UNDERSTANDING THE INTERFACE BETWEEN NATURAL WOODLANDS AND HIV/AIDS-AFFECTED COMMUNITIES IN SOUTHERN AFRICA

FAO Seminar proceedings

Harare, Zimbabwe – 1 April 2004

FAO, 2004

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Introduction

The miombo woodlands, recognized for their floristic richness and widespread occurrence of the genera *Brachystegia*, *Julbernadia*, *Isoberlinia*, form the dominant natural woodland type in southern Africa. The miombo woodland ecoregion extends across the African sub-humid tropical zone from Tanzania and the Democratic Republic of Congo in the north, through Zambia, Malawi and eastern Angola, to Mozambique and Zimbabwe in the south (Figure 1.1). It is estimated that over 75 million people live within the ecoregion and that the woodlands directly support the livelihoods of over 40 million people in this region. A further 15 million people living in towns and cities throughout the miombo ecoregion also depend on a variety of products from miombo woodlands (Bradley and McNamara 1993; Dewees 1994).

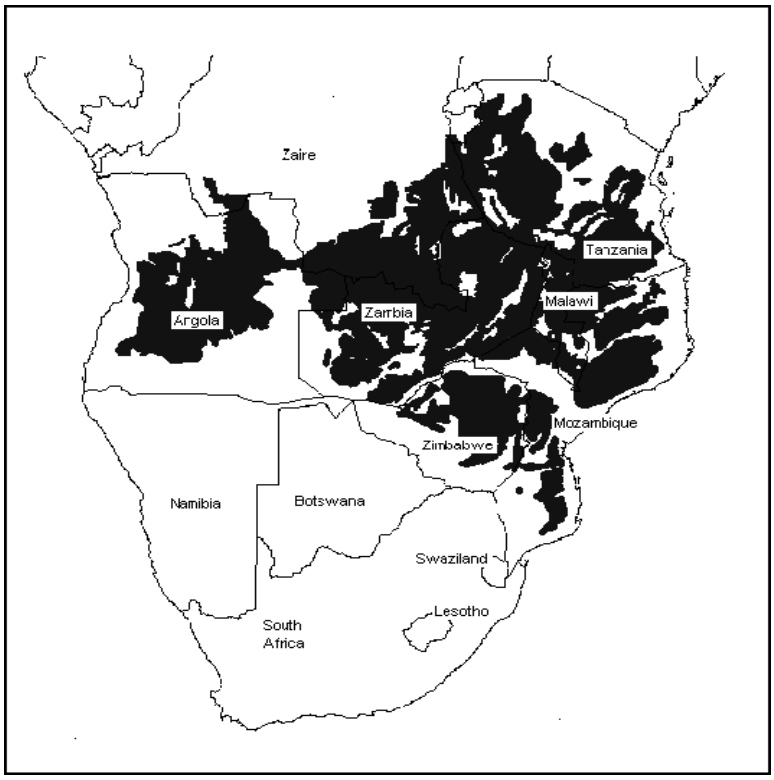


Figure 1.1 Distribution of miombo woodlands
Extracted from: Miombo forum http://www.btinternet.com/~miombo.forum/map.html
Source: Desanker, Frost, Justice and Scholes (1997). IGBP Report 41. Courtesy of Chris Buss (1998). Certification of products from miombo: development of social criteria and indicators. MSc Environmental Forestry. University College of North Wales, Bangor

For most rural communities, the woodlands are important assets providing both subsistence and market-oriented livelihood strategies. Woodland products include wood products (fuelwood and charcoal, timber, building poles, craftwood, carvings and furniture); edible plant products and mushrooms; fibre and related products (woven mats and baskets); medicinal plants; insect products (honey and beeswax, edible insects); and animals (live birds and animals, bushmeat) (Brigham, Chihongo *et al.* 1996). The harvesting and processing of these products can generate substantial amounts of income. For example, in southeastern Zimbabwe, Campbell *et al.* calculated that the average in-kind subsistence value of own collected woodland goods[1] was 3,557Z$ per household per year – a value nearly equal to 30 per cent of average gross cash income per household per year. In Beira (Mozambique), Serra and Zolho (2003) found that there are more than 1000 small charcoal suppliers who transport 2-4 bags of charcoal per day. This means an average income of about USD70-140 per month for those families involved in the transporting business.

[1] Fuelwood, construction materials, wild foods and leaf litter.

HIV/AIDS is deeply entrenched in the countries making up the miombo ecoregion (Table 1.1). While prevalence rates are substantially higher in urban than in rural areas, HIV/AIDS has become a rural problem. For example, in four out of eight rural antenatal clinics in Malawi (1998), HIV prevalence rates for women under the age of 20 ranged from 14.5 to 20.9 per cent while the average HIV prevalence rate from all 19 urban and non-urban sites was 14 per cent (UNAIDS/WHO 2003$_b$). Though prevalence rates appear to have levelled off in recent years in Zimbabwe, Zambia and Malawi, the region's epidemic is not declining. Contrarily, this levelling-off actually means that the number of people dying annually from AIDS and HIV is now equalling the number of individuals newly infected (UNAIDS/WHO 2003). For the countries within the ecoregion, the worst impact is yet to come with adult mortality rates expected to continue to rise and remain elevated for decades to come.

Estimated adult HIV prevalence in countries of miombo ecoregion (2001)	
Zimbabwe	33.7
Zambia	21.5
Malawi	15.0
Mozambique	13.0
Tanzania	7.8
Angola	5.5
DRC	n/a

Table 1.1 Source: UNAIDS/WHO Global HIV/AIDS Online Database

Recognizing the integral role of miombo woodlands in rural livelihoods, and the magnitude of the epidemic in the ecoregion, officers from FAO's Forest Policy and Institutions Service (FONP) and Population and Development Service (SDWP) participated in a joint mission to Malawi in December 2002. During this mission, it was observed that rural HIV/AIDS affected households appeared to be relying increasingly on miombo woodland resources as their capacity to farm declined. Households unable to crop appeared to rely more on gathering from the woodlands both for their daily subsistence needs and for income. In addition, in many villages visited, households had limited access to pharmaceutical drugs and relied extensively on the plants and trees occurring naturally on their farmlands and in the woodlands for the treatment of opportunistic infections. These initial observations suggested that woodlands were an essential safety net for HIV/AIDS-affected households.

To thoroughly explore the relationships between HIV/AIDS and forest resources, and in particular the role that forest resources play in the responses and coping strategies of households and communities affected by HIV/AIDS, FAO commissioned a two-country survey in 2003. Exploratory case study research was conducted using qualitative and quantitative data collected from key informants, focus groups, households and traditional healers. Data collection was carried out over the course of four weeks in November and December in Malawi and Mozambique. The analysis confirmed earlier observations that miombo woodlands are an important component of rural responses to HIV/AIDS and that:

- Commercial woodland activities help buffer against the immediate impacts of health expenses and productivity losses.
- The erosion of household assets and increased vulnerability resulting from prolonged illness and eventual death of prime-age household members can lead to increased dependence on both subsistence and commercial woodland activities.
- Areas with higher HIV prevalence are experiencing more rapid decline in woodland quality and availability than areas with lower prevalence.
-

The ultimate goal of this effort was to identify strategic themes within the forestry sector that may be implemented (in coordination with other sectors) to reduce the impacts of HIV/AIDS on rural households and communities. While clear patterns were identified regarding the effects of HIV/AIDS on woodland strategies, it also became clear that household/community-level impacts and subsequent coping strategies were shaped by a complex dynamic of endogenous and exogenous factors including (but not limited to) HIV/AIDS staging within the household, cultural/social norms, gender of the affected members and care-givers, household composition, wealth, labour requirements (of woodland activities), phase of the epidemic in a community, availability of social safety-nets, and access to markets. Thus, while the study confirmed that the integration of forestry components is particularly relevant to cross-sectoral HIV/AIDS programming, many interventions will need to be designed locally with the

participation of communities, people living with or affected by HIV/AIDS, and representatives of other sectors (primarily health).

In anticipation of the need to implement planning processes locally, the research tools were developed accordingly. To ensure that strategy outputs would be representative of the needs of local constituents and the methodology replicated efficiently in the field, effort was made to incorporate rapid rural appraisal (RRA) and participatory rural appraisal (PRA) techniques. Additionally, a framework was developed to guide this process of evaluating the forest-based needs of affected households and to facilitate the integration of forestry interventions within the broader multi-sectoral HIV/AIDS response/programming.

As the development of appropriate forestry sector responses to HIV/AIDS will require new processes and institutional capacities to implement these processes FAO held a consultative seminar on 1 April 2004 in Harare, Zimbabwe. The objectives of the seminar were:

- To bring together key actors in the forest and wildlife sectors in southern Africa to discuss forestry and HIV/AIDS, in the context of emerging policies supporting multi-sectoral programming.
- To provide an overview of FAO's normative and field activities in HIV/AIDS, agriculture, rural development and forestry.
- To present the methodology and key findings of FAO HIV/AIDS and miombo woodlands study for review and discussion
- To facilitate discussion on the needs of the forest sector to be able to address the pandemic within the sector and its own institutions more effectively, and in the potential role of the sector in contributing to multi-sectoral HIV/AIDS programming
- To facilitate forest department staff from countries in the region to meet, discuss and liaise with research, education, extension and NGO professionals engaged in HIV/AIDS and forest programming issues in the region.

The presentations and brief summary of discussion presented here build on the experiences of those in areas of advanced phases of the HIV/AIDS epidemic; and facilitate the generation of programme ideas that tackle the complexity of HIV/AIDS and allow local institutions to be co-initiators of these responses. The report of the study *HIV/AIDS and the Miombo Woodlands of Malawi and Mozambique* includes broader discussion of the framework, methodologies, results and strategy recommendations. At the recommendation of seminar participants, an online discussion forum and accompanying listserv have been created to maintain dialogue. These efforts are initial steps towards the development the forestry sector's approach to the growing HIV/AIDS crisis in the developing world.

This seminar was funded by the Forestry Policy and Institutions Service (FONP), Forestry Department, FAO, and hosted by the FAO Sub-Regional Office for Southern and East Africa (SAFR). Participant attendance was also supported by SADC and FINNIDA.

For additional information on HIV/AIDS programmes at FAO, please consult the following:

FAO Forestry and HIV/AIDS website:
http://www.fao.org/forestry/site/hiv-aids/en

FAO HIV/AIDS and food security website:
http://www.fao.org/hivaids/

Programme of meeting

Mr R. Yekeye, acting HIV/AIDS Commissioner of Zimbabwe, chaired the morning session. The afternoon session was chaired by Dr Godwin Kowero, Regional Coordinator, CIFOR, South Africa. (See Annex 2: Programme). The morning discussion sessions centred on the miombo woodland study, the methodology of the study and the specific findings in each country. The afternoon discussion session focused on more general forest sector strategies towards the mitigation of HIV/AIDS – from policy to staffing, education, community empowerment and other entry points through which the sector can coordinate with the multi-sectoral response to HIV/AIDS.

MORNING SESSION ***CHAIRED BY MR YEKEYE, Executive Director (acting), HIV/AIDS Commission, Zimbabwe***		
TIME	**ACTIVITY**	**PRESENTER**
08:45	Welcome, introductions - SAFR	Mr Harris
09:00 – 09:30	Opening remarks: HIV/AIDS Council of Zimbabwe	Mr Yekeye
09:30 – 10:15	HIV/AIDS and the Forestry Sector – an overview	Christine Holding Anyonge
10:15 – 10:30	**TEA/COFFEE BREAK**	
10:30 – 11:30	Presentation of methodology and key findings of FAO HIV/AIDS and Miombo Woodlands study – Malawi and Mozambique	Mr Barany, Dr Sitoe and Dr Kayambazinthu
11:30 – 13:00	DISCUSSION	ALL
13:00 – 14:30	**LUNCH**	
AFTERNOON SESSION ***CHAIRED BY DR KOWERO, CIFOR, Southern African Region***		
14:30 – 15:00	WWF presentation and discussion	Dr D. Gumbo
15.00 – 15.15	FAO presentation and discussion	Mr M. Laverdiere
15:15 – 15:30	World Bank presentation and discussion	Dr T. Serizawe
15:30 – 16:00	ICRAF Southern Africa Regional Office presentation and discussion	Dr Agumya, Dr Thangata
16:00 – 16:15	**TEA/COFFEE BREAK**	
16:15 – 17:30	WRAP UP AND WAY FORWARD	ALL

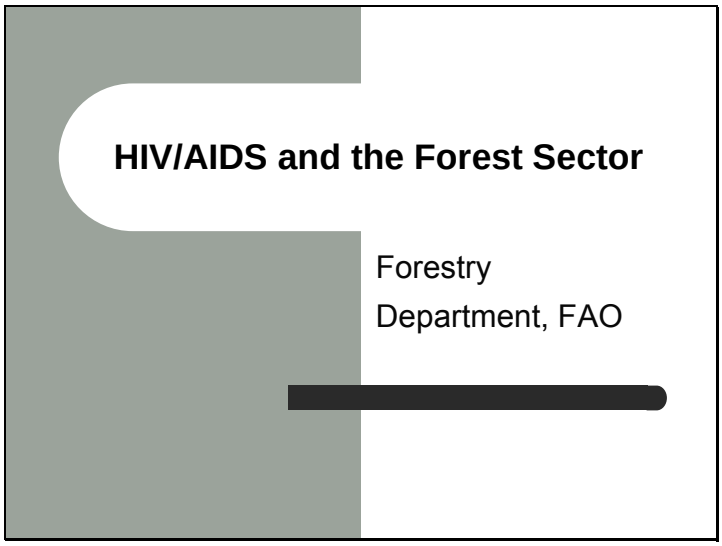
Presentations

In the morning session four presentations were made to introduce the background and rationale, methodology and country findings of the HIV/AIDS miombo woodland study. Christine Holding Anyonge, Marc Barany, Almeida Sitoe and Dennis Kayambazinthu, respectively, delivered these presentations. The afternoon session included two presentations regarding opportunities for HIV/AIDS programming in miombo conservation management by Davison Gumbo of the World Wildlife Fund (WWF) and contributions of agroforestry to nutrition and food security in the context of HIV/AIDS by Paul Thangata of the World Agroforestry Centre (ICRAF).

These presentations and the subsequent discussions are included in the next sections of this report.

"HIV/AIDS and the Forest Sector" - Christine Holding Anyonge, Forestry Department, FAO

Slide 1



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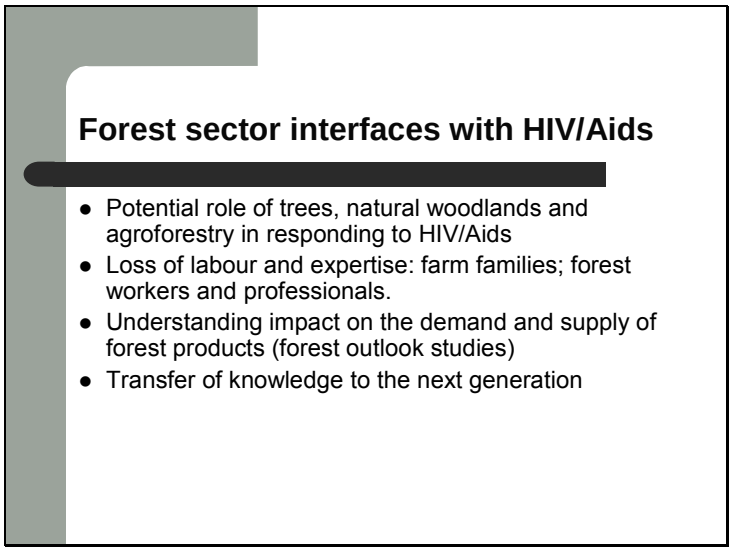

Slide 3

Woodlands: an integral part of livelihoods and farming systems of southern Africa

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Slide 4

Ensuring social and economic protection

- *Food:* Collection of wild food plants, bushmeat; nuts, leaves and roots
- *Treatment of opportunistic infections*: traditional medicines
- *Income:* from non wood forest products (NWFPs)

Picture not Available

Slide 5

Strengthening rural institutions

Picture not Available

- To support local ownership and sustainable implementation of agriculture and forest response strategies
- Support and capacity building to local institutions e.g. natural resource management committees

Slide 6

Saving time and labour

- Enhance *longer term sustainability of agricultural productivity*: soil fertility; soil and water conservation
- Land and resource tenure
- Trees can save labour over several seasons e.g: improved fallows

Picture not Available

Slide 7

Agroforestry practices

Picture not Available

- e.g. Improved Fallows: minimal labour; source of fodder and fuelwood in proximity to the homestead; maintain long term sustainability of agricultural land and resource tenure of abandoned farm lands

Slide 8

Tertiary education in forestry

- HRD strategies for the institutions themselves
- Strategies for education and manpower development
- In service training course design and education curricula to include modules on development responses in the forest sector
- Short upgrade course to address shortfall in forestry staff

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Slide 9

Influencing policy

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- State of the World Forests 2003
- Forest Outlook Study for Africa: 2003
- FAO Committee for Forestry 2003: *Exhibit:* HIV/Aids, Forestry and Food Security

"HIV/AIDS and the Miombo Woodlands of Mozambique and Malawi – An Exploratory Study"

Part 1: Methodology: Marc Barany, Consultant, Forestry Department, FAO

Slide 1

HIV/AIDS and the Miombo Woodlands of Mozambique and Malawi

An Exploratory Study

Dr Almeida Sitoe
Dr Dennis Kayambazinthu
Marc Barany

FONP/FORC/SDWP/SAFR

Slide 2

Design

Comparative Case Study Analysis

		HIV Prevalence	
		High	Low
Tenure	State Forest Reserve	X	Y
	Customary	Z	

Slide 3

1. Site Selection

1. Districts/provinces were classified as high/medium/low HIV prevalence using estimates from the National AIDS Commissions.
2. Communities were grouped into a matrix according to tenurial system and district HIV prevalence index.
3. Final selection made to control for other community-level factors that may influence woodland use.

		HIV Prevalence		
		High	Medium	Low
Tenure	Co-management			
	Customary			

Slide 4

2. Community Profile

- To identify households potentially afflicted by AIDS

1. Drafted list of households in the community.
2. Recruited long-term resident key informants (3-4).
3. For each household, key informants described household structure and health of middle-age adults.
4. Community list stratified into AIDS-afflicted and un-afflicted, afflicted being…
   a. absence of middle-aged adults, children-headed households, widows
   b. chronic illness, and/or death of p-a adult (3 years)

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3. Woodland Transect

- To understand what forests and tree resources are physically available, and their quality

Key informants were recruited from the NRC and transect conducted recording following attributes

1. Vegetation type (i.e., structure, species, etc)
2. Main uses of land and forest/tree products from area (e.g., farming, charcoal making, mushrooms, etc).
3. Users (men, women, children)
4. Key forest products

Slide 6

4. Woodland Mapping

- To identify resource units within woodlands; and discuss types of users, rules, and related changes.

1. Woodland resources were mapped with NRCs.
2. Delineated specific areas (resource units) of the woodlands by uses, products collected.
3. Recorded controls and regulations for each resource unit.
4. Discussion regarding change in resources, users and rules.

Slide 7

5. Focus Groups

- To compare differences in woodland use, values and change between high and low AIDS-impacted communities

Male/female groups conducted the following PRA methods:

1. Seasonal calendar and activity ranking
2. Contingency/Coping strategy matrix ranking
3. Use of forest and tree products
4. Map discussion
5. SWOT

Slide 8

6. Household Survey

- To explore the effect of adult morbidity and mortality on woodland livelihood activities
- Sample: Non-probability quota sample using social profile for selection of proxy HIV/AIDS-afflicted households
- Key indicators of woodland dependence:
  - Forest product collection trips
  - Perceptions of forest product values to household
  - Change in forest product collection

Slide 9

7. Herbalist Interviews

- To explore change in medicinal plant resources.

1. Identified AIDS-relate illnesses treated by MPs
2. Medicinal plants short-listed based on indicators of vulnerability
3. Indicators of scarcity over time for selected species
4. SWOT of medicinal plant management

Slide 10

8. Key Informant Interviews

A. Leadership of HIV/AIDS organizations (NGOs) and clinics

B. Natural resource committee members/Forestry staff

"HIV/AIDS and the Miombo Woodlands of Mozambique and Malawi – An Exploratory Study"

Part 2: Mozambique Case Study Findings: Almeida Sitoe, Department Head of Forestry, Eduardo Mondlane University

III. Case Study Findings

Mozambique

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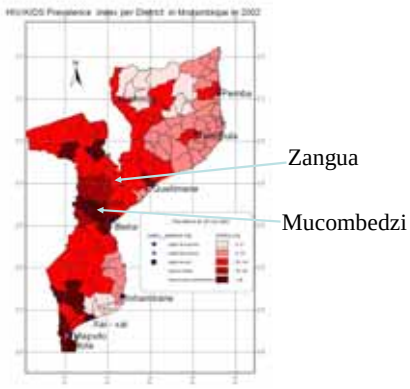
Study Sites



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Site Description

Tenure/ Management	High	Low
Customary	Mucombedzi (Nhamatanda)	
Concession		Zangua (Cheringoma)
HIV Prevalence (District Index)	29.5%	12.0%

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Sample

Community	Mucombedzi	Zangua	Total
Focus Groups	1	1	2
Households	12	12	24
Afflicted (proxy)	4	5	9
Herbalists	3	2	5

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Woodland activities as coping strategies: Mucombedzi

Problem	Safety nets						
	Wild foods	Help from neighbor	charc oal	wage	Mats	Potter y	Goats
Drought	2		1	3	4	5	6
Floods	2		1	3	4	5	6
Illness		1	5	3	4	6	2
Pest	5		1	2	4	6	3
Cyclones	2		1	3	5	6	4
Orphan		1			2	4	3
Uncontrol led fire	2	3	1	4	6	7	5
Uncontrol led sell of maize surpluses		2	3	1	5		4

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Woodland activities as coping strategies: Zangua

Problem	Safety nets						
	Goats and chicken	**Religious activities**	Medi plants	Wild foods	**Fishery**	wage	Family help
Drought				1			
Floods					2	1	
Illness	3	2	2				1
Death	4			3		2	1
Wild fires	4			3		2	1
Conflicting animals	2					1	

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Coping strategies in case of illness and death

(a) get help in cash or goods from the neighbor;

(b) hire labor from the neighbor;

(c) working within the community for wage;

(d) sell domestic animals such as chicken and goats;

(e) weaving mats constitute a coping strategy in both cases of illness and death

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Commercial forestry activities to buffer against shock

- Charcoal making, mushroom collection, honey collection, and carpentry, do not directly constitute a coping strategy in case of illness or death…
- …but provide food complement for households and an opportunity to increase income, which can also be used to cover unexpected expenses in time of crisis
- Forest activities are thus important in diversifying livelihood and buffer households against shock.

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Effect of Gender on Livelihoods

Male forestry activities	Female forestry activities
Agriculture*	Agriculture*
Collection of wild food plants*	Collection of wild food plants*
Wage labour*	Wage labour*
Carpentry, Wood carving	Firewood collection
Charcoal making	
Palm wine making	
Fishery	
Poles and bamboo	
Honey collection[1]	
Hunting	
Mushroom collection[1]	
Basket weaving[1]	
Common reed collection	
Collection of thatch grass	

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Impacts for Household

	Monogamous households	Polygamous households
Male is ill or dies	Change forest resource use Family disruption and orphans unattended	Change forest resource use Family disruption and large number of orphans unattended
Female is ill or dies	No change in forest resource use Family helps keep orphans	No change in forest resource use Family maintains stable

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Use of medicinal plants for HIV/AIDS related illnesses

•Medicinal plants are cheaper (USD35 per annum) compared to ARV (>USD70 per annum)

•Medicinal plants are collected from the nature without management

•Initiatives to grow medicinal plants are in their incipient phase

•No scientific-based information is available regarding dosage, plant mixture, side effects

•National policy on medicinal plants is in draft

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Impact of HIV/AIDS on woodlands

- Large quantities of medicinal plants have been collected by outsiders from nature without management
- The same causes that affect forest land degradation also contribute to HIV/AIDS prevalence, including:
  - Poverty
  - Population density
  - Proximity to towns

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Summary (1)

- Woodland activities and products reduce household vulnerability by providing:
  - Cash for medical treatment
  - Food complement
  - Medicinal plants for treatment of infections

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Summary (2)

- There are potential labour-saving woodland-based activities that can be undertaken by affected households to reduce the negative impacts:
  - Weaving mats
  - Collection of mushrooms
  - Beekeeping

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Summary (3)

- The impact of HIV/AIDS on household will depend on many issues including:
  - Gender of the infected member
  - Type of marriage (poly- or monogamous)
  - Existence of orphans and age
  - Household economy (forestry or agriculture)

"HIV/AIDS and the Miombo Woodlands of Mozambique and Malawi – An Exploratory Study"

Part 3: Malawi Case Study Findings: Dennis Kayambazinthu, Forest Research Institute of Malawi (FRIM)

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III. Case Study Findings

Malawi

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Malawi Case Study Findings

1. HIV/AIDS and Woodland Livelihood and Coping Strategies

2. HIV/AIDS and Woodland Degradation

3. HIV/AIDS and Species Scarcity

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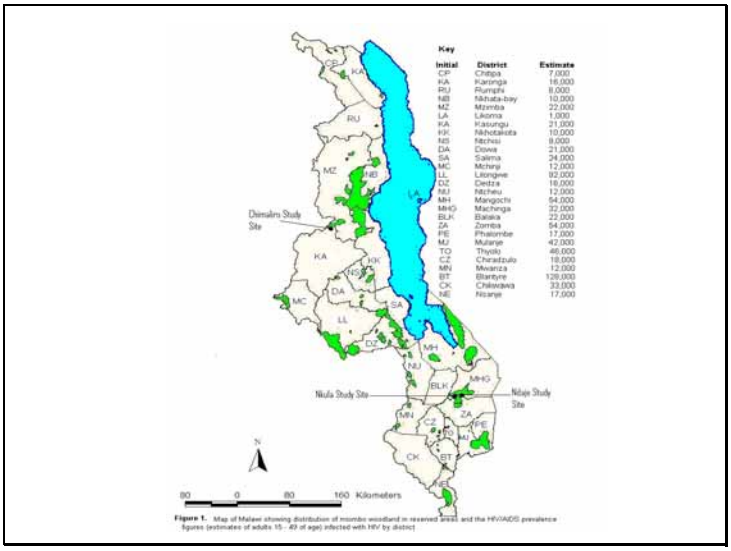

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Site Description

Woodland tenurial and access regime	**Incidence/Prevalence of HIV/Aids**	
	High	Low
State Forest (Reserve) under co-management	Ndaje, Liwonde Forest Reserve (Machinga District)	Chimaliro, Chimaliro Forest Reserve (Kasungu, District)
Customary	Nkula (Machinga District)	
HIV Prevalence (District Index)	17.0 %	6.7 %

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Sample

District	Machinga		Kasungu	
Community	Ndaje	Nkula	Chimaliro	Total
Focus Groups	3	2	2	5
Households	21	20	21	62
Afflicted (proxy)	11	9	9	29
Herbalists	7		6	13

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1. HIV/AIDS and Woodland Livelihood and Coping Strategies

- **The symptomatic stages of HIV/AIDS**
- **Post adult mortality**
  i. Effect on woodland livelihood activities
  ii. Woodland-based coping strategies

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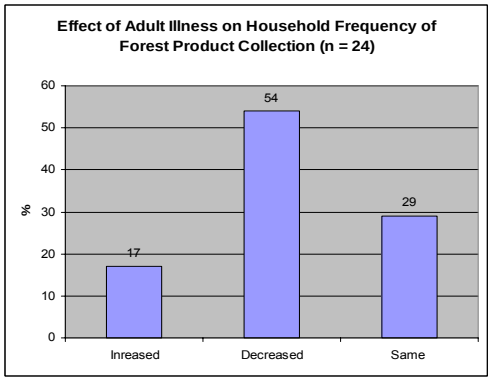
The symptomatic stages of HIV/AIDS

i. Effect of adult illness on woodland livelihood activities



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i. Effect on woodland livelihood activities

- **Prime-age adult (ages 15-49) illness and forest product collection**
  a. Majority (54 %): → reduced frequency (2 stopped altogether)
  b. 29 %: → no effect (assistance from children)
  c. 17 %: → increased

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ii. Woodland-based coping strategies (adult illness)

- Subsistence: Collect^{n}/use of medicinal plants, common, 1^{0} response (60 % reliance)
- Commercial: prod^{n} & sale of reed mats, collect^{n} and sale of f'wood, wild fruits and mushrooms (re: 17 % of h'holds) – pay medical bills & buy basic necessities

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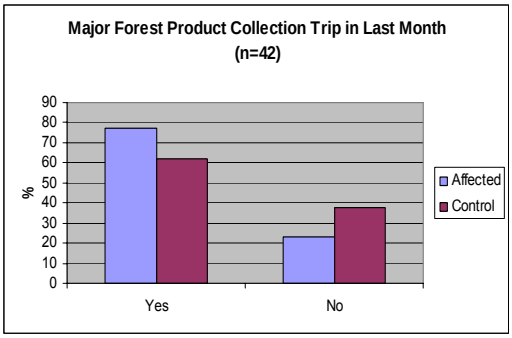
Adult mortality

i. Effect on woodland livelihood activities



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Woodland-based coping strategies

a. Major forest product collection trip or not (indicating h'hold dependence on w'land)
   - Affected, more likely to make a major trip (77 % comp. to 62 % not affected)
   - 23 % affected, no trip comp. to 38 % un-affected

   (Suggests affected h'holds more dependent on w'land)

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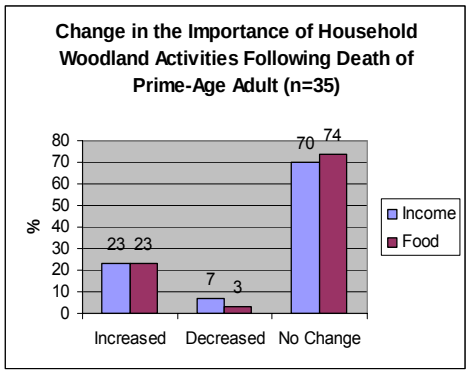
Adult mortality



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Woodland-based coping strategies

b. Increased importance in forest product collection for income (23 % of h'holds)

- more dependent on income from sales; activities req. f'wood as input)
- some, new entry into w'land activities
- 7 % of h'holds decreased activities: ill health of remaining h'hold head
- 70 % no change

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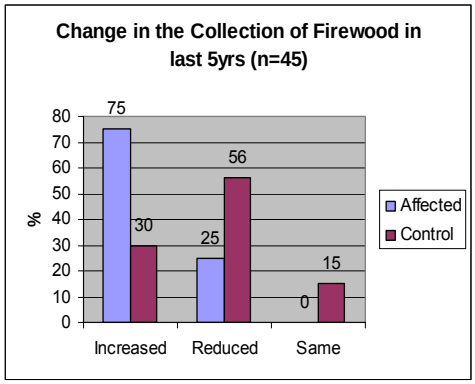
Adult mortality



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Woodland-based coping strategies

c. Affected households more likely to have increased collection of f'wood (last 5 yrs)

– 75 % of h'holds reported increase vs. 30 % of unaffected →↑ f'wood collect[n]: w'land-based IGAs

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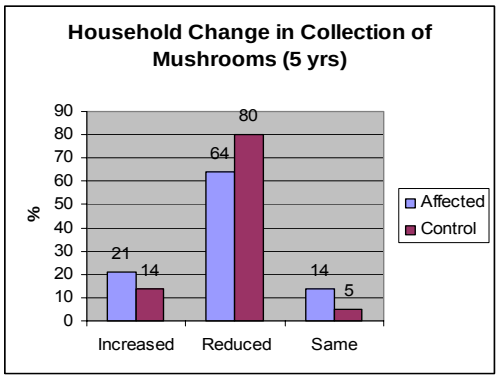
Post adult mortality



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Woodland-based coping strategies

d. Though 74 % of h'holds collecting mushrooms reported decreased collect^{n}, affected less likely than those not experiencing adult mortality (even when labour req^{nts} for collect^{n} ↑)

- reduced: increased site collect^{n} distances
- Ndaje FGD: scarce due to overexploit^{n}
- harvest^{g} niche trees for curios

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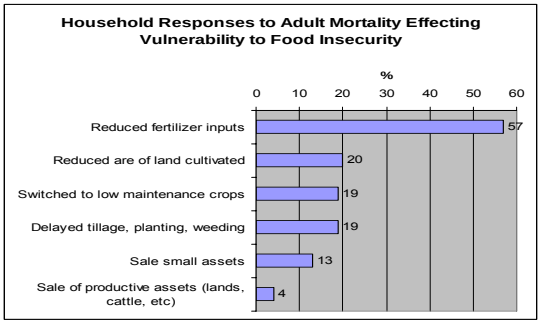
Woodland-based coping strategies

Findings: → W'land activities not only remain an impo. component of multiple l'hood strategies of h'holds affected by adult mortality, their importance appears to increase for a significant proportion.

Slide 50

Woodland-based coping strategies: response to future shocks



Slide 51

Woodland-based coping strategies: response to future shocks

- Prime-age adult mortality makes h'holds less resilient to future shocks
- Labour not prohibitive: traditional w'land coping strategies (e.g., collect^{n} of wild foods) will remain an option in resp. to other contingencies

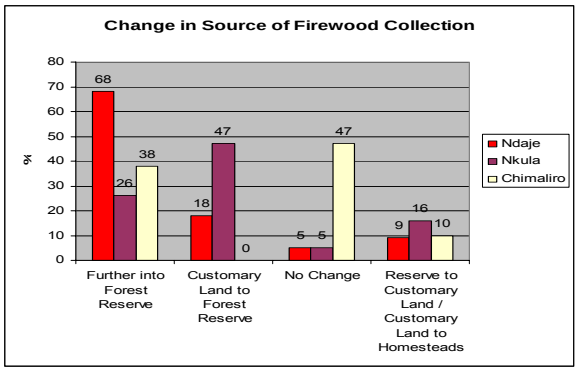
Slide 52

Woodland-based coping strategies: response to future shocks

- High HIV/AIDS prevalence areas (Ndaje, Machinga), FGDs → sale of f'wood occurs in resp. to all contingencies (i.e., pests, drought, and excessive rains) → most imp. safety net for coping with food insecurity & income generation problems.

Slide 53

2. AIDS and Woodland Degradation



Slide 54

AIDS and Woodland Degradation

- Quality of woodland resources appears to be negatively associated with high prevalence areas
  - Implications of firewood scarcity include the loss of income, increase in labor spent collecting, and the inability to cook certain foods.
  - 6% of households in the Malawi survey have skipped a meal due to the lack of firewood.

Slide 55

3. HIV/AIDS and Species Scarcity

- 10 out of 12 traditional healers → availability of medicinal plants decreased (last 10 yrs)
- 2 reported no change
- 10 reported illnesses and symptoms related to HIV/AIDS treated by use of medicinal plants

Slide 56

HIV/AIDS and Species Scarcity

HIV/AIDS-related illnesses and symptoms treated by use of medicinal plants, Machinga and Kasungu Districts, Malawi.	
Illness/symptom	Herbalists (n=13)
Diarrhea	12
Mouth and throat sores	9
Skin rashes	8
Fevers	7
Tuberculosis	4
Coughs	3
Other STDs apart from HIV/Aids	3
Headache	3
Shingles	2
Pneumonia	2

Slide 57

Species improving general strength, promoting healing and reducing pain	
Species Name	
Azanza garkeana	*Faidherbia albida*[2]
Pterocarpus angolensis	*Afzelia quanzensis*[3]
Flacourtia indica[1]	*Pseudolachnostylis maprounifolia*[4]
Markhamia acuminata	*Dichrostachys cinerea*
Burkea africana	*Strychnos innocua*
Erythrina abyssinica	*Antidesma vernosum*
	Cassia abbreviata.

[1] Pneumonia
[2] Diarrhoea
[3] Bilharzias; eye diseases
[4] Diarrhoea

Slide 58

HIV/AIDS and Species Scarcity

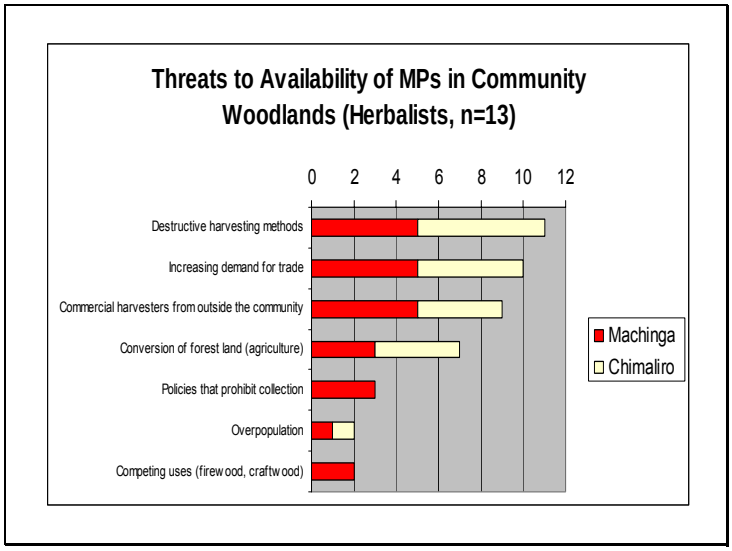
- Herbalists typically use a mixture of species, which in themselves can treat a number of ailments and not just one[1] [1] For example, “Chitimbe” *Bauhinia thonningii* bark infusion can act as a contraceptive, relieve inflammation, cure venereal diseases, rheumatism, etc.

Slide 59

HIV/AIDS and Species Scarcity

- Herbalists reported that the collection distance to 13 species has increased.
- Availability varies between the study sites, and within districts
- There are common major threats to woodland medicinal plant species as reported by herbalists in Machinga and Kasungu

Slide 60



Slide 61

HIV/AIDS and Species Scarcity

- Most common threats:
  - destructive harvesting methods (85% of the respondents)
  - commercial harvesting by users from outside of community (69%)
  - conversion of forest land (54%)
  - policies that prohibit collection (23%)
  - overpopulation, and competing uses (15%)

Slide 62

HIV/AIDS and Species Scarcity

- **Markets and supply side**
  - 62% of respondents claimed increased number of people collecting

    Reasons:

    - more illness in the community (demand)
    - need for income generating activities

Implications for sustainability of harvesting methods, management schemes.

Slide 63

Summary (1) - Morbidity

- Prime-age adult illness reduces the frequency of forest product collection
- Collection/use of medicinal plants is a primary response to illness
- Commercial woodland coping strategies are relied upon to pay medical bills & buy basic necessities

Slide 64

Summary (2) - Mortality

- Mortality predisposes afflicted households to increased dependence on woodlands
- Affected households are more likely to make a major forest product collection trip than the non-affected
- Affected households attach increased importance to forest product collection than the non-affected (for income and food).

Slide 65

Summary (2) - Mortality

- Prime-age adult mortality makes households less resilient to future shocks
- Traditional woodland coping strategies will remain an option in response to other contingencies
- In high HIV/AIDS prevalence areas, sale of f'wood is the most imp. safety net for coping with food insecurity & income generation problems.

Slide 66

Summary (3) - Degradation

- Quality of woodland resources appears to be negatively associated with high prevalence areas

Slide 67

Summary (4) - Scarcity

- Medicinal plants in general are becoming less available
- Medicinal plants are used in the treatment of at least 10 illnesses and symptoms related to HIV/AIDS
- The collection distance to medicinal species has increased.

Slide 68

Summary (4) - Scarcity

- Destructive harvesting methods, commercial harvesting by users from outside of community, conversion of forest land, policies that prohibit collection , overpopulation, and competing uses are the most common threats to availability of medicinal plants.

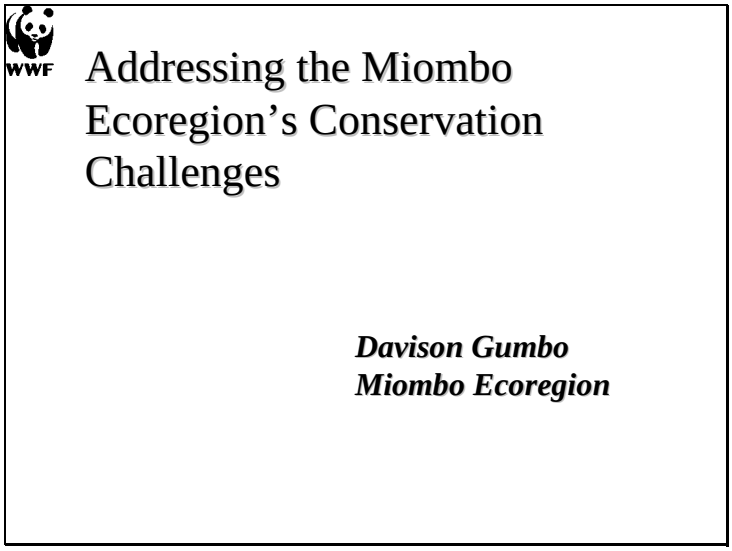
Slide 69

Summary (4) - Scarcity

- There is a growing number of men and women collecting medicinal plants for income generation

Presentation: "Addressing the Miombo Ecoregion's Conservation Challenges", Davison Gumbo, WWF

Slide 1



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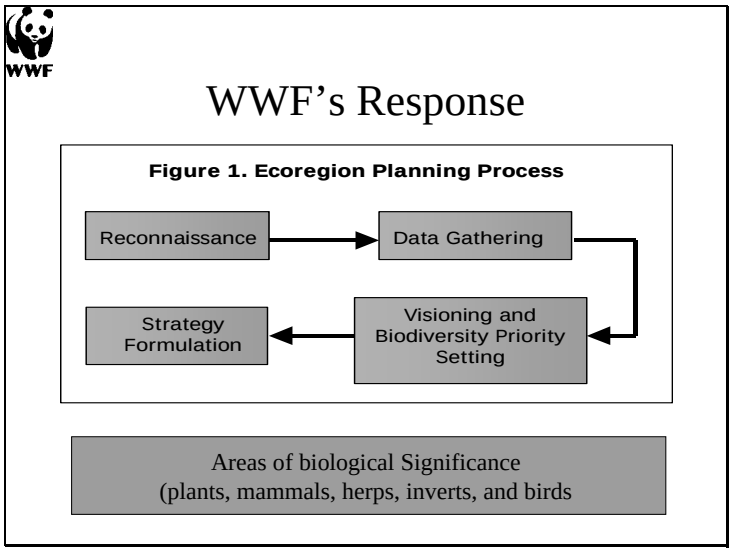


Slide 3

Categorization of Areas of Biological Significance

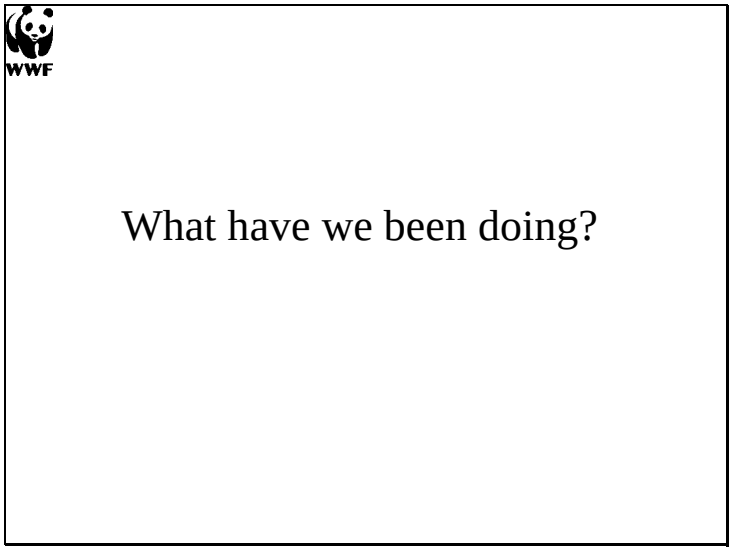
- 1st Tier (all 5 taxon groups)
  - 9 ABSs e.g., Upper Zambezi (Zambia/Angola; Selous Kilombero (Tanzania); Gorongoza (Moz)
- 2nd Tier (only 4 of the taxon groups)
  - 7 ABS e.g., Luangwa-Kasungu (Zambia/Malawi)
- 3rd tier (only 3 of taxon groups)
  - 6 ABSs e.g., Western Angola
- 4th Tier (only 2 taxon groups)
  - 3 ABSs e.g., Four Corners (Angola, Zim, Botswana
- 5th Tier (only 1 of taxon group)
  - 1 ABSs i.e., The Great Dyke

Slide 4

Conservation Outcomes

I. Diverse habitats and functional ecological processes maintained and in place
II. Species diversity and status maintained
III. Economic, social, cultural, and biological values of key landscapes enhanced
IV. Improved livelihoods established on the basis of sustainable natural resources management
V. Framework for the application of ecoregion concept developed and applied

Slide 5



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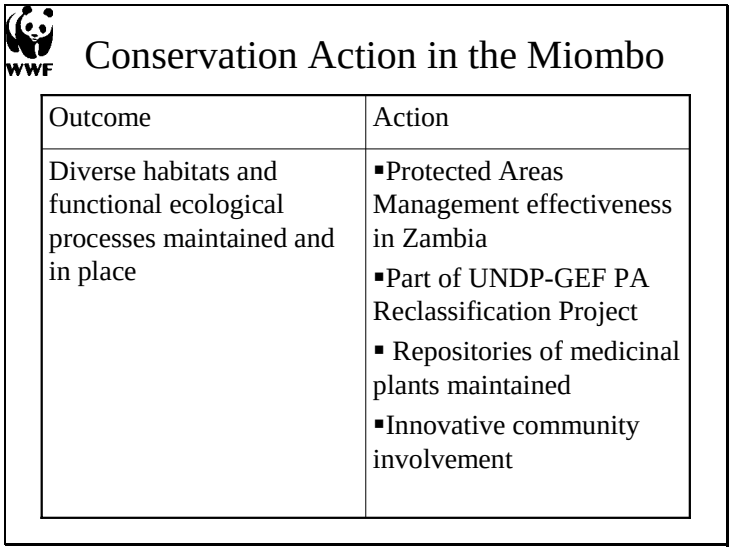


Slide 7

Conservation Action in the Miombo

Outcome	Action
Species diversity and status maintained	• Validation of areas of biological significance •Should this include key tree resources (e.g., Medicinal plants) •Conservation work in Bangweulu, Copperbelt, Shire ABSs

Slide 8

Conservation Action in the Miombo

Outcome	Action
Economic, social, cultural, and biological values of key landscapes enhanced	• Situation Analysis (SA) in Copperbelt, Kasungu, Selous Kilombero (Opportunities, Threats, tradeoffs for conservation) –HIV/AIDS Conservation strategies Focusing on alternative livelihoods, increased capabilities and income

Slide 9

Conservation Action in the Miombo

Outcome	Action
Improved livelihoods established on the basis of sustainable natural resources management	· Situation analysis • SA in Kasungu •Livelihoods diversified and improved (Bangweulu, Copperbelt, and Shire) •Can HIV/AIDS be addressed this way?

Slide 10

Conservation Action in the Miombo

Outcome	Action
Framework for the application of ecoregion concept developed and applied	• ABS working Groups established for Copperbelt and Bangweulu •National Working Groups established for Zambia, Malawi and Tanzania •Adequate or complimentary framework for addressing HIV/AIDS?

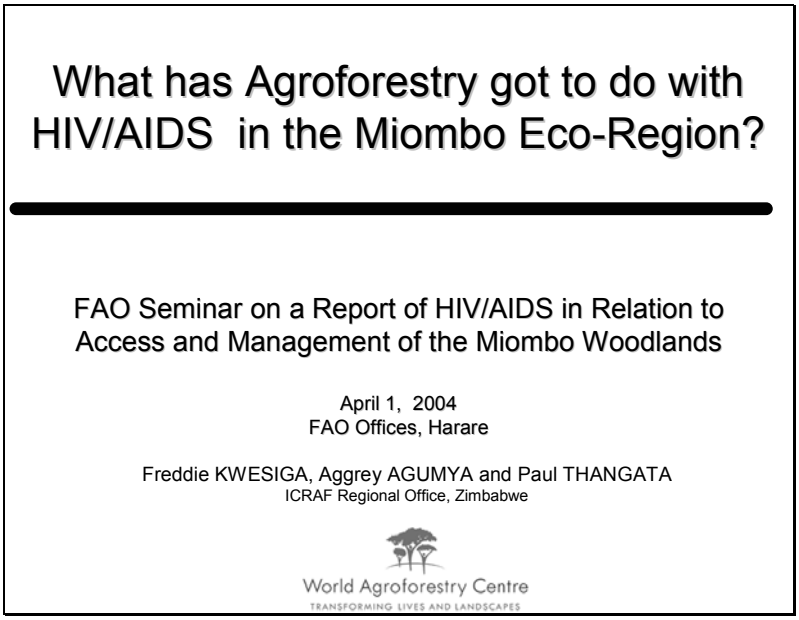
Slide 11

Implications of Conservation Initiative

- Develop an ABS-led conservation strategy to be replicated across region
- Potential to coalesce diverse groups of public and private sector partners around “conservation and HIV/AIDS” - NWG
- Amplify linkages within and among biodiversity, HIV/AIDS, and livelihoods
- Influence environmentally UN-friendly poverty reduction strategies e.g., PRSPs

Presentation: "What has Agroforestry got to do with HIV/AIDS in the Miombo Ecoregion?" Paul Thangata, ICRAF

Slide 1



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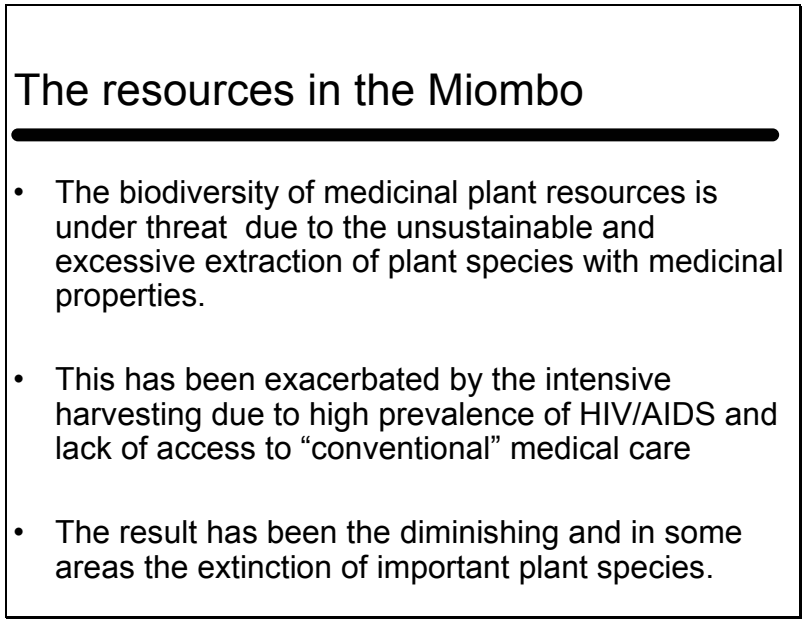


Slide 3

Impact of HIV/AIDS on Small-scale Agriculture

- Age group most vulnerable to infection (15-49 years) constitutes main body of labour force
- Loss of on-farm & off-farm labour leads to decline in productivity and reduced diversity of crops.
- Decline in household income; loss of assets, savings and remittances

Picture not Available

Slide 4

Impact on Extension and Research Services

- Very severe. ICRAF needs to re-examine scaling up strategies , we may have to train a new cadre to be holistic.
- Replacement of highly skilled/trained personnel (research & extension) is more difficult .
- Transmission of skills & knowledge (vertical & horizontal) of agricultural practices adversely affected

Slide 5

Gender and HIV/AIDS

- SSA agriculture is heavily dependent on women's labour.
- Women in SSA are disproportionately affected by AIDS compared to men (SAfAIDS 2000).
- The impact of the illness is more pronounced in FHHs especially after the death of an adult male (Thangata, 2002).
- Reducing food consumption requirements is the best option in FHH. –i.e. a 30% reduction in the eating habits (Thangata, 2002).

Slide 6

Gender and HIV/AIDS .. Cont'd…

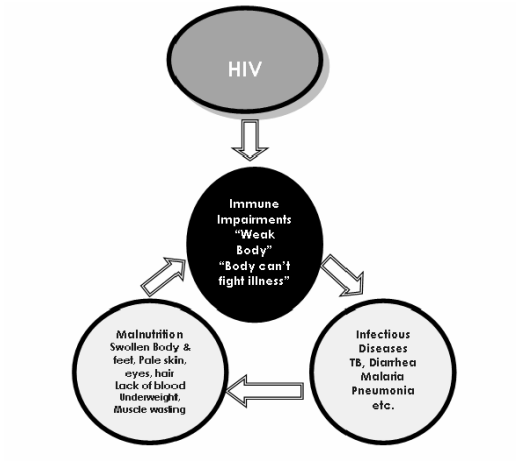
- Women are the primary care-givers for the sick; they divert their productive labour time to caring for the sick (UNAIDS 1999).
- There is also a relationship between poverty and HIV/AIDS:
- >>>Most of the poorest households in S. Africa are FHH

..... it is therefore imperative that HIV/AIDS research and development encapsulate the gender dimension.....

Slide 7

Relationship Between HIV/AIDS and Nutrition

SOURCE: Food and Nutrition Technical Assistance Project Academy for Educational Development Washington D.C.



Slide 8

Why is Nutrition Important in HIV/AIDS Programmes? (source: FAO, Dr. Wilfred Kisungu-KEMRI)

Good nutrition means getting enough MACRONUTRIENTS and MICRONUTRIENTS

Macronutrients contain calories (ENERGY) PROTEIN, CARBOHYDRATES and FATS. They help to maintain body weight.

Micronutrients include VITAMINS and MINERALS. These keep the body cells working properly but will not prevent weight loss.

Slide 9

Agroforestry options to Mitigate the Impact of HIV/AIDS

Slide 10

Increases food security by improving crop yields

- ARVs do not work on an empty stomach

Picture not Available

Slide 11

Improves nutrition by increasing availability of food, fruits and cash to buy special foods

Picture not Available

Slide 12

Medicinal plants

- 80% of the world population still use medicinal plants/herbal medicine (WHO)

Slide 13

The Multipurpose-Nature of Agroforestry Technologies/ Species

What ICRAF is doing/intends to do?

Slide 14

Medicinal plant propagation

1. Identify medicinal trees and plants that treat opportunistic infections and boost the immune system
2. Conservation of these species -getting extinct due to haphazard harvesting..HIV/AIDS??
3. Propagation & multiplication: knowledge and skills about medicinal species threatened by exploitation
4. Promoting cultivation of these medicinal tree species in smallholder agroecosystems

---*Azadirachta indica (neem) has been found to stimulate antibody production in mice (Njiro, 2000)*-----

Slide 15

Other AF trees & shrubs used as medicinal plants (source: Bethwell, 2001)

Scientific name	Part of plant used	Ailment cured
Tithonia diversiflora	Leaf	Stomach ache, malaria, antidote for snakebite
Tephrosia vogelii	Crushed leaves	Used for washing livestock
Senna siamea	Bark and root	Gastrointestinal complications, gonorrhoea
Eucalyptus camaldulensis	Crushed leaves	Inhaled as decongestant for flu, colds, throat infections
Sesbania sesban	Crushed leaves	Used for jaundice/yellow fever, persistent hiccups, skin lashes, dementia
Markhamia lutea	Crushed leaves	Eye injury, used as purgative, body pains

Slide 16

Crotalaria spp: Multiples uses (source: DFID)

- N-fixing, used for green manure,
- Livestock fodder, seeds fed to poultry
- Used as a vegetable (only C. brevidens, C. natalitia, C. ochroleuca are used as vegetables in Southern Africa)
- Luo people use as medicine for stomach pains
- Used to promote germination of Striga,(striga dies due to lack of host plant)
- Suppreses Meloidogyne nematodes
- Seeds can be used as an insect repellant

Picture not Available

Slide 17

Colotalaria brevidens: Nutrition

(source: FAO, Dr. Wilfred Kisungu-KEMRI)

- Beta carotene-

- Strengthens mucus membrane, thus prevents ulcers, cancers and oral/erosion.

-Strengthens the walls of the breathing system, thus minimizing respiratory infections

- Vitamin C - Improves blood circulation and promotes would healing
- Iron- Important element against anaemia
- Calcium
- Protein

Slide 18

Indigenous vegetable: *Bidens pilosa* (Black jack)- Multiple uses (source: DFID)

- Easily stored
- Anti-bacterial properties
- Extract from leaves is used to treat swollen spleens in children
- Used as an insecticide

Picture not Available

Slide 19

Support women: Multiple use home gardens

- Indigenous/ exotic vegetable production
- Medicinal plants and herbs

>>>>Link these to smallscale irrigation>>>>>>

Picture not Available

Slide 20

Processing of important indigenous fruits in Malawi, Tanzania, Zambia and Zimbabwe (Source: Kadzere et al., 1998)

No.	Scientific name	SOME CATEGORIES OF PROCESSING OF PRODUCTS FROM INDIGENOUS FRUITS						
		Dried	Jam	Juice	Alcoholic Drink	Powder	Porridge	Nut, oil extraction
1.	*Uapaca kirkiana*		Malawi		Malawi, Zambia, Zimbabwe			
2.	*Parinari curatellifolia*	ALL	Zimbabwe	ALL	ALL	Zimbabwe Malawi, Tanzania, Zimbabwe	ALL	Malawi, Zambia, Zimbabwe
3.	*Strychnos cocculoides*			Malawi, Zimbabwe	Malawi	Zimbabwe	Zambia, Zimbabwe	
4.	*Azanza garckeana*	Zimbabwe	Zimbabwe	Zimbabwe				
5.	*Flacourtia indica*		Zimbabwe					
6.	*Strychnos pungens*				Zimbabwe		Zimbabwe	
7.	*Strychnos spinosa*						Zimbabwe	
8.	*Ximenia americana*	Zambia	Zambia					
9.	*Syzigium owariense*				Malawi			
10.	*Syzygium spp.*	Zambia	Zambia	Zimbabwe	Zambia, Zimbabwe			
11.	*Vitex mombassae*			Tanzania				

ALL = Malawi, Tanzania, Zambia and Zimbabwe

Slide 21

The Multipurpose-Nature of Agroforestry Species:
Market potential

The example of *Cucumis metuliferus*: Kiwano (mugaka, nkhaka)

>>>>A source of income for rural households and hence no need to sell assets when a family member is sick or later dies>>>>>

Slide 22

Cucumis metuliferus: Kiwano (mugaka, nkhaka)

•Common in southern Africa

• Introduced to Australia and New Zealand in the 1920s

Picture not Available

• Ready market: Grown as a speciality crop in Japan, Israel and California; Kenya exports to Europe

Slide 23

Calliandra calothyrsus: Fodder Banks

Picture not Available

..more quality milk...good nutrition.....

Discussion

The discussions during the seminar were useful both in terms of improving the finalization of the study report and in developing further HIV/AIDS programming concepts in the forest and environment sectors.

Mr Aubrey Harris, Sub-Regional FAO Representative, opened the meeting. He welcomed the participants and stressed the importance of AIDS and its impact on miombo woodlands in view of its high prevalence in the region. He outlined the objectives of the meeting, which were to report on the methodology and results of the case studies in Malawi and Mozambique, draw lessons and discuss the way forward.

The morning session was chaired by Mr Yekeye, Executive Director of the National AIDS Council of Zimbabwe. Mr Yekeye made a presentation on the situation of AIDS and on the Zimbabwe National AIDS Council. The Council was established by an Act of Parliament and is overseen by a multi-sectoral board. In Zimbabwe AIDS workplace programmes are currently developed for large public employers and provision is also made for the large private sector companies. Depending on the statistics the prevalence of AIDS in Zimbabwe varies from 25 to 33 per cent but it is safe to say that it is very high. Since the infected persons are very mobile in the region, it is important to note that initiatives are needed not only at the national but also at the regional level.

Ms Christine Holding Anyonge then made a presentation on HIV/AIDS food security and rural development programmes at FAO, in general, and within the Forestry Department in particular. Ms Holding Anyonge began by briefly describing some of the key interfaces between the forest sector and HIV/AIDS followed by descriptions of the types of response that FAO is developing with national forest departments and forest extension providers. One of the fundamental themes is to focus activities on sustaining the role of trees, woodlands and forests in providing an economic and social safety net when the opportunities to farm are limited and cash is scarce. Forest sector responses also offer the potential to save time and labour of affected households. A close analysis of prevailing agroforestry and production systems in areas that are strongly affected by HIV/AIDS reveals several labour efficient agroforestry alternatives that would maintain the capital of the soil and production for the land during a generation of low labour availability. As actions within the forest and environment sector should start with capacity building of local institutions, both formal and informal, FAO is taking steps to integrate consideration of HIV/AIDS into its forest education strategy and its support to participatory curriculum development. Following the presentation, it was suggested that FAO/Forestry prepare a regional approach to AIDS and its influence on the forest sector.

The introduction to FAO/Forestry's current activities with regard to HIV/AIDS programming was followed by the presentation of the study methodologies by Mr Marc Barany (consultant). Units of analysis for which the methods were designed to explore include communities, households and medicinal plant species. The former were selected through the use of a matrix combining woodland tenure and HIV prevalence. Woodland transects and mapping exercises carried out by both community woodland management and focus groups were designed to measure changes in woodland cover, use and policies (informal and formal) and comparison between communities of varying HIV prevalence and tenure. At the household level, surveys were conducted to measure household use of miombo woodlands and changes resulting from deaths and illness of prime-age adults. A non-probability quota sample was drawn as an efficient means of sampling potentially AIDS-affected households in sufficient numbers. Indicators of these proxy households included morbidity and mortality of prime-age adults, as well as demographic loading and household composition. A question was raised regarding the validity of these sampling methods and indicators and the rationale for using this methodology was explained[2]. Through these methods it is not possible at present to separate mortality caused only by HIV/AIDS, but given the HIV prevalence it is possible to infer that high mortality is caused in good part by the effect of HIV. Another limitation to the study involved the sample sizes, as statistical value of the results is constrained. Nonetheless the methodologies were deemed sufficient for the exploratory nature of the study, justifying development of strategic themes, signalling the relevancy of continued investments in

[2] Primarily the lack of knowledge of HIV status, the bias associated with households knowing HIV status by having accessed testing, and logistical constraints limiting resources available for larger sample sizes determined the need for methods to rapidly identify and recruit proxy households. Further studies with statistical analysis should be conducted to determine the validity and reliability of these methods as they are suited to the realities of forest extensionists and are well suited in this application.

research, and providing a model for further needs assessment of these populations appropriate to the field working environment of forestry institutions. The third unit of analysis – medicinal plant species – involved collecting data on indicators of scarcity and inventory changes in populations of species used in treating HIV/AIDS-related illnesses from surveys of traditional healers.

Consultants Dr Sitoe and Dr Kayambanzinthu then made presentations on the Mozambique and Malawi studies, respectively. Methodologies varied amongst the two country studies; however, some noteworthy patterns emerged with regard to the role of forest resources in affected household responses. Commercial woodland activities appeared to help as a buffer against the immediate impacts of health expenses and productivity losses. Firewood in particular is an important source of revenue and can be used by many households as a safety net, as are other commercial products like carpentry and honey production, for instance.

Except for medicinal plants, subsistence woodland activities in general are not considered important for coping with the *immediate* impact of illness. This is because illness is unlike other shocks where the entire community is affected (e.g. drought) in that other safety nets are available (i.e. social). Regardless of previous levels of household dependence on woodland activities, the erosion of household assets and increased vulnerability resulting from prolonged illness and eventual death of prime-age household members leads to increased dependence on both subsistence and commercial woodland activities for livelihood and coping strategies.

Medicinal plants are an important element of the studies. They show that they play an important role, being used by herbalists and healers. Their inventories seem to diminish in association with the prevalence of HIV and AIDS; there is also a large demand by outside markets. In Malawi, in particular, demand for traditional medicine and reliance on commercial woodland activities resulting from livelihood changes because of HIV/AIDS appear to be having an impact on decreasing woodland inventories of medicinal plants used in treating HIV/AIDS-related illnesses. Areas with higher HIV prevalence rates are also experiencing more rapid declines in the quality of woodlands and decreasing availability of forest products than areas with lower prevalence. While this association cannot be explained as a cause and effect, nonetheless this deterioration in woodlands is aggravating the labour constraints of affected households and threatening rural coping strategies.

While some conclusions could be regionalized, many were quite site specific. In the case of Mozambique, for example, it was found that the death of a male prime-age adult was more disruptive to a household than the death of a prime-age female. It was stated that this is a very specific patrilineal situation quite different from other cases in Malawi or elsewhere, where the household is severely disrupted by the death of the female head of the household. It was also difficult to single out concrete and distinct communities because in a typical situation there is much interaction outside the community and others come into the community. This is also often observed in relationship with the management and use of the miombo resource.

Presentation of the studies was followed by a brief discussion of some possible strategy ideas to maintain the availability and accessibility of miombo woodlands as a safety net. The issue of expanding areas under plantations of exotics and local species was unanimously supported as woodlots and block plantations around forest reserves. An important discussion occurred around the co-management of forests by communities with the forest authorities. While examples show that results may vary, for lack of management alternatives, this approach is perceived as promising in many instances. However, a compendium of the principles that should be followed to establish co-management would be needed, while models specific to the social, economical and ecological situations should be developed. It was also suggested that FAO could undertake a review of existing documentation of medicinal plants in the region and prepare a document to inform stakeholders on the issue. Potential collaborators were identified, such as the LINKs programme, as its focus involves the documentation of indigenous knowledge as it relates to use of miombo woodlands among other ecosystems in the region.

The afternoon session was chaired by Dr Kowero, CIFOR Regional Coordinator for Southern Africa. The first presentation of the afternoon session was made by Dr Davison Gumbo on behalf of WWF Southern Africa. WWF proposed to use its present ecological programme and, if funds are available, to include HIV/AIDS elements to improve its efficiency. It was also stated that while there is much international sensitization and funds available for HIV/AIDS, national governments must also be convinced to invest more in the prevention and care of HIV/AIDS. Dr Gumbo also stressed that efforts

must concentrate on the local level – districts and lower – because at these levels the capacity to undertake such work is low. Training must also be part of the resources transferred to augment the local capacity. On the issue of training it was mentioned that the present situation is a disaster for Africa, which is losing many of its best foresters. It is thus important that at regional and national levels training programmes take into consideration the need to train local forest extension experts, technical and engineering staff in order to supply the nations with much needed specialists who are becoming rarer due to diseases and death. Forestry training curricula will need to include social aspects with HIV/AIDS components or alternatively must be accessible by forestry students in other faculties.

The second presentation of the afternoon was made by Dr Paul Thangata, ICRAF Regional Office for Southern Africa, Harare. On the question of whether agroforestry technologies are less labour intensive, it was stated that no formal research has yet been conducted, but that green manure production seems to be a good option for households with limited manpower. Also, it was noted that when considering the contribution of agroforestry to the AIDS-stricken communities, it must be remembered that interventions are not only about planting trees but also about maintaining already existing traditional agroforestry systems that are dependent on indigenous knowledge transferred through generations. Finally, even if it is not yet practised in Africa, the use of funds coming from sources paying for carbon sinks could support plantations, woodlots and maintenance of forests in the future – indirectly supporting forest-based coping strategies in HIV/AIDS impacted regions.

Following the presentations, a summarization of the main themes originating from the day's discussions was made by Mr Michel Laverdiere, Forestry Conservation Officer, FAO, Harare. Key points included:

1. Due to the high human mobility within and outside countries, there is a need to develop a regional dimension to any programme to assist in HIV/AIDS in forestry.
2. Any initiative on HIV/AIDS in forestry must be inter-sectoral, not isolated.
3. Forests are very important as a source of medicinal plants and this type of information should be compiled and made available at national and local levels.
4. Commercial forest products (e.g. honey, fuelwood, etc.) are very important as they can play a role as safety nets and facilitate coping mechanisms by AIDS-affected households.
5. Many findings on AIDS vs. miombo by the present studies are sub-national or site specific. The extrapolation of the conclusions and use of the methodology should take this into account.
6. In forest/tree poor areas, the establishment of forest plantations and woodlots as buffers around forest reserves should be encouraged
7. Co-management of forests with and by communities is a promising approach but that must be adapted to the specific target social groups.
8. Partner organizations like WWF, ICRAF, IUCN and many others are encouraged to include HIV/AIDS issues in their ongoing programmes in miombo conservation. Extra funds will be necessary and this will require new original approaches such as carbon crediting.
9. Training is essential, especially at the farmer and district levels, but also for young forest engineers and the whole technician cadre. It must be well planned and increased in order to mitigate the long-term nefarious effects of the disappearance of accumulated knowledge in forestry. Women should benefit from a more equitable share of capacity building resources.

To close the day's events, a final session was held to give participants the opportunity to identify ways in which FAO could support regional forest departments in their efforts to manage forest resources and respond to HIV/AIDS. As strategies in response to HIV/AIDS should not replace, but compliment, current strategic planning, the recommended interventions and policy initiatives that follow draw from existing forestry options within the three main thematic groups – management of natural woodland resources, farm forestry and forest product markets. These strategies are operational at three levels – national (policy), agency and local. Strategies recommended by the national and regional representatives of organizations present at the meeting included:

1. Local level (village institutions)
    a. Institution building and alleviation of constraints faced by community civic groups will improve community management of forest resources.
    b. Increasing capacity in leadership, organization, technical skills and gender considerations.
    c. Establishing official entry points within communities to facilitate their collaboration and mobilization.
    d. Initiating more market development processes.

e. Documentation and use of indigenous knowledge
f. Participatory planning is recommended as the best approach to gain results in preparing and implementing community forest management plans
g. Establishing management plans for medicinal plants with and by the communities.

2. Agencies (government departments, technical training establishments, etc.)
    a. Adapting education institutions to the needs of local communities and fostering progressive approaches to education in the context of HIV/AIDS.
    b. Developing market structures to facilitate market access of communities and to commercialize their forest products.
    c. Coordination with the private sector, especially large forestry companies that have already developed strategies to cope with AIDS for their employees.
    d. Facilitating coordination among institutions through the National AIDS Councils.

3. National (policy)
    a. Comprehensively assessing how the HIV/AIDS epidemic affects the forestry sector and the existing capacities to respond.
    b. Decentralization must be accelerated with government support of policy and coordination.
    c. Fostering partnerships that are needed to access the available financial resources.
    d. Determining how development of approaches and strategies can be implemented at regional level.

At all levels, these strategies may be implemented within the context of forest-based needs of HIV/AIDS-affected households and communities.

The studies conducted in Mozambique and Malawi revealed that indeed direct linkages exist between the HIV/AIDS epidemic and miombo woodlands, particularly with respect to how affected households and communities adapt their livelihood strategies to cope with the immediate and longer-term socio-economic impacts. Additionally, the study revealed that such relationships extend beyond households and communities, affecting and being affected by the ecological and political landscapes of the miombo woodland ecoregion. At the same time, these relationships are shaped by complex realities that are as diverse as the cultures, economies and geographies of the region. While some general policies can be integrated into planning efforts, the types of technical strategies, their targeting and the timing of their implementation will vary across relatively small distances. This will require a broad understanding of the nexus between HIV/AIDS and forestry, and will need to be accompanied by capacities for dovetailing overlapping concerns into local needs assessments.

While the framework and methodologies developed in the study offer a model for identifying the entry points for integrated HIV/AIDS and forest programming, development of the sector's response will ultimately require an ongoing process to improve and build on existing forestry planning and extension models. Training and education are at the centre of such an effort. To maintain the dialogue, and expand participation, it was decided to establish an on-line format for communication of experiences, lessons learned and needs among practitioners targeting HIV/AIDS populations, and those forestry/natural resource entities working in heavily impacted regions[3]. Additionally, it was suggested that the issue be revisited in the near future, by holding a regional meeting specifically on the subject of HIV/AIDS and forest education. In conclusion, the consultative group felt that the focus of efforts should be on the urgency of addressing problems at grassroots levels and within agencies and service providers that work in communities, and not to generate another group of professionals who only circulate information amongst themselves. It is the intention of the participants that these proceedings offer a useful means towards this end.

[3] A forum has since been developed and is available at www.fao.org/forestry/site/21327/en

List of participants

The seminar was well attended including representation from forestry departments (or affiliated Southern African Development Community programmes, SADC) from several countries in the region (Zimbabwe, Malawi, Mozambique, Tanzania, Zambia) that represented cross cutting perspectives on forest education, extension, policy and research. Regional offices of NGOs present were represented by nationals from Uganda, Tanzania and Kenya.

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