



# Drought Risk Management and Adaptation Experiences from Community Level Upwards Namibia

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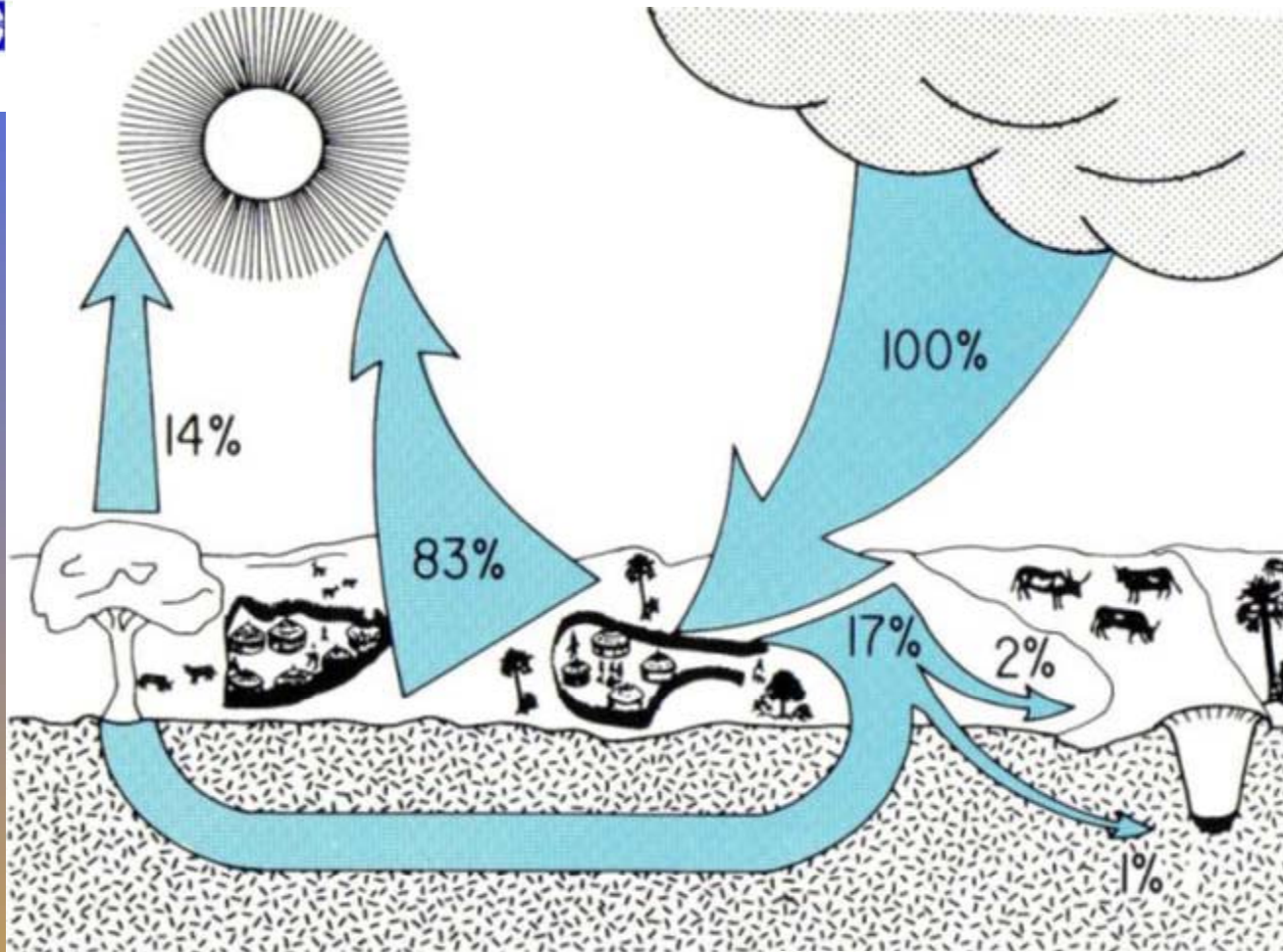


Africa-Asia Drought Adaptation Forum  
Bangkok, June 14-15 2011

# Contents of presentation

- Situation
- Adaptation
- Population drivers
- Communication platforms

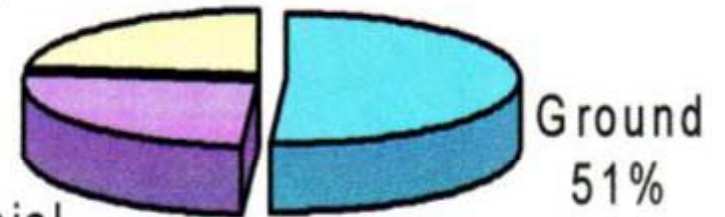




## Arid water cycle

Ephemeral  
23%

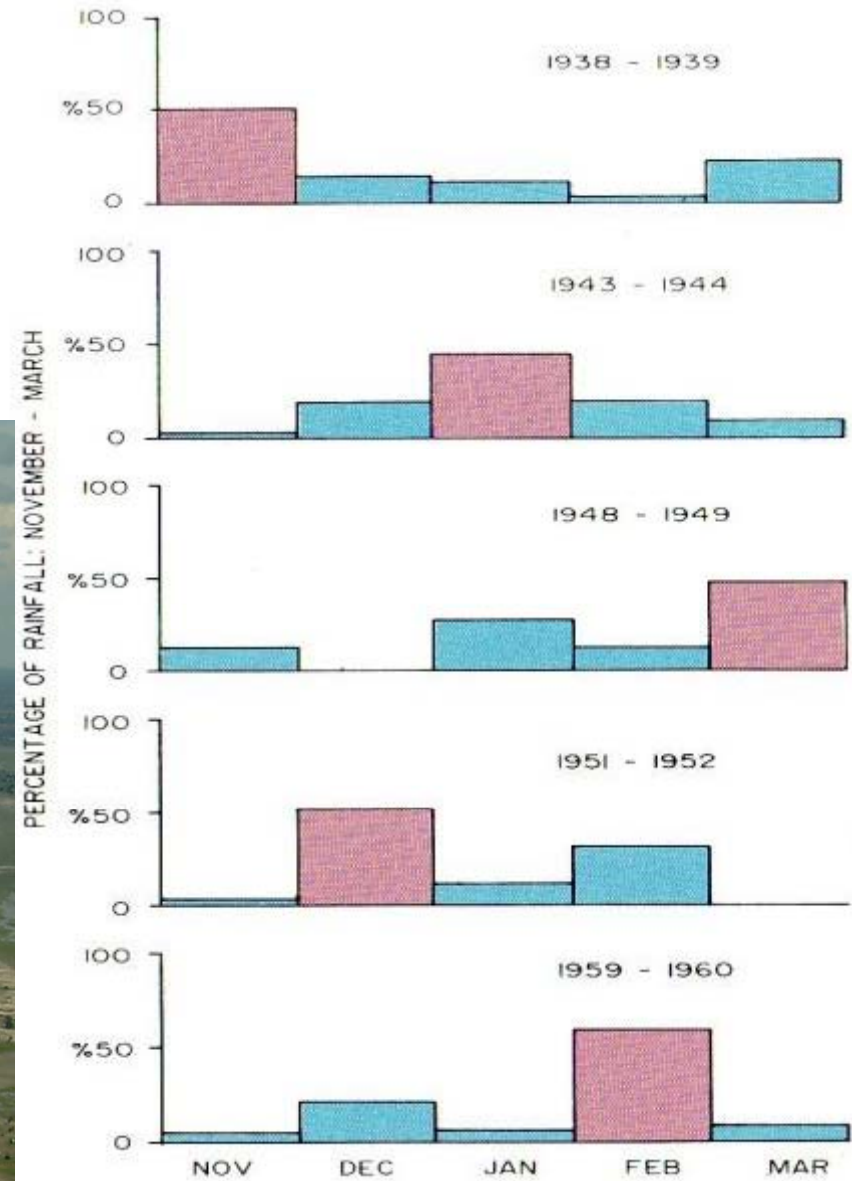
Perennial  
26%

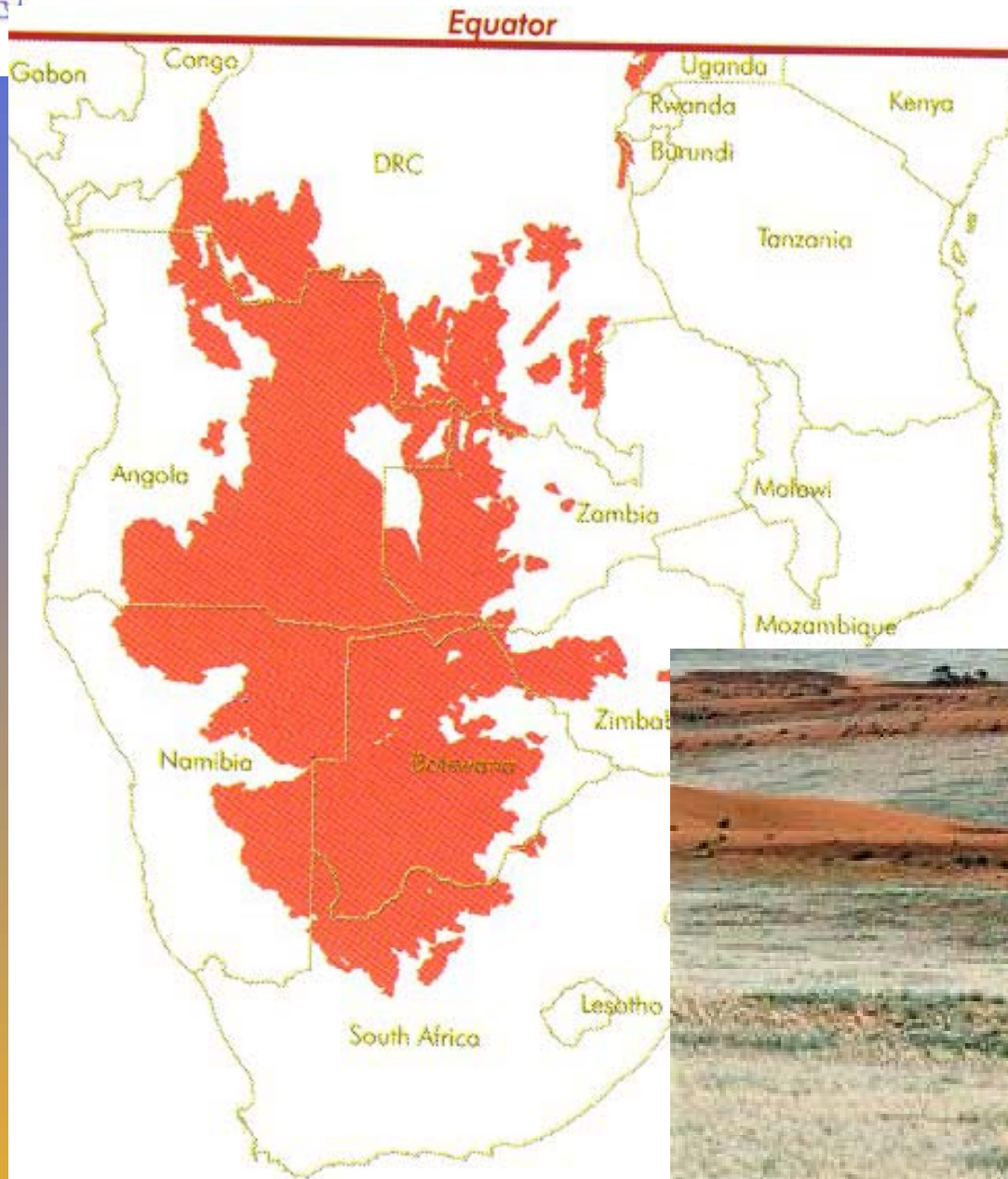






# Monthly rainfall variation





# The Kalahari Basin





## **Social issues exacerbating adaptation**

- **Poverty limits ability to adapt**
- **Knowledge gaps and limited capacity**
- **Multi-stressed systems confound ability to adapt**





## Example of a multi-stressed system

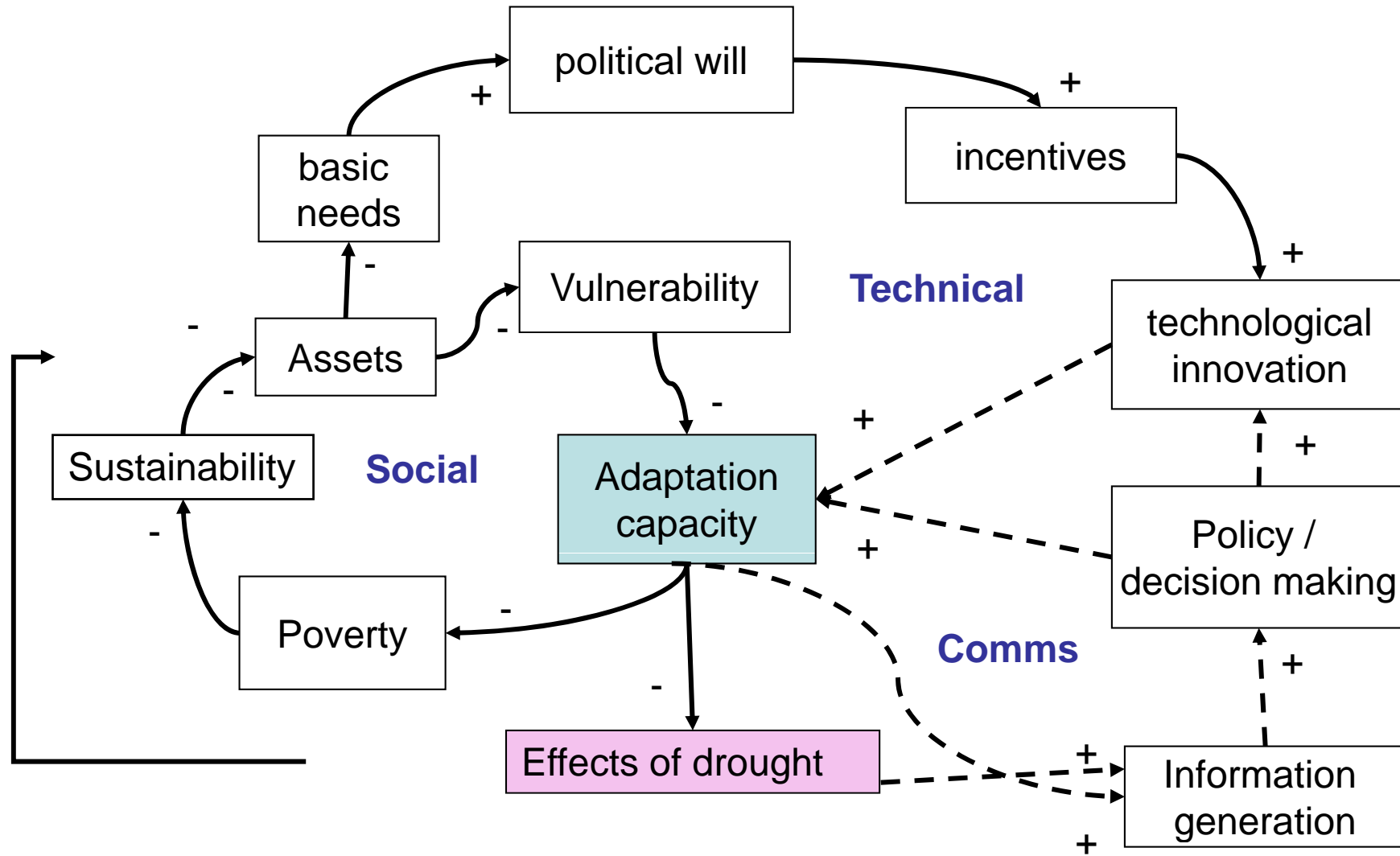
Day-to-day concerns:

- paying school fees
- HIV/AIDS
- alcohol abuse
- employment
- paying water bills
- maintaining livestock
- finding fuel wood
- rainfall for crops and grazing
- 'drought'
- flooding
- transport to the clinic
- security at pension payouts





## Adaptation works: drivers of positive change





# Situation on the ground

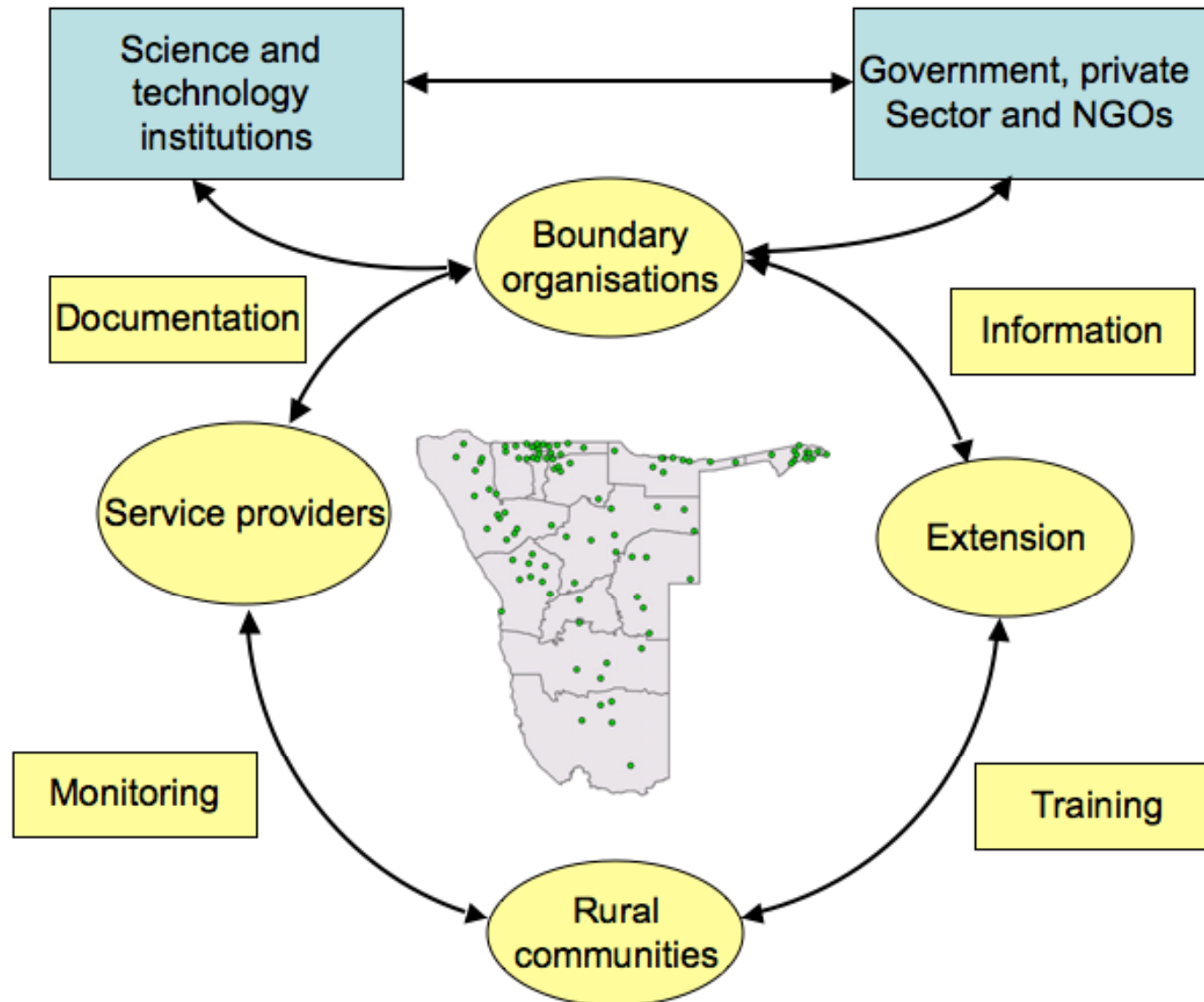
- Experience has shown:
  - Adaption depends on action from grass roots upwards
  - Communities, government institutions, researchers, development agents and policy makers need to communicate
  - There is usually no mutual platform







# Information Networking Systems for Adaptation



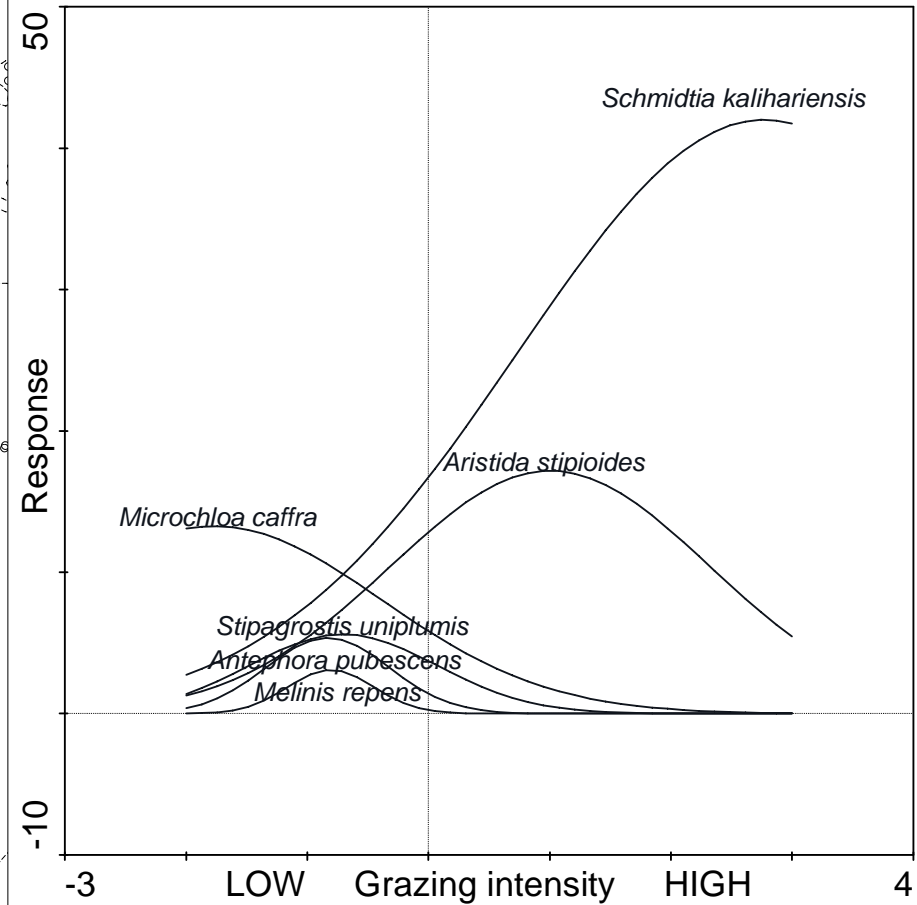
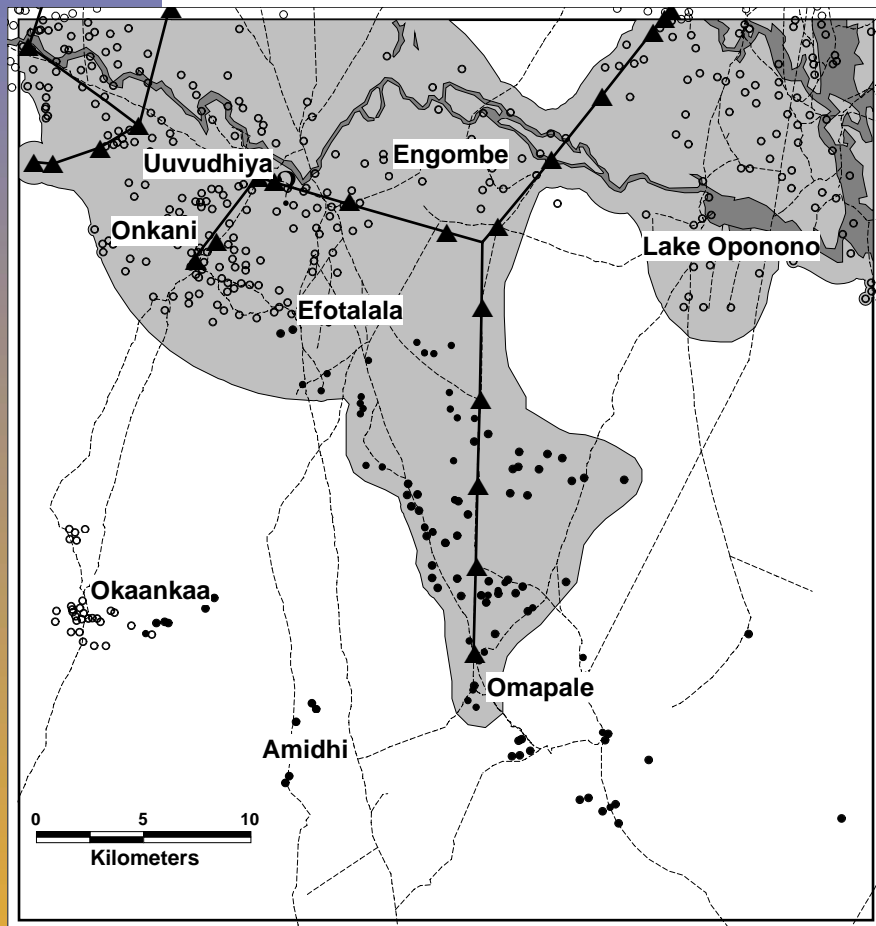
# Boundary Organisations

- Learning organisations
- Interface amongst:
  - Policy makers
  - Service providers
  - Land users
  - Researchers
  - Development agents



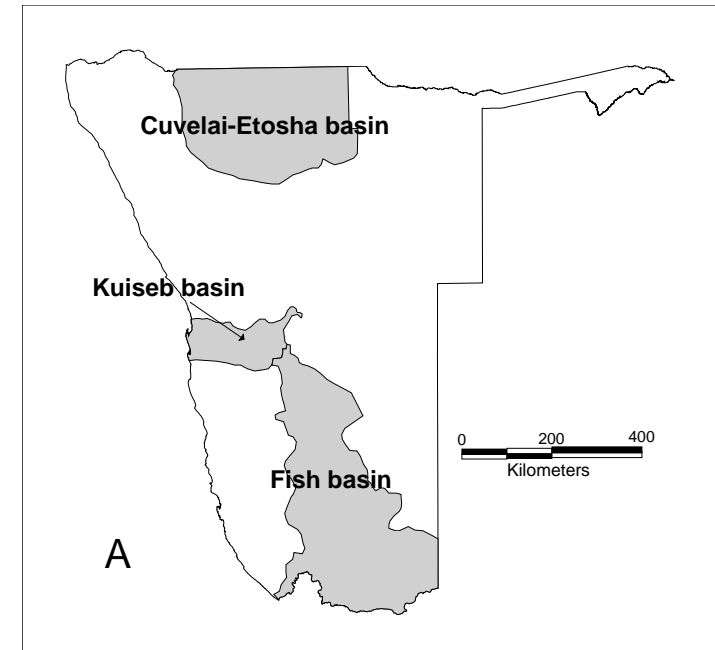


# Integrating indigenous knowledge with conventional science



# Basin Management

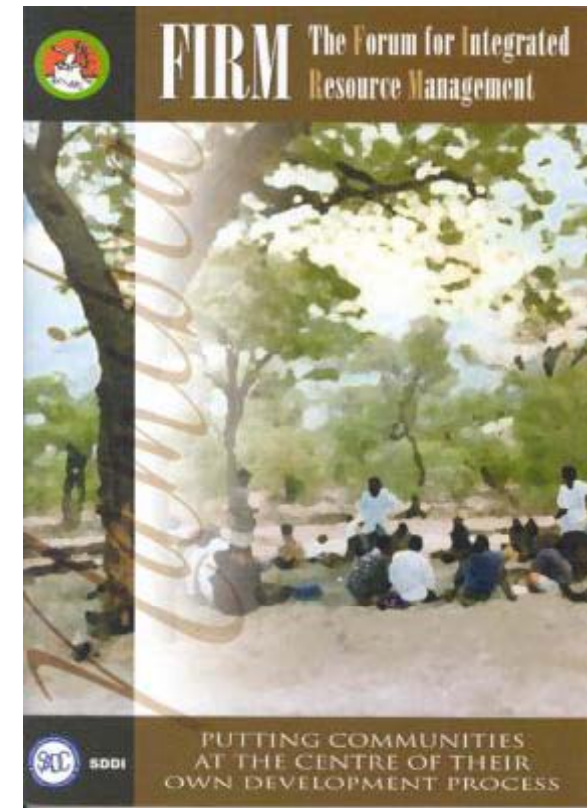
- Basin management is an approach to enhance understanding and management of resources in a water basin to support adaptation
- Its main purpose:
  - bring together a wide range of communities
  - to improve understanding, management and decision making
  - test adaptations such as water harvesting





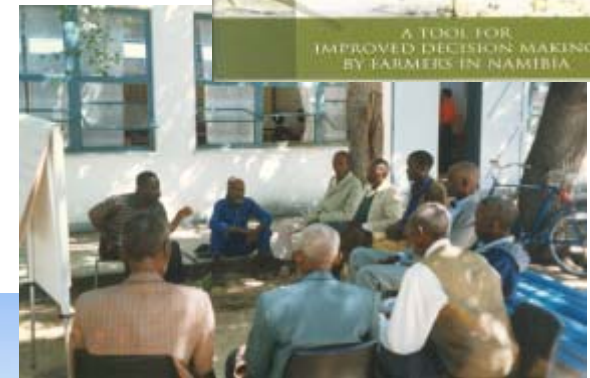
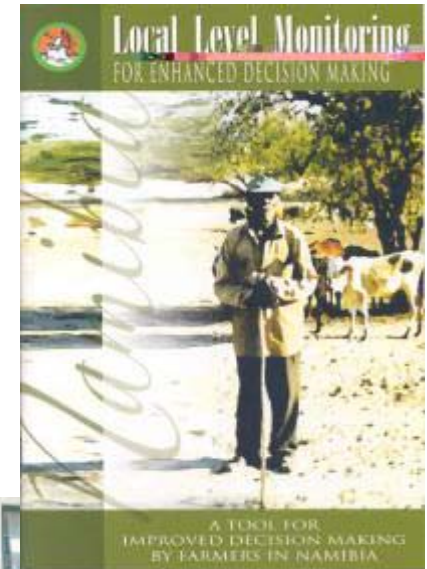
# Forum for Integrated Resource Management (FIRM) a community level platform

- The CBO takes the lead in organising, planning and monitoring of their own activities
- CBO coordinates interventions of service providers in order to achieve the communities goals



# Community driven local level monitoring as basis for adaptation

- Indicators identified & developed by FIRM members and scientists
- Monitored by farmers
- Interpreted and disseminated by farmers, agriculture extension and scientists
- Used for decision making by community & at national level





# The farmer's field guide for Local Level Monitoring usually focuses on:

## 1. Livestock Condition



## 2. Fodder Availability



## 3. Rainfall



## 5. Groundwater

## 4. Veld Condition





### SEASONAL LIVESTOCK CONDITION ASSESSMENT

Farm Name: \_\_\_\_\_ Year: 2014  
 Area: Gauteng Operator's name: \_\_\_\_\_

Based on visual assessments of a sample of 25 animals

Animal number	Animal Condition Class (1, 2, 3, 4, 5)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3	4	5	4	5	3	3	4	4	3	3	3
2	4	4	4	4	4	3	3	4	4	3	3	3
3	4	5	5	4	4	3	3	4	4	3	3	3
4	4	4	4	4	4	3	3	4	4	3	3	3
5	4	4	4	4	4	4	4	5	3	3	3	4
6	4	4	4	4	4	4	4	4	3	3	3	4
7	4	4	4	4	4	4	4	4	3	3	3	4
8	4	4	4	4	4	4	4	4	3	3	3	4
9	4	4	4	4	4	4	4	4	3	3	3	4
10	4	4	4	4	4	4	4	4	3	3	3	4
11	4	4	4	4	4	4	4	4	3	3	3	4
12	4	4	4	4	4	4	4	4	3	3	3	4
13	4	4	4	4	4	4	4	4	3	3	3	4
14	4	4	4	4	4	4	4	4	3	3	3	4
15	4	4	4	4	4	4	4	4	3	3	3	4
16	4	4	4	4	4	4	4	4	3	3	3	4
17	4	4	4	4	4	4	4	4	3	3	3	4
18	4	4	4	4	4	4	4	4	3	3	3	4
19	4	4	4	4	4	4	4	4	3	3	3	4
20	4	4	4	4	4	4	4	4	3	3	3	4
21	4	4	4	4	4	4	4	4	3	3	3	4
22	4	4	4	4	4	4	4	4	3	3	3	4
23	4	4	4	4	4	4	4	4	3	3	3	4
24	4	4	4	4	4	4	4	4	3	3	3	4
25	4	4	4	4	4	4	4	4	3	3	3	4
<b>Average</b>	<b>3.5</b>	<b>3.5</b>	<b>4.4</b>	<b>4.1</b>	<b>4.0</b>	<b>3.7</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>	<b>3.4</b>	<b>3.4</b>	<b>3.0</b>

Number of animals in class: 1 2 3 4 5



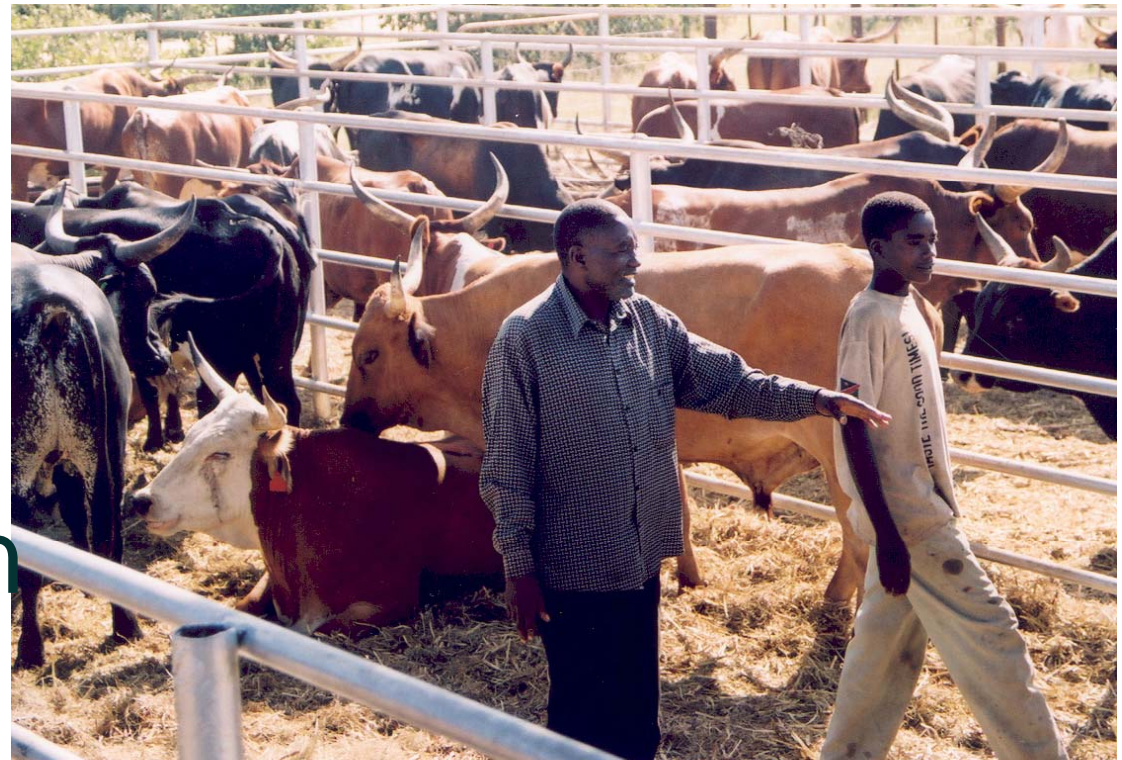




# Emerging Farmers' Support Programme

**Broker:**

- Information
- Mentors
- Political involvement
- Economic benefits





# Agriculture vs biodiversity (CBNRM/ Conservancies)

- Total gross annual output of agricultural sector (large & small stock, and crops)

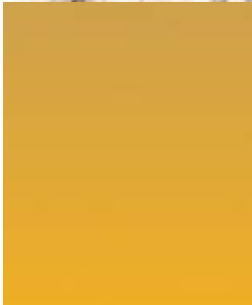
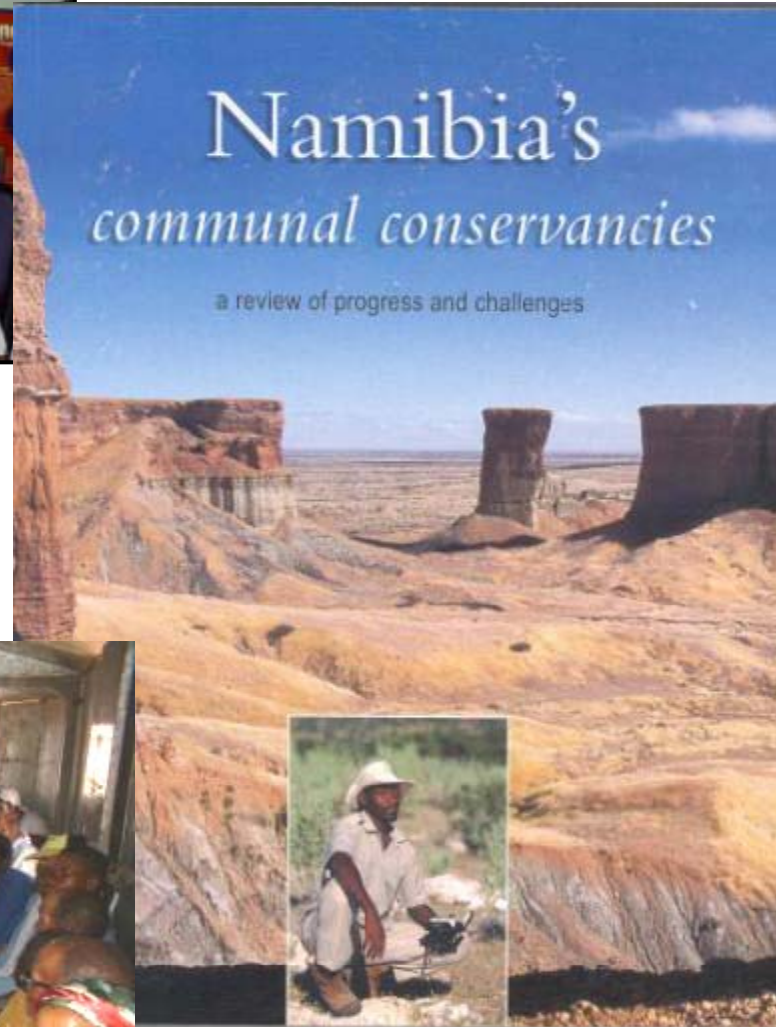
**N\$1,878 vs N\$ 3,200 million**

- Total gross annual output of natural resource based “sector” ( tourism, trophy hunting, wildlife products, indigenous plant products, i.e. indigenous biodiversity)





# Communication Platforms



# Stumbling blocks to drought adaptation

- Ongoing drought relief
- Limited understanding at political level
- Focus on ‘climate change’
- Need for ‘quick fixes’
- Other crises
- Conflicting approaches







**Innovation from  
Degradation:  
turning bush into  
electricity**



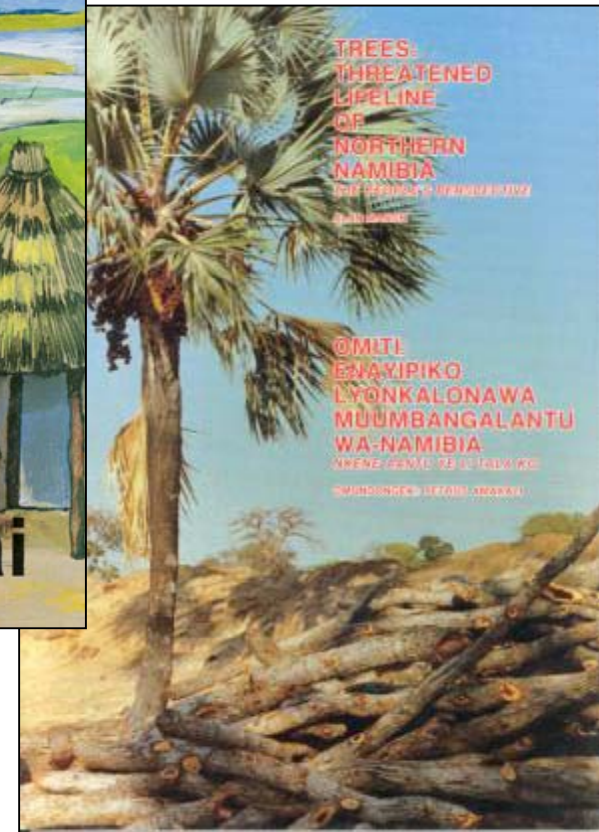
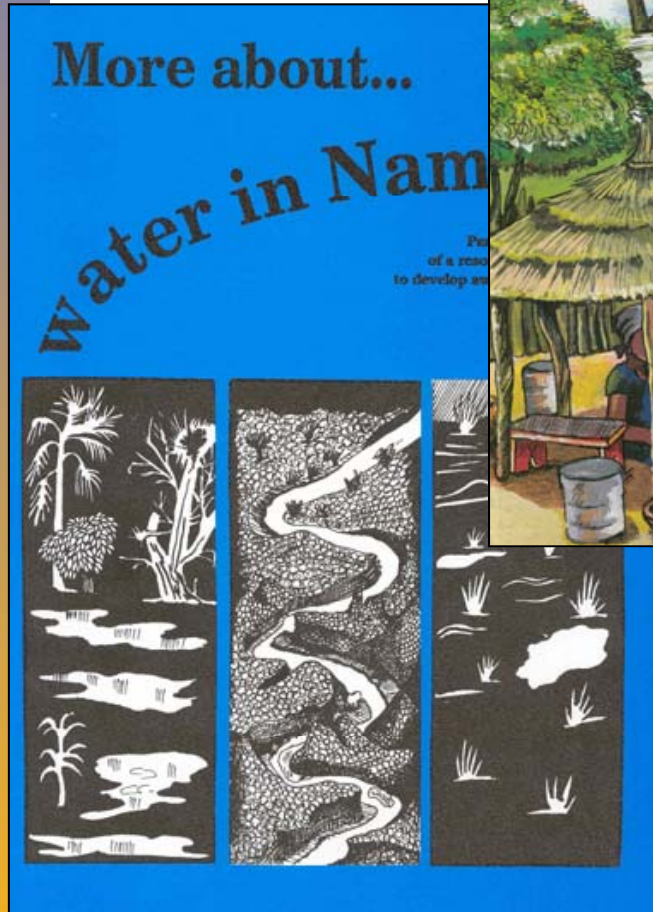
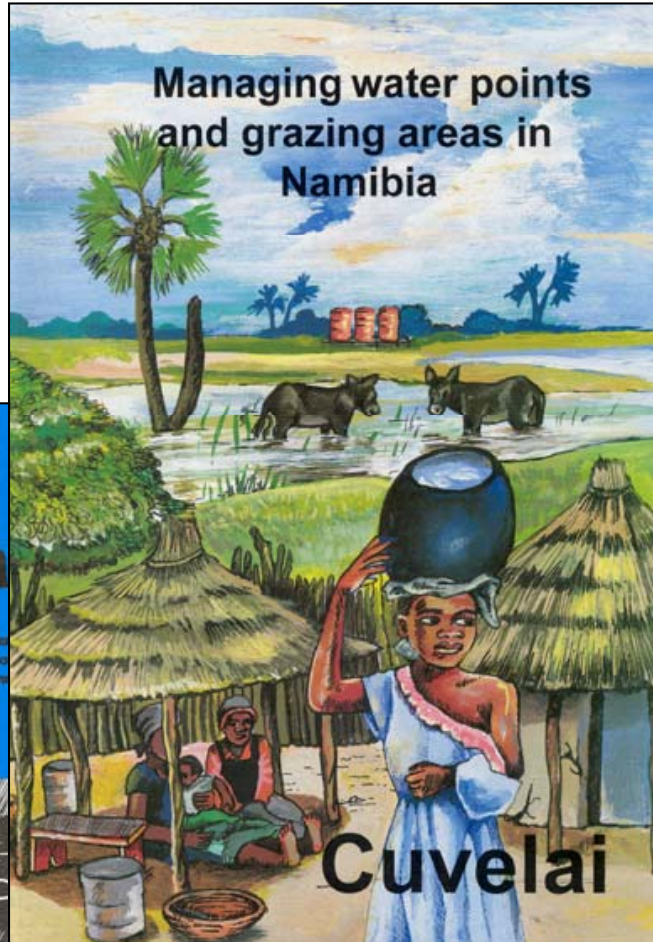


# Integrated, long-term approach

## Bush encroachment

- Long-term drought & over grazing
- Altered competition: grass & shrubs
- Income loss: US\$ 10 million/year
- Charcoal production
- Bush to energy (e.g. gasifier with IPP)
- Reduces groundwater recharge
- Debushing cheaper than extending water infrastructure; government involved





# How will communication and capacity help adaptation?

- Increase organisational capacity
- Build adaptive capacity and reduce vulnerabilities over the longer term
- Develop integrated approaches







# THANK YOU

Desert Research Foundation of Namibia  
[www.drfn.org.na](http://www.drfn.org.na)

