the poor, resulting in greater empowerment of the poor); and
- greater influence over policies and legislation.

Social capital is not always used for positive purposes: social relationships, networks and trust can act as a foundation for negative actions and exclusion – or even oppression – of particular social groups.

Similarly, a society may be well-organised, with strong institutions and embedded reciprocal mechanisms, but be based on fear and power (think of feudal, hierarchical, racist societies). Some forms of social capital may also have adverse effects upon the sustainability of natural resources.

- Does membership of certain groups allow over-extraction of natural resources (e.g. irrigation or drinking water, forest products) to the detriment of non-members and the resources themselves?
- Do formal rules and norms trap some people within harmful social arrangements (e.g. tenancy-landlord relations that prevent tenants from investing in land improvement)?
- Do existing associations act as obstacles to the emergence of sustainable livelihoods (e.g. by encouraging conformity, perpetuating inequity, and allowing some individuals to coerce others)?
- Maintenance of social capital is costly (time, labour, etc.) – who bears the main burden? Women often rely disproportionately on social capital to gain access to basic resources (e.g. through marriage or reliance on male kin) and often bear more of the responsibility for maintaining it.

3 *Catchment Resources Management in Semi-Arid Areas*

3.1 *Definitions*

Strictly speaking, a catchment is topographically delineated area that is drained by a single water course system. The fundamental tenet of a catchment is that water flows downhill. The catchment is thus a functional unit established by physical relationships where upstream land use incites a chain of environmental impacts affecting downstream areas. Another key characteristic of catchments is that they hold multiple, interconnected natural resources: soil, water and vegetation. Impact on one resource invariably affect the status of others.

Catchment management differs from forestry, agriculture and water development activities because it explicitly acknowledges and embraces the physical linkages between these resources (Brooks et. al., 1990). The physical relationships only become an issue when individuals have vested interests in a catchment or a portion of a catchment (“i.e.” it is populated, or valued by external agents). These vested interests are separated by political/administrative boundaries or institutional arrangements, which normally do not correspond to the topographic limits of catchments. The corollary to the “water flows downhill” tenet is the fact that it does so irrespective of political boundaries. The trans-boundary water flow is essentially an asymmetrical externality, and can be either positive (adding to the value of downstream areas) or negative. Thus in addition to the catchment being a functional unit for physical reasons, the catchment is a functional unit of multiple and independent vested interests.

Examples of negative trans-boundary externalities include: Sediment, unimpeded surface water flow which causes sheet and rill soil erosion, unregulated storm flows, reduction of downstream flow due to diversion of water upstream, floods, mass wasting, and polluted water of inadequate or dangerous quality. Example of positive externalities which derive from upstream catchment treatments include regulated water flow which reduces crop damage, sufficient supplies of irrigation water, improved water quality, and decreased sediment loads. Landholder exposure to externalities is predominantly a function of their local in the catchment.

In sum, when assessing the potential for catchment management, two key elements should be considered: 1) the vested interests are asymmetrically interdependent (i.e. “upstream activity affects downstream value); and 2) a degree of uncertainty (behavioural and physical) exists as to the impact of this interdependence (i.e. downstream owners are uncertain of upstream owner behaviour and of the physical impacts of that behaviour). Different actors are also exposed to different uncertainty and risks dependent upon relative position in the catchment and nature of the resources held.

Many economic and socio-cultural variables might induce an individual to participate in collective action for catchment management. In essence, the economic incentive for landholder cooperation derives from the fact that if landholders coordinate land use, then each can operate to optimize their land’s productivity. Since their productivity is impacted by upstream action, it is in their interest to influence upstream landholder’s behavior. A failure to cooperate results in a Pareto-inferior outcome (“i.e.” an outcome that is the least preferred by landholders of all potential outcomes) . The degree to which each landholder is affected by other landholder’s behavior determines their incentive to cooperate. There is thus a potential for net individual and social gains with cooperation. This potential for gain induces the establishment of institutional arrangements which control land use.

In economic terms, the trans-boundary water flow is a good that is jointly supplied to catchment residents and jointly consumed by those residents. It is this physical jointness which causes interdependence. The physical nature of the catchment results in the fact that only the landholder in the most upstream position is not dependent on the land use of other landholders. The most upstream landholder though is not beyond interdependence as downstream holders who are dependent on their action. Midstream and downstream residents are affected by the flow of water whether they like it or not, and can influence the upstream

owner to alter their behavior. There is also a degree of non-excludability of actors downstream holders are dependent on their action. Midstream and downstream residents are affected by the flow whether they like it or not, and can influence the upstream owner to alter their Downstream landholders can benefit from upstream treatments whether they cooperate in the activity or not. This is a case of a “free rider” problem. Catchment residents can operate as they wish concerning land use, and can not be excluded from the benefits of the water resource.

In sum, degrees of supply jointness, excludability and risk exposure are a function of slope, soils, land use, location in the catchment and the water flow characteristics. These variables, along with relative factor prices, affect the economic incentives for any and all actors to induce collective action.

3.2 *Rationale and Nature of Catchment Resource Management*

Catchment degradation threatens the sustained economic development and social welfare of millions of citizens in developing nations (FAO, 1986 Increasing human populations, inequitable land distributions, inadequate governmental support for agriculture, and the unintended side-effects (of national economic policies) foster inappropriate land use can set off a chain of on-site events: deforestation, soil erosion, declining crop yields, conversion to unproductive uses, increasing rural poverty, and accelerated out-migration. Land degradation thus weakens the agricultural sector, and the loss of agricultural revenue can negatively impact food supply and prices at the local and national levels. If agricultural exports are significant, inappropriate land use can worsen the balance of payments and thus national economic development. Though it is difficult to predict exact hydrologic responses to different land use activities, soil erosion also causes substantial off-site damage: the silting of water courses, dams and irrigation systems, further hindering economic development (Hamilton and King, 1983). Rising costs of energy, water and food can result.

3.2 *Concept of Catchment Management*

Catchment management is the process of guiding and organizing land and other resource use on a catchment to provide desired goods and services without affecting adversely soil and water resources. Embedded in this concept is the recognition of the interrelationships among land use, soil, and water, and the linkages between uplands and downstream areas.

The concept of catchment management can be applied to the full range of catchment dimension and problem type; from soil erosion in five hectare, peasant occupied upland catchments to pollution of water bodies. Catchment management might include agriculture, soil conservation and forestry activities, but it differs from these separate fields in recognizing and focussing on land use and its impacts on other catchment interests due to trans-boundary water flow. The fact that water flows downhill, and does so irrespective of political boundaries, is the central tenet of catchment management. The problem of coordination and cooperation is thus inherent to catchment management.

3.3 *Government Responses to Catchment (Catchment) Degradation*

Widespread soil erosion and related catchment degradation is a cause, symptom and result of underdevelopment, and comprehensive resolution often requires nothing short of fundamental social change (Blaikie 1985). Ingredients of that change include broad policy reforms to support the rural and agricultural sectors, expand services and manufacturing sectors, dissuade population expansion into fragile areas, and enforce land use regulations. These reforms are exceedingly difficult if not untenable undertakings in most places. Though some areas have enacted specific rules and regulations aimed at protecting catchments, few have been successfully implemented and have resulted in sustained upland management.

Because of the widespread ineffectiveness of legislative approaches, most developing countries have taken a “project” approach to influencing land use in specific, fragile upland areas. When this approach is adopted, specific areas are targeted, and special governmental or non-governmental implementing

organizational are established; usually with short-term multi-lateral donor assistance. A synopsis of this “catchment management project” approach and some lessons from experience follow.

Development planners have generally approached catchment management, and the design of catchment projects, from an engineering perspective, focussing on the physical linkages of soil, water and vegetation, and targeting select, degraded catchments. Project decision-makers have generally promoted a select number of internationally standard mechanical structures for treating contiguous public and private lands, and are biased to the protection of off-site rather than on-site benefits (Unasyuva 1991). Monetary or commodity incentives have often been used to encourage farmer participation and the adoption of conservation techniques. The general failure of catchment management projects of this character to result in sustained benefits, either on site or off, is now widely recognized (Blaikie, 1985, Easter “et. al.,” 1986, Michaelson 1991).

Part of this failure for catchment projects to achieve sustained benefits can be explained by common weaknesses of the project approach itself: short-term funding; ties to political agendas; top-down design processes; and steadfast preoccupation with achieving verifiable and quantifiable project outputs. In addition, conventional projects have not, to a large degree, been designed with popular participation in mind and with benefit sustainability as a goal. Despite possible improvements in catchment management projects, it has perhaps always been ambitious to think that sufficient funds are available to combat catchment (catchment) degradation.

3.4 *Rationale for the Research Intervention in Semi – Arid Tanzania*

There is a general awareness on the need to conserve and manage natural resources. Evidence for this is provided by the existence of deliberate policies within the government, NGOs and other private initiatives to promote natural resource and environmental management strategies. Government policy direction on NRM is contained in a number of documents: the forest policy, the land policy, the environment policy, policy for wildlife conservation, the agricultural policy and the national poverty eradication strategy. Within the study area a number of initiatives on NRM are in place. A major one is the Hifadhi Ardhi Dodoma (HADO) project - which might be translated as "Dodoma Land Management Project. Other interventions are being undertaken by Farm Level Applied Research Methods for East and Southern Africa (FARMESA), the Dodoma Environment Network (DONET), Sustainable Agricultural Research in Semi-arid Areas of Tanzania (SASA) and the Institute of Resource Assessment (IRA) of University of Dar-es-Salaam (UDSM).

In the wider context of biodiversity conservation, despite the success of Tanzania's Protected Areas network, rural people have often been displaced and natural resources used and regulated through traditional practices, have been removed from their control. The recent draft Policy for Wildlife Conservation (1996) however, recognises that "the biggest challenges facing the wildlife sector are the integration of wildlife conservation with rural development and the fostering of sustainable and legal use of wildlife resources".

Local communities and institutions have traditionally played an important role in NR management. Many of their practices have been disrupted, either through the displacement induced by earlier conservation initiatives - fortress conservation and State villagisation programmes - or through increasing over-exploitation of NRs driven by economic necessities, and associated social and cultural factors.

Following the limited success of earlier state pioneered natural resource management approaches, and in response to the current emphasis on sustainable agriculture (Boesen et al, 1996), community participation in NR management, and new 'livelihoods' approaches which take account of peoples' capabilities as well as their needs, there is a growing interest in exploring the potential of human and social capital. Narayan and Pritchett's 1997 study *Cents and Sociability*:

Household Income and Social Capital in Rural Tanzania, suggests for example that a one standard deviation increase in village social capital increases household expenditure per person - a proxy for

income - by at least 20 to 30 percent. Thus many in-country agencies, both state and civil society are presently interested in a better understanding of the role of human and social capital, and link this to the development of sustainable NR management.

4 Project's Contribution in Resolving Natural Resource Management Problems

The project will comprehensively document current catchment management practices (eg contour-ploughing, tied-ridging, bunding, micro-catchments, minimum tillage, mulching and use of animal manure, agro-forestry, inputs, in-situ conservation of genetic resources). Existing technical and environmental analyses will be complemented by analysis of the economic, social and institutional factors shaping resource management. This will be undertaken for resources both used privately and held in common, and the requirements and implications for human and social capital respectively, will be rigorously examined.

Within an overall sustainable livelihoods approach, basic conceptual models (offering an order of magnitude insight) will be used to explore the attractiveness or otherwise of conservation practices to the poor, in these low productivity circumstances. Researchable constraints on the development of new resource management strategies contributing to the wellbeing and livelihoods of the poor, will be identified. Specific improved management practices will be appraised, with respect to their likely effect on the livelihoods of the poor, at catchment and/or community levels.

Traditional livelihood practices will have been integrated into the social systems, and to that extent more versatile with regard social capital. While the specific practices may have broken down, there may be useful clues here - particularly with regard local institutions - to accommodate modern knowledge. Practices which blend the best of the traditional with modern knowledge, will be explored. Where and if appropriate, the impact of non-farm rural incomes on natural resource use, will be considered; and, for example, the impact of migration (often of youth) on the human and social capital contributions to resource practices at the village level.

The identification of researchable constraints, and new knowledge relating to human and social capital in NR management, will be achieved within the project timeframe.

The subsequent development and validation of new approaches to NR management which benefit the poor, will require target institutions (associated with research, policy, planning and implementation) to be signed up, both to the identified developmental problem and to the projects outputs. To ensure as far as possible this outcome, the project proposes working closely with a number of key target institutions. This process will develop thinking and add value to earlier work and to existing projects, reinforcing an on-going learning approach.

Beyond the lifetime of the project:

- The project's more inclusive 'process' approach - including the existing South-North collaboration - will provide a measuring stick for future collaborative and interdisciplinary approaches. If progress is verified this experience might be built upon and incorporated in subsequent associated programme calls.
- Research programmes, policy and project planning of target institutions will incorporate effective consideration of the role of human and social capital in NR management by the end of 2001.
- New catchment strategies which have benefited from the consideration of the role human and social capital will be validated by the end of 2002.

5 Target Institutions and Inter-institutional Collaboration

The proposed approach for this project is one which highlights the 'process' by which research is undertaken, giving emphasis to collaboration and to interdisciplinary approaches within the research community. As such it seeks to identify those target institutions with overlapping interests in the research theme or area; and it will engage key target institutions in the process from the earliest stages, thereby sharing ownership. This in turn will enhance the promotion pathways.

A number of institutions are directly involved in the promotion of, or research in, NRM in semi-arid Tanzania. Among these we have identified the following as key or intermediate-user institutions with whom we should like to collaborate. Informal and positive exchanges have already taken place between ourselves and individual players in the key target institutions, and we would seek to build on these from the visits at the start of the project:

- Other Departments and groups at Sokoine University of Agriculture, including the Soil and Water Management Research Group.
- Institute of Resource Assessment (IRA) of the University of Dar es Salaam. This institute in collaboration with other organisation/institutes has an interest in natural resource management in semi-arid areas. For example, IRA in collaboration with Sustainable Agricultural Research in Semi-arid Areas of Tanzania (SASA), has been working in semi-arid areas of Iringa region.
- Research in Poverty Alleviation (REPOA). This institution is based at the University of Dar es Salaam and is involved in research in poverty alleviation in Tanzania.
- Economic and Social Research Foundation (ESRF) based in Dar es Salaam.
- Hifadhi Ardhi Dodoma (HADO). This programme is based in the proposed research area of Dodoma. It is involved in environmental issues especially soil conservation and management.
- Various non governmental organisations such as Dodoma Environment Network (DONET). DONET is involved in environmental issues in Dodoma and it specifically works with local communities in the study area. There is also Dodoma Village Aforestation Project and others which will be contacted during and after the time-scale of the research
- Ministry of Agriculture Research station at Hombolo Dodoma is involved in research in semi-arid zones of central Tanzania. The station has been collaborating with Sokoine University in the research project 'Soil and Water Management Research in Semi-Arid Tanzania' which was funded by IDRC. Collaboration with this institution will avail the team of broader experiences gained in semi-arid research in Tanzania.
- Other institutions that will be involved include the Ministry of Natural Resources, the National Environmental Management Council (NEMC), and donor agencies including DFID Dar-es-Salaam, the World Bank and UNDP.
- The FARMESA network, which promotes farming systems approaches and integrated natural resource management.

The project aims complement the policy objectives of the above institutions.

6 Poverty Elimination Aspects of the Project

The longer term objective of the project is to realise strategies for the integrated management of crop and livestock production at the catchment level which benefit the poor. The project attempts to optimise the understanding and uptake of human and social capital issues by key institutions through an inclusive learning process approach, to test whether their inclusion will improve the success of catchment resource management. These institutions are either engaged in research or development, and have explicit objectives relating to promoting the sustainable livelihoods of poor people in semi-arid lands, or are mandated through their commissions to work to these ends. In either case the project processes and research findings should advance their capacity to tackle poverty.

REPOA's goal and purpose, for example, relates explicitly to 'enhancing the capacity of Tanzanians to eradicate poverty and to put in place capacity to understand the nature, causes, extent and incidence of poverty as well as to design appropriate policies and intervention strategies'.

In the case of downstream agencies such as local government and NGOs which operate at the grass roots level and who are concerned with the well-being of poorer constituents, the adoption of strategies better informed by the role of human and social capital should ultimately provide direct and discrete benefits. More generally the focus on people's livelihoods and assets, as opposed to their needs, is linked to approaches which seek sustainable solutions.

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Annex 4. Understanding livelihood strategies in semi-arid Tanzania: concepts, themes and questions (by Neil Marsland)

1. Objectives

1. To introduce a framework for understanding livelihoods
2. To highlight some key themes and questions relating to livelihoods in semi-arid Tanzania.
3. To provoke discussion and debate!

2. Livelihood Terminology

Livelihood:

Chambers and Conway (1992:7)

“ a livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living”.

Ellis (2000: 10)

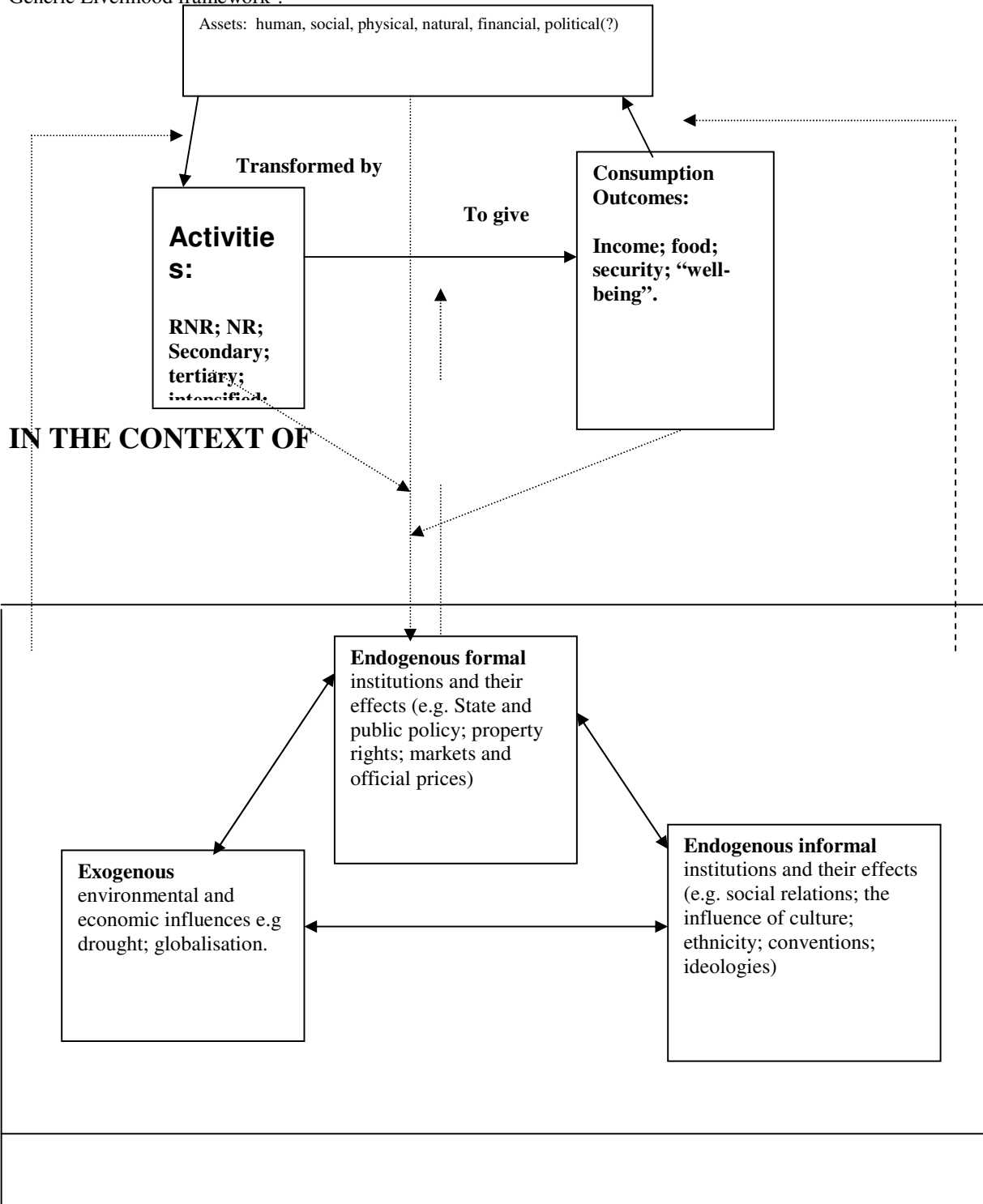
“ a livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household”

Livelihood strategy:

(Ellis: 2000: 40)

“Livelihood strategies are composed of activities that generate the means of household survival”.

Generic Livelihood framework⁶:



⁶ Derived from ODI (2000).

“Contextual” influences and determinants may have a very direct effect on the micro-level (individual, household) and meso - level (e.g. village, district) workings of the assets- activities – outcomes relationship. For example changes can affect:

- Quality and quantity of assets (e.g. disease reduces human capital, education increases human capital, soil degradation reduces natural capital, devaluation reduces financial capital⁷);
- Activities and the terms on which they transform assets (e.g. drought leads to coping activities which may transform productive assets into liquid assets and thus denude the asset base);
- The relationship between activities and consumption outcomes (the influence of different types of prices such as minimum wage rates, income taxes, which may set a type of floor for the revenue derived from labour activities to consumption outcomes, or price stabilisation policy which may affect the rate at which agricultural output increases are related to consumption outcomes).

Definitions:

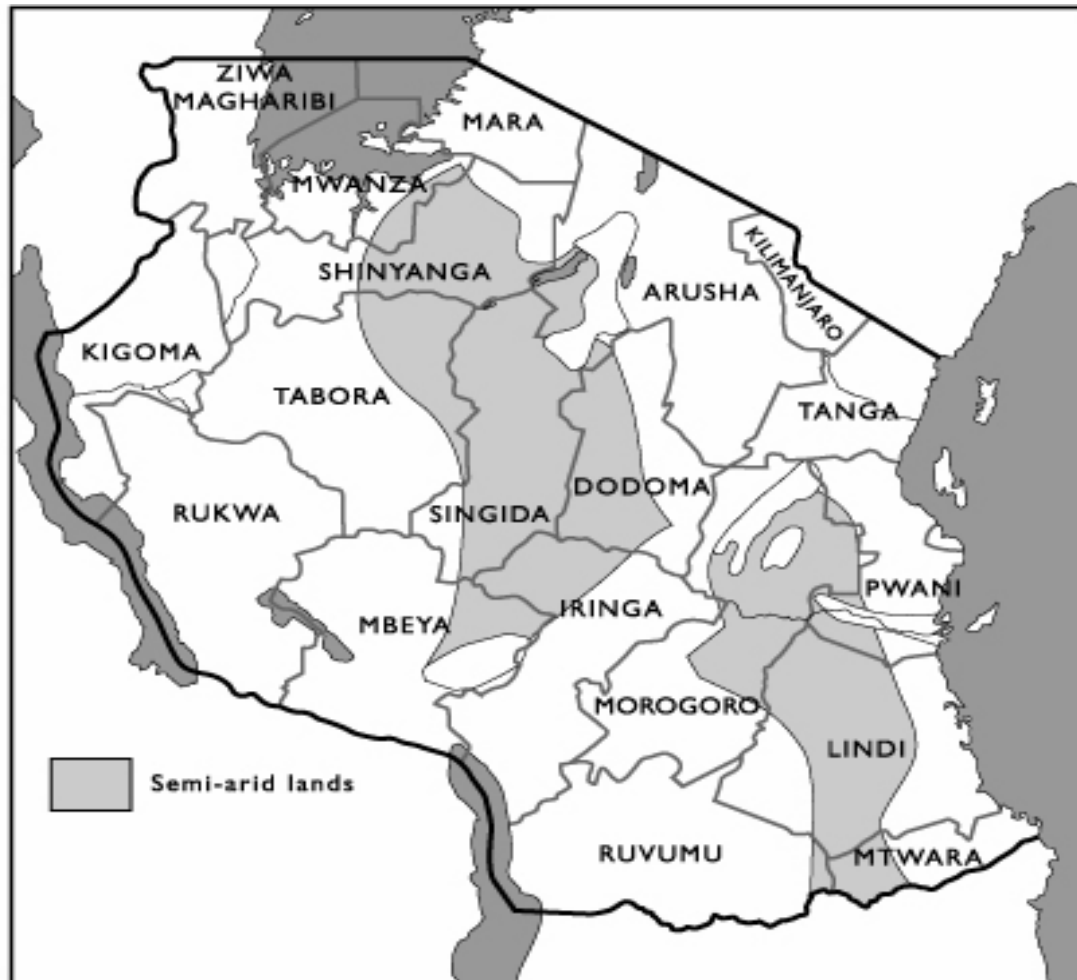
- Semi-arid: 2 zones – central and south eastern

Central:

- Between 1000 and 1500m in altitude.
- Topography: gently undulating plains, rocky hills and low scarps.
- Soils: sands on uplands, alluvial hardpan and salt affected in eastern and Lake Eyasi rift valleys, black cracking clays on extensive flat plains in north, around Shinyanga.
- Average annual rainfall of 600-800 mm permits arable cropping of drought tolerant crops. Unimodal, unreliable.
- Population density highest where bordering Lake Victoria (over 70 persons/sq. km).
- Further south, the Shinyanga plains and Dodoma support at least 30 persons / sq. km (NRI 1996: 13).
- Traditionally agro-pastoralism has been a prominent livelihood system.

South eastern:

- Low lying at between 200 and 600m above sea level.
- Rainfall 600 – 800 mm per annum. Uni-modal, unreliable.
- Topography is characterised by flat or gently undulating plains with some rocky hills and strongly dissected areas.
- Soils in the south and around Morogoro are moderately fertile loams and clays, whilst those in the centre are infertile sands
- **Sorghum, sesame, cassava, groundnuts and cashew are important crops.**
- **Traditionally NOT regarded as an agro-pastoral area key livelihood system**
- **Most of the area is sparsely populated, only in Masasi district (extreme south) does popn. Density exceed 35 persons per sq. km**



TANZANIA

- **Questions:** Is this delineation of the semi-arid lands commonly accepted?
- Are there other characteristics, not listed above, which are important for delineation?
- Is the semi-arid distinction a useful one in explaining livelihoods? why / why not?

- Poverty

The extent of rural poverty in Tanzania (1993 / 94)
(Human Resource Development Survey).

Zone	Incidence of poverty*
Coastal zone	40
Northern highlands	39
Lake zone	43
Southern highlands	48
Southern zone	65
Central zone	72
Total	49

* % of households below the poverty line.

Southern zone: Lindi, Mtwara, and Ruvuma

Central zone: Dodoma and Singida

Source: WorldBank (2000: 99)

Farming systems:

- Coffee / cashew / cotton
- **Pastoralist and agro-pastoralist***
- **Livestock / sorghum / millet / cotton / rice***
- Maize / Legumes
- Coffee / banana / horticulture
- Wetland rice / sugar cane

* **Overlap and change**

Swift (1988) :

“pastoral production systems are those in which 50% or more of household gross revenue (i.e. the total value of marketed production plus the estimated value of subsistence production consumed within the household) comes from livestock or livestock-related activities (for example caravan trading), or where more than 15% of household food energy consumption consists of milk or milk products produced by the household. An “agro-pastoral” production system is one in which more than 50% of household gross revenue comes from farming, and 10 – 50% from pastoralism⁸”.

The 1994/95 sample census estimated that about 40% of the 3.9 million agricultural households were combining the production of crops and livestock for sustenance, income and savings (WorldBank: 2000: 214). But livestock ownership much lower in south eastern (Mtwara, Lindi) than northern and western semi-arid lands.

⁸ Nomadism should be viewed as but one among many of the major productive techniques employed by most pastoral societies.

Livelihood strategies: Key issues and questions:

1. What is particular about the semi-arid lands?

Suggestions: moisture stress leading to pattern of cultivation and NRM; dual livelihood systems – in central - (agro-pastoral). Anyone can be hit by drought, but semi-arid areas are more fragile(?) and more prone to it than elsewhere.

- **Drought: a key issue and one which is now fairly well understood at the household level upwards (see SCF HFE reports, CARE studies, various studies over last 30 – 40 years). Do we understand gendered coping strategies however?**

2. Livelihood diversification

Bryceson (1999); Mung'ong'o (1998); Booth (1992); Ellis (2000); Ellis and Collinson (1998); Jambiya (1998); Mwamfupe (1998).

“De-agrarianisation is defined as a long-term process of occupational adjustment, income earning reorientation, social identification and spatial relocation of rural dwellers away from strictly agricultural based modes of livelihood” (Bryceson; 1999: 4). Reardon 1997 – average of 40% of household income in SSA derived from non-ag sources.

Key questions:

- Are livelihoods diversifying?
- How are they diversifying (NR, non-NR , distress push; demand pull?)
- Who is diversifying (youth; gender; ethnicity; social group – wealth groups)?
- Is diversification a good or a bad thing, should it be supported through research and interventions, how?

Some observations from Dodoma

Diversification and vulnerability:

- There is a much greater degree of livelihood diversification for the poor than for the rich. The rich appear to be purely agricultural, food and income sources are purely from crops and livestock. The middle group are more diversified and the poor are the most diversified. Animal product sale is the most important item for middle and rich (in income terms)
- The poor are unable to go into petty commodity trading due to lack of finance. They are unable to go into brewing as well for the same reason. Another issue here is poor road conditions and market access.
- The assets and activities used by the poor are just adequate to cover consumption needs. If there is a shock, then their livelihoods are vulnerable.
- The term agro-pastoral only applies unequivocally to the better off.

(source: Household Food Economy Assessment, Dodoma Region: SCF UK (1999))

3. Differences and similarities between Northern/western semi arid lands and southern semi arid lands.

- **Do we know much about livelihoods in semi – arid Mtwara and Lindi?**

4. *Gender and intra-household issues:*

Much of research focuses on female headed households and coping with drought or seasonality. How comprehensive is our knowledge on:

- Gender biases in agro-pastoral societies? (gender differences may be particularly important in dual livelihood systems, particularly gendered with respect to division of labour and resource entitlement; Davies et. al. 1996).
- Differences between strategies that men and women draw on in times of stress and implications for individual consumption outcomes?
- Trends in gendered livelihood strategies. How have these changed over time, what has been the cause of the changes and the effects on men women and children?

5. *Enabling or constraining parastatals and state offices.*

- Do parastatals such as Tansed, farmers co-operatives; local offices of government constrain or enable livelihoods? Will decentralisation make matters worse or better for the rural poor in semi-arid areas?

6. *The changing role of social capital and informal safety nets.*

- How have these changed over time?
- Do they function effectively (vertical vs. horizontal linkages)?

Annex 5 Livelihoods and Diversity Direction Explored by Research LADDER (by Ntengua S.Y. Mdoe)

Introduction

The purpose of the LADDER research project is to develop and promote practical policies to reduce the vulnerability of poor rural people. This purpose breaks down into the following inter-related objectives:

- to identify enabling versus hindering factors in the policy and institutional environment that affect the diversification options of the rural poor
- to draw out the macro-micro policy links of diversification in social, institutional, economic and environmental dimensions
- to link diversification behaviour to natural resource management policy issues, in order to ensure that different policy entry points designed to support rural livelihoods are compatible in the quest for rural poverty reduction
- to gain policy-relevant knowledge into the way diversification responds to external trends and events (the vulnerability context) in different locations
- to achieve a better understanding of patterns of diversification between the rural poor and the not-so-poor, by linking diversification behaviour to the asset profiles of different groups in rural communities

Prior to the LAADER research a small research project was carried in 1997 to achieve an enhanced understanding for policy purposes of the phenomenon of rural livelihood diversification in Tanzania. The research was carried out in three villages in Hai district. The villages were purposively selected to represent varying degrees of remoteness from public infrastructure and services, so that effects of location on income portfolios could be examined. The villages were Wari, Kashashi and Ng'uni, and they represent, respectively, little, medium, and more remoteness from the district headquarters located on a main road. For each village, 30 households were interviewed, these being stratified into three income-wealth categories utilising a participatory wealth ranking exercise, so that there were 10 households in each category.

The Hai research aimed at addressing such questions as: Can the livelihood strategies of the poor be effectively distinguished from those of the rich for policy purposes? Does location have a bearing on livelihood strategies? How can diversification be represented in order to provide a useful input into policy decision-making? Can diversification be summarised in a way that captures both the number of different income sources and their relative contribution to total household income?

Summary of the findings of Hai Research

Household characteristics by village and income group

Tables 1 and 2 below provide basic data on livelihoods in these coffee growing villages, as revealed by the sample survey. Note that two observations out of the 90 collected were omitted from the analysis because they represented extreme outliers in the data set with respect to assets, incomes or a combination of both. The data summarised by village (Table 1) reveals, predictably, that the mean level of per capita income in the nearby Wari village is significantly higher than in the more remote villages. However, incomes in the other two villages do not correspond to their relative remoteness in quite the same way, with N'guni (the most remote village) appearing better off in almost all respects compared to Kashashi (the medium remote village). The key factor here appears to be access to mains electricity.

Table 2 summarises the same basic sample characteristics, only this time by income-wealth group as identified by the participatory wealth ranking exercise. The latter exercise is demonstrated to have identified the three income-wealth groups with a reasonable degree of accuracy. Mean annual household income in the richest households was approximately four times that for the poorest group, and twice that of the middle group. For both total and per capita incomes the means for the income-wealth groups were statistically different from each other at the 0.95 confidence level. Nevertheless, these groups do overlap, containing households at each end of their distributions that fall into the income interval described by the adjacent income-wealth class.

As might be expected, given the villagers' own criteria for distinguishing wealth groups, significant differences between the income-wealth groups are observed with respect to assets. In particular, the low income group is marked by lower educational attainment, land ownership, area farmed, cattle owned, access to electricity, piped water, and house construction by comparison to the other two income-wealth groups.

Table 1: Household characteristics by village

Household Characteristics (Mean values for sample)	Wari n=28	Kashashi n=30	Ng'uni n=30	All Cases n=88
Household income (TShs)	1,044,864	809,065	972,370	939,763
Per capita income (TShs)	207,778	110,337	146,102	153,533
Household size (no)	5.2	6.0	5.9	5.7
Age of household head (yrs)	64.9	58.0	58.3	60.3
Land owned (ha)	2.8	5.3	5.2	4.5
Area farmed (ha)	3.1	5.8	5.7	4.9
Cattle owned (no)	2.2	2.9	3.3	2.8
Goats/sheep owned (no)	0.8	2.1	2.1	1.7
<u>Households with:</u>				
Electricity (%)	75.0	3.3	50.0	42.0
Piped water (%)	75.0	63.3	46.7	61.4
Brick or concrete houses (%)	92.9	46.7	73.3	70.5

Note: the exchange rate at time of survey in mid-1997 was TShs 600 = 1US\$

Table 2: Household characteristics by income-wealth group

Household Characteristics (Mean values from sample)	Low Income n=30	Medium Income n=29	High Income n=29
Household income (TShs)	455,261	894,130	1,486,606
Income per capita (TShs)	70,652	98,161	294,645
Household size (no)	5.1	6.9	5.2
Age of household head (yrs)	59.9	58.1	62.9
<u>Education levels (household heads)</u>			
No formal education (%)	13.3	0.0	0.0
1-4 years education (%)	53.3	24.1	31.0
5-8 years education (%)	30.0	62.1	58.6
> 8 years education (%)	3.3	13.8	10.3
Land owned (ha)	2.9	4.3	6.2
Area farmed (ha)	3.1	5.0	6.7
Cattle owned (no.)	1.5	3.0	3.9
Goats/sheep owned (no.)	1.0	2.6	1.4
<u>Households with:</u>			
Electricity (%)	20.0	44.8	62.1
Piped water (%)	33.3	62.1	89.7
Brick or concrete houses (%)	46.7	69.0	96.6

Note: the exchange rate at time of survey in mid-1997 was TShs 600 = 1US\$

Income portfolios as a device for capturing livelihood strategies

The most accessible way of describing the outcome of livelihood decisions made by households in different locations, or distinguished by income-wealth criteria, is to examine the composition of their total income from different sources. This is an income portfolio, and it seeks to identify the diversity of income sources as well as their contribution to total household income, utilising broad categories of income (e.g. crop production, livestock, wages etc.) rather than individual sources within those categories (Leones and Feldman, 1998, Ellis, 2000).

Income portfolios were constructed for each household, and the proportions were summarised as village means (Table 3) and income-wealth group means (Table 4). The average income portfolio for the sample as a whole is given in the last column of Table 3. This demonstrates some interesting features, namely the very low contribution of coffee to total income (less than one per cent) in an area of Tanzania where the presumption is that coffee is the cornerstone of rural incomes; and the high contribution of dairying, where milk production is based on stall-fed cattle representing an intensification of the coffee-banana farming system.

The construction of income portfolios turns out to have both strengths and flaws. Its strengths lies in the overall picture of village income sources that it provides. This resulted in a revision of widely held views concerning the pre-eminence of coffee in the livelihood strategies of farm households in Hai district. While this result occurred in part because the sample survey was conducted in a year of poor coffee harvests due to drought and disease, it also revealed that Hai families had other alternatives to fall back upon when coffee failed to perform. And perhaps this is not so surprising given that coffee in the East African highlands has always been prone to coffee berry disease, drought, and adverse cyclical fluctuations in world prices (Ssemogerere, 1990; Mdoe, 1998, Kashuliza and Kislev, 1999; Temu, 1999). However, from a policy viewpoint, the value of the exercise is that it shows that poor Hai households may be facilitated in the achievement of viable livelihoods in ways other than by orthodox sector-based support to coffee.

Table 3: Mean Household Income Portfolios, by Village (proportion of net total income)

<i>Income Source</i>	Ng'uni N=30		Kashashi n=30		Wari n=28		All Villages n=88	
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.
Crops	0.33	0.29	0.35	0.26	0.27	0.23	0.31	0.25
of which: <i>Coffee</i>	0.05	0.14	0.05	0.20	-0.04	0.11	0.01	0.15
Livestock	0.40	0.31	0.34	0.28	0.25	0.28	0.31	0.29
of which: Dairy	0.37	0.31	0.25	0.25	0.22	0.27	0.26	0.28
Total farm	0.73	0.28	0.69	0.33	0.53	0.32	0.62	0.32
Farm wages	0.04	0.14	0.06	0.21	0.00	0.00	0.03	0.13
Non-farm employment	0.09	0.19	0.05	0.21	0.12	0.28	0.10	0.25
Self-employment	0.03	0.10	0.10	0.18	0.16	0.26	0.11	0.22

Remittances & transfers	0.10 0.21	0.10 0.16	0.19 0.26	0.15 0.23
Total non-farm	0.27 0.28	0.31 0.33	0.47 0.32	0.38 0.32

Table 4: Mean Household Income Portfolios, by Income Group (proportion of net total income)

<i>Income Source</i>	Low Income n=30		Middle Income n=29		High Income n=29	
	Mean	s.d.	Mean	s.d.	Mean	s.d.
Crops	0.36	0.29	0.30	0.21	0.23	0.25
of which: <i>Coffee</i>	0.00	0.15	0.01	0.16	0.00	0.15
Livestock	0.27	0.29	0.35	0.30	0.33	0.28
of which: Dairy	0.21	0.27	0.30	0.28	0.29	0.28
Total farm	0.62	0.34	0.65	0.28	0.55	0.35
Farm wages	0.06	0.20	0.00	0.00	0.00	0.00
Non-farm employment	0.04	0.17	0.13	0.26	0.16	0.31
Self-employment	0.07	0.17	0.16	0.26	0.12	0.21
Remittances	0.21	0.26	0.06	0.11	0.18	0.27
Total non-farm	0.38	0.34	0.35	0.28	0.45	0.35

The significant drawback of income portfolios as a policy tool is that variation around mean income shares makes it impossible to infer distinct sub-group strategies across villages and groups. This is revealed by the size of the standard deviations for income shares shown in Tables 3 and 4. This variation could be explained to some extent by the small sample size of the research reported here, on the other hand an inspection of household level data emphasises the heterogeneity of livelihood strategies across all villages and locations.

Despite this problem of high variation around sample means, broad differences in the farm-non-farm income share across villages are notable (Table 3), and those between Wari and each of the other two villages were statistically significant. As might be expected, remoteness is associated with higher reliance on farming, and the proportion of income obtained from agriculture descends from 73 per cent for the remote village of Ng'uni to 69 per cent for the medium-remote village of Kashashi, and to 53 per cent for the nearby village of Wari. Proximity to roads and services appears to have a notable impact on the significance of non-farm self-employment and remittance income in village income portfolios.

With regard to comparisons across income groups, variations around sample means make it difficult to draw firm conclusions with any degree of confidence. Nevertheless some features revealed in Table 4 are worth noting. Crop income seems to be less important for the high income-wealth group than for the other groups (on average only 23 per cent of their income portfolio); while non-farm employment and self-employment, taken together, are more important for the better off income groups (over a quarter of total income) than for the poor group (only 10 per cent of total income). Overall, the poor are distinguished by their reliance on crop income, and their relative lack of access or low returns to other income sources, although the significance of remittances for them is proportionately just as high as for rich households.

A significant disadvantage of the income portfolio approach to depicting group and sub-group livelihood strategies is the way averaging disguises heterogeneous participation within the group. An example of this difficulty from a policy perspective is provided in Table 4. Livestock is shown as contributing 27 per cent of household income for the low income group, yet roughly 20 per cent of low income households possess no livestock at all. A potential means of circumventing this problem is to classify each household according to a typology of livelihood strategies.

Typologies of livelihood strategies

It was considered that the problems identified with income portfolios might possibly be overcome by regrouping the data into more homogeneous groups, and compiling mean portfolios that describe observable group strategies. This approach classifies each household according to a typology of livelihood strategies, and replaces mean income portfolios with a proportional measure of the distribution of households between different types. Rather than attempting to identify the typical household strategy within a village or income group, this method illustrates which type of strategies are being followed by most people in each group, and as such has the potential to offer better guidance for the type of support for the poorest households that the livelihoods framework seeks to address.

The difficulty with classifying strategies into types is, of course, the compromise that has to be found between specificity and practicability. A simple typology based on diversity might classify households according to the proportion of total household income that is derived from one specific source, that is, from milk, or bananas, or salaries for example. Following from this starting point, households in the survey were classified according to whether they obtained more than half, more than two-thirds, or more than three-quarters of their total income from a single source. The proportions of households in each income-wealth group that fell into each of these three types turned out as shown in Table 5.

Table 5: Percentage of households by typology of specialisation and by income group

Type	<i>Specialisation Category</i>	Low Income	Middle Income	High Income
I	> 50% of total household income from single specific source	69%	64%	68%
II	> 66% of total household income from single specific source	25%	33%	43%
III	> 75% of total household income from single specific source	15%	17%	32%

Clearly the same procedure can be done across villages as well as across the income-wealth groups as displayed in Table 5. This appears to give a more accurate picture of degrees of specialisation than the mean diversity indices shown above, with results that can be generalised to a wider population, using appropriate statistical tests. In Table 5 above, comparisons between income-wealth groups indicate that:

- (a) roughly two-thirds of the households in each income group receive more than half their total income from a single specific source (Type I);
- (b) more households in the high income group than in the other two income groups have specialisation rather than diversification strategies (summed across Types I – III);

- (c) examination of the village data shows that this specialisation is predominantly in dairying in the two more remote villages (Ng'uni and Kashashi) and in varying non-dairy activities (crops, wages, trading etc.) in the nearby Wari village.

The possibly surprising result that a large proportion of the households in the study follow livelihood strategies in which income is relatively concentrated emphasises the value of uncovering the proportion of total income derived from each source. One household, for example, had ten different income sources, and might have been described as following a diverse strategy on this basis. However, that household's total income was strongly concentrated in only two of them: 46 per cent from milk and 24 per cent from bananas.

The idea of specialisation threshold levels lends itself to further elaboration, by constructing livelihood types that represent different combinations along a specialisation-diversification continuum. The purpose of this is to reveal within which category of activities (e.g. crops, livestock, non-farm etc) specialisation occurs, and to explore the combinations of activities that feature for the roughly one third of each income-wealth group that do not display these degrees of specialisation (refer Table 5 again).

The typologies constructed here were guided conceptually by a farm classification system used in the UK by the Ministry of Agriculture, Fisheries and Food (MAFF), in which 'robust types' of farm are identified by the proportional contribution of each enterprise to the total farm budget (source). On inspection of the Hai villages income data, it was decided that the principal types of activity could be broadly described as crop production, livestock production (including dairying), and non-farm income (taken in the sense of all non own-account farming income). Two typologies were constructed, the first, following the MAFF example, was based on a 'break point' of income sources that comprised two thirds of total income, resulting in six classes of livelihood strategy as shown in Table 6. This is called a 'Type 66' classification.

A second typology was constructed similarly, but pushed the 'break-point' to three-quarters of total income ('Type 75' classification). This exercise, the categories of which are not reproduced in full here, resulted in seven categories rather than the six described in Table 6, including a 'mixed category', giving it greater potential to capture the more diverse livelihood strategies in the sample of households.

Table 6: 'Type 66' Livelihood Strategy Categories

Strategy ID	Category shares in total income	Strategy Type
I	Crop income \geq 66%	Principally crops
II	Livestock income \geq 66%	Principally livestock
III	Non-farm income \geq 66%	Principally non-farm
IV	Crop income and livestock income together \geq 66% Crop income $<$ 66%, but $>$ non-farm income Livestock income $<$ 66%, but $>$ non-farm income	Crop/livestock

V	Livestock income and non-farm income together $\geq 66\%$ Livestock income $< 66\%$, but $>$ crop income Non-farm income $< 66\%$, but $>$ crop income	Livestock/non-farm
VI	Crop income and non-farm income together $\geq 66\%$ Crop income $< 66\%$, but $>$ livestock income Non-farm income $< 66\%$, but $>$ livestock income	Crop/non-farm

Sample households were classified according to these typologies, and the results for income-wealth groups and the ‘Type 66’ and ‘Type 75’ threshold levels are summarised in Tables 7 and 8. Some interesting insights into livelihood strategies can be observed from these tables. Poor households are more likely to specialise in crop production than either middle or high income households, and this is accentuated with the higher specialisation threshold in the ‘Type 75’ classification. High income households are more likely to specialise in non-farm activities, or to follow a mixed crop-livestock agricultural strategy, and again this is revealed more robustly by the ‘Type 75’ classification where more than 60 per cent of high income households follow one or other of these two strategies. The threshold level chosen is seen to make big differences to strategy patterns in some instances. For example, using the 75 per cent threshold, relatively few high income households follow the combined crop-non-farm strategy, however, the comparison in this respect with the other income groups is much less distinct using the 66 per cent threshold.

These strategy comparisons can be presented in a variety of different ways in order to clarify patterns that may prove useful for policy purposes. For example, strategy types can be ranked by the percentage of households in each group that falls within it, as shown for the ‘Type 66’ classification in Table 9, and this facilitates comparisons of the predominant strategy types in each income-wealth group.

Table 7: ‘Type 66’ distribution of households, by income group

Type	Income-Wealth Group		
	Low Income n=30	Middle Income n=29	High Income n=29
Principally crops	17.4%	8.5%	6.3%
Principally livestock	10.0%	15.6%	12.9%
Principally non-farm	27.8%	14.0%	33.3%
Crop/livestock	24.6%	28.2%	25.3%
Livestock/non-farm	7.4%	10.6%	8.9%
Crop/non-farm	12.9%	23.2%	13.2%
Total	100%	100%	100%

Table 8: 'Type 75' distribution of households, by income group

Type	Income-Wealth Group		
	Low Income n=30	Middle Income n=29	High Income n=29
Principally crops	12.5%	2.9%	5.7%
Principally livestock	10.0%	12.9%	6.9%
Principally non-farm	18.0%	7.9%	30.2%
Crop/livestock	21.7%	31.2%	30.8%
Livestock/non-farm	7.4%	10.0%	13.9%
Crop/non-farm	27.5%	32.1%	7.5%
Mixed	2.9%	2.9%	5.1%
Total	100%	100%	100%

While the Hai district results display a great amount of heterogeneity of strategies across all income-wealth groups, clearer differences are evident in the village comparisons not reproduced here, and in other study sites this approach could prove insightful as a guide to distinguishing the livelihood strategies of the poor from the better off in rural communities.

Some cautionary remarks are nevertheless required regarding this type of analysis. The first of these is loss in the capacity of the analysis to capture livelihood diversity that results from constructing 'typical strategies'. For example, under the 'Type 75' classification of strategies (Table 8 above), it appears that 40 per cent of low income households follow specialisation strategies either in crop production, or in livestock keeping, or in non-farm activities. However, in the earlier Table 5 based on individual rather than grouped income sources, it was observed that only 15 per cent of low income households obtained more than 75 per cent of their income from single *specific* income sources. There is clearly a trade-off between specificity and typology of income sources, and the main casualty of this trade-off is the ability to convey diversity of income sources when similar sources are grouped together in order to construct typologies.

Table 9: 'Type 66' ranked typology, by income group

Low Income Group n=30			Middle Income Group n=29		High Income Group n=29	
Principally non-farm	27.8%		Crop/livestock	28.2%	Principally non-farm	33.3%
Crop/livestock	24.6%		Crop/ non-farm	23.2%	Crop/livestock	25.3%
Principally crops	17.4%		Principally livestock	15.6%	Crop/non-farm	13.2%

Crop/ non-farm	12.9%	Principally non-farm	14.0%	Principally livestock	12.9%
Principally livestock	10.0%	Livestock/ non-farm	10.6%	Livestock/ non-farm	8.9%
Livestock/ non-farm	7.4%	Principally crops	8.5%	Principally crops	6.3%
Total	100%	Total	100%	Total	100%

Finally, there is the issue of the underlying variation within and between groups, implying that only very large differences between group means turn out to possess statistical significance. In some instances, significant differences between groups are indeed observed, and subsequent discussion can proceed with some degree of confidence that a distinguishing feature of the livelihoods of the poor has been discovered. However, this is the exception rather than the rule, and practitioners using this type of data but lacking either the time or the expertise to undertake the requisite statistical tests should be aware that high variability round sample means warrants caution in jumping to conclusions about differences in livelihood strategies across different social groups.

However, even given these caveats, it is apparent that the 'typology' approach to household income data takes us rather further than either simple income portfolios. For example, in the foregoing analysis it emerges that quite a large proportion of households in both high and low income groups depend principally on non-farm income sources, yet they are in separate income-wealth classes, and have quite different material standards of living. This observation is consistent with the proposition that the poor diversify in less remunerative labour markets than the better off, reflecting especially human capital constraints.

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Annex 6 The role of the President's Office in poverty alleviation, sustainable livelihood and natural resource management in semi-arid areas of Tanzania (by Clifford Tandari)

Vision

To coordinate formulation, implementation, monitoring and review of policies and strategies and support the government process for eradicating poverty in Tanzania.

Mission

The operating mission to support the vision is as follows:

- To formulate policies, coordinate and monitor implementation strategies on poverty eradication.
- To facilitate and promote international cooperation on poverty eradication agenda and enhance participation to relevant bilateral, sub-regional, regional and global organizations' programmes

Purpose

The main purpose of the division for poverty eradication is coordinating efforts towards eradicating poverty in Tanzania.

a) Introduction and Government Commitment

Since gaining independence in 1961, the various phases of the government of Tanzania had and still puts poverty reduction as its main policy goal. During independence, poverty was identified as one of the major enemies of the country. Tanzania has got about 50% of her population living below the poverty line. This means that about 15 to 18 million people are living below the poverty line.

In 1997, the third phase government of Tanzania adopted the National Poverty Eradication Strategy (NPES) that aims at eradicating abject poverty and a society with improved social conditions and general welfare. NEPS also provides a framework for coordination and implementation of initiatives for eradicating poverty in Tanzania. Under the NEPS, the government has shown a commitment of eradicating the current levels of poverty by the year 2025.

The government of Tanzania has also prepared a document called development vision 2025 that aims at making Tanzania a much better society by the year 2025. Most of the future plans that are in the development vision 2025 go hand in hand with what is in the National Poverty Eradication Strategy.

Of recent, the government is preparing a poverty reduction strategy paper (PRSP) under Poverty Reduction Growth Facility (PRGF) as one of the means and ways of fighting poverty. The PRSP is a key requirement for reaching completion point under the highly indebted poor countries initiative (HIPC). The intention of HIPC initiative is to attack deep poverty, raise growth, and enhance poor participation and allow for extra resources to be earmarked and allocated to poverty eradication highest impact areas.

a) Priority areas for resource allocation

In the mid-term (i.e. in the next three years) the focus should be on coordination, investment and implementation of action plans in the sectors or areas that will have the highest impact on poverty eradication. These sectors are education, water, health, rural roads, agriculture and governance. Implementing agencies are therefore supposed to allocate a lot of resources to the sectors and areas that are shown below.

- Strengthening primary education through school mapping activity so as to increase gross and net enrolment rates.
- Increase the percentage of population with access to quality, clean and safe drinking water.
- Increasing the immunization rates for measles and DPT, and increase people's access to quality basic health services.

- Construction and improving the rural roads to the level of good/fair and be passable throughout the year.
- Increasing land productivity and hence increase household food security.
- Increasing transparency, accountability and quality of service delivery to the people.
- Promoting the use of participatory methodologies in planning, implementation, monitoring and evaluation of poverty eradication initiatives.
- Promoting a consultative forum for exchange of ideas among all stakeholders as far as coordination of poverty eradication initiatives is concerned.

b) Action taken by the Government as seen below

- Formation of a fully fledged Division of Poverty Eradication and mandating the Vice-Presidents Office with the overall coordination for poverty eradication initiatives.
- Formulation of the National Poverty Eradication Strategy (NPES) through a participatory way and subsequent adoption by the Government in 1997.
- Building consensus on the “Poverty and Welfare Monitoring Indicators” and eventual publishing of a handbook on poverty and welfare monitoring.
- Develop a monitoring and evaluation to monitor changes in trends of poverty and human development.
- A Draft Action Plan for Poverty Eradication that involves sectoral and Local Government Authority participation in implementing the priority reduction impact areas has been prepared. The Draft action plan has got time bound goals.
- Prepare a Poverty Reduction Strategy Paper by August 2000. Its preparation will involve consultation with and the participation of all stakeholders including civil society and development partners. PRSP will:
 - Assemble baseline data on poverty and develop a national poverty line.
 - Set medium-term poverty reduction targets, including monitorable indicators of main poverty objectives that can be achieved within one to ten years. These indicators will at the minimum cover income poverty, and essential human development.
 - Set poverty reduction targets for each of the priority sectors, including primary education and health, rural roads, water, and extension services in agriculture.
 - Shift budgetary resources to meet specified poverty reduction targets.
- The Government has also identified the key priority areas for public expenditure in the context of the Medium Term Expenditure Framework (MTEF). The implementation of this is monitored under the annual public expenditure review (PER) process. The public expenditure review involves a wide range of stakeholders.
- The Government established as per July, 1998; a Multilateral Debt Relief Fund (MDF), to which up to now seven donor countries have contributed. The funds raised in the first year of this arrangement i.e. 1998/99 helped in servicing debt to the World Bank, IMF, and the African Development Bank while the resources saved by the Government (for not using some of the recurrent budget to pay debts) were used to protect the budgets in the priority areas.
- The Government is currently developing the Tanzania Assistance Strategy (TAS), for purposes of guiding external aid to Tanzania. Other purposes of TAS are to improve ownership, partnership and aid effectiveness.
- The Government plans to undertake actions to ensure sustained improvement in economic governance and create an enabling environment for robust private sector participation.

c) Policy statements:

Some of the major policy statements that were adopted in relation to rural and urban areas and being implemented are:

(i) Education:

- Universal Primary Education
- Expand secondary education by strengthening existing Government secondary schools and construct new schools.
- Raise the number of people who could read and write from current level 68% to about 90%.
- There will be equality of opportunity between men and women in school enrolment at all levels.

(ii) Water:

- Increase access of water of up to a coverage of 90% within a distance of 400 metres.

- Increase access to sanitary services particularly to urban dwellers by at least 50% of current status.

(iii) Health:

- Reduce the incidence of disease and deaths and increase life expectancy by providing health services to mothers and children, to treat and prevent communicable diseases.
- Maternal mortality rates be reduced by half the current levels of between 200-400 per 100,000.
- Access to health centers be increased and reduce the average distance to health facilities.
- There will be increased allocation of resource for the health sector development.
- Increased resources will be allocated to preventive health services.
- HIV/AIDS and other communicable diseases shall continue to receive priority in health sector programmes.
- Reduce severe malnutrition among children under 5 years from the rate of 6% to 2% or less, and moderate malnutrition from 44% to 22%.

(iv) Rural roads:

- Improve the existing roads so as to be passable throughout the year.
- Strengthen district and rural roads.

(v) Agriculture:

- Enhance agro-industries
- Agriculture will remain the main source of economic development and poverty eradication
- Food security at household and national level will receive priority in poverty eradication

(vi) Employment:

- Reduce the general level of unemployment to less than 10%
- Men and women will have equal opportunities for employment
- Every Tanzanian capable of working should work
- Development programmes undertaken by the government, private sector, NGOs, individuals will emphasize creation of jobs

d) Strategies:

Some of the major strategies that are being implemented are as shown below:

- Facilitating and encouraging private sector and NGOs participation in the promotion of education
- Increasing government resource allocation to the education sector
- Introducing family life education in school curriculum in primary and secondary schools
- Strengthening Local government capacity to assess, plan and implement health programmes
- Strengthening institutional capacity to implement health sector programmes, particularly primary health care
- Increasing training and of health workers in rural areas
- Expanding outreach programmes
- Expanding and strengthening health programmes targeted to the needy such as HIV/AIDS and TB victims
- Increasing the number of health facilities in rural areas
- Expanding programmes for both water supply and sanitation services in urban and rural areas
- Promoting community efforts in implementing water and sanitation programmes
- Identifying and increasing access to new farm land by farmers and improving means of communication
- Establishing food preservation at district and household level
- Encouraging people to establish cooperatives
- Encouraging private sector participation in developing and implementing water and sanitation programmes
- Ensuring that through the services of extension workers and change agents, public awareness is created about poverty and its causes and the resources available to eradicate it
- Setting realistic and measurable goals in order to facilitate Monitoring and Evaluation of programmes
- Increasing social sector investment
- Promoting and protecting existing fence and flora by expanding biodiversity programmes
- Ensuring equality of access to and control of land between men and women

- Empowering individuals and households to mobilize resources for poverty eradication.

e) Major strengths

- Availability of the National Poverty Eradication Strategy (NPES) that identifies priority sectors, assign roles and responsibilities to various stakeholders empowers the poor and spells out policy statements and strategies to be undertaken.
- Availability of the Tanzania Development vision 2025 which will guide economic and social development efforts up to the year 2025. The visions objectives being to awaken, coordinate and direct the people's efforts, minds and national resources towards those core sectors that will enable us attain our development goals while at the same time provide room for withstanding the expected intensive global economic competition for years to come.
- Availability of sector policies that are also targeted towards poverty eradication.
- Availability of political will and support at all levels of governance
- Willingness of people to participate in economic activities and take advantage of free market economy to undertake various income generating activities
- Availability of support from donor and other development partners
- Availability of peace and stability
- Availability of local technical expertise in most important areas for participating in facilitating and bringing about economic and social development.

f) Major opportunities:

- Peace and tranquillity
- Democratisation and popular participation
- Good governance and rule of law
- Promotion private sector in running the economy
- Availability of a large skilled and casual work labour force
- A large arable and fertile land
- Plenty of natural resources such as water, fisheries, forestry, wildlife and beekeeping activities
- Availability of good policies
- A huge tourism potential
- Readiness of people to participate in economic, social, and environmental issues and activities
- Promotion of gender equality in access and opportunities to various services and facilities
- Food self sufficiency and food security

g) Major weaknesses:

- Donor dependency syndrome and a dependent mindset
- Low utilization of technology and falling productivity
- A weak economy
- Ineffective policy and action plans implementation syndrome

h) Obstacle or threats encountered

- Impact of globalization
 - Failure of market economy as far as farmers' crop marketing including price bargaining is concerned
 - Low levels of prices received in international market for primary commodities such as cotton
- Debt servicing: of recent the government has been spending about 39 % of the recurrent budget on debt servicing. This denies the government resources that would have been used for improving provision of quality social services.
- Cost sharing: some poor families have been denied access to some of the social services like health and education due to their incapacity to pay for user charges.
- Declining productivity in the agricultural sector

j) Lessons learned

The following are some of the lessons learned:

- With cost sharing arrangements some of the people are denied access to important social services.
- With low prices offered to our primary commodities in the world market, it will be very difficult for poor countries to move out of poverty
- Where drought prevails or unusual heavy rains, like during *El Nino*, it becomes very difficult to raise the GDP for a country like Tanzania whose economy depends heavily on the agricultural sector.
- Unless we train all children including girls, it will be very difficult to fight poverty.

k) Impact of the HIV/AIDS epidemic

HIV/AIDS has got the following negative impacts to individuals, households, society and the nation at large:

Lower life expectancy, higher dependency ratio, slower growth in GDP, absenteeism in the work place, decline in productivity, increasing health costs, increasing poverty, rising infant and child mortality, growing number of orphans, social stress, long period of illness, funeral costs and bereavement.

The current National AIDS Control Programme (NACP) strategy for 1998-2002 builds on the capacity and resources of all Tanzanians to help curb the epidemic and manage its impacts.

Since 1983 when the first AIDS cases were reported, over 103,000 AIDS cases have been officially reported (as of December 1997). However, the NACP estimates that the cumulative number of AIDS cases is actually well over 520,000, since most cases are not reported. More alarmingly, an estimated 1.5 million Tanzanians are infected with the AIDS virus. The virus in these individuals will progress to AIDS and eventually result in death.

The other worse part of this HIV infection is that it affects most people among the productive age group of between 15 to 40 years at an increasingly alarming rate.

The objectives of NACP for the time period of 1998-2002 shall continue to be:

- To prevent transmission of HIV/AIDS and other sexually transmitted diseases (STD).
- To protect and support the vulnerable groups.
- To mitigate the socio-economic impact of HIV/AIDS.
- To strengthen the capacity of institutions, communities and individuals to arrest the spread of the epidemic and mitigate its impacts.

The NACP strategy priority areas are:

- Reducing the number of cases of sexually transmitted diseases (STDs)
- Reducing unsafe sexual behaviour among highly mobile population groups
- Reducing HIV and STD transmission among commercial sex workers
- Reducing unsafe sexual behaviour among the armed and security forces
- Reducing the vulnerability of youth to HIV/AIDS and other STDs
- Maintaining safe blood transfusion services
- Assisting women in poverty who earn money for sex to develop alternative means of income
- Improving the well being of persons living with HIV/AIDS
- Reducing unprotected sex among men with multiple partners
- Improving educational opportunities, especially for girls
- Reducing vulnerability of women in adverse cultural environment

Conclusion

The Vice President's Office (VPO) in collaboration with other ministries have leveled the ground very well for the participation of various stakeholders for purposes of attaining sustainable livelihoods and natural resource management in semi-arid areas of Tanzania in particular and Tanzania in general.

The VPO has been engaged in policy formulation, strategy design, planning for actions to alleviate poverty and attain sustainable environmental management. VPO is also helping in coordinating civil society organizations that are working in the areas of poverty reduction and environmental management.

Since the semi-arid zones are one of the most affected areas as far as poverty is concerned, then some well-designed coping strategies for these people need to be well researched and planned for. A well coordinated mechanism or framework needs to be put in place in semi-arid areas.

We look forward to better livelihood policy programming so as to help our people move out of poverty in fast and better ways.

According to the National Poverty Eradication Strategy (NPES), Tanzania aims at reducing the current levels of poverty by 50% by the year 2010 and to eradicate absolute poverty which stands at 36% at the moment to 0% by the year 2025. Special attention then needs to be paid to the rural areas specifically the semi-arid areas of Tanzania which is vulnerable to droughts, hunger, poverty, disease, malnutrition, etc. Let research help in designing some good coping strategies for our people in those semi-arid areas of Tanzania. Let help these people get safe and adequate water, through rainwater harvesting techniques, food through better and suitable agriculture for semi-arid areas, well being, good nutrition, etc. for the people in semi-arid areas. Let us have a client-oriented research for our people. Let us take on board the poor through the voices of the poor and through participatory planning, implementation, monitoring & evaluation. Let us help our people move from hard-core poverty to soft-core poverty through labour-intensive activities.

Since there is a clear cause and effect relationship between poverty and environmental degradation, then we need to address both. Putting in place a regulatory framework for effective implementation of these policies, community involvement, empowerment, and participation are crucial. Basing on lessons learnt, best practices, drawing recommendations, and preparing strategies, action plans, and policies for action, are all crucial steps in fighting poverty and protecting vulnerable groups through provision of social safety nets.

Lastly, let research help us to know why are the indicators for sustainable development especially on poverty and welfare not changing in the way we would have liked to. While macroeconomic management is doing well, why do micro-levels, grassroots not responding as fast as we would have liked to. Let us remember that at the moment, macro and micro levels are not meeting. The link is not strong. This is a challenge we need to address.

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1C

Key Sheet: Livelihood Issues and Gaps

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE
INSTITUTE OF RESOURCE ASSESSMENT
UNIVERSITY OF DAR ES SALAAM
and the
NATURAL RESOURCES INSTITUTE

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

KEY SHEET: LIVELIHOOD ISSUES and GAPS

ISSUES	SOURCES	KEYWORDS
What is known about impact of SAPs on markets – ultimately on livelihood	UDSM (Economics), SUA Msc Thesis, Economic Research Bureau, ESRF, IRA, Prof. Wangwe, DDA study (NRs), World Bank sector review, Prof Ndulu	SAPs, Markets, Liberalization,
Research on self help schemes – informal credits, MAP irrigation, Self help infrastructure	Min of community development, (Mohammed Mukungukwa), Prof Omari-UDSM, Hilda (Mkomazi)-SNV, Rosbud Kurwijila	Community organization, Self help groups, Community mobilization
Particular health problems associated with semi arid areas – Anemia?	Min of health, UNICEF, AMREF- Dr.Bukenya, Tehip (and other health projects), National malaria programme (Tanga)	Need to known administration boundaries, also vet health (tsetse) adHIV/AIDS, Malaria,Tracoma, Anaemia, TB, Leprosy, Sleeping sickness,
Different rainwater harvesting projects	Mahoo et al (SUA), NGOs (practice and uptake)-Dodoma, Kilimanjaro, UNICEF, TCRS, Ministry of Water, Water Institute Dar	RWH, Small scale irrigation, Traditional irrigation
What is known about impact of globalization on markets and livelihoods	Economics Dept (UDSM), ESRF- Wangwe, World Bank, CDR-Peter Gibons, Peter Greenhalgh (NRI), CEEST, Prof. Mbilinyi	Globalization, Markets
What is known about relationship between different NGOs, CBOs, and the impact of this on livelihood	Min of community development, DFID review of NGOs (Stigmata), TANGO, Dr. Mogella, Mkandalla (Prof), Prof. Kiondo (Political Sc. UDSM)	NGOs, Civil societies
Extent of off farm activities	Bryceson –Netherland foreign affairs-(IRA collaborators – Mung’ong’o etc.), Socio- economic studies (Pub and Grey), Dr. Sosovele (IRA), NIGP/UNDP/DDS, Dr. Mung’ong’o- Dept. of Geography (UDSM), frank Ellis, Dr. Mdoe	See list from Group 4 (day 2)
Mining? Theft? Other illegal activities	DFID study (small scsle mining) Ken Campbell NRI (poaching), informal cross border trade between Tanzania and its neighbours (Bryceson, Ackello-Ogutu and Echassah, Dept. of Geology (UDSM) Small scale mining, Foster et. al. (Sungusungu)	Crime reseach?
Are the poor intensifying, diversifying, extensifying?	SUA/studies group-intensfication and diversification, soil fertility initiative (Soil Science-SUA) (Nature of intensification?), Ministry of Agriculture, Bryceson, Ellis, PRP, Booth (1992) Impact of SAP on Diversification, SASA working papers, Ukiriguru Agric. Research Institute	Intensification Diversification Extensification
How do the poor cope with risk?	SCF-(Neil), Senkondo (PhD thesis) Wageningen, ICRA Studies (Several	Risk Vulnerability

	issues), World Bank-World Development Report 2000 part IV, Deepar Naraya-Voices of the poor	Coping strategies
What is known about credit and rural poor in Semi Arid Areas	SUA PhD Theses/ Wye College – J. Kydd, Menonites (S. Highlands), NGOs-DOYOCREDA-DODOMA, REPOA, Coop. College (Moshi)	Credit Rural credit
How much is known about impact of creation of protected areas on people?	Hilda et al (Mkomazi), Univ. of Manchester (Hulme), Ministry of NRS, Usangu, Pimbert, Warner, Ngorongoro, Homewood (UCL London)	Protected areas National parks Game reserves Conservation
Catchment useful management analysis unit	SIDA cat. Mngt. Workshop (Proceedings), HIMA (Danish)-1987 Workshop, SMUWC Project paper, GWP/World Water Forum Web, SUA Faculty of Forestry, FAO Land/Water Linkages E-Conference	Catchment Management ICM IWRM Por. Cat Mgt.
Land degradation is a myth?	World Bank-Poverty in Drylands 1988, HADO and HASHI reports, Leach and Meams Lie of Land, Semugalawe (Min. of Agriculture), Wageningen thesis-SWC adoption, Soil fertility initiative (SUA/FAO/WB), Warner 1988-IIED Drylands	Overgrazing Deforestation Soil erosion VP unit desertification/soil fertility NEMC ...
Are people responsible for degradation of protected areas?	Mkomazi (Dept. of Law). Potkanski, Mweka Wildlife College, Ken Campbell (NRI), Hough, D. Brokesha, DFID-D Hartly	Poaching Overgrazing Encroachment Deforestation
Causes of deforestation and impact of interventions	Faculty of Forestry-SUA Angelisent Shitindi (Turuka), Angelisenti Kailmowitz (Turuka), Giblin, Madox and Kjekshus-Historical case studies (Culture and Ecology), IRA/TANRIC? WB FUNDED Studies (Forest Management)-Fairhead and Leach	Charcoal Fuel wood Energy Slash and burn
To what extent is understanding of policy impact disaggregated at micro level	UDSM Econ. (policy studies) Booth (HWII? UNIV.) VPS office. Brycesen etc ASC ESRF – Prof. Wangwe, Shivji, I. (land policy), Homewood <i>et al</i> (land policy on NRM)	Policy impact
Social capital, Human capital interactions	Narayan, study on networking (SIDA Shinyanga stuy) Brycesen WRDP/M.com.dev (micro enterprises , broad litreture review than Tanzania	Social and H.Capital social net woks , group formulation , informal institutions, gender ethnicity , entitlements
The way that human capital determines a) Constraints and opportunities W.R.T, NRM & livestock	Education studies (UDSM Ed. Also psychology) –Health lit. - more difficult unsure	Education health perception

STRATS b) Perception of constraints and Ops.		
Changing land tenure and kingship system	UDSM (F. of law- Shivji Haki Ardhi (NGO)- land polices and rights , Prof. Mgongo Kimbo, Fausta Maganga ,CDR	Land tenure kingship
Impact of tenure security on NRM livelihoods & poverty?	F. Maganga IRA, I. Juma (UDSM Law) –Usangu Network-? Dry land	tenure
Changing inheritance patterns – intergeneration	SASA project R. ODAFDARI RIPS Mtwara (not not s. arid ?) Shivji – Facult of law/HAKI Ardhi	Inheritance lineage
What constraints are people facing in access to NRs	AK above references -NRI work on non farm rural livelihoods (Gerdan)	Access entitlement
Shortage? (supply) lack of entitlement (demand)	-see earlier - changing entitlement are they changing ? - see Shavji studies (land)	
Different group gender, age, ethnic	Water? SNRP irrigation dept. Min. & agric.	
Link between social capital and poverty	Iemara, Isham, J(Tech. Etc.) CSAE conference Oxford “Opportunities in Africa: micro evidence on firms & hhs” Foster & Magimbi (UDSM)/SUA Lib. Kleemeir (SIDA) DFID study on social capital EGRF Hobbs Alana Albee Voice of the poor (World Bank)	Social capital Poverty Kingship
Access, risk and appropriateness of inputs in S.A areas	Ukiriguru “cents and sociability” Narayan. Turuka determinant of fertilizer in small holder agriculture (ECAPAPA) FAO, SASAKAWA, SASA Ponte, S. (imput market liberalization – Tanzania) Turuka	Risk Input supply access
What is understood about the impact of polices on livelihood & NRM	See policy and micro level ODI study (Cromwell et al) Impact & villagerlisation (IRA Kikula) Bryceson et al Booth, Homewood, Ellis(PRP).(see earlier references)	Policy impact
Is there agape between as formulated & policy as implemented	rain water harvesting project study Homewood , ESRF “The gape between policy formulation and implementation symposium ESRF policy analysis unit Dr. Semboja ?/Wangwa(early 1999)	

Combine with

- **livelihood**
- **poor**
- **semi-arid**

- **natural resources**
- **agriculture**

KEY SHEET: LIVELIHOOD ISSUES and GAPS

QUESTION & keywords	CONTACTS / Sources	DOCUMENTS
Policies , Institutions and Processes		
Impact of corruption and misallocation of resources due to decentralisation?	Dr. Mongela, dept. of Political Science , UDSM; Joseph Semboja, REPOA/DoPS; Dr. Ngware, IDS, USDM; Prof. Chachage, DoPS, UDSM; Institute of Dev. Management (IDM), Morogoro; Dr. Kasimila, DSI, Morogoro; Min. of Regional Admin/ Local govt., RIPS (Mtwara).	
Policy statements	Prof. Kikula, IRA and Kate Holmewood, UCL. (Land use policy and it's impact on NRM); University of Manchester (IDP?).	Various policy documents on agricultural strategies (SUA).
Conflict management and social capital	Faustin Maganga (IRA); Ibrahim Juma (Law dept. UDSM); Bertha Koda (IDS, Vifjana building, Morogoro Rd), "HakiArdhi"; Prof. Kajimbe, Faculty of Forestry, SUA. Miriam Zakaria, Dept. of Wildlife; Charles Lane.	"Custodians of the Forest"
Decentralisation and performance of local government	Prof. Wanmgwe, ESRF; Dr. Semboja, REPOA; Chaligha, Political Science, REDET, USDM.	DFID consultancy report "Elephants" Threk
Responses of external agencies to external shocks	District councils; PM's office; WFP; Oxfam (Mr. Likasi); CARE; SCF; FEWS; Tanzania Council of Churches; Food Sec. Dept. MoA.	SCF food economy security publication

Co-management of NR	Mariam Zakaria, Dept of Wildlife, MoNR&T (conservation strategies); Prof. Iddi, Director, Div. Of Forestry and Bookkeeping, MoNR&T; TANAPA.	Participatory evaluation management project
Information flows: agricultural knowledge information systems and rural - urban flows - what's driving this	Market Development Bureau, MoA (extension, surveys etc); Geog. Dept., UDSM; Prof. L Bwatwa, Instit of Adult Education (distance learning and mass media); World Bank project?; HIMA: soil and water conservation project, Iringa (Florens – info. On informal market networks); Geog. Dept. UDSM..	
What is known about impact of SAPs on markets – ultimately on livelihood SAPs, Markets, Liberalization,	UDSM (Economics), Economic Research Bureau, ESRF, IRA, Prof. Wangwe, Prof Ndulu	World Bank sector DDA study (NRs); working papers. Li
Research on self help schemes – informal credits, MAP irrigation, Self help infrastructure Community organization, Self help groups, Community mobilization	Min of community development, (Mohammed Mukungukwa), Prof Omari-UDSM, Hilda (Mkomazi)-SNV, Rosbud Kurwijila	
What is known about relationship between different NGOs, CBOs, and the impact of this on livelihood NGOs, Civil societies	Min of community development, TANGO, Dr. Mogella, Mkandalla (Prof), Prof. Kiondo (Political Sc. UDSM)	DFID review of NG

How much is known about impact of creation of protected areas on people? Protected areas National parks Game reserves Conservation	Hilda et al (Mkomazi), Univ. of Manchester (Hulme), Ministry of NRS, Usangu, Pimbert, Warner, Ngorongoro, Homewood (UCL London)	
Land degradation is a myth? Overgrazing Deforestation Soil erosion VP unit desertification/soil fertility NEMC ...	HADO and HASHI reports, Semugalawe (Min. of Agriculture); Soil fertility initiative (SUA/FAO/WB),	Warner 1988-IIED Poverty in Dryland “Lie of Land”; Wa adoption.
Vulnerability context – shocks and trends		
What is known about impact of globalization on markets and livelihoods Globalization, Markets	Economics Dept (UDSM), ESRF-Wangwe, World Bank, CDR-Peter Gibbons, Peter Greenhalgh (NRI), CEEST, Prof. Mbilinyi	
How well are demographic changes understood and their impact on livelihoods?	Dr. Madulu, Head of Demographic Settlement at IRA, UDSM; Main contact: Bureau of stats and World Bank; Dept. of Stats at UDSM	Demographic and h Population studies.

Capital assets		
Conflict management and social capital (SEE ABOVE UNDER PIP SECTION)	F. Maganga (IRA); Ibrahim Juma (Dept. of Law, UDSM); Bertha Koda (IDS, Vifjana building, Morogoro Rd), “HakiArdhi”; Prof. Kajimbe, Faculty of Forestry, SUA. Miriam Zakaria, Dept. of Wildlife; Charles Lane.	“Custodians o
Knowledge of small and large scale irrigation and the poor?	SNV (Chole road DSM); Tanzanian Traditional Irrigation Project; JICA; Dr. Maholo, SUA; Prof. Mascarenas and Dr. Cunningham UDSM; MoA.; Rufiji water office, Ukiriguru; FAO (Kabyeimela); IFAD project – Usangu wetlands.	
Impact of infrastructure on livelihoods? (artisanal aspects, electrification, grain mills, markets, roads)	Rose Mangenya, Nat. Institute of Transport (0911 33377); Irish Aid (Kilosa District); DANIDA (trunk roads); Prof. R. Maralyosi, IRA (privcate sector and EIA); Integrated Rural roads project (IRRP): WB; Faculty of Engineering (UDSM); Mins of Energy, Works, Lands, Communication; TANESCO; Dr. F. Sechambo, IRA (Markets); Dr. Ashimogo, Dr. Mbiha SUA; Co-operative Unions; Albert Ngondo, Food Security Dept. MoA; Mr. Lisa, National Income Generating Project (NIGP) DSM; Poulton, Kidd, Dorward (Wye); Coulter (NRI); Alex Duncan (OPM)P; Prof. Amani, Econ. Research Bureau, UDSM; HESAWA (Mwanza); WATER AID.	SUA MSc. th
Particular health problems associated with semi arid areas – Anemia? also vet health (tsetse) adHIV/AIDS, Malaria,Tracoma, Anaemia, TB, Leprosy, Sleeping sickness,	Min of health, UNICEF, AMREF-Dr.Bukenya, Tehip (and other health projects), National malaria programme (Tanga)	

Credit schemes - impact on the poor (youth, women, illiterate etc)	UNDP; Dr. Kachuliza SUA;Poverty Africa; PRIDE; SERO (NGOs); Rhoda Mwamunyange: small enterprise LF (SELF), VPOs - only giving credit in semi-arid; NIGP (see above); Self Employed Veterinarians; SEV (EU), DSM.	Kachuliza's study f
What is known about credit and rural poor in Semi Arid Areas <i>Credit, rural credit</i>	SUA PhD Theses/ Wye College – J. Kydd, Menonites (S. Highlands), NGOs-DOYOCREDA-DODOMA, REPOA, Coop. College (Moshi)	
Livelihood strategies		
Extent of off farm activities	Bryceson –Netherland foreign affairs-(IRA collaborators – Mung'ong'o etc.), Socio- economic studies (Pub and Grey), Dr. Sosovele (IRA), NIGP/UNDP/DDS, Dr. Mung'ong'o-Dept. of Geography (UDSM), frank Ellis, Dr. Mdoe	See list from Group
Gendered livelihood strategies? Poverty and gender.	Mrs. Rusimbi, TGNP; Janet Umbeni – UNDP gender unit; Prof. M Mbilinyi and Dr. Shao (F), IDS, UDSM; Mr. Tandari, VPO; WRDP; REPOA, DANIDA, CIDA.	WRDP: "Ge enterprises"
Mining? Theft? Other illegal activities Crime reseach?	Ken Campbell NRI (poaching), informal cross border trade between Tanzania and its neighbours (Bryceson, Ackello-Ogutu and Echassah, Dept. of Geology (UDSM) Small scale mining,	DFID study (small (Sungusungu)

<p>Are the poor intensifying, diversifying, extensifying?</p> <p>Intensification Diversification Extensification</p>	<p>SUA/studies group-intensification and diversification, soil fertility initiative (Soil Science-SUA) (Nature of intensification?), Ministry of Agriculture, Bryceson, Ellis, PRP, , Ukiriguru Agric. Research Institute</p>	<p>Booth (1992) I Diversification Bryceson et. al Collinson (199</p>
<p>How do the poor cope with risk?</p> <p>Risk</p> <p><i>Vulnerability</i></p> <p>Coping strategies</p>	<p>Wageningen</p>	<p>SCF-(Neil), Se Studies (Sever Development I arayan-Voices</p>
<p>Is catchment management happening?</p>	<p>HIMA, Iringa; Pangani; Usangu – promoting CM; Ministry of Water; NORAD; Danida.</p>	
<p>Are people responsible for degradation of protected areas?</p> <p>Poaching Overgrazing Encroachment Deforestation</p>	<p>Mkomazi (Dept. of Law). Potkanski, Mweka Wildlife College, Ken Campbell (NRI), Hough, D. Brokesha, DFID-D Hartly</p>	

Livelihood outcomes		
Impact of changing identities and perceptions of livelihoods	Charles Lane (on Barabaigs); Potansky (on Ngorogoro); HADO (on importance of cattle, changing perceptions); ICRAF/HASHI (Florens on Ngitiri/pasture management); Profs. Monela and Kajemba, SUA (on Dodoma and Moshi); Dept. of Animal Science, SUA;	FTTP publication Mon'gon'go – all A
Changing social identities, intergenerational aspects?	Dr. Musoke, Dr. Comoro, Dept. of Sociology UDSM; Prof Kauzeni, IRA and DANIDA; ENRECA project (enhancement of research capacity); Dr. Mwamfupe, Dept. of Geog (on changing perceptions; Maasai: from cattle to night watchmen; youth: from farming to trading); SASA; F. Cleaver.	
Conceptual, definitional and coverage issues		
Does semi-arid focus exclude the poor?	Dr. D. Dandy and Dr. Monji, ILO: Jobs for Africa; DSM; Min. of Labour and Youth; Dr. Mwamfupe, Dr. Rev. Sawio, Dept. of Geography, Urban Agric and Rural urban studies; UNDP volunteer ser vices; Mrs. M. Rusimbi, TGNP (Harrieth a member); DSM. WRDP (Hilda a member, old wing IRA); REPOA\reports; Prof. Wangwe, ESRF, Victoria, DSM.	“Voices of the Poor (2000) - ref with NI in REPOA 1994.
Has there been much research in semi-arid Mtwara and Lindi?	RIPS; UNICEF; ActionAid; Finnwater; Newala (New well); SCF; Cashewnut Integrated Fund; Naliendele ARI (Kotinila).	

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1D

**Livelihoods and Natural Resource
Management in the Semi-arid areas of
Tanzania: an annotated Bibliography**

Faustin P. Maganga

INSTITUTE OF RESOURCE ASSESSMENT
UNIVERSITY OF DAR ES SALAAM

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

Faustin P. Maganga

**Institute of Resource Assessment
University of Dar es Salaam**

1. POLICIES, INSTITUTIONS AND PROCESSES

1.1 Corruption, Misallocation of Resources and Decentralisation

- (a) **Assad, Mussa J (1998)** *Accountability in NGOs: Evaluation of Reporting Practices in Tanzania*, Report Submitted to the Programme for Enhancement of Research Capacity (ENRECA).

The number of NGOs and their activities have multiplied in recent years, but there is little information on how well these organizations report on their performance to their constituents and the general public. This study sought to examine and appraise existing accounting and reporting practices of NGOs, assess information expectations of constituent users as contrasted with NGO officials, and explore major reasons for variance between providers and users of information.

1.2 Policy Statements

- (a) **United Republic of Tanzania (2000)** *National Water Policy*, Dar es Salaam, Ministry of Water.

Addresses issues of water resource management, rural and urban water supply and sanitation services. Takes into consideration the Environmental Policy and other sector policy issues and concerns, and is based on global principles. The vision of the policy is to sustain the water resource so that it is available to meet the present and future needs of the various socio-economic activities, with domestic water supply given the highest priority. The overall objective of the policy is to develop a comprehensive framework for sustainable management of the nation's water resources, and effective legal and institutional framework for its implementation.

(b) United Republic of Tanzania, (1998) National Forest Policy, Dar es Salaam, Ministry of Natural Resources and Tourism.

Based on the National Environmental Policy. Objectives: sustainable supply of forest products; increased employment and forex earnings; ensured ecosystem stability; and enhanced national capacity to manage and develop the forest sector.

(c) United Republic of Tanzania (1997) National Environmental Policy, Dar es Salaam, Vice President's Office.

Objectives:

- *To ensure sustainability, security and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment;*
- *To prevent and control degradation of land, water, vegetation and air which constitute our life support systems;*
- *To conserve and enhance man-made heritage, including biological diversity of the unique ecosystems of Tanzania;*
- *To improve the condition and productivity of degraded areas including rural and urban settlements in order that all Tanzanians may live in safe, healthful, productive and aesthetically pleasing surroundings;*
- *To raise awareness and understanding of the essential linkages between environment and development, and to promote individual and community participation in environmental action;*
- *To promote international co-operation on the environment agenda, and expand our participation and contribution to relevant bilateral, sub-regional, regional, regional and global organisations and programmes, including implementation of Treaties.*

The policy relies on the following instruments (a) EIA (b) Environmental Legislation (c) Economic Instruments (d) Environmental Standards and Indicators (e) International Co-operation.

(d) United Republic of Tanzania (1995) Land Policy, Dar es Salaam, Ministry of Lands, Housing and Urban Development.

This policy was drawn under the influence of the international concern for sustainable development. Contains statements on protection of land resources from degradation for sustainable development, protection of sensitive areas, water catchment areas, mountains, small islands boarder areas, beaches, forests, national parks, rivers, river basins and banks. On land degradation, it requires that a Certificate of Occupancy will have to be issued to all Government

and Public properties including national parks and allocation made for public use. It gives special recognition to wetlands, protection of hazard land and provides for an institutional framework.

(e) United Republic of Tanzania (1994) *Report of the Presidential Commission of Inquiry into Land Matters, Volume 1: Land Policy and Land Tenure Structure, Dar es Salaam and Uppsala, Ministry of Land, Housing and Urban Development and Scandinavian Institute of African Studies.*

(f) United Republic of Tanzania (1990) *National Investment Promotion Policy,*

This policy recognises the role played by private local and foreign investors in the economy of Tanzania. It underscores the prominent role of private investment in the area of manufacturing, mining and trade, agriculture, individual peasant production and privately owned commercial farms specialising in export crops. The policy provides incentives to would-be investors to Tanzania, and above all, it singles out certain activities or priority areas for investment as being agriculture, natural resources, tourism, manufacturing industries, petroleum and mining, and transport.

NB: The policy does not say anything in relation to environmental management or conservation. There are no provisions or requirements for an EIA of investment projects to be undertaken.

1.3 Conflict Management and Social Capital

(a) Charnley, S. (1996) *Environmental Problems and Cultural Conflict: A Tanzanian Case Study* Draft, Energy & Resources Group, University of California, Berkeley.

Argues that population growth is not the primary cause of degradation and resource scarcity, nor is it the main force driving cultural conflict. Rather, degradation and resource scarcity have complex social, political, and economic causes, and population is only one of many contributing variables. Cultural conflict also exacerbates the environmental problems that give rise to it in the first place. Noting that some 30 to 40 different ethnic groups reside on the Usangu Plains and share resources there, points out that cultural conflict manifests itself in everyday forms of discord between specific ethnic groups, and occasional acts of violence. It is most pronounced between the Sukuma and other groups of herders and cultivators living on the Plains. This conflict is rooted in conditions of resource scarcity and degradation in Usangu's pastoral sector. Uncontrolled fertility is not

the primary cause of pastoral resource scarcity and rangeland degradation in the region. Rather, these problems can be attributed to a combination of irrigation development, state land alienation, large-scale immigration, demographic pressure, insecure land rights, and ineffective natural resource management in the region.

(b) Maganga, F.P. (1999) “Researching Land Conflicts and Channels of Conflict Resolution: Some Insights from Babati District, Tanzania”, in J. Boesen, I.S. Kikula and F.P. Maganga (eds) *Sustainable Agriculture in Semi-Arid Tanzania*, Dar es Salaam University Press.

(c) Maganga, F.P. (2000) *Resource Conflicts and Conflict Resolution on the Usangu Plains* A Consultancy Report by the Institute of Resource Assessment (IRA)

Presents the findings of a research study into resource conflicts and conflict resolution on the Usangu Plains. The study is one of the several inputs into the project on Sustainable Management of Usangu Wetland and its Catchment (SMUWC), whose purpose is to develop local capacity to manage the project area sustainably – to build the capacity of local institutions to effectively manage their natural resources and to negotiate collective solutions to resource management problems. The study was undertaken under the umbrella of the Rural Livelihoods sub-project, which examines natural resource management practices in the context of complex rural livelihoods.

(d) Rodgers, P.; D. Brockington; H. Kiwasila and K. Homewood (1999) “Environmental Awareness and Conflict Genesis – People Versus Parks in Mkomazi Game Reserve, Tanzania”, in T. Granfelt (ed) *Managing the Globalized Environment: Local Strategies to Secure Livelihoods*, London, Intermediate Technology Publications.

1.4 Decentralization and Performance of Local Government

- (a) **Kamata, N. (1993)** *The Politics of Environment in Tanzania: the Case of Pastoral Peasants of Shinyanga*, M.A. Thesis, University of Dar es Salaam.
- (b) **Mukandala, R. (1998)** "Decentralization and Democratization in Tanzania", in *Five Monographs on Decentralization and Democratization in Sub-Saharan Africa*, edited by J.D. Barkan, University of Iowa.
- (c) **Semboja, J. and O. Therkildsen (1991)** *Handbook on District Administration in Tanzania*, Dar es Salaam, Ministry for Regional Administration and Local Government and Educational Publishers and Distributors Ltd.

The re-introduction of local government on Mainland Tanzania resulted in significant organizational, administrative and political changes in the structure of the government sector. However, information on the new council set-up is scattered, fairly inaccessible and frequently unclear and outdated. This handbook aims to improve the information about the local government system – particularly about the district (rural) councils. The objectives of the handbook are:

- *to describe important, formal aspects of the district council set-up ("how the councils are supposed to work")*
 - *to assess certain aspects of the performance of councils on basis of available information ("how the councils actually work")*
 - *to describe and assess the links between district councils, central government and the party.*
- (d) **Therkildsen, O. (1993)** "Legitimacy, Local Governments and Natural Resource Management in Sub-Saharan Africa", in H.S. Marcussen (ed) *Institutional Issues in Natural Resources Management*, Occasional Paper No. 9, Roskilde University, International Development Studies.
 - (e) **Therkildsen, O. (1998)** *Local Government and Households in Primary Education in Tanzania: Some Lessons for Reform*, Copenhagen, Centre for Development Research, Working Paper 98.8

1.5 Co-Management of Natural Resources

- (a) **Mung'ong'o, C.G.; A. Kyesi and D.G. Mwamfupe (1999)** *review and Analysis of Community Based Institutions for Effective Environmental and Natural Resources Management in Tanzania*, Final Report to the Institutional and Legal Framework for Environmental Management Project (ILFEMP), Vice President's Office.

- (b) **Olsen, J; A. Rodgers and J. Salehe (1999)** *Woodland and Tree Resources on Public Land in Tanzania: Sustainable Management at Local Level* Paper presented at the International Workshop: "Off Forest Tree Resources of Africa" Arusha International Conference Centre, 12-16 July 1999

1.6 Information Flows: Agricultural Knowledge Information Systems and Rural-Urban Flows

- (a) **Ravnborg, H.M. (1993)** *Agricultural Research and the Peasants: The Tanzanian Agricultural Knowledge and Information System* Copenhagen, Centre for Development Research.

This paper focuses on the communication which takes place between agricultural researchers, extension workers and peasants. The paper argues that the format in which information is communicated is closely related to the understanding of technology underpinning most agricultural research and extension and that there is a large discrepancy between this understanding of technology and the way in which peasants use technology. This discrepancy inhibits the meaningful contribution of agricultural research and extension to agricultural development of peasant farming particularly in sub-Saharan Africa. This applies even when the content of research as such is relevant to the conditions of resource-poor farmers.

1.7 SAPS, Markets, Liberalization

1.8 Community Organization, Self-help Groups; Community Mobilization

1.9 NGOs & Civil Society

1.10 Protected Areas; National Parks; Game Reserves Conservation

(a) **Brockington, D. (1998)** *Land Loss and Livelihoods. The effects of Eviction on Pastoralists Moved From the Mkomazi Game Reserve, Tanzania*, Unpublished PhD Thesis, University College, London.

(b) **Brockington, D and K Homewood (1996)** "Debates Concerning Mkomazi Game Reserve, Tanzania" in M. Leach and R. Mearns (ed) *The Lie of the Land: Challenging Received Wisdom on the African Environment*, London, International Africa Institute.

1.11 Land Degradation

- (a) **Birley, (1982)** "Resource Management in Sukumaland, Tanzania", *Africa*, 52, 2: 1 – 29.
- (b) **Christiansson, C. and I.S. Kikula (1996)** *Changing Environments: Research on Man-Land Interrelations in Semi-Arid Tanzania*, Nairobi, Regional Soil Conservation Unit, Swedish International Development Cooperation Agency.
- (c) **Kikula, I.S.; E.K. Shishira and F.P. Maganga (1991)** *Developments in Land Degradation in Sukumaland*, University of Dar es Salaam, Institute of Resource Assessment, Research Paper No. 30
- (d) **Charnley, S. (1994)** *Cattle, Commons and Culture: The Political Ecology of Environmental Change on a Tanzanian Rangeland*, PhD Dissertation, Stanford University.
- (e) **Dejene, A; A.K. Shishira; P.Z. Yanda and F.H. Johnsen (1997)** *Land Degradation in Tanzania. Perception From the Village* Washington, World Bank Technical Paper No. 370.

2. VULNERABILITY CONTEXT – SHOCKS AND TRENDS

3. CAPITAL ASSETS

4. LIVELIHOOD STRATEGIES

- (a) **Adams, W.M.; T. Potkanski and J.E.G. Sutton, (1994)** "Indigenous Farmer-Managed Irrigation in Sonjo, Tanzania", *The Geographical Journal*, 160, 1: 17-32.

Despite wide interest in indigenous farmer-managed small-scale irrigation in Sub-Saharan Africa, there are relatively few studies of such systems. This paper offers a preliminary description of that practiced by the Sonjo in northern Tanzania. Sonjo irrigation involves simple canals carrying water diverted by stone and brushwood dams from spring-fed streams and rivers. Land is irrigated on floodplain and piedmont slopes and wide variety of crops is now grown. There is an established system of water allocation. Sonjo irrigation is an example of hill-furrow irrigation of a kind occurring in several places in East Africa. Fuller information of the extent, organization, management

and agronomy of these systems is vital as development initiatives are established which attempt to improve or replicate 'indigenous knowledge' about irrigation.

- (b) **Bertelsen, P. (1995)** *Farmer Managed Irrigation Systems, Manyara Division, Rift Valley, Tanzania – Local Time and Place Knowledge on Operation and maintenance in Five Irrigation Systems, 1993/94*, Institute of Development and Planning, Aalborg University.
- (c) **Bertelsen, P. and M. Joergensen (1996)** *When Pastoralists Become Irrigators: Maasai People Combining Irrigation and Transhumant Livestock Keeping in Northern Tanzania*, Institute of Development and Planning, Aalborg University.
- (d) **Birch-Thomesen, T.; P. Frederiksen and Sano, H-S. (1999)** *A Livelihood Perception on Natural Resource Management and Environmental Change – A Case Analysis from a Semi-Arid Village in Tanzania*, paper presented at the SASA Conference, Copenhagen, 17-18 November 1999.
- (e) **Bryceson, D.F. and V. Jamal (eds) (1997)** *Farewell to Farms- De-Agrarianisation and Employment in Africa*.
- (f) **Charnley, S. (1995)** *Pastoralism, Irrigation and Environmental Concerns on the Usangu*, Working Paper No.9, Prepared for the World Bank.
- (g) **Charnley, S. (1996)** "Pastoralism and the Demise of Communal Property in Tanzania", *Cultural Survival Quarterly* Vol .20, 1: 41-44.
- (h) **Charnley, S. (1997)** "Environmentally-Displaced Peoples and the Cascade Effect: Lessons from Tanzania" *Human Ecology*, Vol. 25 No 4: 593-618.
- (i) **Charnley, S. (1997)** "Pastoralism and Property Rights: The Evolution of Communal Property on the Usangu Plains" ,*Journal of African Economic History*, Special Issue on Law, Colonialism and Property.
- (j) **Lane, C. (1990)** *Barabaig Natural Resource Management: Sustainable Land Use Under Threat of Destruction*, Geneva, United Nations Institute for Social Development, Discussion Paper No. 12

In this study of Barabaig resource management, Charles Lane describes how the pastoralist transhumance movements used to exploit the forage regimes of the Hanang plains at different times of the year, and he argues that this was the best resource management system for the semi-arid conditions of the area. The study shows how the Barabaig developed an intimate knowledge of their environment, and governed the use of the grazing lands which were held in common through a hierarchy of jural institutions that controlled access to and use of land, interpreted customary rules, and adjudicated in conflicts over rights and duties. Lane outlines the threat posed to this sustainable land use system by a wheat project which was initiated by the governments of Tanzania and Canada. This project took away 12% of the land belonging to the Barabaig (the best watered, hence a critical dry season pasture area). The withdrawal of this land has adversely affected Barabaig transhumance patterns, leading to more unsustainable grazing in the poorer lands at their disposal. The process has also depleted the most popular grass types for the pastoralists, leading to more intensive use of the poorer grass types in the drier confines. Lane goes on to show how, under wheat cultivation, the soils are left bare between the July harvest and planting in February, leading to their greater vulnerability to wind and water erosion, and he observes that already deep gullies have appeared, and the local lake is fast silting. Traditional resource management mechanisms collapsed as most herders turned desperate in an area of limited innovative opportunities.

- (k) Lane, C. (1993)** "Past Practices, Present Problems, Future Possibilities: Natural Resource Management in Pastoral Areas of Tanzania", in H.S. Marcussen (ed) *Institutional Issues in Natural Resources Management*, Occasional Paper No. 9, Roskilde University, International Development Studies.

Argues that the performance of development programmes in the pastoral sector has largely been a failure. Unless changes are made, the destructive the destructive processes under way throughout Africa will culminate in the demise of pastoralism and condemn many thousands of pastoralists to lives of dislocation and deprivation. In the

past, pastoralists dealt with changes and stress remarkably well. Over thousands of years they have developed complex natural resource management systems that until recently have ensured their survival. These systems are proving less effective today. One reason for this is that the development process itself is operating to undermine these systems and reduce the capacity of pastoralists to cope. In this paper, attention is drawn to some reasons for this, using examples from Hanang district.

- (l) **Mbonile, M.J. and D.G. Mwamfupe (1997)** "In-Migrants and their Impact on Land Management: A Case of Usangu Plains, Tanzania", *Tanzanian Journal of Population Studies and Development*, Vol. 4 No.1, 37-53

- (m) **Mbonile, M.J.; D.G. Mwamfupe and R. Kangalawe (1997)** *Migration and its Impact on Land Management in the Usangu Plains, Mbeya Region-Tanzania*, Report Submitted to ENRECA

- (n) **Madulu, N.F. (1998)** *Changing Lifestyles in Farming Societies of Sukumaland: Kwimba District*, Working Paper Vol 27, Leiden and Dar es Salaam, Afrika-Studiecentrum and Institute of Resource Assessment.

- (o) **Odgaard, R. (1999)** "Fathers and Daughters in the Struggle for Women's Land Rights: The Case of Hehe and Sangu Peoples ofin South Western Tanzania" , Copenhagen, Centre for Development Research, *SASA Research Notes*.

- (p) **Olsen, J (1999)** *Towards Sustainable Tree and Woodland Resource Management for Smallholder Livelihoods in Semi-Arid Tanzania*, Paper presented at the SASA Conference, Copenhagen, 17-18 November 1999.

5. LIVELIHOOD OUTCOMES

6. CONCEPTUAL, DEFINITIONAL AND COVERAGE ISSUES

- (c) **Bagachwa, M.S.D. (ed) (1994)** *Poverty Alleviation in Tanzania: Recent Research Issues*, Dar es Salaam University Press and REPOA.
- (d) **Boesen, J.; I.S. Kikula and F.P. Maganga (1999)** *Sustainable Agriculture in Semi-Arid Tanzania*, Dar es Salaam University Press.
- (e) **Centre for Development Research (1994)** *Poverty Reduction and Development Cooperation: Report from a Conference in Copenhagen, 23-25 September 1994*
- (f) **Mbughuni, P. (1993)** *Country Gender Analysis for Tanzania*, Dare es Salaam, Swedish International Development Authority.
- (g) **Boesen, J; F. Maganga and R. Odgaard (1999)** “Rules, Norms, Organizations and Actual Practices – Land and Water Management in the Ruaha River Basin”, in T. Granfelt (ed) *Managing the Globalized Environment: Local Strategies to Secure Livelihoods*, London, Intermediate Technology Publications.
- (h) **Odgaard, R. and A.W. Bentzon ((1998)** “The Interplay Between Collective Rights and Obligations and Individual Rights” *European Journal of Development Research*.

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1E

**Stakeholder Visit Reports: Dodoma and
Dar es Salaam**

**Introductory Visits undertaken by SUA and NRI staff
November 2000**

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE
and the
NATURAL RESOURCES INSTITUTE

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

CARE International, Tanzania

Mandate and structure: CARE International, Tanzania is an 'independent, non-religious humanitarian organisation dedicated to improving the health, welfare and environment of the people of Tanzania'. It is part of the larger CARE International system which comprises a federation of 10 offices world-wide that provide emergency relief and development assistance to more than 60 developing countries. Funding for its in-country projects derives from multi- and bi-lateral donors, and other funding or CARE agencies.

Objectives and Approach: CARE's purpose in working in Tanzania is expressed in terms of: 'with our partners, we work with and empower marginalised groups and households to enable them to improve their livelihoods'. CARE has adopted a livelihood security approach. Livelihoods are viewed as consisting of a range of on-farm and off-farm activities which together provide strategies to meet basic household needs. This livelihood security approach defines relief (livelihood provisioning), rehabilitation (livelihood protection), and development (livelihood promotion) as a continuum of related activities.

Poverty: CARE aims 'not only to alleviate immediate suffering, but to assist in finding lasting solutions to the root causes of poverty and hunger'. As above, its understanding of poverty and vulnerability is conceptualised in terms of a livelihood model, which in turn recognises adaptive and coping strategies.

Themes and Activities include support for:

- Education - particularly girls' and basic education.
- Health - basic, reproductive health care and malaria-prevention.
- Environment - involving local communities in the conservation of Tanzania's rare bio-diversity.

CARE has projects in Mwanza (health, agriculture, income generation & education), Kigoma (environmental protection and rehabilitation), Mara (education) and Shinyanga (education) region, and in Dar-es-Salaam (education, water & sanitation, health and roads); the IMARA project has a countrywide focus on improving the health, nutritional status, and income of the poorest households.

Perception of key NR issues include: CARE's Kigoma Environmental Management Project (KEMP) attempts to balance the need amongst refugee populations for fuelwood, construction poles etc with sustainable usage (and compliance with environmental laws). Activities include guided harvesting of poles, advising camps on activities which might lead to clear-cutting, water & soil erosion, awareness campaigns and technical assistance to communities (energy efficient practices, tree-planting). In Zanzibar it seeks both to conserve the biodiversity of protected areas, and improve the livelihood security of people living adjacent to protected areas.

Linkages: CARE attempts to involve (all) 'stakeholders in program design, implementation and evaluation', and strengthening Tanzanian organisations for the on-going delivery of project outputs, is built into project designs. In Kigoma, for example, CARE works both with the district NR offices (DNRO) and the refugee communities. A new project, MISITU YETU, which targets communities adjacent to forests surrounding DSM and staff of relevant NGOs and government agencies, lists Tanzanian Forest Conservation Group, Wildlife Conservation Society of Tanzania, the Wildlife and the Forest & Beekeeping divisions of MoNR&T.

Organisational constraints include (not explored):

- Recent localisation of key posts thought to be a significant improvement.

Perceptions of livelihoods: Livelihoods, conceptualised as above, at heart of CARE's approach.

Interest in the SUA/NRI project would include?

Sharing information: Together with willingness to share their own reports NT suggested we might contact Dr Hussen Sosovele, Senior Research Fellow (Sociologist/NR use) with IRA (Tel 0811 322231, e-mail sosovele@ira.udsm.ac.tz - Epic?)

- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

Contact details: CARE International, Tanzania

Plot 101, Kinondoni Road
PO Box 10242, Dar-es-Salaam, Tanzania
Tel 255 022 2666775, 2668048 & 2668061
Fax 255 022 2666944
E-mail info@care.or.tz

Geoffrey Chege, Country Director
Dr Muhammed Musa, Assistant Country Director

Noreen S Torka, Programme Management Assistant
Pantalee Kapichi, Programme Officer
Stella Limo Plus, Reception

} met by MM
} met by MM

Visited / contacted by:

Mike Morris (NRI), 11/8/00

Institute of Resource Assessment (IRA)

Mandate and structure: IRA is an autonomous research institute of the University of Dar Es Salaam with a mandate for research, and to support teaching departments and other organisations working in Tanzania. Core funding from GoT.

Objectives and approach: Multidisciplinary teams.

Poverty:

Themes and activities: Scope of activities includes environmental resources, settlement and human resources, water, agricultural issues, and GIS. Activities and publications are described in the annual report (copy held). Publications can be purchased and a documentation centre is accessible.

Relevant ongoing projects include work on rural food security, HADO project in Kondoia and work on water management at a catchment scale (Pangani).

Perception of key NR issues: Key issues in NRM that were mentioned:

- conflicts between different uses of natural resources
- changes in land tenure from state control to private ownership e.g. mining rights
- how to accommodate interests of people and state around protected areas

Linkages: IRA work with other university departments and several international organisations (mainly Scandinavian donors and universities). Also work for World Bank, WWF and DFID on contract research basis.

Organisational constraints:

Perceptions of livelihoods: Well aware of livelihoods spin and concepts. Particularly knowledgeable on social capital aspects. Felt a key problem was a deterioration in the quality of social capital between the poor. Difficult for poorest to build up relationships, except out of charity. Need something to offer. Traditional systems weakening and affecting obligations and reciprocity. Despite decentralisation was a big gap between District and village level in terms of rules/ norms. Vertical relationship between rich and poor is one of dependency.

Interest in the SUA/NRI project would include?

- Sharing information.
(Suggested contact should also be made with World Bank (Prof. Ndulu) and at UDSM, Prof. Kikula, Prof. Mwaliyosi (current director of IRA), and Prof. Adolp Mascarenhas. Have links with MoAC and NEMC.)
- Potential participant in research process (eg seminars, fieldwork).
(Recommendations on potential areas for research included Singida, Tabora (inc. tobacco growing areas), Serengeti, Mtwara - Kondoia, Sukumaland, Arusha are probably over-researched.)
- Potential user of research findings.

Contact details: Institute of Resource Assessment (IRA)

P.O Box 35097, Dar Es Salaam, Tanzania

Tel: +255 51 410144/ 410500/8 Ext 2410

Fax: +255 51 410393

E-mail: ira@ira.udsm.ac.tz

Web:

Faustin Maganga, Senior Research Fellow

E-mail: efh@udsm.ac.uk

Claude Mung'ong'o, Sociologist

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), John Butterworth (NRI), 3/8/00

Food Security Department, Ministry of Agriculture and Co-operatives

Mandate and structure: Mandate is very narrow. 1. to manage strategic grain reserve. 2. famine early warning system. Therefore not really involved in livelihoods related issues or in position to promote uptake of research findings. But a useful source of information, especially on responses to food shortages (e.g. information on specific districts). Activities include selling grain to stabilise prices and providing grain for emergency relief.

Perceptions of key NR (& wider) issues: Previously state supported markets were available. Privatisation has had a major impact. Now difficult to monitor trade. No quality control. Concern that traders manipulate farmers with implications for farmers and human and social capital. Key issue mentioned was non-standard units (bigger bags for the same price!).

Organisational constraints: An important constraint on activities is civil service staff freeze since 1993. Also very limited size of reserve in comparison with size of market (max. 150 000 tonnes). NRI work on impact of grain market liberalisation and livelihoods may be relevant (Jonathan Coulter). Could send Albert a copy? Mentioned past three years of drought and floods in the previous year. Mentioned PM does not support free food aid and food for work but should be at least nominal payment.

Interest in the SUA/NRI project would include?

- Sharing information.

Should contact SPFS under MoAC. Also, Crop Development Department (Mr Sichilila 022- 2861392) and equivalent in the livestock sector. Prime Ministers office in relation to poverty and Disaster Management Office (Maria Bilia 022-2117249).

- Potential participant in research process (eg seminars, fieldwork).

Not really involved in livelihoods related issues.

- Potential user of research findings.

Not in position to promote uptake of research findings

Contact details: Food Security Department, Ministry of Agriculture and Co-operatives

Address: PO Box 5384, Dar-es-Salaam, Tanzania

Tel: 255 (0)51 864067

Fax: 255 (0)51 864069

E-mail: cmewu@ud.co.tz

Mr Albert L. Ngondo, Director

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), John Butterworth (NRI), 3/8/00

Food and Agricultural Organisation (FAO)

Mandate and structure: Mandate is to collaborate with government and other agencies in agriculture and rural development including the environment. Includes agriculture, fisheries, forestry, wildlife, land use management, biodiversity and food security.

Objectives and approach: Apparent emphasis on increasing production. That poverty is not producing enough food. Interest in linking projects to maximise synergies. Interest in diversification and income-generating activities (e.g. small livestock, sewing, gardening). Model used is participatory farmer groups (12-18 farmers) aiming to lead to savings and credit organisations. Specific interest in the relevance of social capital.

Poverty: Food security and refugee focused projects.

Themes and activities: Relevant projects include Special programme on Food Security (SPFS). Was 2 sites (Morogoro, Dodoma) and expanding to include 30 additional sites from September/October 2000. Will include semi-arid areas (Dodoma, Singida, Shinyanga, Mtwara, Lindi, Monduli) but focus on promoting rehabilitation/development of small-scale irrigation as an entry point. Therefore areas with water potential. This emphasis comes from GoT with strong interest in irrigation. Potential for interesting case-study. Other projects: Soil fertility Initiative (SFI) – World Bank, Farnesa and Soil Fertility recapitalisation and intensification project under Prime Ministers Office (also World Bank).

Interest in the SUA/NRI project would include?

Sharing information: Could contact agricultural sector programme support (ASPS) (Mr Lamosai). World Bank River Basin Smallholder Irrigation project (Mr Masija). Mentioned that a Food Security Information Team has been established (government, UN, bilateral donors and NGOs). We should ask for list of contacts. Also FAO Programme Officer for natural resources and field management officer of SFPS (Albert Mero). Excellent resource centre is accessible.

Potential participant in research process (eg seminars, fieldwork): Suggested that team could be represented at future project workshops. Also potential to link with our fieldwork. Will pay to attend our workshop.

Potential user of research findings: Definite scope for uptake and piloting of research findings.

Contact details: FAO

Address: Tetex house, Pamba road, box 2, Dar es Salaam

Tel: 255 (0)51 113070/71/73/74

Mobile: 255 812 762878

Fax: 255 (0)51 112501

Met Justus Kabyemera – Programme Assistant (Agriculture)

E-mail: justus.kabyemera@field.fao.org

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), John Butterworth (NRI), 3/8/00

Small Industries Development Office (SIDO)

Mandate and structure: Started in 1973 with small scale industries focus and receiving money from GoT. From 1978 to 1987 donor agencies came in, funding in particular from Nordic countries, Canada and India. From 1988 into the 1990's political and economic changes in Tanzania led to reduced donor funding, based on the idea that private sector would step in. In 1994 they started restructuring: 3 areas: finance; training and consultancy, and; advocacy. They have regional offices in every region.

Objectives and structure: Initially small-scale industries, but have now expanded in to credit, training, research and building industrial estates. Main focus is urban. Main thrusts are in finance, training and consultancy, and advocacy. They have used social networks in the sense that they build on existing groups. Give credit to groups of people. Reach rural areas through collaboration with other agencies.

Linkages: They work with NGOs including UK NGO "Tools for Self Reliance", collaboration with UDSM. Project done in collaboration with UNIDO: food processing, this is adaptive research. Other NGOs = CARITAS, Wawata and SELF (from the PM's office).

Organisational constraints: Financial restrictions are preventing outreach to rural areas. GoT support is not enough.

Interest in the SUA/NRI project would include?

Sharing information:

Potential participant in research process (eg seminars, fieldwork): Would be very willing to attend the workshop.

Potential user of research findings:

Contact details: Small Industries Development Office

?

Pius Wenga, Director of training and consultancy

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), 3/8/00

Famine Early Warning Systems (FEWS)

Mandate and structure: FEWS is a USAID funded initiative.

Objectives and approach: Developing and maintaining an early warning system, collaboration with the MoA, and vulnerability assessment of livelihood.

Themes and activities: Satellite imagery for rainfall (from 1995) and vegetation (from 1981) and also the production data goes back to '92. This info could be useful in determining the semi-arid areas of the country for our research if there is time and if necessary. There are monthly reports which could be available to us electronically.

Interest in the SUA/NRI project would include?

Sharing information: Info from FEWS can help us in deciding on fieldwork sites, plus can be useful contextual information for the projects. Possible complementarities re. our work being micro level – with macro linkages, and their work being area based, goes down only to the district level, although there are plans to go down to division level. They have prices, marketing and nutrition information. They are willing to share what they have.

Potential participant in research process (eg seminars, fieldwork):

Potential user of research findings:

Contact details: Famine Early Warning Systems (FEWS)

?

Email: fews-net@africaonline.co.tz

Dr. Yedasto Rutachokocibura

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), 3/8/00

Save the Children Fund (SCF)

Mandate and structure:

Objectives and approach: Present studies involve mapping out of household food economy (HHFE) zones. They use wealth ranking.

Themes and activities: Three HHFE studies covering Singida, Dodoma and Arusha.

Perceptions of livelihoods: Re the role of social capital, felt that the vertical patron client relationships were more operational than the horizontal ones due to poverty.

Interest in the SUA/NRI project would include?

Sharing information: HHFE studies available from FEWS, plus the Singida document has been sent to Library at Morogoro. Contacts given: IDS at UDSM, contact person Mr Shawa, and Prof. Marjory Mbilini. They have used a 2 tier approach to define food economy zones: First “experts” sketch out the zones using maps, and then this is verified and taken further by fieldwork, using PRA techniques.

Potential participant in research process (eg seminars, fieldwork): Would be interested in attending meetings, provided we send the information in advance. Re their aim to build the capacity to assess food needs, they would like to link with SUA on this.

Potential user of research findings:

Contact details: Save the Children Fund (SCF)

E-mail: scfdar@maf.org

Web: www.savethechildren.org.uk

Dr. Jose Lopez, Food Economist

Visited / contacted by:

Dr E Lazaro (SUA), Dr E Senkondo (SUA), Neil Marsland (NRI), 3/8/00

Dodoma Environment Network (DONET)

Mandate and structure: DONET was founded in 1995. After two 3 year phases the third phase commenced in July 2000 (visioning & needs assessment exercises). It is a membership organisation (members & member organisations) disseminating information with an environmental focus. There are few organisations in Dodoma working on environmental degradation.

Objectives and Approach: Objectives and approach ideally determined by members, but also influenced by collaborators and donors. DONET is operative throughout the region. Selection criteria for afforestation and beekeeping programmes include existing use of traditional practices and group activity, together with logistical considerations; gender balance also plays a role. Acknowledge difficulties in evaluating impact of information dissemination, but able to point to increases in both activities and membership (individuals: Ts 3,000 pa; organisations [15 in total?]: Ts 50,000 pa). Not presently involved in research – members lack resources.

Poverty: Ideas evolving re environmental-poverty linkages. Poverty deemed very high throughout region.

Themes and Activities include:

- Networking, information dissemination & awareness raising through production of radio programmes, videos (of theatre) and working with schools, calendar production
- Lobbying activities
- Grass root support (third phase focus), particularly with respect to helping people participate in NRM (tree nurseries)
- Working with other organisations, facilitating their activities, bridging gaps; collaboration includes beekeeping & afforestation.

Perception of key NR issues: Environmental degradation; timber being exploited by rural people for charcoal and firewood - need to develop sustainable use approach (eg planned afforestation for cash crops), and resolve enforcement issues.

Linkages include:

- Partnership/hosting FAO's Forests Trees and People Programme Tanzania (FTPP); funds and programme collaboration (eg radio programmes).
- Technical/research assistance (personnel) through VSO.
- Consulted by government and non-government institutions (including ?agric & livestock research, SUA & IRA on impact of changing land tenure on forestry).
- Member institutions include EGAJ, MRTC, WAMMA, CC-DFE, ZRDC, MIGESADO, HFHT, DMPP, CMSR, INADES, Tumaini Children Centre, plus private sector members (see DONET 2000 calendar).

Organisational constraints include:

- Overcoming initial distrust from other organisations. DONET seeks to avoid being viewed as in competition (activities, funds, clients?) with other organisations.
- Funding networking activities - donors favour implementational activities, and argue that in DONET's case that diversification would reflect organisational maturity...
- Time needed for establishment and becoming known.
- Staff capacity?

Perceptions of livelihoods: Livelihood concepts, social and human capital appeared understood.

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

Contact details: Dodoma Environment Network (DONET)

PO Box 1414, Dodoma, Tanzania

Tel/Fax 255 26 2324750

E-mail donet@maf.org,

Josiah Mshuda, Coordinator

Francesco Rovero, Ph D, Environmentalist (VSO)

Visited / contacted by:

Dr E Mbiha (SUA), Dr F Turuka (SUA), Mike Morris (NRI), Richard Lamboll (NRI).

Forest, Trees and People Programme – Tanzania (FTPP-TZ)

Mandate and Structure: FTPP is a global network programme coordinated and led by FAO under the community forest unit. FTPP-TZ membership is mostly drawn from NGOs, CBOs, women and youth groups, GOs, universities and development programmes. There is an elected advisory panel that meets two times per year. It has been active since 1987, working first with the Babati Land Use Management Project. From 1990 it decided to establish institutional collaboration with national organisations, leading to involvement in various NRM issues. A management structure was established in 1994, and the organisation hosted by the Faculty of Forestry at SUA. In 1997 the regional boards decided to start a networking centre for FTPP-TZ in Dodoma, where it is presently hosted by DONET; there are contact persons in Dar-es-Salaam for the eastern zone, and in Arusha for the northern zone. At its next national networking workshop (held twice yearly: Mar/May, Sep/Nov), the membership is likely to be redefined between members – collaborating institutions who partake in FTPP’s activities – and subscribers to the newsletter. Original funds from SIDA were US\$ 90,000 pa; FAO presently supplying US\$ 45,000. FTPP-TZ presently seeking co-funded ventures (eg national level PRA training undertaken with HASHI, farmers initiated research undertaken with INADES, melons & tree planting with ?). The SE African network, covering Kenya, Uganda, Tanzania, Mozambique and ?, is coordinated from the regional office in Nairobi.

Objectives and Approach: FTPP’s Objectives are

- To strengthen the capacity of local partners and national institutions to continue working in community forests and NR.
- To support initiatives aimed at raising awareness of local communities and local authorities re access rights and land tenure.
- To build capacity of local community and relevant stakeholders in sustainable NRM.
- To facilitate information sharing and networking among members at local, national, regional and international levels.

There is an explicit agenda to improve the livelihoods of local people. FTPP’s coverage is countrywide, but present concerns include the need for a communication strategy – to be discussed at Maputo workshop.

Poverty: There is not an explicit poverty focus, but rather an emphasis on working with partners, and on advocating and promoting CB/JFM.

Themes and Activities: Themes identified to realise objectives (1998-2001):

- Gender and Forestry.
- Household and Forestry?
- Food Security and Forestry.
- Farmers initiated research.
- Conflict management – land policy and tenure, communal management (regional scope & pastoralism).
- CB/JFM, local tree and woodland management.
- Participatory processes.

The following activities are undertaken:

- Networking - publishes the ‘Tueleweshane’ newsletter; supports other publications; organises exchange visits (information & experience sharing) amongst local communities, members and stakeholders; national network workshops twice a year.
- Capacity building – facilitates member organisations to organise workshops, plus other training for local communities and local authorities. PRA training organised for practitioners and trainers of the collaborating organisations and members.
- Research – supports and facilitates collaborating institutions and members to undertake research on prioritised themes.
- Advocacy – stimulates and facilitates local communities, pressure groups, to participate in policy debates and seek to influence policy makers.

Perception of key NR issues: Desirability of community involvement in NRM, but need for appropriate local institutions arrangements and sanctions to stop freeloading – cautionary story of Chinangali Forest (S of Hombolo?) which has all but disappeared.

Linkages include:

- Inyua-te-maa - production of Ngorongoro voices video tape.
- SUA - PRA workshop, interrelations to JFM; land policy review.
- UMOYO/SUA – publication of Tuelewashane newsletter (edited by Dr Kasey?).
- FBD – in support of production and publication of ‘Forest is our wealth’.
- HASHI – in supporting production of ‘Watoto na Mazingira’ and audio cassette on the environment.
- ORGUT and Dodoa Municipal - to fund a study tour of farmer.
- LIRRA - to support a study on Ngorongoro pastoralists.
- MWAP – to support workshop on capacity building.
- DOPAREN – on support of PRA workshop for trainers and practitioners.
- HIMA – on conflict management.
- DONET – on radio programme.

Organisational constraints include:

- Declining funds with FAO not committed to FТПP’s continuance after 2001.
- Delays associated with funds – January’s funds only now (August) in Nairobi.
- Communications/responses from colleagues in network.

Perceptions of livelihoods: Livelihood concepts, social and human capital appeared understood.

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

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Monica Mhaviile, National Facilitator

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INADES – Formation Tanzania (IFTz)

Mandate and structure: IFTz is one of nine sister organisations in Africa with its HQs in Abidjan, Ivory Coast. Its founder was a French national. It presently receives funds direct from Belgium, Holland and Spain, but they are area and project specific (eg Spanish funding tied to ‘IK & women’ project). Its primary focus relates to improving farmers’ capacity to better control and manage their agriculture and NR.

Objectives and Approach: In line with a global strategy, IFTz believes in helping peasant farmers organise themselves to have a voice in society (see ‘Five Farmers’ Challenges’ in AR 1999) - ‘empowering peasants’. To build the necessary capacity IFTz uses an *Action-Research-Training* (ART - after Paulo Friere?) approach in which new learning emerges from the dynamic process. The process typically involves a **context analysis** (ie a five day workshop including dialogue with farmers, problem identification, and the identification of potential) which forms the basis for future actions. These actions - research and interactive training - are then reflected upon. A participatory impact monitoring (PIM) process helps farmers monitor the social, political and economic impacts of their activities.

IFTz describes its ‘usual public’ as farmers and grass root development workers. It works primarily with farmers groups (282), but increasingly with networks of groups (24); its work with individual farmers is now limited to distance training through correspondence courses. IFTz literature refers to involving government leaders to enhance the implementation of its work. It has a policy to mainline gender, and increasingly seeks cost sharing arrangements with participating farmers (eg accommodation). There are six area programmes: Chamkoroma AP (Mpwapa-Dodoma); Dodoma Urban and Rural; Ikungi AP (Singida); Magubike AP (Kilosa-Morogoro); Zoissa AP (Kongwa-Dodoma), and; Mbeya AP (Utengule-Usangu, Itaka, and Rungwe-Mbeya).

Poverty: The term ‘poverty’ was not expressed, nor is it explicitly referred to in the 1999 annual report. However the ‘Five Farmers’ Challenges’, which its objectives seek to address, include themes that are often identified as dimensions of poverty in participatory poverty assessments (PPAs – see *Voices of the Poor*, Narayan (1997)). The challenges, for example, include the desire to be respected and recognised the way they are, and greater say in decision-making and control over events.

Themes and Activities include:

- Collaboration and networking with FOs at the primary, secondary and apex levels.
- Training in group formation and management, group stress etc.
- Lobbying and advocacy through the farmers’ networks to address policy issues.
- Participatory land use planning
- Marketing & economic projects
- Promoting farmers’ innovation (PFI) - UNDP/Ministry of Agriculture initiative
- Indigenous knowledge (IK) and women (with food security component)
- Correspondence courses
- Production of educational material – largely by farmers.

Perception of key NR issues: Farmers’ concerns include bush fires, rangeland/grass (availability?), soil erosion, and utilising the limited rainfall. IFTz see part of the solution coming from building on IK.

Linkages include:

- Partners in Dodoma region include (see annual report, page 22) AIC-Diocese of Lake Victoria, CC-DFE, DONET, GENDOR, LVIA, MIGESADO (Dodoma Biogas Project), PELUM – Tanzania Country Working Group Members, PLUM, TIP-Mpwapa (ex SSIPDO), CMSR.
- Partners in other regions include UNDP & Ministry of Agriculture (PFI project), COOPIBO & TRACE, CPT, MVIWATA, TVNP, UMADEP.
- Partners in other countries include PELUM and IPM.

- Donors include Broederlejk (Belgium – networking, marketing & land use projects), Bilance (Holland – contribution to core funding), Intermon (Spain – IK and women training projects), UNDP (PFI), World Bank (World Human Development Report on Poverty – through the African NGO working group).

While IFTz works with individual extension officers, SK pointed out that working with the DEO was prohibited by its lack of funds, by its internal culture of 'omniscience', and by absence of an appropriate approach. Technical issues might exceptionally lead to contact. Contact with national research organisations awaited an avenue of opportunity.

Organisational constraints include:

- No material contributions made to FOs - approach leads to longer term gains.
- Conflict and competition between projects (PFI pays a Ts 20,000 per diem, other projects offer minimal recompense).
- Donors push their own favoured agendas.

Perceptions of livelihoods: Organisational literature predominantly projects an 'empowerment' line. SK drew a distinction between the external conceptual notion of livelihoods and the more practical aspects of IFTz's work with farmers.. ..“this is the way things are”.

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

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Dodoma Beekeepers' Cooperative Society Ltd (DOBEC)

Mandate and structure: Self help cooperative society. Membership mostly retrenched staff from district NRR offices.

Objectives and Approach: Improved livelihoods (cash and nutrition?) through the introduction of modern beekeeping techniques (eg top bar hives, mechanical extractors) to replace bee-robbing practices using fire/smoke.

Poverty: "Life hard in Dodoma".

Themes and Activities include:

Perception of key NR issues: People (of necessity) over-exploiting the environment – timber extraction, charcoal burning and hunting/bushmeat from forest reserves. Long-term nature of conservation gains, leads people to suggest district NR officers are 'harassing' them.

Linkages include:

- DEO – Forestry and beekeeping.
- DONET
- International Bee Research Association (IBRA?)? (Posters on wall)

Organisational constraints include:

- Limited resources

Perceptions of livelihoods: Not discussed.

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

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Visited / contacted by:

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Hifadhi Ardhi Dodoma (HADO)

Mandate and structure: HADO operates throughout the Dodoma region (excluding Dodoma municipal district). Originally funded by SIDA from 1973 – 1995, it has since been funded by URT and falls under the jurisdiction of the Ministry of Natural Resources and Tourism – direct budget line from Ministry to Project Manager (PM). PM at regional level; with stations at district level responsible for covering division to ward levels (staffing rates inhibit work with village governments). Under government restructuring HADO will come under district authority (TK concerned about the wisdom of this).

Objectives and Approach: Conservation of soil and water. Top-down approach. In response to dramatic soil erosion in parts of the region, project initially introduced – imposed – measures such as destocking (bitterly resented), and sought to encourage changes in social, cultural and agricultural practices. Carrying capacity (CC) assessments used to underpin perceptions of degradation. People were essentially organised, rather than provided with incentives for self-organisation.

Q: Entry point with farmers? A: Farmers seek advice and information from staff at stations; staff may visit sites, and notify change agents (DEOs?); farmers reacting progressively to soil erosion used as examples; farmer to farmer visits encouraged.

Poverty: Poverty elimination not an explicit target...but held to be implicit within the project's objectives: 'increasing moisture should have impact on poverty'.

Themes and Activities have included:

- Promotion of soil conservation activities (eg contour bunds & ridges; tree, shrub & grass planting to increase vegetative cover).
- Destocking in Kondoa (1256 km²; CC exceeded fourfold) and Dodoma rural (713 km²).
- Zero-grazing subsequently introduced to destocked areas.
- 'Environmental committees' formed – coerced – at village level; 'people learnt to take responsibility for themselves'.
- Some teaching inputs and materials provided for schools.

Perception of key NR issues: Controlling livestock rates, deforestation (need to intensify tree planting), fires, water resources – PRA suggests water shortage most pressing concern at village level [boreholes, scooping from riverbeds, some rainwater harvesting] DPM noted that perceptions (interest?) of NR vary for different tribes (see livelihoods). 'Conservation is political and controversial'. Q: Do people understand the need for conservation? A: People in Dodoma rural do understand and appreciate this.

Linkages include:

- DNROs
- Police for law enforcement
- Politicians
- DONET (communications)
- Village committees – limited, collaboration mainly through NGOs
- MIGESADO (Dodoma Biogas Project)
- Training (and research?) institutions, including SUA, IRA, IFTz
- International contacts through sponsored visits (only Sweden?)

Organisational constraints include:

- Funding constraints limiting project activities, number of field trips – 'used to be more dynamic'
- Lack of incentives (for staff?)

Perceptions of livelihoods: Rangi and Gogo (the largest groups) depend on NR for their herds of cattle (& smallstock?), and for brickmaking and charcoal burning respectively – the latter is sold to (people in?) the municipality and is mostly 'illegal'. The B?, F?, K? and Sandana are located in higher potential areas undertaking agriculture for food production. Shifting agriculture (slash and burn) predominates, especially

on hillsides. Small-scale mining (gold) and sand and gravel extraction for building, undertaken. NR uses include rope production, firewood, mat making, honey, traditional medicine, forage, thatch etc. Baobab singled out for fruits, leaves and bark.

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

Contact details: Hifadhi Ardhi Dodoma (HADO)

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Theonest Katemana, District Project Manager

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Dodoma District Natural Resources Office (DNRO): Fisheries

Mandate and structure: Resource management; supervision of fishing activities throughout district.

Objectives and Approach: (As expressed) Enforcement of fishery regulation (including checking that fishers are fishing in accordance with their registration licence) to ensure sustainable future for resource and for people. Fisheries contribute to nutrition, to livelihoods (fishers, smokers, fish-dealers – Mtera dam specified), to revenues (through trade/transport levies). Emphasis on enforcement and fee collection more so than conservation. Attempts to create ‘fishing groups’ failed; fishing communities multi-faceted, mobile and independent.

Poverty:

Themes and Activities:

- Fee collection (licence fee US\$ 1.68 (?) per twelve months; vessels under 20 tonnes, US\$ 1.2).
- Enforcement activities (undersize nets, beech seines)
- Encouraging transportation of fresh – ice packed – fish (fresh fish preferred and smoking has declined – evidence?)
- Promotion of fishponds/aqua-culture – not actually happening

Perception of key NR issues: Despite its semi-arid status Dodoma has both river, swamp (Bahi Swamp) and dam (Hombola dam, 1950; Mtera dam, 1980) fisheries. General ignorance about fishery resources – people more concerned about forestry resources.

Q: Do people understand the purpose of regulation? A: Fishers seem to understand the need for regulations, but require supervision.

Linkages: ‘No other organisations working in fisheries’

- With Trading Department over trading licences (Fish dealers pay for trading licence from TD - Ts 50,000-80,000; plus Ts 10 per piece of fish transported out of district).
- Contact with Dr Katule (?) at SUA.

On DONET: ‘visited place once, but took no further steps.

Organisational constraints include:

- Retrenchment in 1994 reduced staff from 14 to 2 – no one for example to collect statistics / tonnage of fish caught.
- Lack of funds and resources (eg only 2 fisheries staff, boat on dam but funds to operate it).
- Fixed licence fee, independent of catch. While fees deemed small, punishment for a first offence is Ts 300,000 or not less than 3 years; second offence Ts 500,000.
- Licence fees only sufficient to cover salaries.
- Limited water resources in region.
- Conflict with forestry re use of firewood for curing fish (NB: SUA promoting fuel efficient smoker design).
- Limited cold storage facilities / receiving stations.

Perceptions of livelihoods: As above, fisheries contribute to nutrition, to livelihoods (fishers, smokers, fish-dealers – Mtera dam specified), and to revenues. Fishing communities very mobile and cover large distances moving from water to water; locations can become very congested. During April – October period (windy/cold spell) in-shore fishing from dug outs predominates, catching smaller fishes. December – March is most productive period (for Tilapia, Calena Combassa?)

Interest in the SUA/NRI project would include?

- Sharing information.
- Potential participant in research process (eg seminars, fieldwork).
- Potential user of research findings.

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Fisheries: DI Mgongo, District Fisheries Officer
FT Kitisi, Fisheries Officer

Visited / contacted by:

Dr E Mbiha (SUA), Dr F Turuka (SUA), Mike Morris (NRI).

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1F

**Human and Social Capital's Role in Natural
Resource Management in Semi-arid
Tanzania: Case Study Results**

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

**UNDERSTANDING HOUSEHOLD COPING STRATEGIES
IN SEMI-ARID TANZANIA**

ANNEX 1G

**Proceedings of the Validation Workshop on
Livelihoods and Natural Resources
Management in Semi-arid Tanzania**

**Joint Project Validation Workshop
10th - 11th May, 2001
Catholic Secretariat, Tanzanian Episcopal Conference,
Kurasini, Dar es Salaam**

DEPARTMENT OF AGRICULTURAL ECONOMICS & AGRIBUSINESS
SOKOINE UNIVERSITY OF AGRICULTURE
and the
NATURAL RESOURCES INSTITUTE

This report is an annex to the Natural Resources Systems Programme Final Technical Report for research project R7805 funded by the UK Department for International Development (DFID).

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1. Introduction

The workshop was conducted in two days involving participants from Ministry of Agriculture, and food security, NGOs (such as INADES, MBOMIPA, HADO, SAVE the children, CARE, Forest trees and peoples programme), Local government, university of Dar-es-salaam, and government departments.

2. Objectives

The objectives of the workshop were:

To share concepts, approaches, literature and experiences relating to livelihoods and NR management in semi-arid areas.

To identify issues, questions-hypotheses-and research needs associated with livelihoods and NR management in Semi-arid areas.

To identify successful interventions, good practices and best bets to achieve improvements in livelihoods and new approaches to NR management in semi arid areas.

To strengthen and develop linkages within and between stakeholders with interest in the well-being of people in semi-arid areas.

3. Presentations

Dr. Mbiha gave the background and objectives of the workshop. These remarks were followed by presentation by both SUA and NRI research team members.

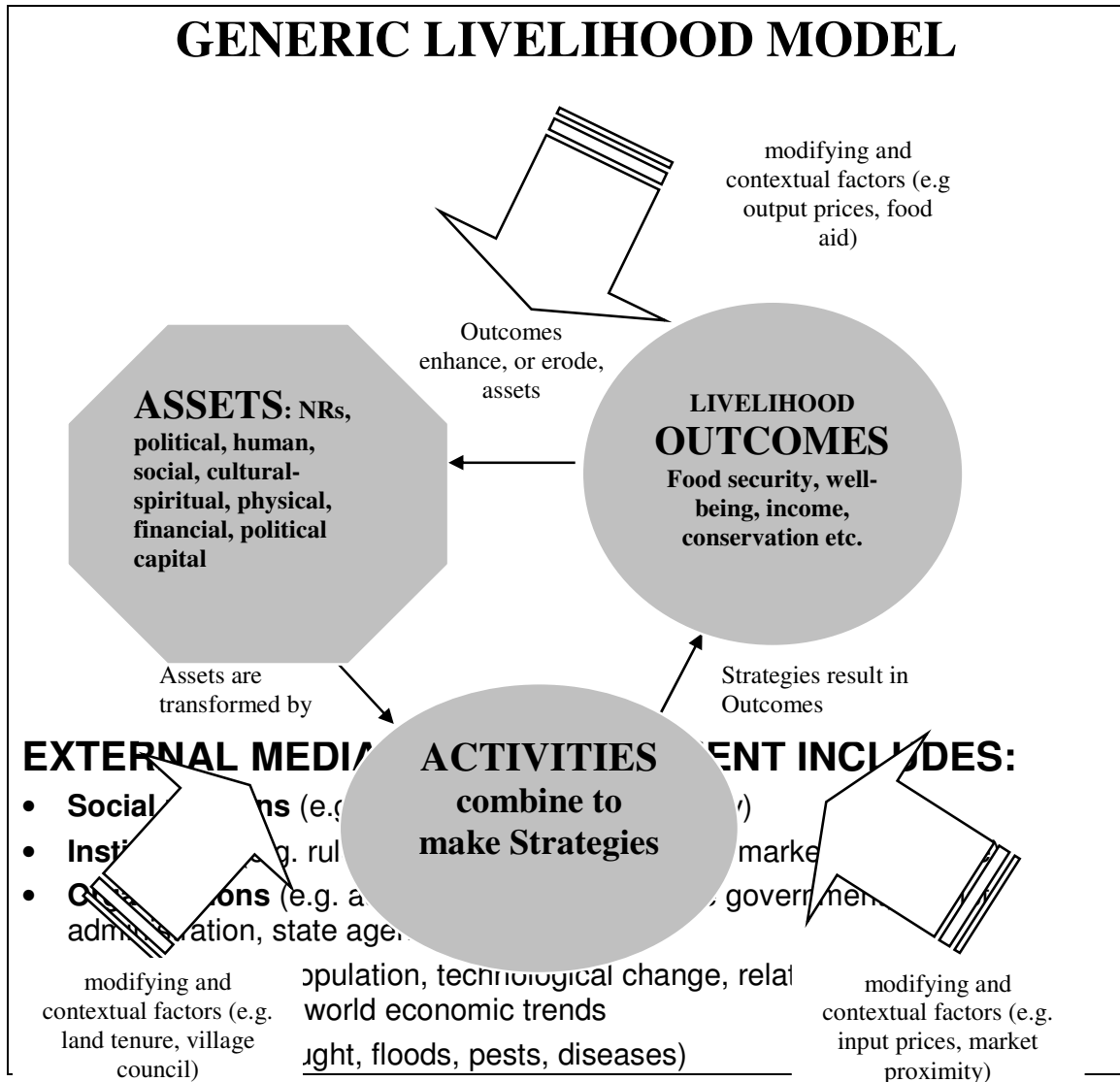
3.1 Overview on Natural Resource Systems Programme (by M. Morris)

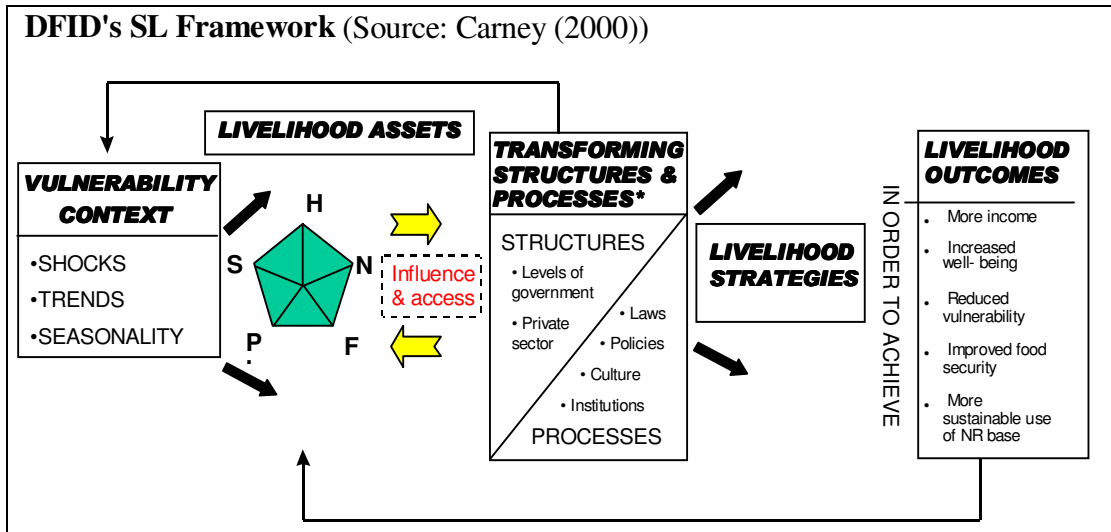
The presentation (re-)introduced the participants to the goals and purpose of the Natural Resources Systems Programme. Key concepts/issues, including poverty, sustainability, productivity, livelihoods and farming systems were briefly introduced. Reference was made to the coming second phase of work for which the two projects were intended to provide a platform of undersanding.

3.2 Conceptual and Analytical Framework of the Project (by M. Morris and E. Senkondo)

M. Morris presented an introductory framework for the project, 'Understanding Household Coping Strategies' using the following overheads:

- Generic livelihood model
- DFID's Sustainable Livelihoods Framework
- Issues raised at the last stakeholder seminar
- Project purpose
- Project outputs
- Exploring livelihood systems
- Scoping characteristics of semi-arid Tanzania





Livelihood approaches embrace both the production and reproduction rationales of household decision-making..

Questions/issues raised at last seminar (Oct/Nov 2000) included:

- Impact of SAPS, liberalisation, globalisation on markets & livelihoods?
- Impact of decentralisation & performance of local government?
- Success of self-help schemes?
- Contribution of different NGOs, CBOs to livelihoods?
- Success of co-management or community-based management of NRs?
- Impact of creation of Protected Areas on people?
- Is land degradation a myth?
- How well/current is our understanding of the impact of demographic change?
- The role of 'social capital' in conflict management?
- Relationship between small & large-scale irrigation and poorer people?
- How successful are different rainwater harvesting projects?
- Are there particular health problems in SAAs?
- Impact of infrastructure on livelihoods (e.g. electrification, grain mills, markets, roads)
- Access to and impact of credit schemes poorer groups (youth, women, illiterate)?
- Poverty and gendered livelihood strategies?
- How do the poor cope with risk?
- Extent of off-farm activities?
- Are the poor responsible for degradation?
- Is there an increase in illegal activities?
- Is catchment management happening?

Project purpose

To develop a comprehensive understanding of the livelihood options of poor people in semi-arid Tanzania and the factors which mediate their

access to assets, strategy options and outcomes

Project Outputs

- Current state of knowledge on livelihood systems in semi-arid Tanzania comprehensively explored, factors shaping livelihood strategies analysed, and key knowledge gaps identified.
- New knowledge relating to poverty and poorly understood livelihood strategies developed
- Demand for new livelihood options confirmed and emerging pointers for future strategies assessed

Exploring livelihood systems

- Search of livelihood & poverty literature
- Conceptual literature
- Tanzania & semi-arid specific
- Stakeholder seminars/workshops & think tanks

- Field work including:
 - Key informant interviews with stakeholders
 - Village level field work

Scoping characteristics of semi-arid Tanzania

- Climate and groundwater
- Land cover, use & degradation
- Demography, health & education
- Poverty indicators & food security
- Markets and infrastructure
- Extension services and NGOs

Dr E. Senkondo explained the role of human and social capital in natural resources management concentrating on the characteristics of semi-arid areas and concepts of human and social capital, and how they relate to livelihood framework and poverty.

Overview

SAL in Tanzania are characterised by land degradation.

Increases in human and livestock populations have led to soil erosion and land degradation, and hence to poor productivity and low carrying capacities.

There is low, erratic and poorly distributed rainfall.

Soil and water management have been recognised as key factor in increasing crop and livestock outputs in the semi-arid areas.

High competition for scarce resources (e.g. water, grazing, forest products) between and within different sets of resource users.

Innovative technical solutions have largely failed to mitigate the biophysical factors.

Also failed in addressing the complex and dynamic links between poverty and environmental degradation.

While there have been many projects in SAL, no systematic evaluation of the respective human and social capital requirements, in the diverse practices associated with NR management and conservation.

Similarly no systematic evaluation of the incentives and constraints on individuals to conserve resources (either privately or as common property, or social costs and benefits associated with the management of common pool resources).

THUS:

A need for developing a comprehensive understanding of current management practices for resources used both privately and in common.

And, to evaluate their impact on the sustainability of catchment resources as a whole.

Specific understanding of the interactions between human and social capital and resource management practices, and the identification of researchable constraints, is a prerequisite to the development of new resource management strategies which will benefit - or not penalise - the livelihoods of the poor.

If identification of researchable constraints is to lead to the development of new approaches to NR, then-target institutions need to be signed up-both to the identified development problem and to the project outputs.

Objective of the paper

Understanding the role of human and social capital in natural resource management.

The role of selected livelihood assets - human and social capital - in generating livelihood outcomes, namely sustainable use of natural resources in more vulnerable environment of developing countries.

Human and social capital

Are the constituent components of livelihood assets that are incorporated in the sustainable livelihood framework.

Livelihood framework is a tool aimed at improving the understanding of livelihood with particular emphasis to the poor. It contains the main factors that affect people's livelihood, and typical relationship between these.

Human Capital

Represents skills, knowledge, ability to labour and good health which enable people to pursue different livelihood strategies and achieve their livelihood objectives.

Determinants of human capital and poverty are highly related. e.g. poor health and or lack of education are core dimensions of poverty. Therefore addressing human capital has implications on poverty reduction.

Human health

Definition. current overall functioning and capability to deal with future stress or a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity.

Education

Include formal academic, workplace skills. Plays a role in improving livelihood prospects.

Poverty is closely associated with low levels of education and lack of skills.

Rural education is under stress in many countries

Social Capital

Social capital has many definitions. Generally refers to the norms and networks that enable people to act collectively. Social resources upon which people draw in pursuit of their livelihood objectives such as networks and connectedness, membership of more formalised groups which often entails adherence to mutually-agreed or commonly accepted rules, norms and sanctions. Could also be relationships of trust, reciprocity and exchanges

These facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor

SC has an impact on development outcomes such as growth, equity as well as poverty alleviation.

Based on mutual trust and reciprocity, SC has direct impact on other types of capital e.g. SC help increase in people's incomes and saving (Financial capital).

Social capital can help reduce the 'free rider' problems associated with public good or common properties thus an effect on the management of common resources (physical capital) and maintenance of shared infrastructure (physical capital)

Social networks facilitate innovation, development and sharing of knowledge, thus a close relationship with human capital.

SC is not always used for positive purposes: social relationships, networks and trust can act as a foundation for negative actions and exclusion – or even oppression.

Issues to consider on SC: Does membership of certain groups allow over-extraction of natural resources to the detriment of non-members and the resources themselves? Do formal rules and norms trap some people within harmful social arrangements (e.g. tenancy-landlord relations that prevent tenants from investing in land improvement)? Do existing associations act as obstacles to the emergence of sustainable livelihoods? Maintenance of social capital is costly (time, labour, etc.) – who bears the main burden?

Objectives

The study focuses on the role of human and social capital in natural resource management in semi arid Tanzania.

Specifically the study aims at developing the strategies for integrated management of crop and livestock production, which benefit the poor at the catchment level.

Three main outputs:

- 1 Comprehensive description of the way catchment resources are currently managed and developed.
- 2 Key factors determining management practices, their implications on investment of human and social capital identified and analysed.
- 3 Assessment of resource management strategies associated costs and benefits at the catchment level, local institutional implications and their likely effect on the livelihoods of the poor synthesised and disseminated

Methodology adopted

Literature review

Consultation with key institutions, stakeholders etc.

Focussed field work in two catchments

Workshop to validate the findings

Discussions based on Presentations:

Question: In the second phase of DFID Programme what technologies, will be focused on? What does technologies specifically mean? Will the focus include institutions or just hardware?

Answer: The Livelihoods approach adopted by DFID focuses both on enhancing poor people's capabilities and the promotion of an enabling institutional framework. Technology includes not only the hardware, but also the knowledge and practice. This will inevitably take account of relevant organisations and the institutional arrangements associated with the management of natural resources.

Question: How long will 1st phase be?

Answer: The current projects under NRSP programme (1st phase) were 6 & 8 months. Due to delays in implementation however they are currently in 8th month.

Question: In the assets side, of the livelihood framework what is the difference between political and political capital? (NB earlier asset diagram included these terms).

Answer: Yes, the term is mistakenly repeated. But there needs to be more discussion of the political and power components of 'social' capital.

Question: Why DFID advocating livelihood framework - how does it differ with other approaches?

Answer: Poverty is an underlying principle of DFID's SL approach. The SL approach is more holistic (e.g. farming systems approaches (FSA) do not take account of off-farm diversification). Livelihoods looks into both the macro and micro level events. Poverty reduction will require the linking of micro- and macro- agendas.

Question: Clarification of social capital and income?

Answer: Evidence has shown that social capital, increase people's income.

Question: Experience has shown that, individuals do better than groups – why than invest in social capital?

Answer: There are some natural resources that are better managed in groups and/or benefit poorer people.

Follow up clarification: There is a need for differentiating between individual ownership and collective management of resources.

Comment: The livelihoods approach focuses on the household but we should not over emphasis on groups, or village as community. Individual efforts need also be exploited.

Comment: There are studies done as far back as 1960s (in Dodoma), related to households without specifically mentioning human capital. No need therefore of reinventing the wheel. With the new concepts this work can be linked with the agenda of civil society.

3.3 Research findings

Dr Turuka introduced key findings from the 'Human and Social Capital' project:

Meaning of Catchment Resources: Meaning of "catchment" resources differ markedly from one line of profession to another (MoAFS, MNRT, IFAD).

Need for smooth communication and co-ordination between stakeholders at the higher level (Ministries? RBMs vs. Catchment Forestry Depts.).

Degradation of catchment resources (deforestation, soil degradation etc.) threatens (directly or indirectly) the sustained economic development and social welfare of many people.

Management of Resources: Land

Agricultural uses are the most predominant (crops and livestock production).

Inadequate measures to correct soil degradation, threatens sustainable (optimal) use of land for agricultural production.

Limited use of better crop and livestock production strategies cannot all be attributed to lack of human capital and social capital.

Limiting inorganic fertilizer use to high value (and sometimes irrigated) crops or failure to use manure are good examples.

Abandoning or introducing (new) crops is another case.

Agricultural production technology also influences NRM strategies.

Indigenous knowledge in land management, such as zero tillage and strategic livestock grazing, should be regarded as potential knowledge to be harnessed in NRM.

Management of Resources: Forests

Forests are important resources (source of food, incomes, medicines etc.).

Management of forests and wildlife is done at different levels, reflecting the nature of forest.

Increasingly, local people are involved in managing forest and wildlife resources in their localities (rules and regulations).

Social capital appears to an important aspect in managing forest and wildlife resources under these settings.

However, forest resources face increasing pressure from agricultural expansion and non-agricultural income generating activities (e.g. fuelwood and raw materials).

Resource management objectives should be guide the use of resources (sustainable vs. optimal use).

Management of Resources: Water

Water is critical resource in semi arid areas.

Rainfed agriculture is predominant, but irrigation is actively carried out.

Strategic crop and livestock production is undertaken to take advantage of available water resources.

Bunded paddy cultivation, valley bottoms cultivation and *ngitiris* are a few examples.

Water rights are increasingly becoming part and parcel in water use.

Water user associations have developed and encouraged (reduce conflicts and reduce the costs associated with down and upstream users).

Social capital is critical in water RM given the trans-boundary nature of water resources and management of infrastructure.

Local water user associations require co-ordination even at catchment level (RBMs?).

Water management at the catchment forest level and after leaving the catchment operates under two authorities, with little coordinated strategies.

Key Factors of Management Practices

Resource management practices are shaped by a number of factors including:

Resource physical and technical characteristics.

Dependence of users on the resource.

Characteristics of the user (groups).

Socio-economic-cultural environment.

Attributes of institutional arrangements of the resources.

Improved Resource Management Strategies & Associated Costs and Benefits

Generally, good resource management practices are bound to improve the welfare whereas bad resource management practices lead to resource degradation, culminating to reduction in welfare

Depends on the various factors that affect resource management.

The list of “improved” resource management strategies proposed by different authorities is long.

Costs and benefits of the different “improved” strategies also tend to vary.

Examples include: CBNRM (forest & wildlife) and JFM in forest.

Loss of time when engaged in CBNRM.

Loss of private (individual) benefits.

Gains in societal benefits (e.g. MEMA, MBOMIPA & UMNP).

Improved attitude in NRM.

Licensing and user rights.

Controlled use of resources (those who rely most on these resources are likely to be affected most).

Increased government revenues (hunting, fishing, forest harvesting etc.) e.g. Land titling.

Possible to invest for better resource management strategies (?).

Cost include likelihood of depriving the poor of potential land.

Contradictions between customary and new land tenure arrangements.

Land use planning

Benefits include reduction in conflicts land users (agriculture vs. livestock production), Reduced land degradation due to proper assessment of land use potential, increased land productivity by taking advantage of land use potentials and irrigation and water harvesting.

Benefits include increased land productivity, make good use of rain water that would other wise be lost.

Costs include floods & problems when improperly managed in addition to high investment costs.

River basins development, harmonize and co-ordinate use of water and other resources.

These are only few of the many “improved” natural resource management strategies.

Final word: Will appreciate to get more contributions on “What role does human and social capital contribute to the management natural resources in semi arid areas of Tanzania”.

Understanding Household Livelihood Strategies: Mike Morris presented key findings for the livelihood project. These included the following overheads:

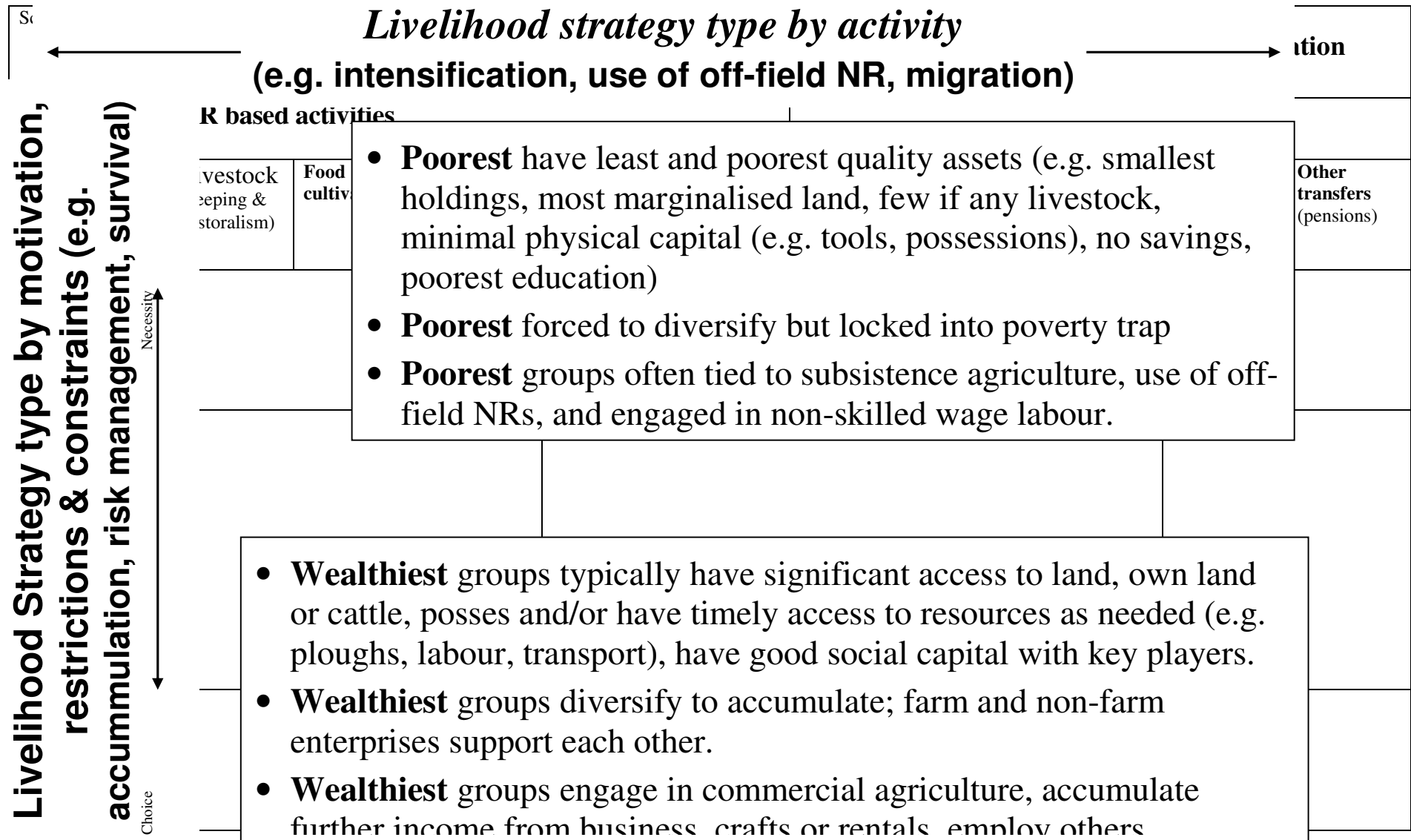
- Findings re semi-arid characteristics.
- Classification of favoured and less favoured areas.
- Livelihoods classification matrix (activity types cf decision making)
- Matrix contrasting livelihood strategies of the rich and poor.
- Livelihood findings.

Findings re SA characteristics

- Defining SA areas problematic
- Central and South-Eastern zones significantly different
- Information typically has intervention focus
- Less information on some regions/districts (e.g Singida)
- Difficulty in disaggregating data and/or securing longitudinal data for trends
- Semi-arid focus less relevant where
 - Livelihood incomes derived from adjacent areas (e.g pastoralism)
 - Infrastructure developed (roads, markets, urban centres)
 - Access to key NRs (water sources, bimodal rain, PAs?)

Classification of favoured & less favoured areas

		Agricultural potential - biophysical environment (climate, water availability, soils, pests and diseases?)		
		High	Medium	Low (biophysical constraints)
Access to infrastructure and markets (population growth, policy, technologies)	High			
	Medium		<p>Malya (former district town, railway & roads junction), Kwimba District, Mwanza (FSG/SUA, 1995)</p> <p>Msingisi (drought prone, sandy & clay loams, agro-pastoral, GALUP project, road & village infrastructure - SA but between the two zones), Gairo Division, Kilosa District, Morogoro (Misana <i>et al</i>, 1997).</p>	<p>Mtwango-Lunguya (located on major road between urban centres), Njombe District, Iringa (Mung'ong'o 1998).</p> <p>Ikuwala sub-village (proximity to DSM-Iringa-SHs road) Mazombe Division, Iringa District (Birch-Thompson <i>et al</i>, 1999).</p> <p>Haubi (KEA), Kondo District (Mung'ong'o, 1996; Dejene <i>et al</i>, 1997)?</p>
	Low (Socio-economic constraints)		<p>Kitunga (20 km from Malya but more isolated), Kwimba District, Mwanza (FSG/SUA, 1995)</p> <p>Mtera (proximity to dam), Dodoma (Monela <i>et al</i>. 2000)?</p> <p>Soya, Kondo District District (Mung'ong'o, 1996)?</p>	<p>Rural Shinyanga District (cotton, sorghum, millet, maize & sweet potatoes) Shinyanga Region (Dercon & Krishnan, 1996; Dercon 1998).</p> <p>Iringa-Mvumi, Dodoma Rural (FSG/SUA, 1995)</p> <p>Mvumi Mission, Dodoma Rural (FSG/SUA, 1995)</p> <p>Kiduhi (infertile soils, remote, pastoralism), Masanze Division, Kilosa District, Morogoro (Misana <i>et al</i>, 1997).</p>



Livelihood findings

- Uncertainties associated with rainfall, (& inputs, yields & prices) make farming in SAAs risky.
- Livelihood diversification (including migration) the norm amongst most household groups
- Diversification increased since introduction of SAPs.
- Widespread processes of social change - occupations, income sources, spatial relocation, social identity - gap between rich & poor growing
- Quantity, quality & timing of access to assets influence HH strategies.
- Poor have access to least land or least resources to cultivate, fewest if any livestock, poorest education & lack liquid assets
- Poor off-set risk by planting subsistence crops, and increasingly rely on wage-labour & collecting NR for income.
- Poor unable to overcome entry constraints (credit, labour, skills, social capital) to high return activities
- The wealthy have access to or possess more land, more labour, more physical (tools, transport) and liquid capital (e.g cattle), more social connections.
- The wealthy engage in commercial farming, accumulate further income from business, craft or rentals, & employ labour as required.
- HH livelihood/coping strategies are gendered. Female-headed households typically disadvantaged.

Discussion on Research Findings Presentation

Definition of Catchment:

- Explore facts from policies (there are about 40) Also look into laws governing use of Natural Resources (NR) e.g. land, and water. To see how they define catchment.
- Assumption that land use planning can solve conflicts – is not practical. For example The users of opportunistic resources always result into conflicts.
- Analysis of How to mitigate the contradiction from laws and policies

Water Law - comments:

- All water is managed under the Ministry of Water. Water utilisation act was there since 1974.
- The law on water rights, has been there for a long time. So it is not new only that now it is more in use.
- Ministry of Livestock and Water is currently reviewing the water policy.
- The Ministry of Water is now looking at water user associations at the local level (village), then there will be organisations at sub catchment level, so that will go higher to the basin level.
- At the National level the use of licensing may affect those who use the resource. The effect can be positive or negative.
- Fisheries in Bubu and Ruaha, are there no findings in this area?

Researchers Reaction to Comments

- During group work let us clarify the definition of catchment.
- Clarification on land use plan as assisting to reduce conflict.
- Fishing was important, more in Bubu river catchment. There is even migration of fishermen from Mtera dam to Bahi swamp.
- Contradiction between customary law and government law on land ownership. They do exist, especially in the ownership of land.

Comment:

Costs and benefits analysis of Community Based Natural Resources Management (CBNRM) shows that CBNRM result

- Into loss of individual/benefits – household.
- Some individual benefits were/are based on illegal and/or unsustainable use of NR as defined by Government of Tanzania and Law.
- Some individuals were/are benefiting at the expense of others e.g. NR exploiters from town and villagers.
- Sustaining the resource (through sustainable use) may provide greater social and individual benefits in the long term.
- Individuals and their households may now benefit through provision of better social services (health, education) and infrastructure. Paid for by village income from NRM and utilisation.
- Some households benefit directly by employment facilities e.g. in tourist as village game scouts.
- They may also benefit indirectly by a reduction in village ceases/taxes (because social services etc. is now funded by NR utilisation).

Therefore there may also be individual benefits from community based natural resources management (CBNRM).

Comment:

Consideration of the dynamics of poverty within households. Households' levels of poverty change over time. It is possible for a household to be poor at one time, but strike an opportunity (e.g. production and sell of tomato) and comes out of poverty. Findings of a research activity in Mkomazi area show that the poor were elderly and had large pieces of land. They lacked financial capital for inputs. They depended on renting out their land. In addition experience has shown that poverty is dynamic. For example some sons and daughters from rich households have turned to be poor over time; their wealth disappear. This is because some of them sell the assets they inherit.

Suggestion:

- We should be thinking about issues of targeting intervention, e.g. focus of the poorest of the poor. By the end of the workshop we should come up with an idea of what to be done based on our diversified background.
- How do we move forward? How can the poor be supported, to improve their livelihoods. This is the challenge for the workshop to address.
- Classification of poverty groups, should be looked at as an aggregate group rather than individually. There are always interactions between different classes.

4 Group Work

The participants were divided into 4 groups two groups were given the same assignment for purposes of getting different views.

1 Terms of Reference to group work

Group 1 and 2

In many places poorer households increasingly derive their incomes from

- Wage labour (on and off-farm)
- Use of Natural resources

Should interventions focus on these poor households or adopt an 'inclusive community approach?

From your experience

- What works?/ What does not work
- What needs to be further investigated?
- Are there any gaps?

Group 3 and 4

What is working in terms of Natural resources management? (Different resources, User groups/ communities, institutional arrangements)

From your experience

- What is working
- What needs further investigation?
- Gaps/error

Then translate into relevance (or not) of human and social capital

Group presentations:

Each group had a chairperson and rapporteur. The summary of the discussions was than presented at a plenary session. The presentations for each group are as follows.

Group 1 Presentation

Question is similar to group 2 (presentation followed Group 2).

- The main objective of interventions is to uplift the poor households to better standards of living.
- The major issue is therefore to target the household, and to have a clear understanding of the grass root level.

Issues needing further investigations:

Further investigation of poverty and the poor.

Further understanding of community/household dynamics focussing on the grass root level.

Need to focus on specific interventions versus broad range interventions.

Group 2

The group started by making clarifications on some of the issues presented in the Terms of reference of group work.

Issues needing further exploration:

- 1 Instead of income consider livelihood.
- 2 Resource use is not only by the poor. Generally most of rural population/households depend/use natural resources.
- 3 Disaggregate nature of wage labour - is it wage labour or casual labour, or labour paid in kind.

• What works and what does not work

Everything can work but depends upon the nature of interventions

For example supportive infrastructure to community leads to improve agricultural productivity.

Improved agriculture leads to improved households status.

- To decide which interventions you need
 - i) Requires thorough understanding of social structure/systems of the community and dynamics
 - ii) Community and households participation

• What needs to be further investigated

- i) Further investigations of poverty and the poor
- ii) Tackling also the rich or medium rich to facilitate management. Ask questions such as why focus poor of the poorest, why are people poor are they real poor or in transition?
- iii) Further understanding of community/household dynamics.
- iv) Further work on conflict management.
- v) How to provide tangible support to communities.

Group 3

- What is working in terms of Natural Resources Management?

The group started by identifying important natural resources for further discussion.

The following natural resources were identified: Water, Forest, Wildlife, Fishery, Bee keeping, Mining, Industry, Land, and Marine

1. Water from rivers

- There is no or weak mechanism to co-ordinate between up stream water users and down stream water users. (example a case of great Ruaha river)
- There is inadequate management of forest and water catchment area.
- Issues for investigations
 - i) On going research to continue (for example in the Usangu plain).
 - ii) The adoption of the research findings to other catchments.
 - iii) Harmonisation of institutional and legal framework issues.
 - iv) Extent of knowledge on the existing water rights and laws, as water is increasingly becoming a commodity.

2. Water from rainfall

- There is inefficient utilisation and management of the scarce rainwater
- Issues for further Investigation
 - i) Adoption of Natural Resources (NR) technologies and studies for improved livelihood.
 - ii) Continued harmonisation/observation of the various policies and laws that currently exist. It is noted that currently there is much effort by the government to harmonise the different policies associated with use of NR.
- The gaps: Involvement of community into the natural resources management and utilisation is low.
- Issues for further Investigation

- Are all community members benefit from MNR projects in their area?
- Most of NRM Projects are capital intensive. When the project ends will the community be able to continue (Sustainability).
- Government Commitment to the NMR is limited due to lack of funding capacity.

Due to low capacity there is a need to look for possibilities of civil society funding themselves through Community based organizations (CBOs), non-governmental organizations (NGOs) and other Institutions.

-How to introduce question of cost sharing in running NMR projects in our areas.

- Human and Social Capital Resources

In making use of NRM, action in one landscape unit (catchment) or upstream users will affect those in the other or down stream users. This calls for a need to have an organisational structure to collectively manage the NR.

- Benefit and joint effort to NRM

Issues for Investigation - How efficient are joint efforts and the gaps in community based management organisations?

Group 4

What is working in terms of Natural Resources Management?

The group identified the following resources, Land, Forest, Water, Wildlife and fisheries.

1. Our Experience on what is working and not working:

Working (taking place?)	Not working
<p>(Land:) Land is managed under different ownership- individual ('Malunguru') customary land ownership - community (village) - government: (i) local (ii) central (e.g forestry reserve). - institution: (i) Government (partially privated (ii) Private (tobacco farmers)</p>	<ol style="list-style-type: none"> 1. No permanent ownership of land -hence land degradation -shifting cultivation 2. Lack of land use planning - implications - conflicting interests to various users 3. Proper agronomic practices are lacking

Working (taking place?)	Not working
<p>(Forests:)</p> <ol style="list-style-type: none"> 1. Communal/public ownership. 2. Government ownership. - Central - Local 3. Few areas are now involving Communities to manage forest in a sustainable way (Joint forestry management, Community based Forest management) e.g. MEMA Project –Iringa, MGOLI project-Singida. 	<ol style="list-style-type: none"> 1. Individual ownership is lacking. 2. Communal ownership not protected by any Rules/legislation - implication: degradation 3. Access to government owned forestry (?) (sustainable forestry management)

Working (taking place)	Not working
<p>(Water:)</p> <ol style="list-style-type: none"> Water catchment areas are managed by the Govt./Communities/Villages (Springs, wells dams & streams etc.) Water users are many: <ul style="list-style-type: none"> -Hydropower-generation -Irrigation -Domestic -Industrial Few initiatives exist to monitor and manage Water users in some areas. E.g. Rufiji Basin. 	<ol style="list-style-type: none"> There are no clear/proper control of water usage. User groups do not contribute in the management of catchment areas. e.g. TANESCO Knowledge on the sustainable utilization of water resources is lacking.

Working (taking Place?)	Not working
<p>(Wildlife / fisheries:)</p> <ol style="list-style-type: none"> Government owned Community based wildlife management has started in some areas e.g. Ruaha National Park (MBOMIPA) 	<ol style="list-style-type: none"> Lack of Community participation in management of wild life.

• **What needs further Investigations**

- NR ownership needs further investigation in all semi-arid areas as it has implication in the overall management of NR.
- How best the communities can be involved in managing NR in a sustainable way.

• **Gaps & Errors**

- Policy makers/Legislatures didn't take into account interests of local communities/user groups In management of NR.
- Indigenous knowledge has not been fully harvested in the Mgt of NR.
- Inadequate feedback mechanisms to allow for lively dissemination and application of research findings.
- Research findings (in some cases) are not honoured by policy makers.

Relevance of:

• **Human Capital:**

Is important in the overall management of natural resources as it involves skills, Knowledge, ability to labour and good health.

• **Social Capital:**

In the past communities used to protect and manage natural resources using cultural norms and Taboos, so, if they were incorporated in research they could be useful.

Questions and comments following presentations:

- Experience in some areas show that it is difficult to reach the poor (e.g. clinics exist but poor women go to traditional healers); if they were given loans to engage in income generation activities, there's no guarantee they would do that.
- The presentations did not cover public works programmes. If you give people these kinds of work they will collaborate. e.g. food for work, feeding pupils and fee waiver.
- Charcoal making links the rural poor with urban communities, and could be promoted as such.
- Production should be geared to global markets.
- Education is key to improving the lot of the poor.
- In the intervention of the poor, do not forget sensitisation of the whole/host community as well as the target groups.

- Too often pro-poor projects are poorly conceived (e.g. drought resistant cassava cuttings, but too expensive for poor).
- Involving the communities is necessary but not a panacea. Issues also needing attention are market availability and other related infrastructure.
- Why reach the poor of the poorest? Reaching the rich may influence the poor very positively.
- Community as means, AND ends. There is a need of understanding the factors that cause poverty. Why are the poor there? Are they constrained by other people or is their fault to be so? (Attitude or approach of researchers, politicians etc. can be at fault?).
- Poverty is a dynamic phenomenon, the poor produce poor offspring. If you give the parents the scarcest resource such as land, then educate their children to prevent further poverty. Educate the children of the poor and poverty will be reduced. But we need to be specific on the type of education we are talking about.
- We need to understand what is poverty. The poor themselves can be able to tell us why they are poor.
- Sometimes targeting the poor of the poorest leads to the poorest selling whatever that is given to them to the rich and thus perpetuates poverty (e.g. bund building project allocated 'plots' to poor villagers, who subsequently sold plots for short-term gain).
- Blanket solutions don't work for the poor.
- If we do not have an agreement on what poverty is, or its dynamics, how can we design successful interventions? Should we perhaps focus on poorer communities.
- 'Poorest of the poor': there is an element of 'development fashion' in working with the poorest.
- The poor definitely have less resources and opportunities (e.g. less land, less work) and are unable to share. Some poor however are just lazy despite food relief and seeds. They need to be 'educated'.
- Can we target poor women without antagonising their husbands?
- We should educate the children of the poor, to stop the cycle of poverty.

5 Summary of Workshop Findings

Some agreed highlighted points derived from the workshop

- 1 Consider collective and/or individual management of natural resources, depending on the type of NR, the users and the requirements of management practices.
- 2 Land tenure and property rights - these are closely related and are important in NR management.
- 3 The distribution of costs and benefits under collective management determines whether the process of collective management will work or not.
- 4 Complexity of the term poverty and the poverty agenda: Poverty is a multifaceted and dynamic, and needs to be examined in a wider context.
- 5 Linkages between civil society and the government require scrutiny and development. Older/traditional institutions may have broken down, but new ones appear to be emerging associated with community-based initiatives (e.g. MBOMIPA).
- 6 Corruption plays a role in natural resource management: Sources of corruption are for example associated with user's fees. Has decentralisation increased or translocated corrupt practices?
- 7 There is lack of co-ordination between key stakeholders in Natural Resources Management.
- 8 Need for good understanding of communities, households and intra-household relationships - empowerment approaches versus enabling approaches?
- 9 Overexposure to research, but few tangible interventions?

Other issues from the participants:

- Useful indigenous natural resource management regimes need to be harnessed.
- Pick up and use new models that have been successful (new institutional arrangements and social capital).
- The required research addresses multidisciplinary issues, which has implications for the composition of research teams.

6 List of Participants

Name	Position	Organization
T Katemana,	Branch Manager	Hifadhi Ardhi Dodoma (HADO Kondo)
J. Mshuda	Environmentalist (VSO)	Dodoma Environmental Network (DONET)
F. Rovero,	Environmentalist (VSO).	Dodoma Environmental Network (DONET)
G.S. Katunzi	Environmentalist (VSO).	Dodoma Environmental Network (DONET)
W.E Kaaya	Zonal Forestry Publicity	
M. Mhaviile,	National Facilitator	Forest, Trees and People Programme – Tanzania (FTPP-TZ)
S.S Kiranga,	Managing Director	INADES – Formation Tanzania (IFTz)
P. Mwaluko,	Forestry & Beekeeping	Dodoma rural district
D.I Mgongo,	Fisheries Officer	Dodoma rural district
F.T. Kitisi,	Fisheries Officer	Dodoma rural district
M. M. Mayega	Regional Agricultural Office	Dodoma Region
E. N. Pallangyo,	Regional Agricultural Advisor	Dodoma Region
M. S. Minja	Regional Natural Resources Advisor	Dodoma Region
O. Rajabu,	The Coordinator	IFAD project- Dodoma
E. Lazaro	Researcher	Sokoine University of Agriculture
H.L. Kiwasila	Researcher	Institute of Resource assessment
F. P. Maganga	Researcher	Institute of Resource Assessment (IRA)University of Dar-es-Salaam
L. José	Food Economist	Save the Children Fund (SCF)
V. Rutachokozibwa,	FEWS NET country representative.	Famine Early Warning Systems (FEWS)
C.K. Tandari,	Division of Poverty Eradication	Vice President's Office
O.M.G. Wahure,	Sociologist	Ministry of Agriculture
J. I. Shegwando,	District Agricultural and Food Security Office	Iringa Rural District
G.A. Kasanga,	Hydrologist	Ministry of Water Rufiji River Basin Management Programme, Iringa
M. Walsh	Project Co-ordinator	MBOMIPA
M. Morris	Researcher	Natural Resources Institute
E. Mbiha	Researcher	Sokoine University of Agriculture
F. Turuka	Researcher	Sokoine University of Agriculture
E. Senkondo	Researcher	Sokoine University of Agriculture