THE IMPORTANCE OF DRYLANDS BIODIVERSITY

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Extent of Drylands

75% of Kenya; 50% of Ethiopia & Tanzania; 30% of Uganda & 20% of Rwanda

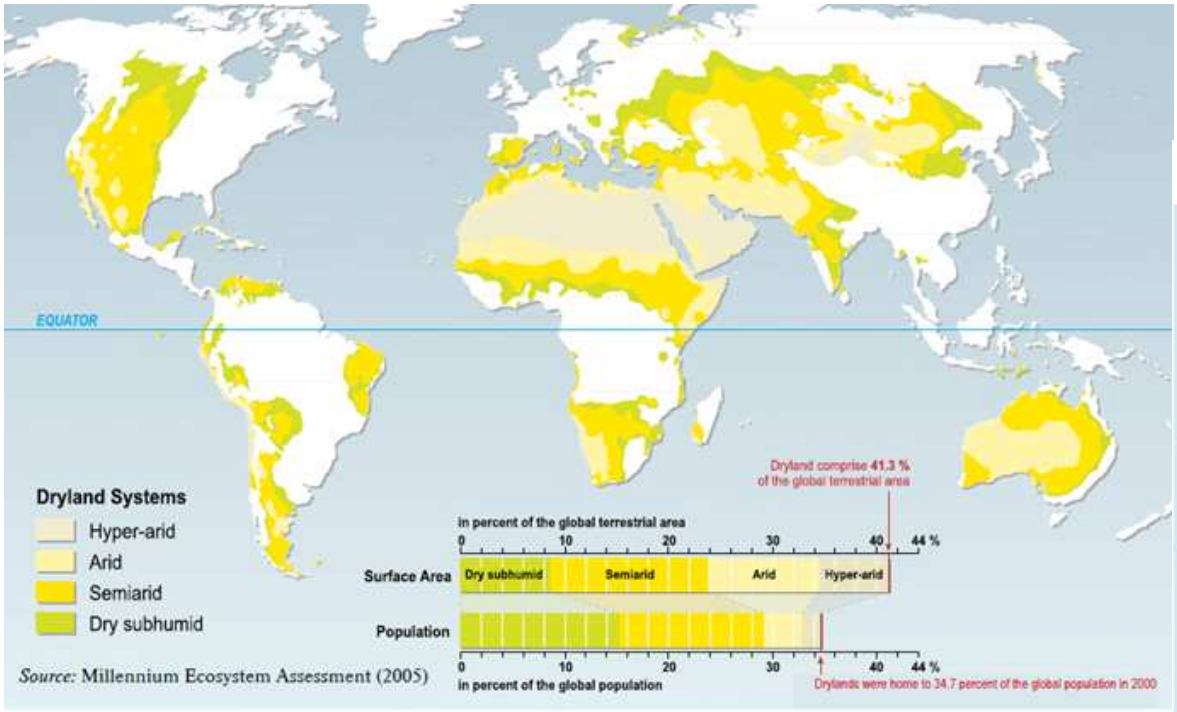
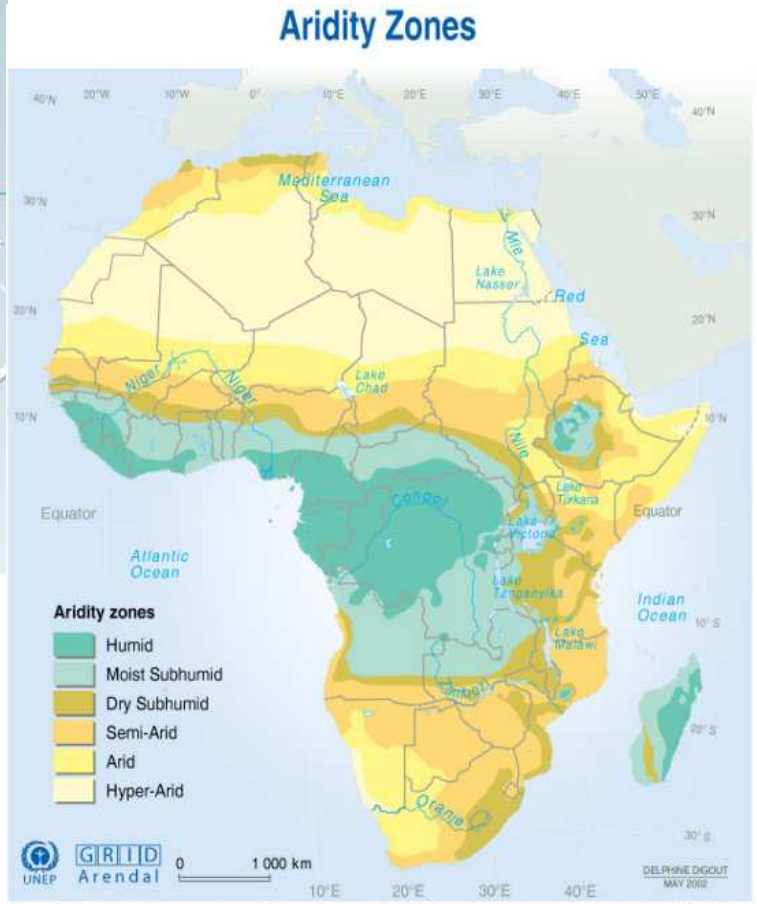


Figure 1: Distribution of the world's drylands according to aridity zones *(based on UNEP, 1992).*



Source: World Meteorological Organization (WMO), United Nations Environment Programme (UNEP), *Climate Change 2001: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

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Biodiversity in Eastern Africa

Table 2: The biodiversity features of Eastern Africa

		Biodiversity opportunity						Threat	Response
		Mammals		Birds		Plants		% of land	% of land
Country	Area km²	Endemic	Total	Endemic	Total	Endemic	Total	transformed	protected
Burundi	27 830	0	107	0	451	not known	2 500	37	5
Djibouti	23 200	0	61	1	126	6	826	1	1
Eritrea	117 600	0	112	0	319	not known	not known	19	4
Ethiopia	1 104 300	31	277	28	626	1 000	6 603	39	5
Kenya	580 370	23	359	9	844	265	6 506	13	6
Rwanda	26 340	0	151	0	513	26	2 288	52	8
Somalia	637 660	12	171	11	422	500	3 028	6	0
Uganda	241 040	6	345	3	830	not known	4 900	36	7
All countries	**2 758 340**	**72**		**52**		**1 797**		**24**	**4**

Source: Methodology and sources as for Table 1

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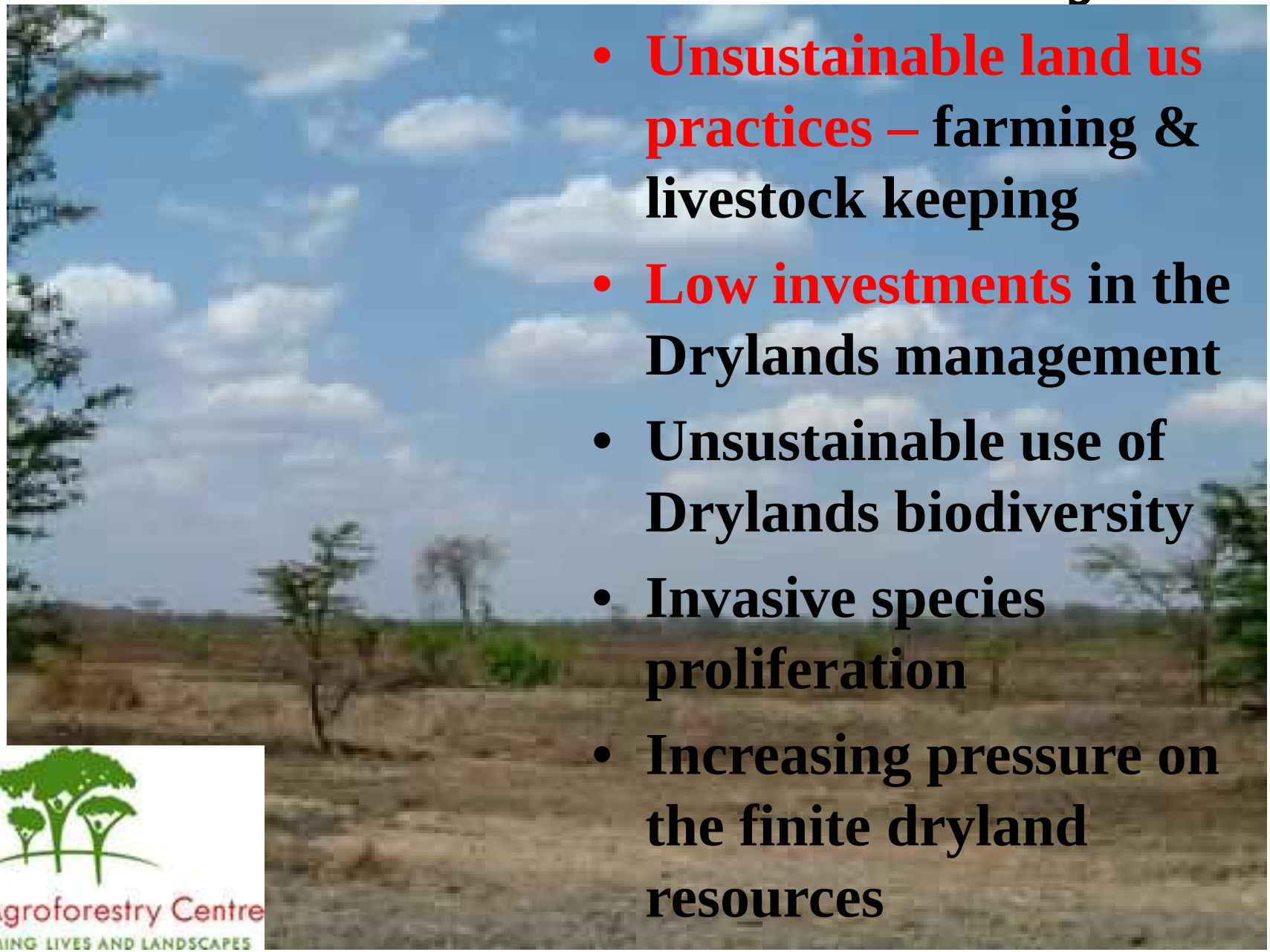
Threats to biodiversity



- **Unsustainable land us practices – farming & livestock keeping**
- **Low investments in the Drylands management**
- **Unsustainable use of Drylands biodiversity**
- **Invasive species proliferation**
- **Increasing pressure on the finite dryland resources**

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Practical challenges for farming in the Drylands

- Unavailability of seed and seedlings of some trees.
- Lack of adequate water
- Lack of knowledge on propagating drought resistant species
- Demand higher than supply
- Land tenure
- Youth involvement.

Agroforestry and Biodiversity Conservation

- **Agroforestry contributes to biodiversity conservation through three major pathways:**
  1. Reducing pressure on natural forests,
  2. Providing habitat for native plant and animal species, and
  3. Serving as a benign matrix land use for fragmented landscapes

Schroth et al. 2004

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The Future of Biodiversity is in Landscape-scale approaches

- Livelihood options for local people – *top priority in forest management and conservation*
- Effective linkages between protected areas and other land use practices – "*beyond boundaries*"
- Innovations in land use practices to create alternative sources of income
- Opportunities to recognize and reward land use innovations (e.g. payments for environmental services)
- Participatory processes for integrated natural resource management

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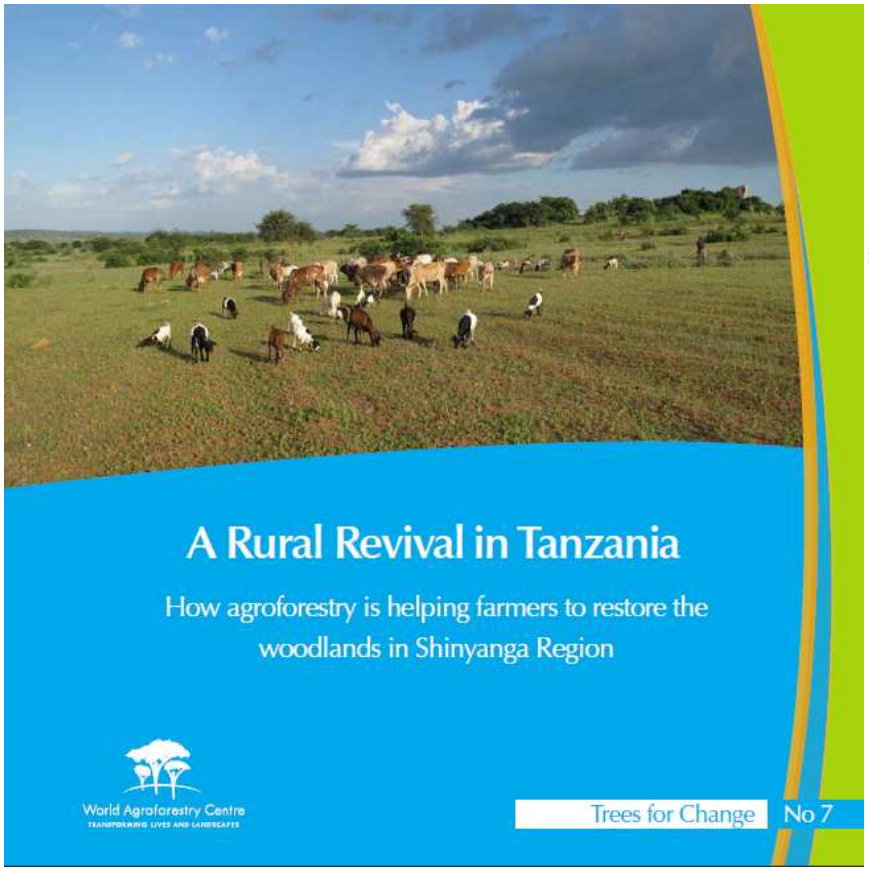
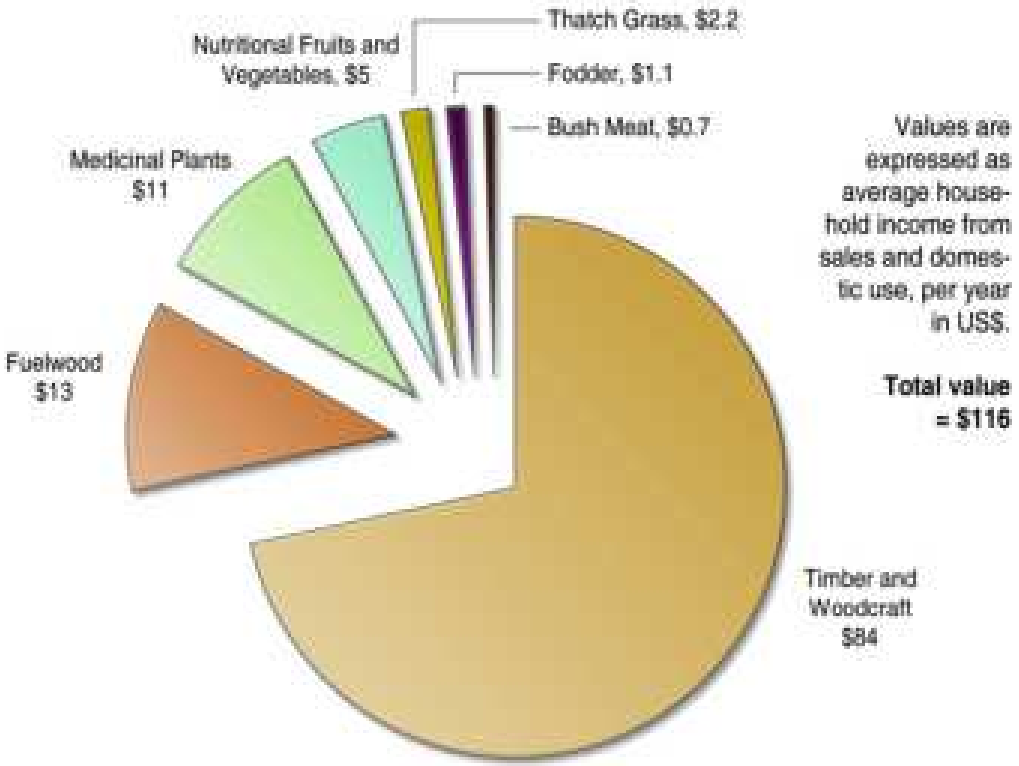
Reaping the Benefits

The Tanzania Ngitili Case study



Money grows on trees:
Direct values from biological products through communal resource management (Ngitili) in the Bukombe district of Shinyanga Region, Tanzania



The total value of Ngitili services (including added value and non-species based services, such as pottery and water) represents **three quarters** of the total household income ($1574) in this district.

Source: Monela, *et al.* 2004. *A Study on the Social, Economic and Environmental Impacts of Forest Landscape Restoration in Shinyanga Region, Tanzania.*

Reaping the benefits

Domestication of high value indigenous trees

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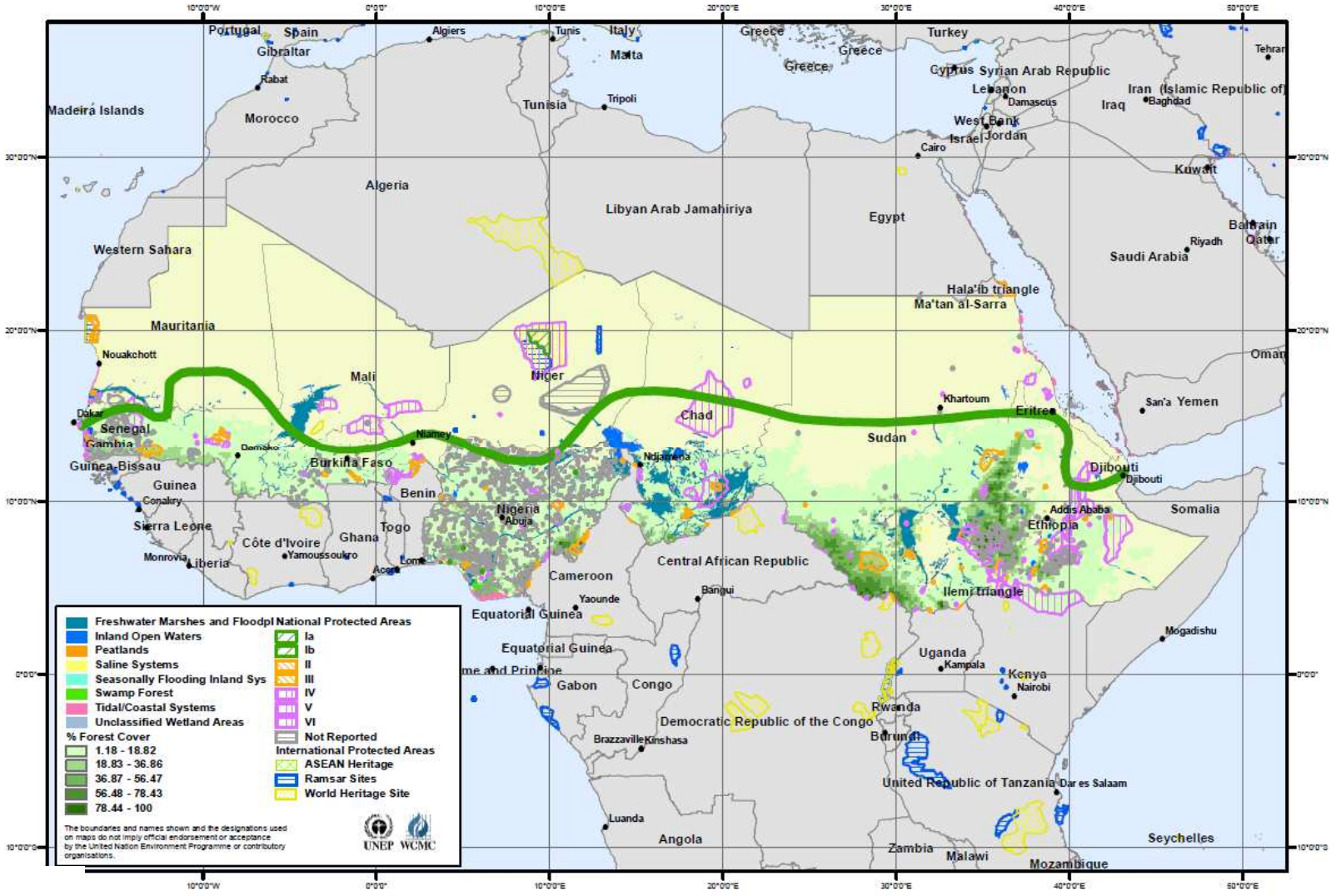
The Sahel & The Great Green Wall



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Drivers of successful rehabilitation of Drylands

- Analysis of existing land uses as drivers of degradation
- Short and long term benefits;
- The local people's attitude;
- Comprehensive understanding of the interconnectedness;
- The role of partners/stakeholders

Enhancing Our Impact

- Appropriate technologies (agroforestry and others)
- Institutional and organizational innovations
- Scaling up impact
- Improving access to markets
- Capacity building
- Involve the community
- Learning from the past
- Climate Change

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New Science: Evergreen Agriculture