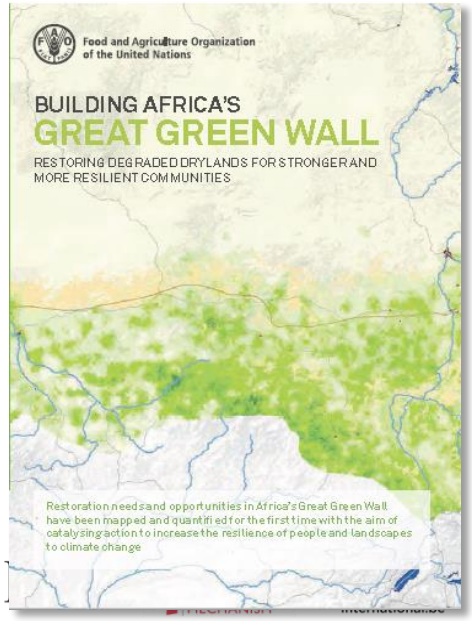
Restoration for Adaptation in Drylands

The case of Africa's Great Green Wall

Nora Berrahmouni
FAO Regional Office for Africa
Nora.Berrahmouni@fao.org



Great Green Wall

- **Address increasing challenges**

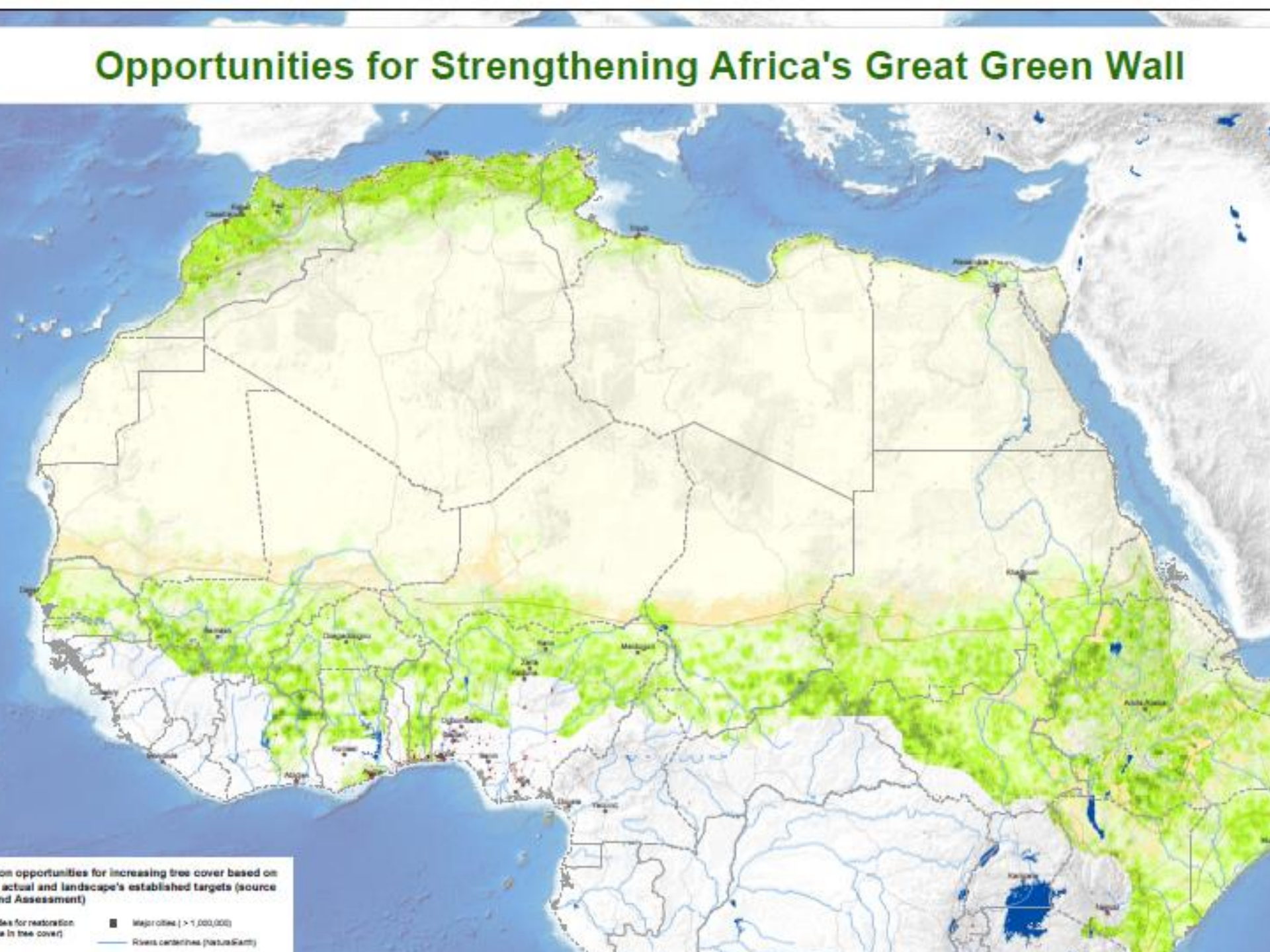
  ⇒ food insecurity, poverty, forced migration

  ⇒ climate change, desertification, biodiversity loss

- **Improve resilience** of human and natural systems (biodiversity)

  ⇒ **Restoration**: Intervention priority as one of the key solutions

Opportunities for Strengthening Africa's Great Green Wall



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Great Green Wall Dashboard

How big is it?

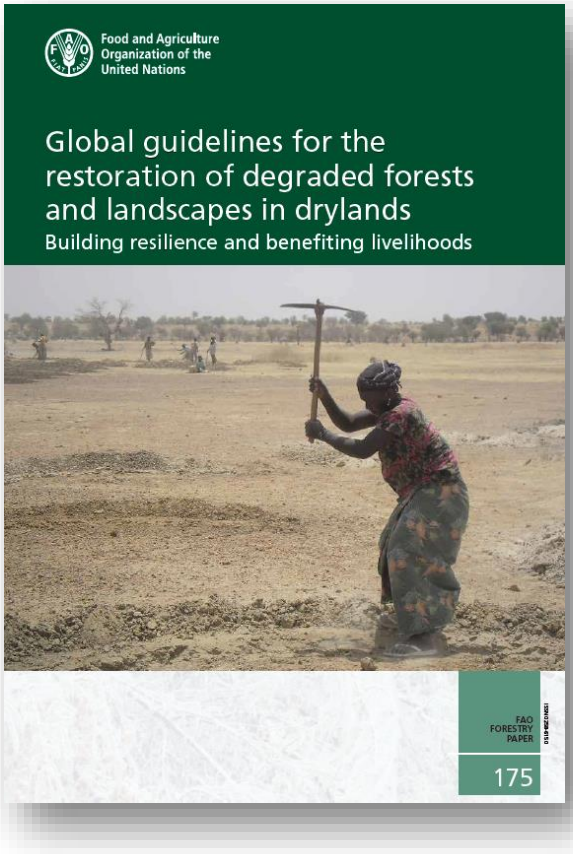
Opportunity area - scenario	
• High	21% - 166 million ha
• Medium	16% - 128 million ha
• Low	8% - 66 million ha

Scenario Sustainable Development Goals (SDG) – 2030

Range of restoration need: 10 million ha/ year

Restoration approach

- Rural communities at the heart
- Natural and human capital
- From Seed/ land to markets : livelihoods
- Address drivers of degradation



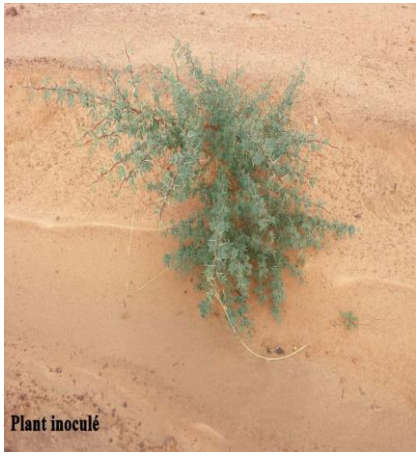
Overview of the main restoration approaches in drylands

Type of approach	Goal	Common measures
Protection and management (see section 4.2)	To protect against potential threats and prevent further degradation, and to remove barriers to natural forest regeneration	Protection of soils against erosion (see Box 4.2) Grazing management Fire management
Assisted natural regeneration (see section 4.3)	Enhance the natural processes to regenerate tree and vegetation cover	Enhancing seed dispersal Farmer-managed natural regeneration
Planting (see section 4.4)	Planting trees, shrubs and herbaceous species, and ensuring their survival and growth	Species selection Production of planting material Site preparation Planting Silvicultural operations

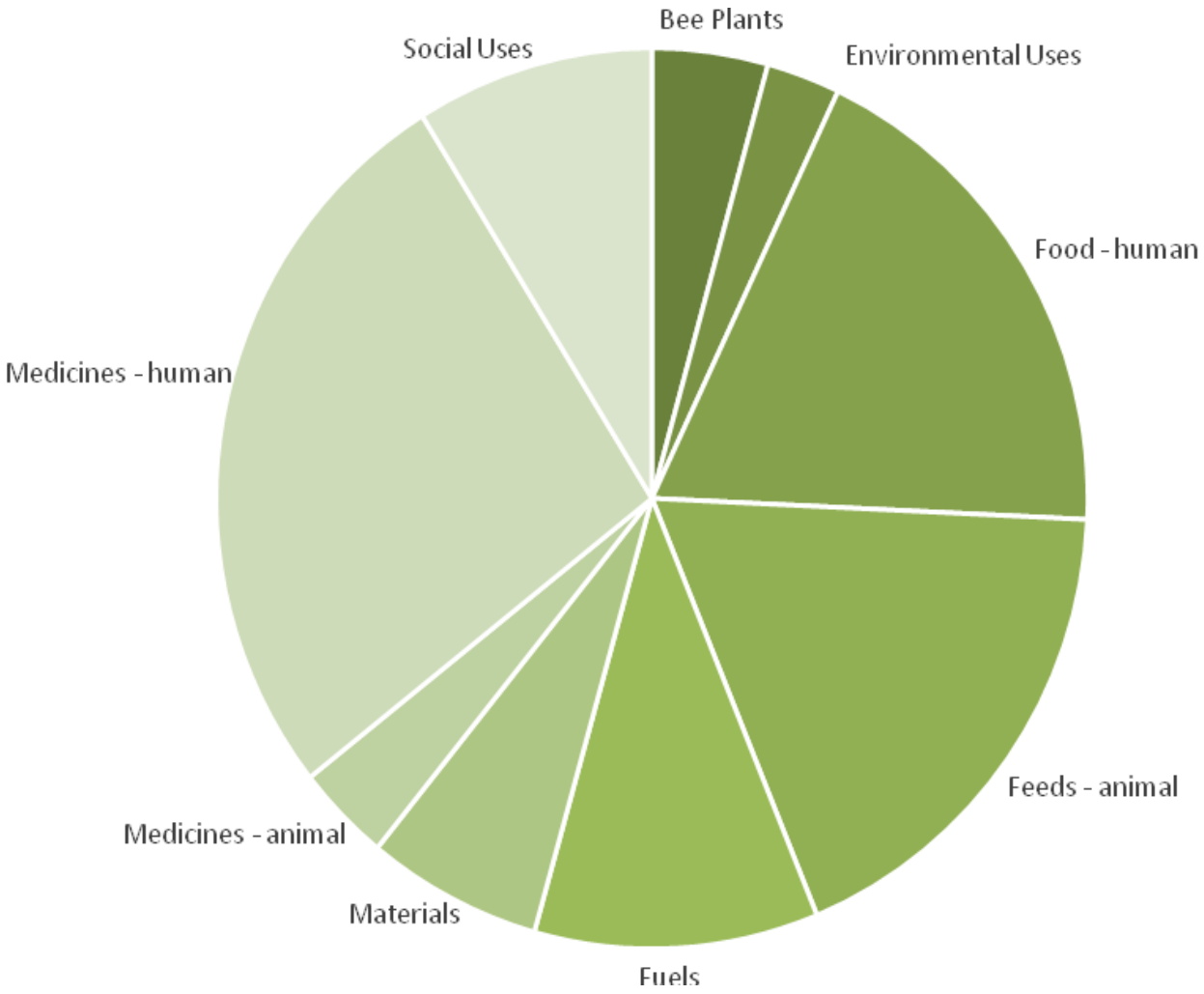
Biological & Socio-Economic Diversification

Prioritised species for adaptation

- Based on **science and farmers practices**
- **Survive long-term** in a changing environment
- Quality **material** available for propagation (seeds and seedlings)
- **Locally adapted** and **economically** useful to communities
- **Bio-diverse** restoration of degraded lands (trees/shrubs/grasses)



Communities' preferences for restoration species & objectives



Examples of native species for large-scale restoration

Species (taxa)	Life form	Species (taxa)	Life form
Alysicarpus ovalifolius	grass	*Acacia nilotica*	woody
Andropogon gayanus	grass	*Acacia senegal*	woody
Andropogon pseudapricus	grass	*Acacia seyal*	woody
Aristida mustabilis	grass	*Acacia tortilis*	woody
Brachiaria ramosa	grass	*Adansonia digitata*	woody
Cenchrus biflorus	grass	*Adenum obesum*	woody
Chloris pilosa	grass	*Balanites aegyptiaca*	woody
Chrozophoro senegalensis	grass	*Bauhinia rufescens*	woody
Crotalaria macrocalyx	grass	*Combretum glutinosum*	woody
Cymbopogon giganteus	grass	*Combretum micranthum*	woody
Cymbopogon schoenamthus	grass	*Dalbergia melanoxylun*	woody
Dactyloctenium aegyptium	grass	*Faidherbia albida*	woody
Digitaria exilis	grass	*Grewia bicolor*	woody
Eragrostis tremula	grass	*Guiera senegalensis*	woody
Leptadenia hastate	grass	*Lannea microcarpa*	woody
Panicum laetum	grass	*Parkia biglobosa*	woody
Pennisetum pedicellatum	grass	*Piliostigma reticulatum*	woody
Schoenefeldia gracilis	grass	*Prosopis africana*	woody
Senna occidentalis	grass	*Pterocarpus lucens*	woody
Senna tora	grass	*Sclerocarya birrea*	woody
Stylosantes amata	grass	*Sterculia setigera*	woody
Waltheria indica	grass	*Tamarindus indica*	woody
Zornia glochidiata	grass	*Ziziphus mauritiana*	woody

Seed mobilisation of native species for large-scale restoration

(through National Tree Seed Centres)

AAD countries	Villages	Regions	Species (woody & grasses)	NTSC Capacity (kg/an)	Used in 2016 (kg)	Being used in 2017 (kg)	Planned for 2018 (kg)
Burkina	100	2 Regions	36	3,000	5,000	7,500	5,000
Ethiopia	9	3 Weredas	30	1,000	-	-	2,000
Gambia	15	3 Regions	50	-	-	-	
Mali	45	3 Regions	120	1,000	2,000	-	-
Niger	50	3 Regions	100	1,000	11,000	7,000	12,000
Nigeria	3	3 States	25	-	-	2,300	6,000
Senegal	3	1 Region	30	3,000	-	5,500	6,000
	225		285	8,000	18,000	22,300	31,000
					12,000 ha planted		10,000 ha

First improvements on land preparation : Water

Land preparation for large-scale restoration in GGW

Manual

(100 people 1 ha / day)

⟷

Appropriate technology

(10-15 ha / day)

How these restoration interventions benefit rural communities?

Restoration sustainability

With a mix of 10 species/ha combining woody and herbaceous perennial species

(FAO AAD approach)

Fodder harvested

in Year 1 of restoration of degraded lands

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ACTION AGAINST DESERTIFICATION

Resilience on the ground

Combining annuals, perennials, shrubs and trees:

-(i) improves land productivity in Year 1

-(ii) reduces planting efforts in subsequent years

Small-scale Farming of plots for pulse production (beans)

Inter-cropping (in the second rainy season) of initially bare non arable degraded lands, under restoration within Year 2

(Burkina)

www.fao.org/in-action/action-against-desertification

www.fao.org/dryland-forestry

www.fao.org/africa

Contacts:

At FAO HQ - Forestry Department: moctar.sacande@fao.org

At FAO Regional office for Africa : nora.berrahmouni@fao.org