

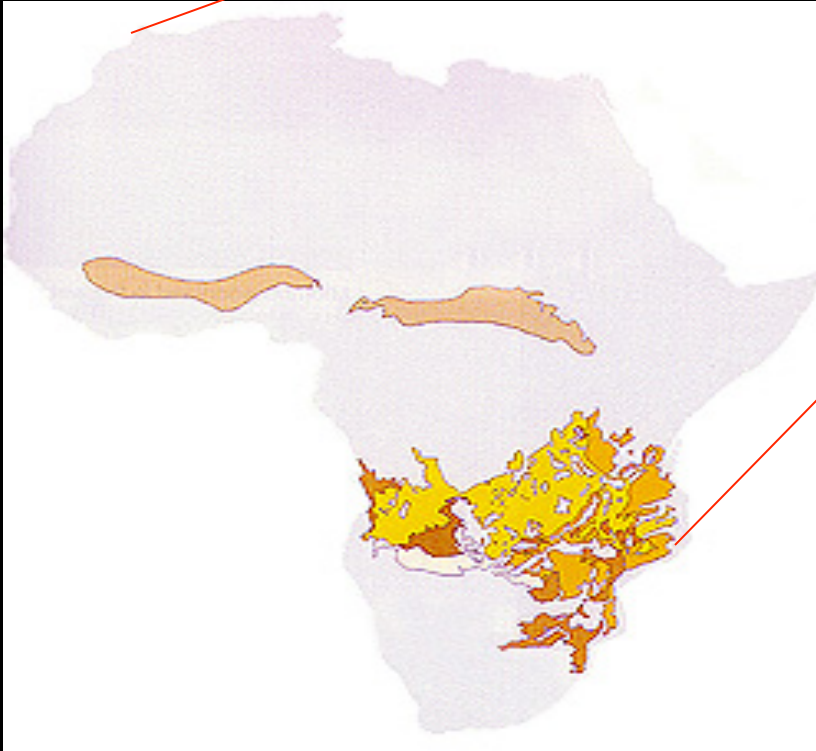
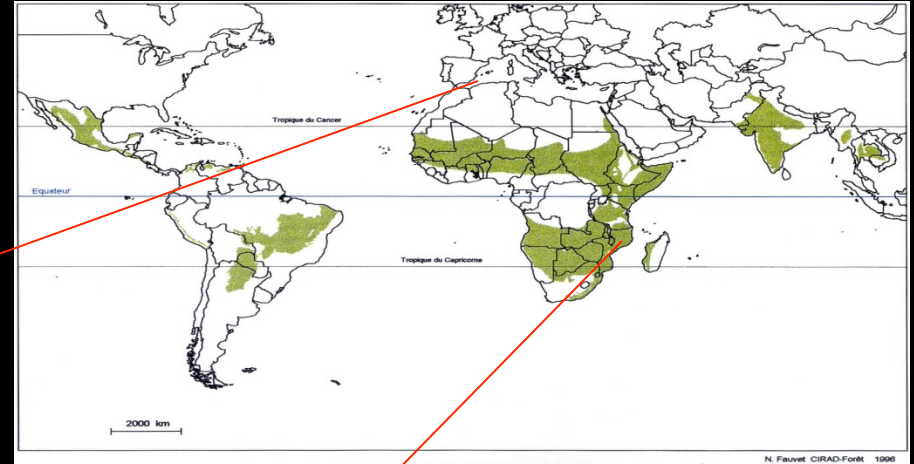


The miombo woodlands of Southern Africa: a socio-ecological key ecosystem

By
Miombo Network

March, 2017

Miombo woodlands



- The largest dry forest ecosystem
- Occupies about 3.6 million km² in Southern Africa

Socio-ecological importance of Miombo Woodlands

- about 8500 plant species, half are endemic of the region.
- dominated by: *Julbernardia globiflora*, *Brachystegia* spp. and *Isoberlinia angolensis*
- Frequent fires and other disturbances (herbivory, slash and burn)

Provide goods and services for ca 40 million rural people and 15 million urban dwellers.



Fire is part of Miombo ecology



Grass fuels in the
understory burn
every 2-3 years



Cold fires



Tall miombo



Hot fires



Shrub miombo



Goods and Services from the woodlands

- Timber industry in Mozambique was worth \$330.3 million in 2011 (UT-REDD, 2016).
- 76% of energy used in the region is derived from the woodlands; Traded woodfuels have an annual value of \$780 M (Ryan et al., 2016).
- Medicinal or therapeutic plants and products in Southern Africa are estimated to yield US\$ 150 million/year although some of the harvesting methods are unsustainable (Syampugani et al., 2009).
- Woodlands store 18-24 PgC carbon (Ryan et al., 2016).



Causes of woodland degradation/loss in the ecoregion

- Land use:
 - Fires (shifting cultivation, honey production, etc).
 - Charcoal production
 - Timber harvesting
- Land transformation
 - Commercial agriculture
 - Mining
 - Infrastructure development



Miombo woodlands restoration

- Among the most resilient ecosystems. It recovers fast (10-15 years; 1.4 cm/year) after:
 - Agriculture
 - Charcoal production
 - Timber harvesting.
- Trees recover from roots stumps. Seedling regeneration is poor



Source: Geldenhuys (2016)

Most species of roots and stumps



Some key issues and questions

- What ability do our woodlands/dry forests have through coppicing to respond to harvesting for timber and woodfuels? Are the current disturbances within their limits or beyond them? What is the tipping point?
- What are the long-term impacts of repeated fires on dry forest/woodland regeneration and reproduction?
- How is land tenure impacting woodland management and utilization across the region?



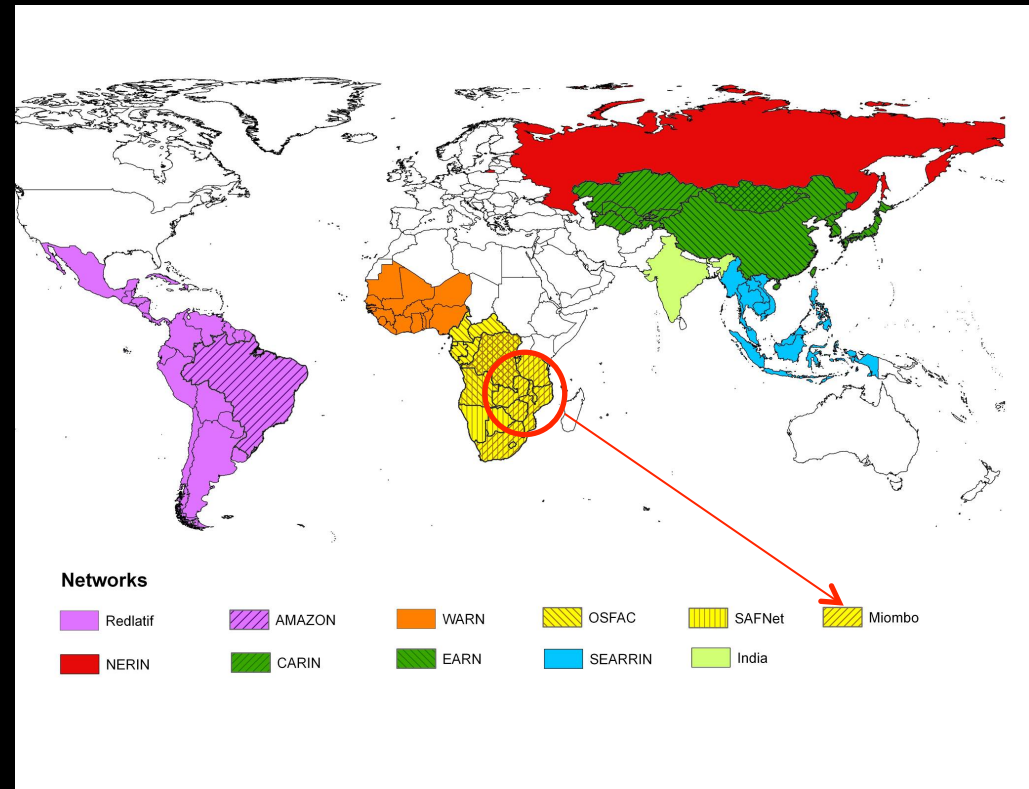
Some key issues and questions

- There is need to develop NWFP specific inventory and monitoring schemes
- How can we harmonize natural resources management in the region?
- What are the long term impacts of community use of woodlands to support their livelihoods?





- One of the Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD) Regional Networks;
- Founded in 1995 by a group of regional and International scientists.
- **Focus:** Land use and Land cover of miombo woodlands of southern Africa.
- Inactive since ~2005 and re-launched in 2013.



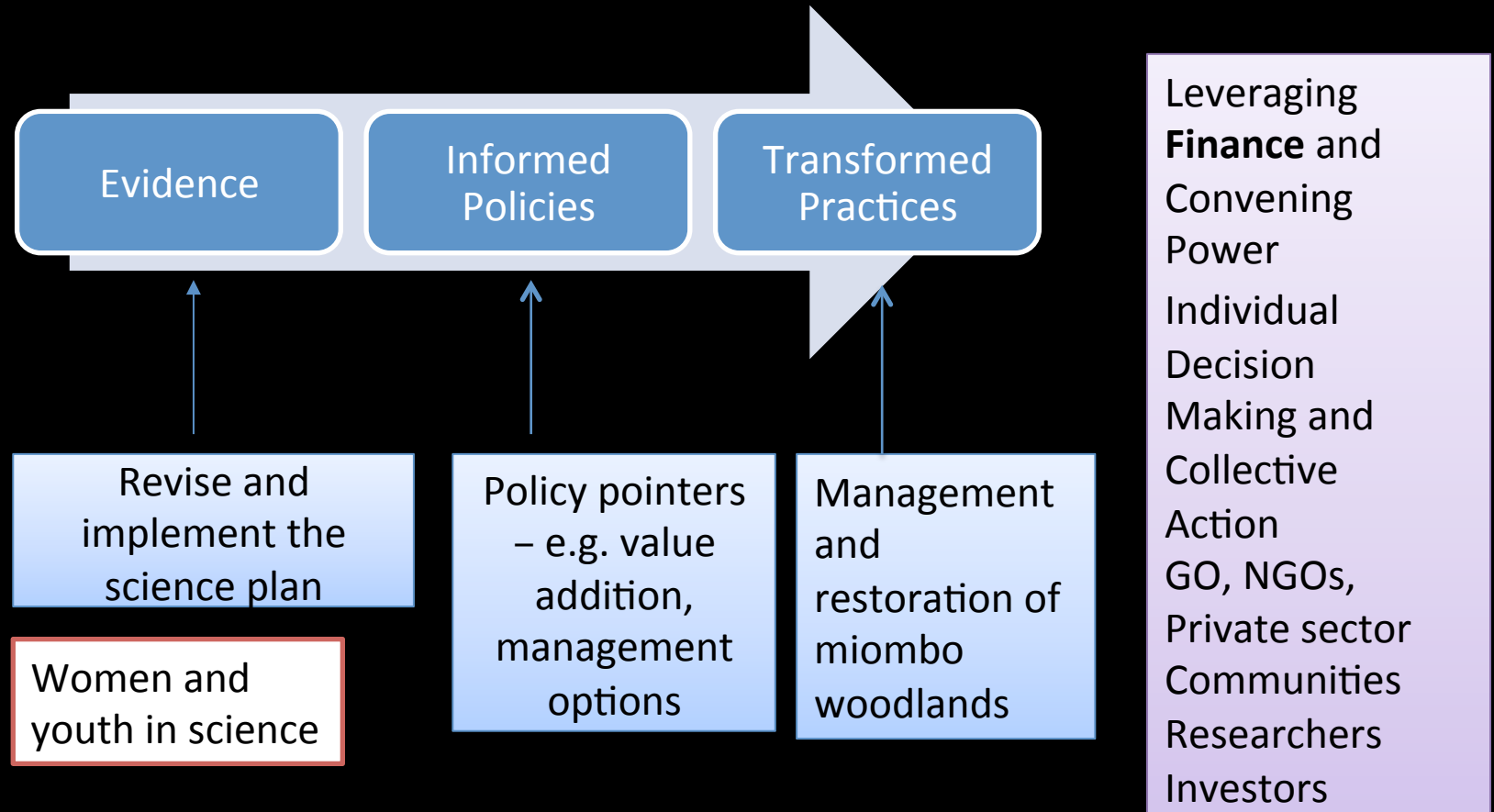


Objectives of the network

1. To enhance the use of information from field observations and remote sensing.
2. To execute and design projects, develop consensus algorithms and methodologies for product generation and validation.
3. To bring together land cover data providers, users and researchers operating in a common geographic area, and represent a link between national agencies, user groups and the global user/producer.
4. To bridge the gap between science, policy and practice.

It is all about miombo forests and people
People need healthy and functional miombo
- Ecosystems services (timber, water, food...)

Cease climate change mitigation
and adaptation opportunities – e.g.
REDD+, Bonn Challenge



First Policy brief



December 2016

POLICY BRIEF

Using & restoring the Miombo woodlands: needs for an integrated and holistic approach in ecosystem management for long term sustainability

Policy decisions made now about how to develop the Miombo region of Africa will have far-reaching consequences for the people living in this region and for the global climate. These decisions will also affect the livelihoods of the people living in this region and for the global climate.

Socio-ecological relationships in Miombo woodlands

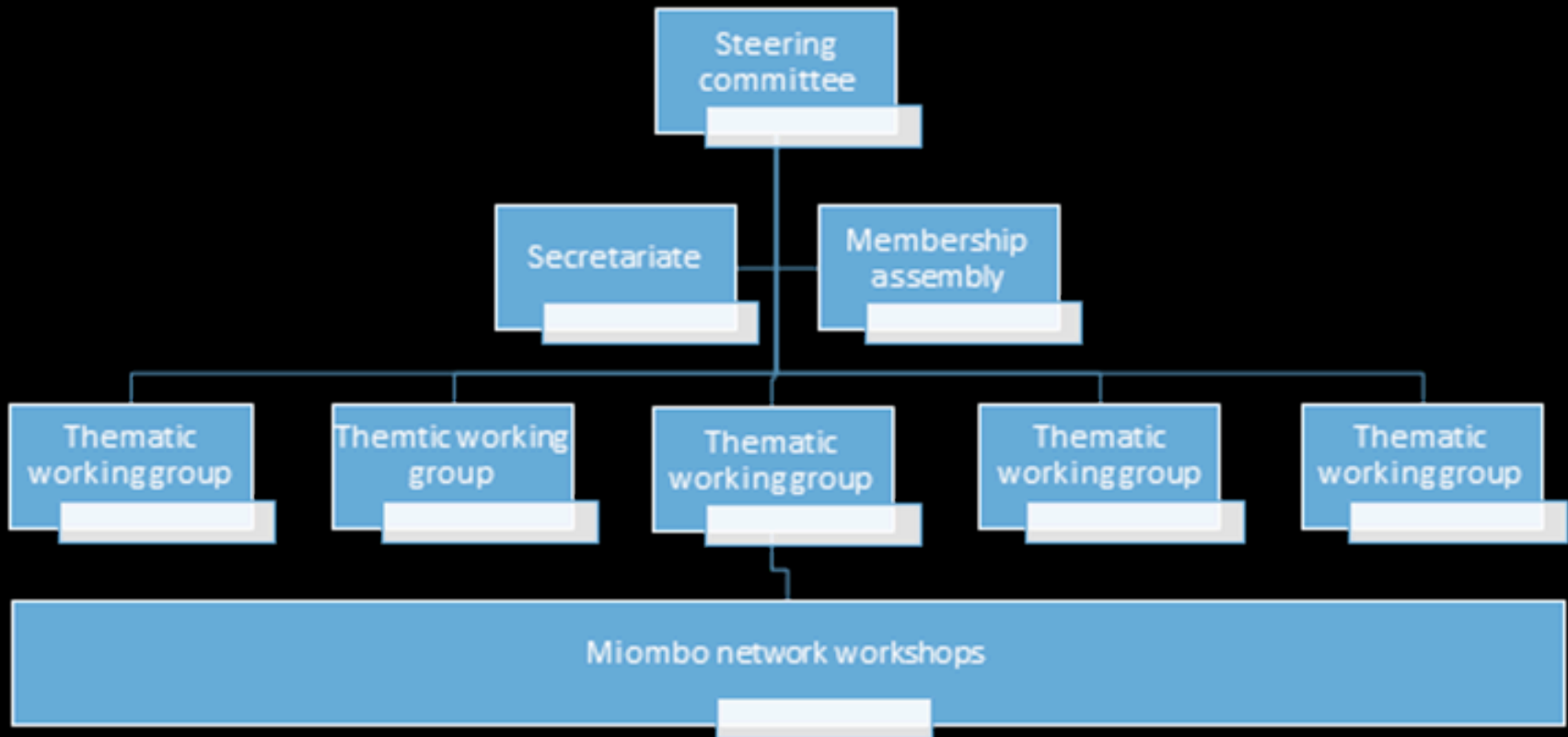
Miombo Woodlands are the *Julbernardia/Brachystegia* dominated

<https://www.iucn.org/news/forests/201702/roadmap-protect-miombo-woodlands>



- Challenges:
 - The network works on a volunteer base
 - No funding secured
 - Institutionalization is needed
 - Engaging members
 - Proactivity of the members

Proposed Structure for the network





- A mailing list:

miombo-network@mlist.is.ed.ac.uk

joluci2000@yahoo.com

(Natasha Ribeiro)

- Website:

<http://www.fao.org/GTOS/gofc-gold/net-Miombo.html>