African Union Commission | African Development Bank | Economic Commission for Africa

ClimDev-Africa

What's in LULUCF* in Africa?

Johnson Nkem (Ph.D)
Climate Change Adaptation & Development Programme
UNDP Kenya

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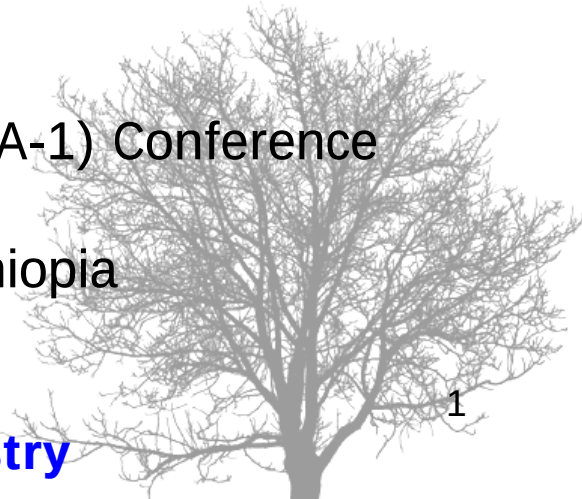


***Land Use, Land-Use Change, and Forestry**

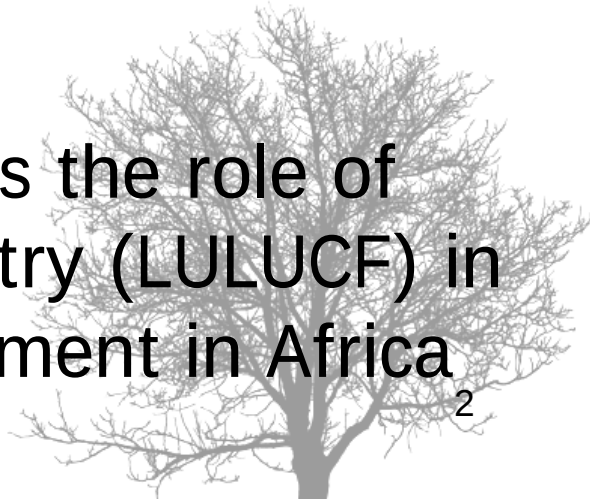
Outline & Objective

Outline

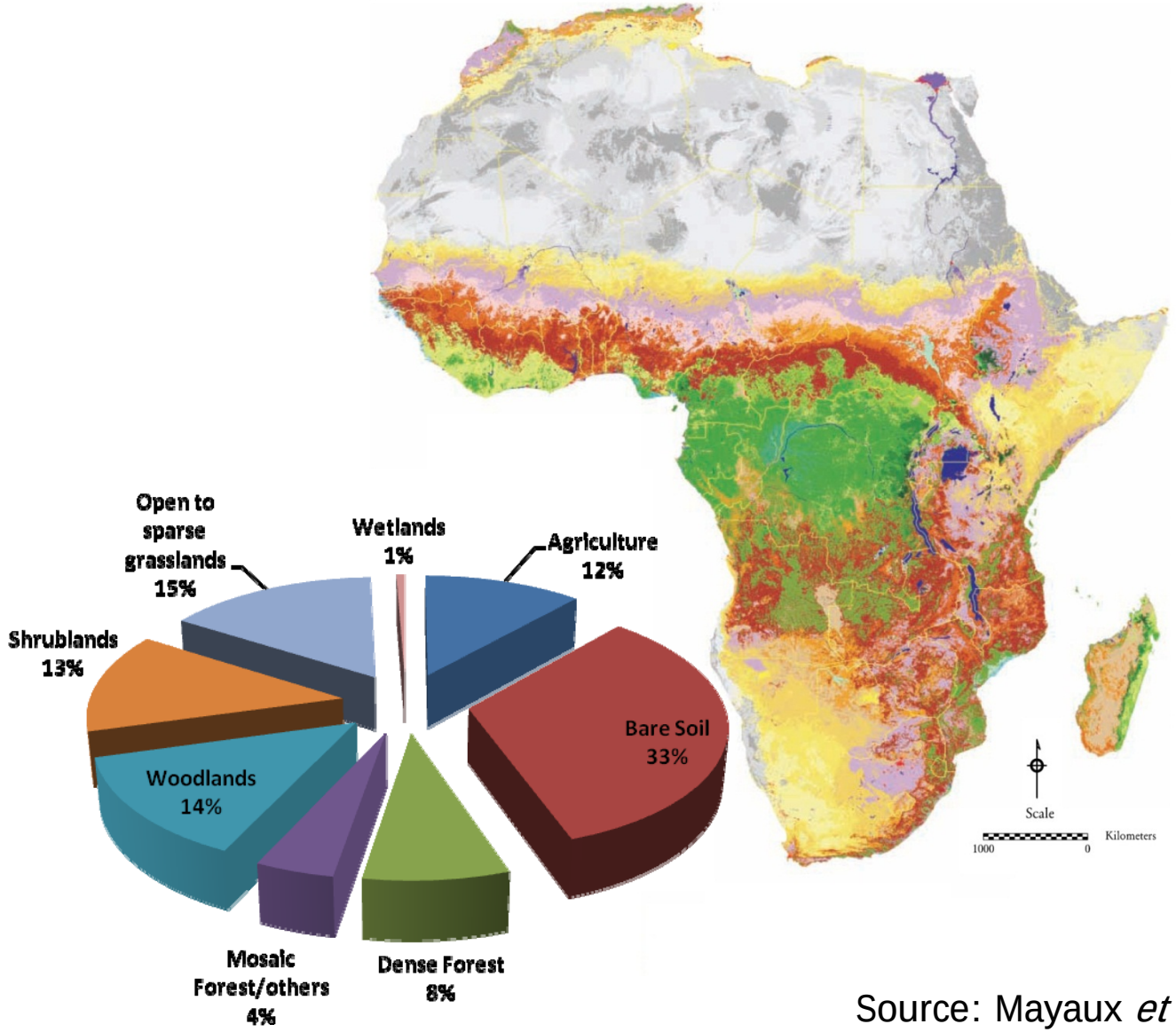
- Main land uses in Africa
- Drivers of land-use Change
- Implications of Change
- Recommendation Policies & Actions

Objective

The aim of the presentation is to discuss the role of Land Use, Land-Use Change, and Forestry (LULUCF) in addressing climate change and development in Africa



Main Land Uses & distribution



Source: Mayaux *et al.* 2004

Drivers of LULUCF in Africa

Historic Drivers

- Food production
  - Cropping
  - Livestock grazing etc.
- Environmental Processes
  - Climate Change impacts
  - Fire etc.
- Population & settlement
  - Urbanization
  - Migration
- Economic Activities
  - Logging
  - Mining etc.
- Adaptive processes
- Policies
  - Access
  - Parks etc.

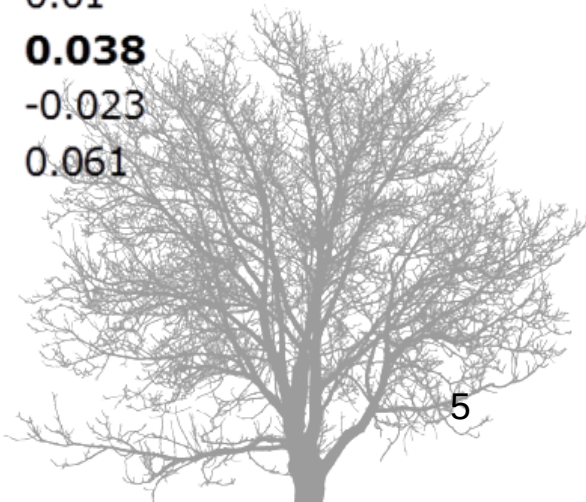
Contemporary Drivers

- Security
  - Food, water, energy, income etc.
- Climate Change response
  - Mitigation
  - REDD+
  - Adaptation
- Markets Opportunities
  - Green economy etc.
- Renewable Energy
- Lifestyle & Social organization
  - Coastal Settlements
  - Consumption etc.
- Conflicts
  - Arms
  - Wildlife etc.

Global & African Carbon Stocks & Fluxes

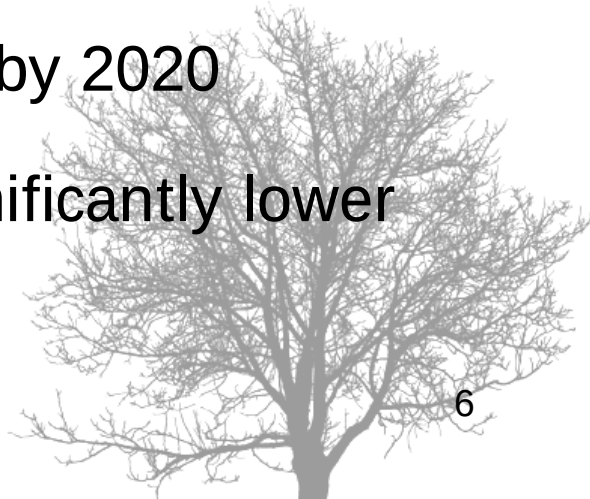
	Global Total	Africa Total
Land Area ($10^{12}m^2$)	**148.8**	**30.2**
Soil Carbon (Pg C y^{-1})	**1600 ± 220**	**200 ± 50**
Live Plant Carbon (Pg C y^{-1})	**610 ± 47**	**80 ± 28**
Net Land Use Emissions (Pg C y^{-1})	**1.7 ± 0.71**	**0.36 ± 0.05**
- Deforestation	1.42 ± 0.64	0.24 ± 0.12
- Conversion to Crops	0.83 ± 0.17	0.10 ± 0.01
Biomass Burning	**2.9 ± 0.9**	**1.1 ± 0.5**
- Deforestation	0.36 ± 0.26	0.07
- Shifting cultivation	0.60 ± 0.30	0.24
- **Savanna Fires**	**1.45 ± 1.14**	**1..47 ± 0.33**
- Fuel wood	0.51 ± 0.36	0.16 ± 0.08
- Agricultural residues	0.41 ± 0.24	0.01
Net Biomass Trade	**0.023**	**0.038**
- Gross Import	-0.345	-0.023
- Gross Export	0.370	0.061

Source: Williams *et al.* 2007



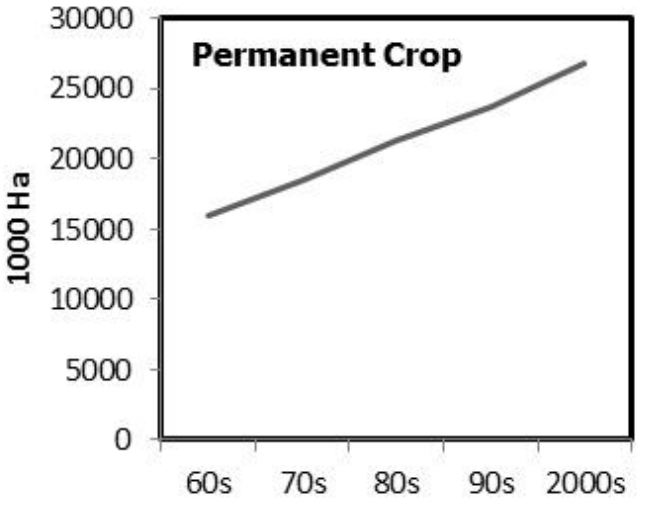
Emerging Trends likely to Affect LULUCF

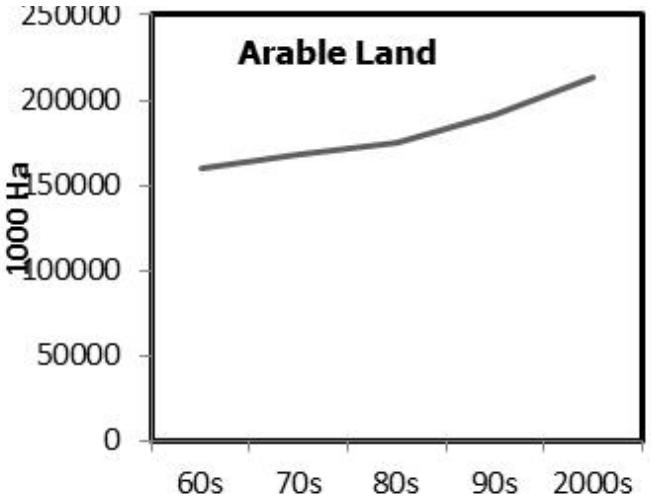
- Population increase ~47 % by 2020
  - Rapid urbanization (>50% urban population)
- Decrease in the growing season between 20-50 days (moderate) to 50-113 days (extreme)
- 356,000 km of coastline separating the continent from the ocean
- 20% of total area of mangrove lost between 1980 and 2005
- Increase wood fuel consumption by 34% by 2020
- Industrial wood removal is only 11%, significantly lower than global share (Economic Opportunity)



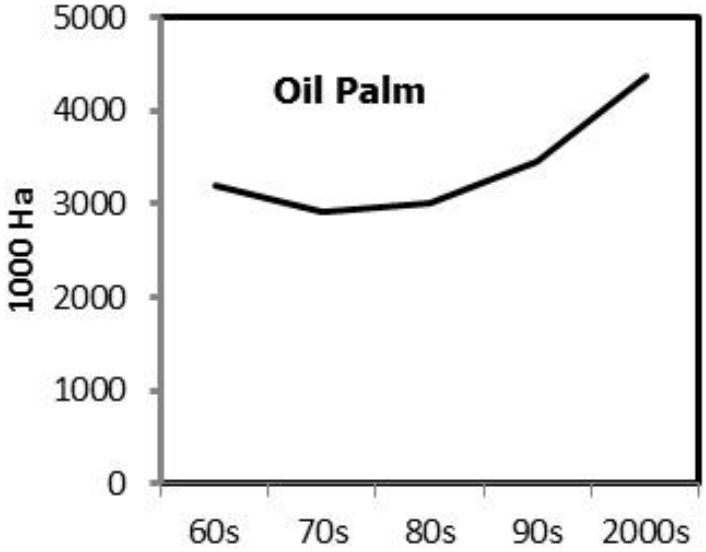
Trends in some Land Use Change in Africa

Food Security





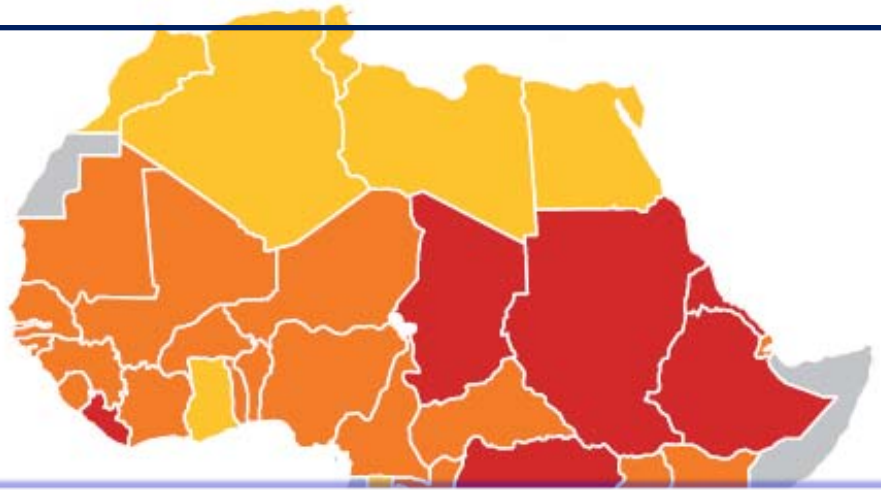
Bioenergy



Source of Data: FAOSTAT 2011

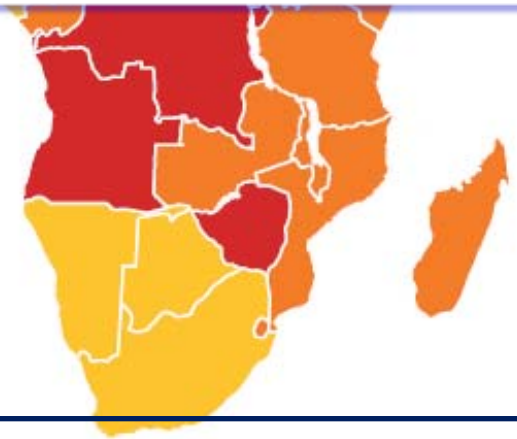
Bioenergy & Land Use Change

Jatropha curcas



Oil Palm belt

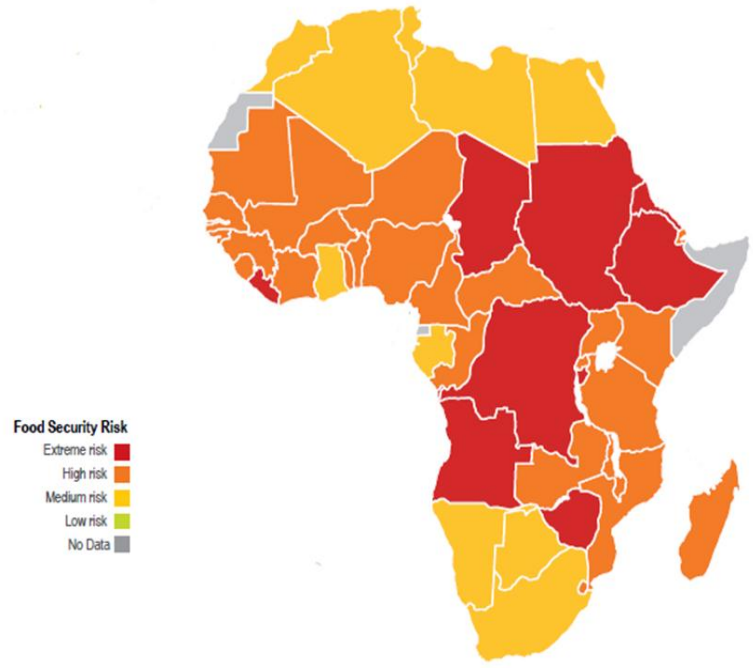
Jatropha curcas



Most suitable climates for *J. curcas* (30N; 35S) and Oil Palm *Elaeis guineensis* 4N 8S
Adapted from: Claims and Facts on Jatropha curcas (Jongschaap et al., 2007)

Implications of LULUCF

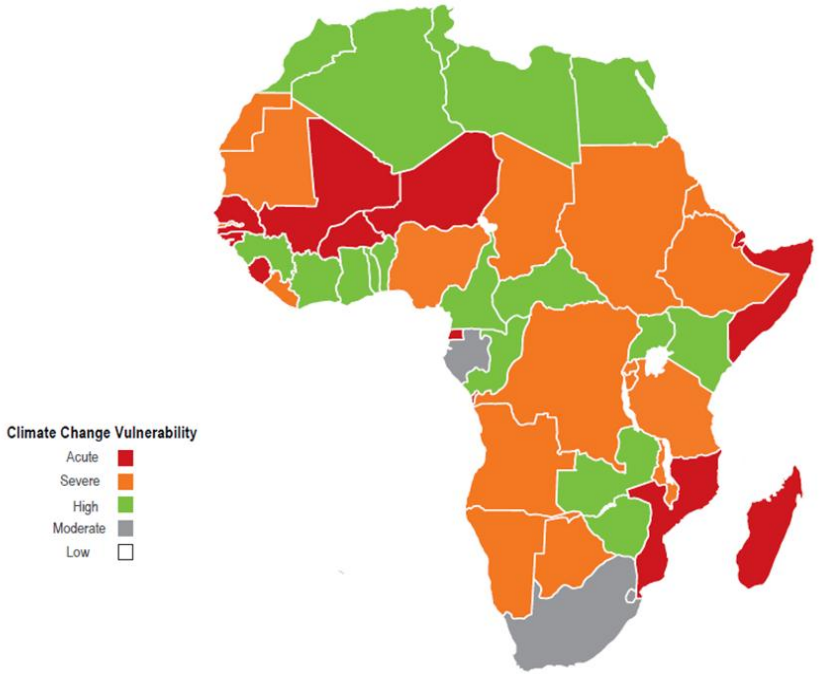
Food Security Risks



Source: IFPRI 2011

Climate Change Vulnerability

Rank	Country
1	Afghanista
2	DR Congo
3	Burundi
4	Eritrea
5	Sudan
6	Ethiopia
7	Angola
8	Liberia
9	Chad
10	Zimbabwe



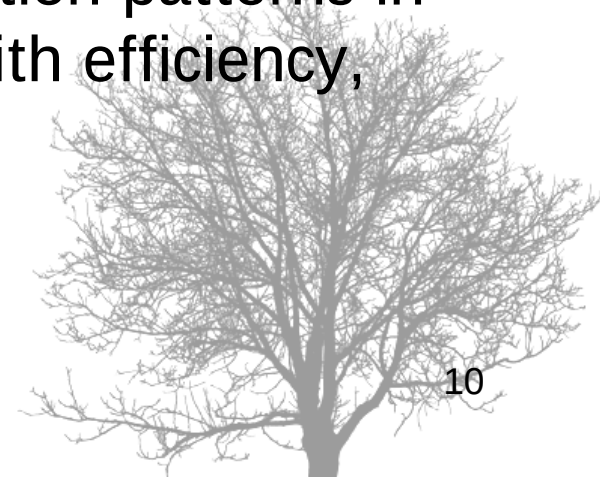
Source: The Climate Fund Update 2011, http://www.climatefundsupdate.org/

Recommendations

- Prioritizing cross-benefits in land-use change decisions e.g. food & fuel NOT food versus fuel; adaptation & mitigation

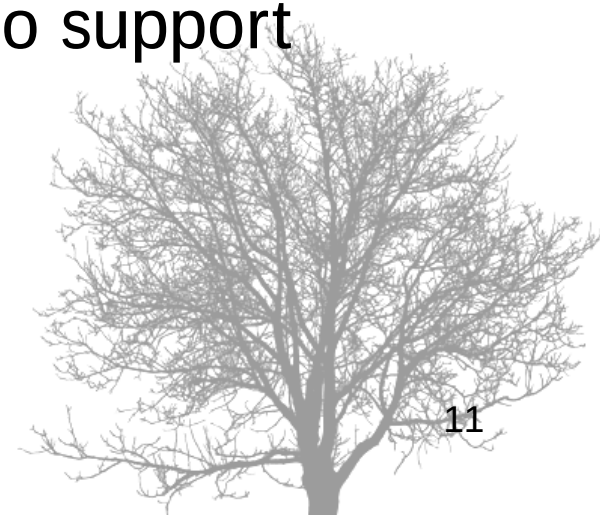
- Managing Land Uses and Land-Use Change as cost-effective measures for mitigating (e.g. REDD+), and adapting to climate change e.g. Mangroves, afforestation etc.

- Managing asymmetric growth & consumption patterns in containing (spatial & temporal) change with efficiency, equity and effectiveness



Follow-up Actions

- Targeted assessments & tracking changes in land-use & market trends for opportunities & trade-offs
- Setting realistic baselines
  - Biophysical baselines
  - Baselines weighing in the socio-economic needs of people
- Knowledge & capacity development to support decision-making processes



Thank You

Climate Change Adaptation & Development Programme (CC DARE)
United Nations Avenue – Gigiri
NOF South Block 2 Level 1
P. O. Box 30552-00100, Nairobi, Kenya
Tel (Office): (254-20) 7624770, (Mobile) 254 (0) 731 666 335
johnson.nkem@undp.org