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Opportunities and Constraints for Mitigation and Adaptation in African Agriculture

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Side Event „Adapting NRM in Africa: lessons learnt, ways foreward and the ‚Sustainable Land Management Programe‘“

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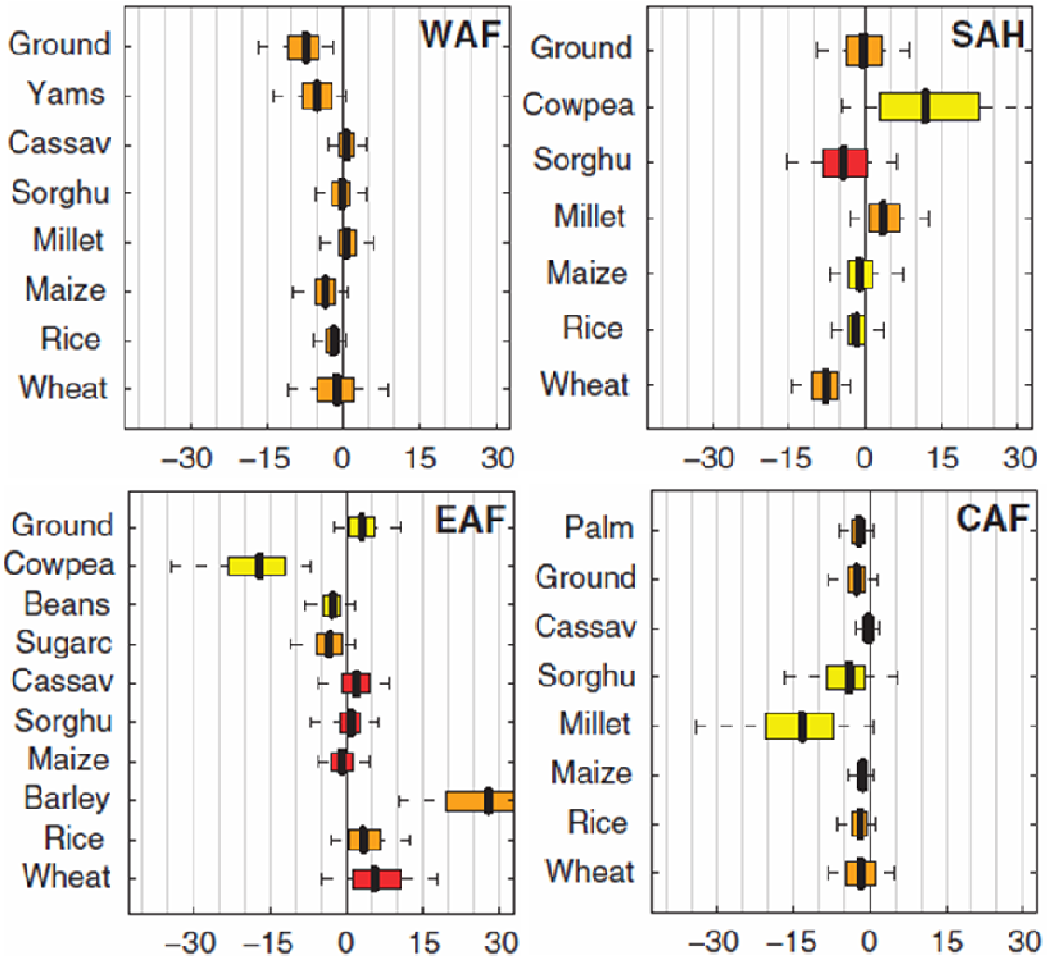
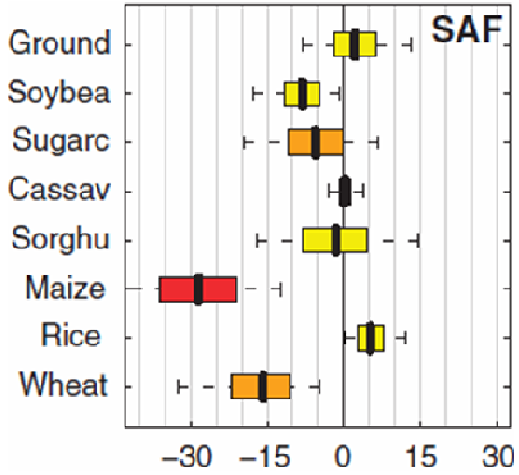
Impacts of Climate Change on African Agriculture until 2030





WAF – West Africa
EAF – East Africa
SAH – Sahel
CAF – Central Africa
SAF – Southern Africa

x-axis: Production Impact (%)

Source: Lobell et al., 2008

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Increasing Emissions from Agriculture in SSA

- 10-15 % of global emissions from agriculture with an increasing tendency
- 8 % of all global GHG emissions from Africa
- Africa‘s share higher in land use (21 %) and biomass burning (37 %)
- Largest increase expected for SSA and Middle East/North Africa

Region	N_2O soils	CH_4 enteric	CH_4 rice	CH_4, N_2O manure	CH_4, N_2O burning	Total
Sub-Saharan Africa						
Mt CO_2-eq. $year^{-1}$ in 1990	252	183	12	12	145	603
% change in 2005	39	34	81	33	−1	28
% change in 2020	102	77	172	83	−1	70

Source: Smith et al., 2007

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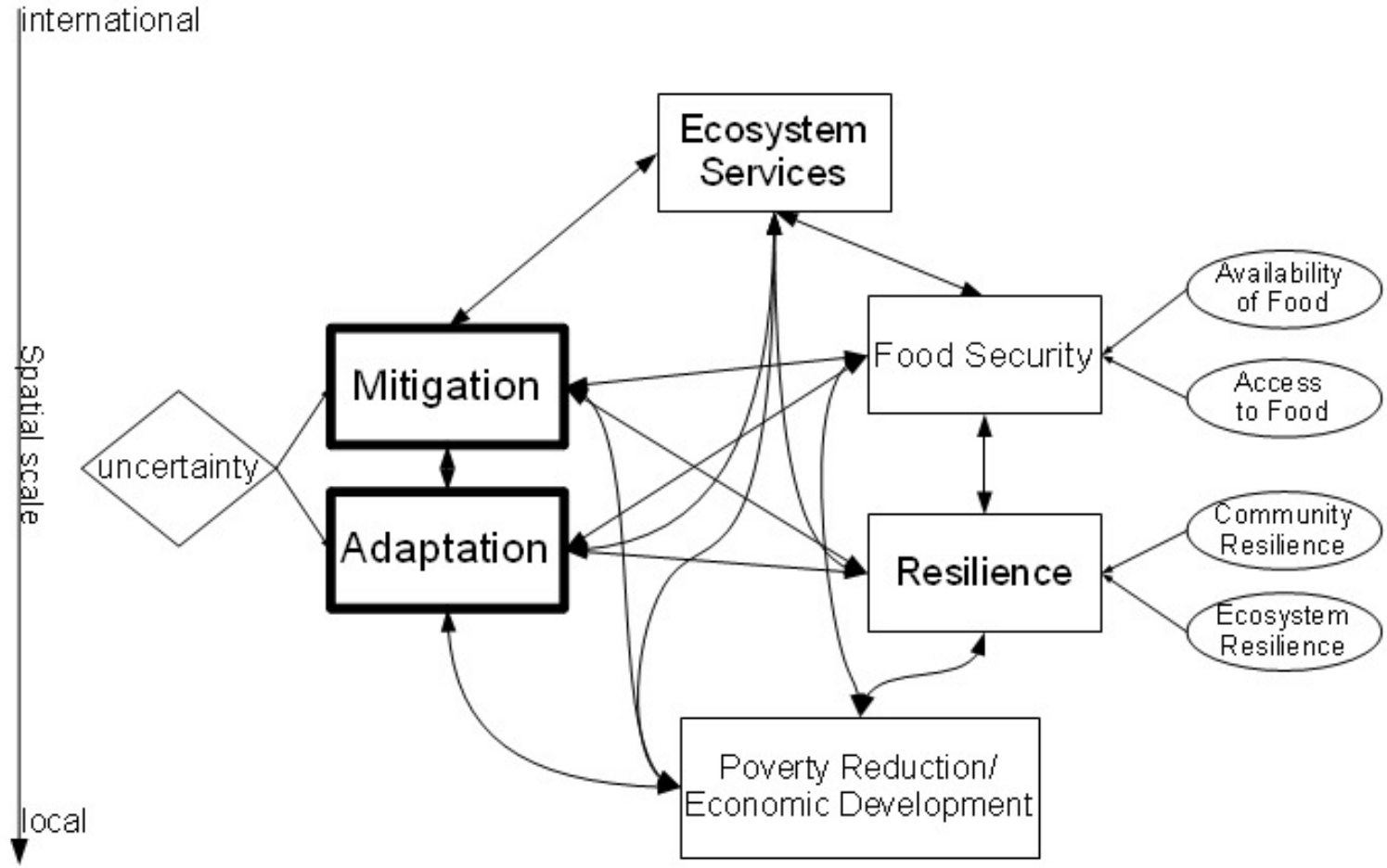
Multifunctional Agriculture



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Impacts of Agricultural Practices

	Mitigation	Adaptation	Food security	Poverty reduction	Resilience	Ecosystem services
Agronomy	+/-	+	+	+/-	+	+/-
Nutrient management	+	o	+	+/-	o	+
Tillage/residue management	+/-	+	+	+/-	+/-	+/-
Water management	+/-	+/-	+	+/-	+/-	?
Agroforestry	+	?	+/-	+	+	+
Set-asides	+	-	-	-	+/-	+
Grazing land management	+/-	+	+/-	+/-	+	+
Restoration of degraded lands	+/-	+	+	+	+	+
Livestock management	+	o	+	+/-	+	?
Manure management	+	o	o	?	o	+

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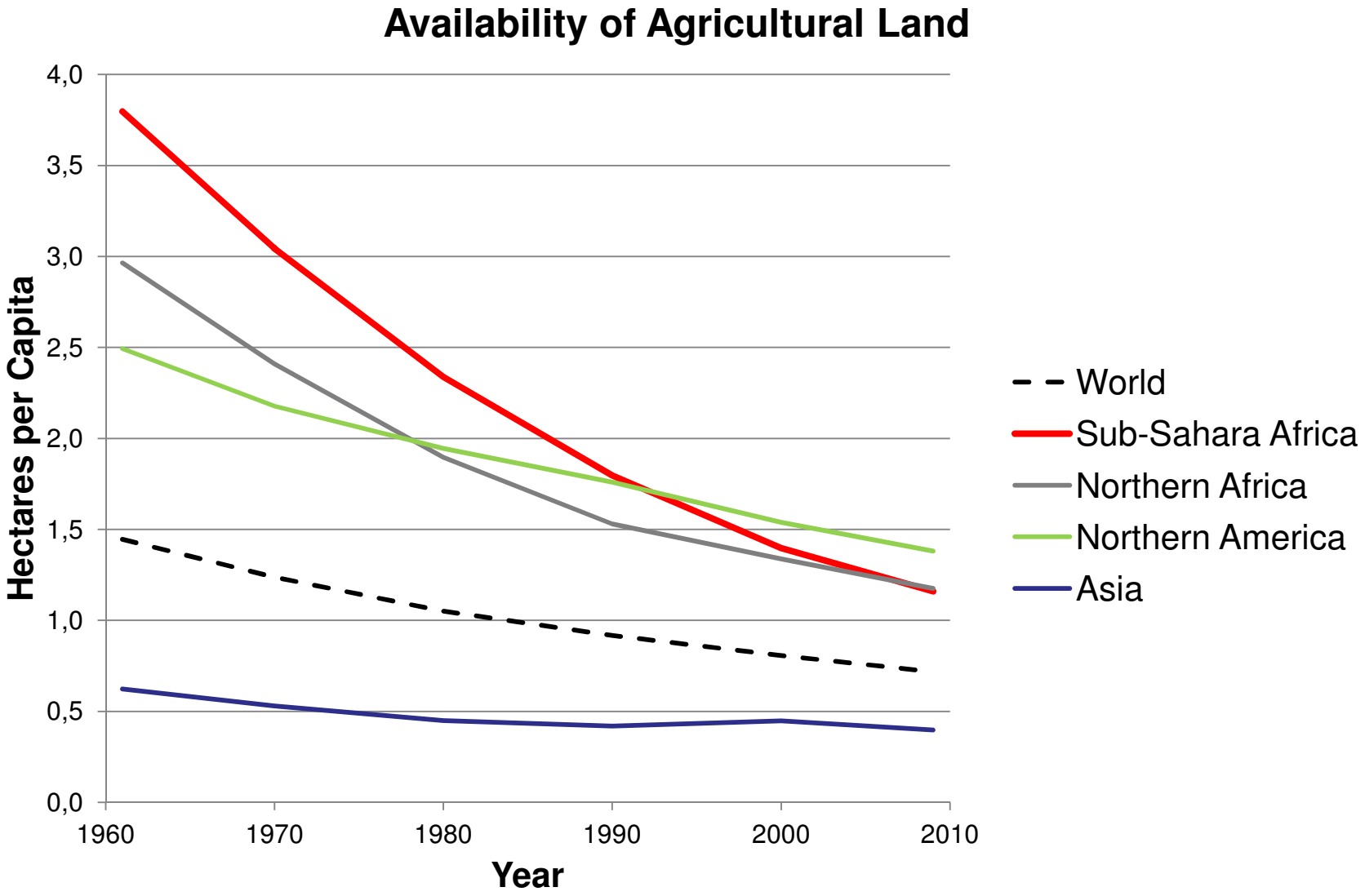
Expansion or Intensification?



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Constraints for Implementation of Multifunctional Agriculture in SSA

- Decades of Neglect of Agriculture =>

- Weak Institutions and Extension Services

- Lack of technologies and input

- Unclear land rights

- Foreign direct investment in land and other „new“ challenges

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Conclusions

- Many examples for multifunctional agriculture are existing

- Improvement of acces to information, inputs, infrastructure, markets

- Integrated approaches => further benefits of mitigation activities (e.g., social and environmental safeguards)

- Ensure social inclusion

- Learning from and linking with REDD

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Thank you for your attention!

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