



Nationally relevant application of LTER monitoring data

National assessment of land use,
management and tenure impacts on
environmental sustainability



Juliane Zeidler, Viviane Kinyaga & Mutjinde Katjua
Integrated Environmental Consultants Namibia (IECN)



SOME BACKGROUND

- Requested as part of NBSAP and NDP 2 to aid decision-making on land management and land reform
- Part of a larger project PESILUP (3 years) under national umbrella programme CPP for ISLM (10 years)
- GEF/World Bank MSP (1 Mio US\$ & co-financing)
- Government/non-government partnership



THE VENTURE POINT



- Existing data and research efforts in Namibia
- However, not designed to address pertinent research and policy questions
- EMIN & NaEON recommended design of “modern” assessment
- Links to LTER & monitoring important

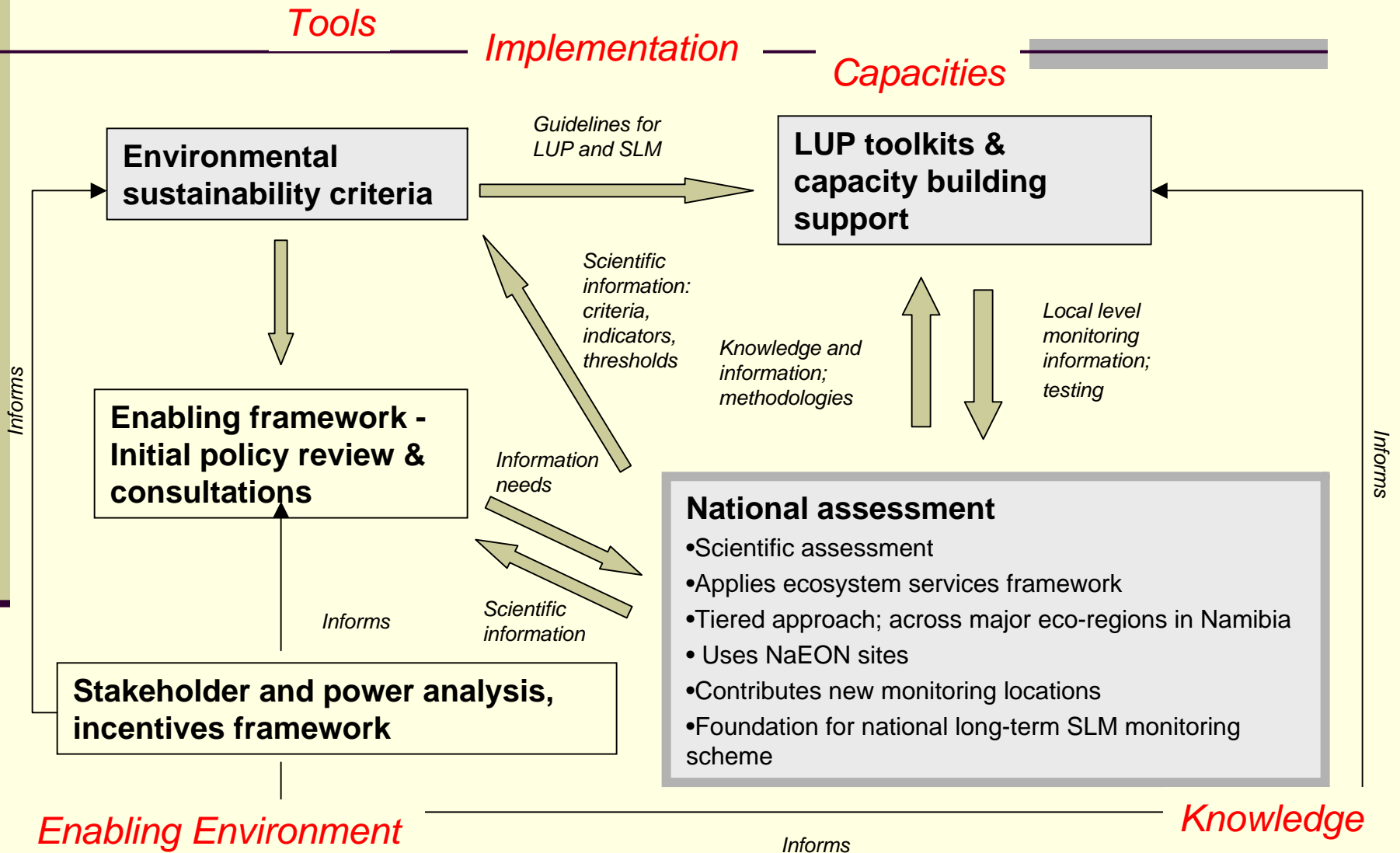
WHAT DO WE NEED TO KNOW?

- What practices are...
- What countries provide...
- What individuals...
- How and why SLM...
- How simple tools?



Life is a gamble – success requires to take measured risks

CONCEPTUAL FRAMEWORK



WHAT DOES THE NATIONAL ASSESSMEN DO?

- Compares major land uses and land management categories
- Tests and recommends SLM criteria, indicators and thresholds
- Foundation for national long-term SLM monitoring scheme



METHODOLOGICAL CONSIDERATIONS I

- Ecosystem service framework
- Hierarchical system
- Link to existing sites and ongoing research
- Adds needs driven analytical dimension



NaEON

PESILUP

Other ongoing

Tier	Indicative number of sites	Examples	Meta data/data/data layer	Data collection
1	2	Gobabeb, Etosha LTERs	Process-based research that leads to the development of new knowledge and models	Ongoing
2	10	Biota sites	Periodically visited locations of intensive research	Ongoing
3	200	Land condition monitoring stations	<ul style="list-style-type: none"> Landscape Function Analysis Tree and shrub layer analysis Herb Layer analysis Land use history Land tenure history 	CPP/PESILUP
4	2000	Land condition monitoring points	<ul style="list-style-type: none"> Metadata: Date and time, Location (latitude, longitude, direction facing, landscape position), slope, aspect, observer Land cover class (LCCS)¹ Stereo Digital Photograph² Mean maximum height of woody vegetation Canopy cover of woody vegetation Three dominant woody species (or their functional types) Fraction of the herb layer by functional type: perennial grass, annual grass, N-fixing forb, other forb, geophyte Mean distance between grass tufts and mean tuft diameter (cm) Soil texture class (finger test: sandy, loamy, clayey, gravely, stone, salt crust) Soil colour class (Munsell) Soil surface condition (%litter-covered, exposed, capped, microflora, eroded, stones) 	CPP/PESILUP
5	800 000 pixels	Land cover map, rainfall surfaces, NDVI products	<ul style="list-style-type: none"> Tree cover % evergreenness Monthly rainfall Albedo 10-daily Fraction Absorbed Photosynthetic Radiation (FAPAR) NPPgrass, NPPtree Water Use Efficiency (WUE) 	MAWF, LCC project Ongoing

PLANNED OUTPUTS

RESEARCH

- Peer reviewed scientific publications
- National research working documents

MANAGEMENT & POLICY

- Suite of decisions-making tools
- Improved policy guidance through SLM standard and criteria
 - Target group specific publications & dissemination

ENGAGEMENT

- Workshops
- Participatory processes
- Policy and stakeholder dialogues

CAPACITY BUILDING

- Training & mentoring of staff
- Links to LLM (resource user level)
- Scientific collaboration



NaEON links

- Instrumental in formulating project request
- Partner in project design
- Utilization of existing NaEON sites/knowledge
- Additional observation locations and stations
- NaEON to take on long-term monitoring function
- Hosting of data; availability research results and project outputs



Theme picture for MET's 2006 MDG & Environment exhibition

Picture: Louisa Nakanuku

The END!