

Dialogue on Climate Change Adaptation
for Land and Water Management

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Presentation of Dialogue Process Initiative

**Workshop in Cape Town, South Africa
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**Facilitated by Danish Research Networks
(DDRN, DWF and SUNNET)**

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***Focus of Dialogue Process -
identification of guiding principles
enhancing***

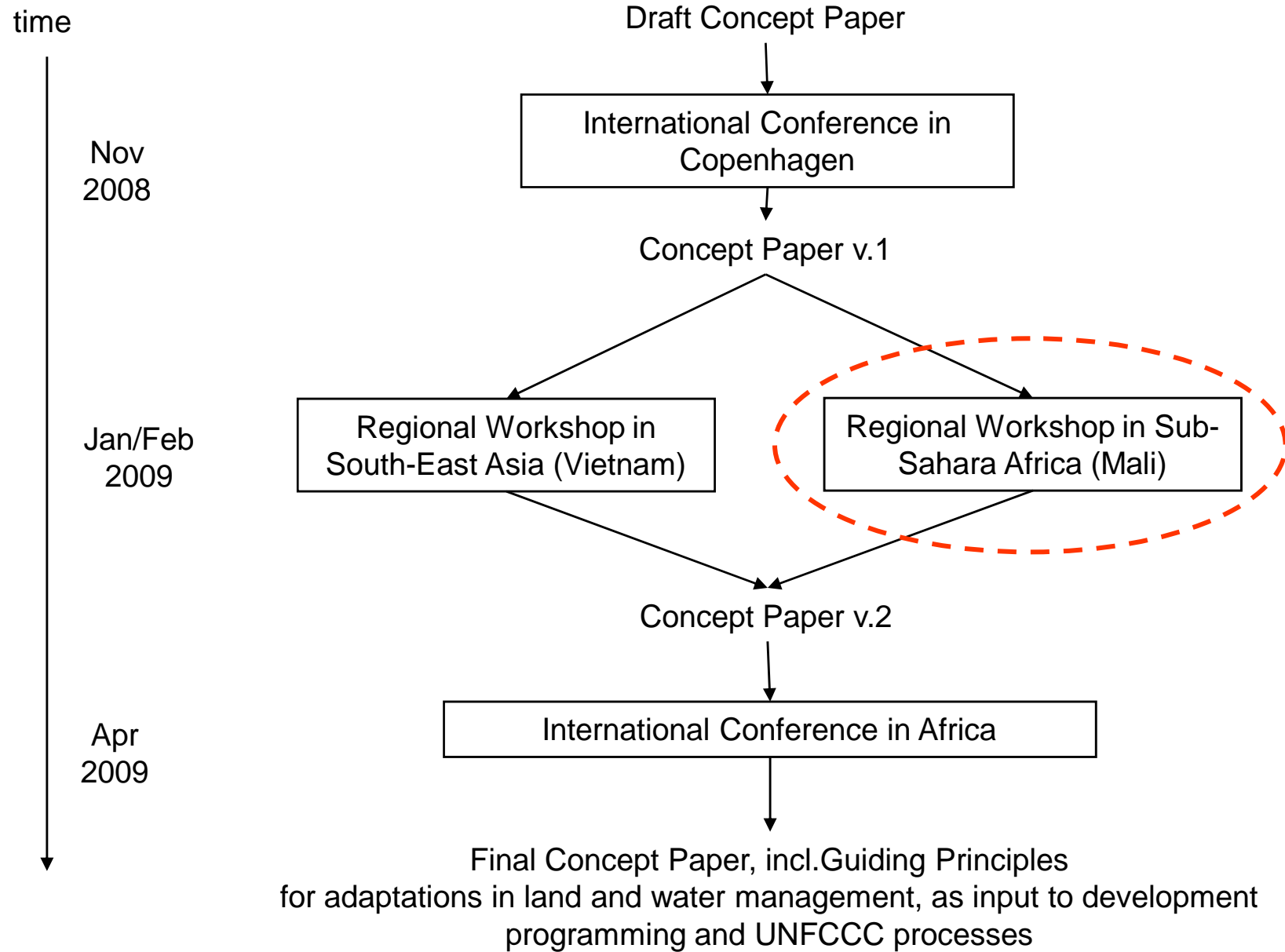
adaptive capacity and resilience to climate change
of
private and public
land and water management systems
in the context of
poverty alleviation and sustainable development.

Action !

Output

- **Guiding principles**
 - Support for UNFCCC work on adaptation
 - Input to COP15, Copenhagen December 09
 - Alliances, Action Pledge
 - Recommendations for development programmes
- **Recalling the example of the Dublin principles for water management (Rio 1992 -):**
 - Freshwater as a finite resource
 - Participatory approach
 - Central role of women
 - Water as an economic good

Cornerstone of Integrated Water Resources Management



Major impact areas of climate change (IPCC 4th AR, 2007)



Why Land & Water Management -

- management of land, water and biological resources for -

Protection
Settlements
and habitats



Food production
Livelihoods
Economic growth



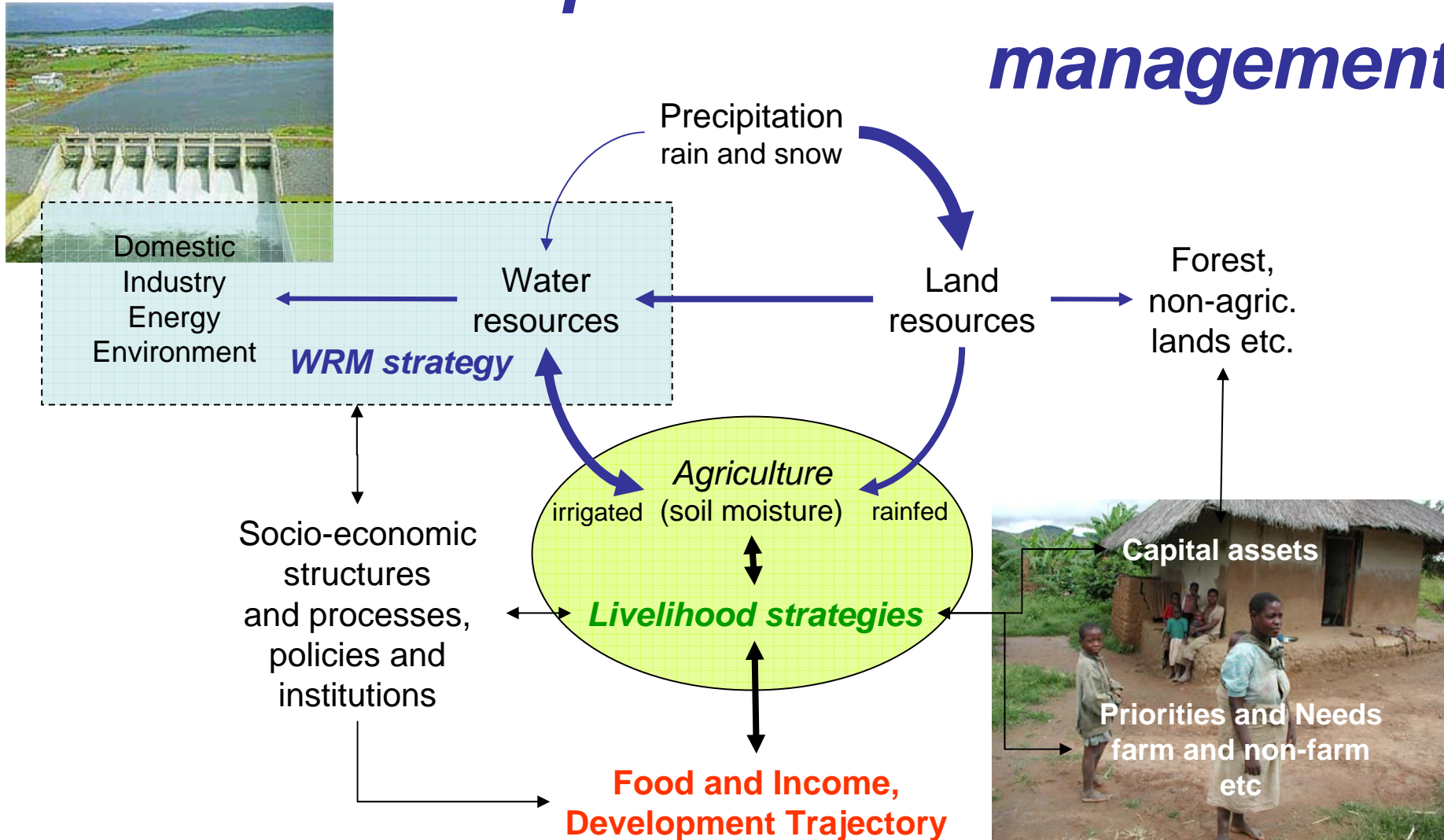
Water services
Irrigation
Domestic, Industry
Energy, Environment



already under pressures

Growing populations and mega-cities, increasing demand and competition for land, water, food and energy, ecosystem degradation, diseases and pests, financial crisis

Integrated approaches needed for adaptation in land and water management



The poor, marginalised are the most affected - and mainly responsible for adaptation actions -

- 60% of the poor live in rural areas and depend on agriculture for their livelihood
- Vulnerability and livelihood strategies multidimensional and diverse
- Women may contribute 60 - 80% of labour used in food production
- 12+ million internally displaced people
- (Agro-)Pastoral societies in Sahel and S-Africa



Effective adaptation must address farmers' barriers to adaptation – adaptation linked with pro-poor development agenda

poverty
 lack of knowledge and
 access to labour, land and water and credit

Table 1 Barriers to adaptation in the Limpopo River Basin (% of the respondents)

	Lack of information about climate change	Lack of knowledge concerning appropriate adaptations	Poverty or lack of credit or savings	No access to water	Insecure property rights	Poor transport links or lack of market access	Others	No barriers
Total Basin	6	2	54	21	10	6	11	1
Limpopo	4	3	24	33	14	10	8	8
Northwest	10	0	55	3	3	1	9	22
Gauteng	0	0	32	12	0	4	20	10
Mpumalanga	9	2	48	9	6	1	13	23

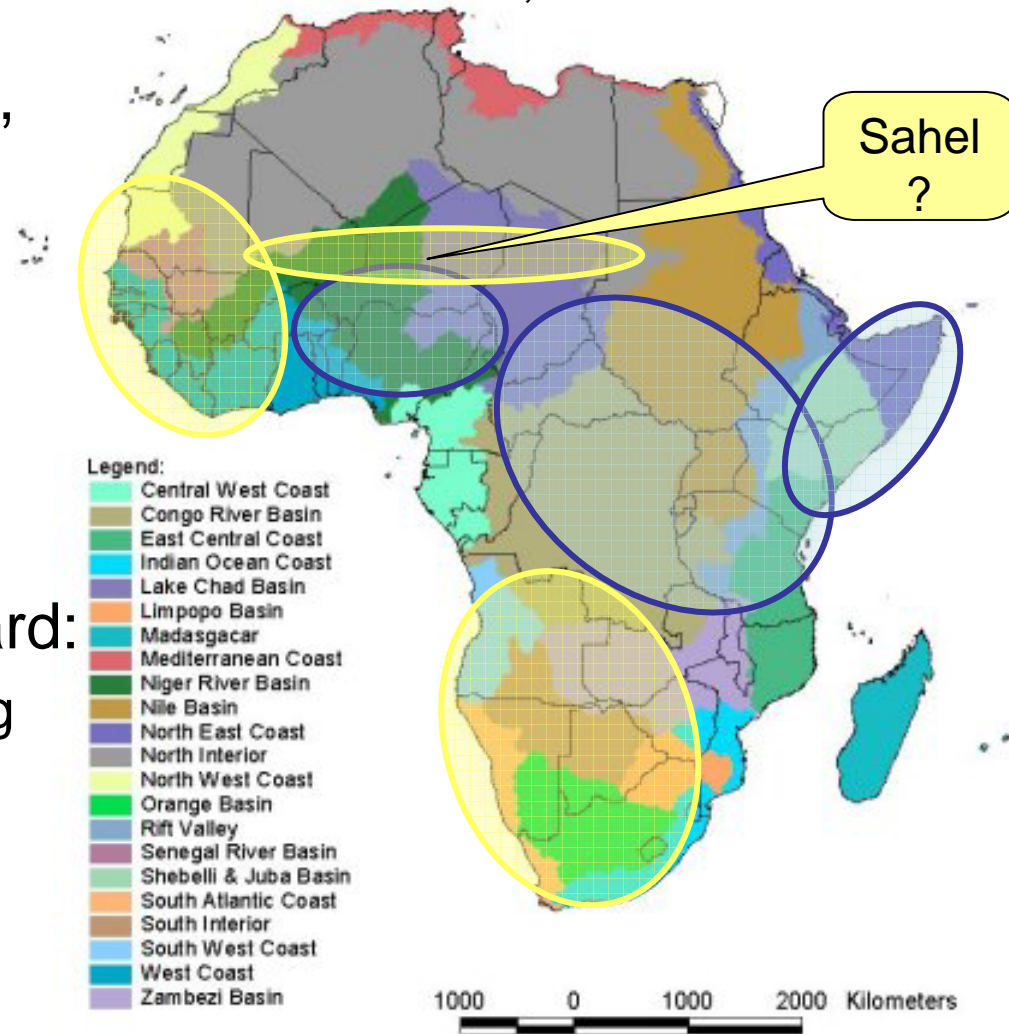
(IFPRI case studies in Ethiopia and South Africa)

Rainfall and Water availability

high uncertainty

- Major rainfall changes suggested for river basin, eg.:
 - 2030: -17% to +13%
 - 2080: -33% to +27%
- Runoff and water availability changes
- Responses – soft and hard:
 - Storages, water harvesting
 - Efficient use of water
 - Flood control
 - Drought management
 - Early warning systems

Major basin groups of Africa
Runoff changes of 8 to 15% by 2050:
Yellow: drier; Blue: wetter



(Based on Conway and Golden, 2007)

Existing approaches for integrated land and water management are potential no-regret adaptation actions

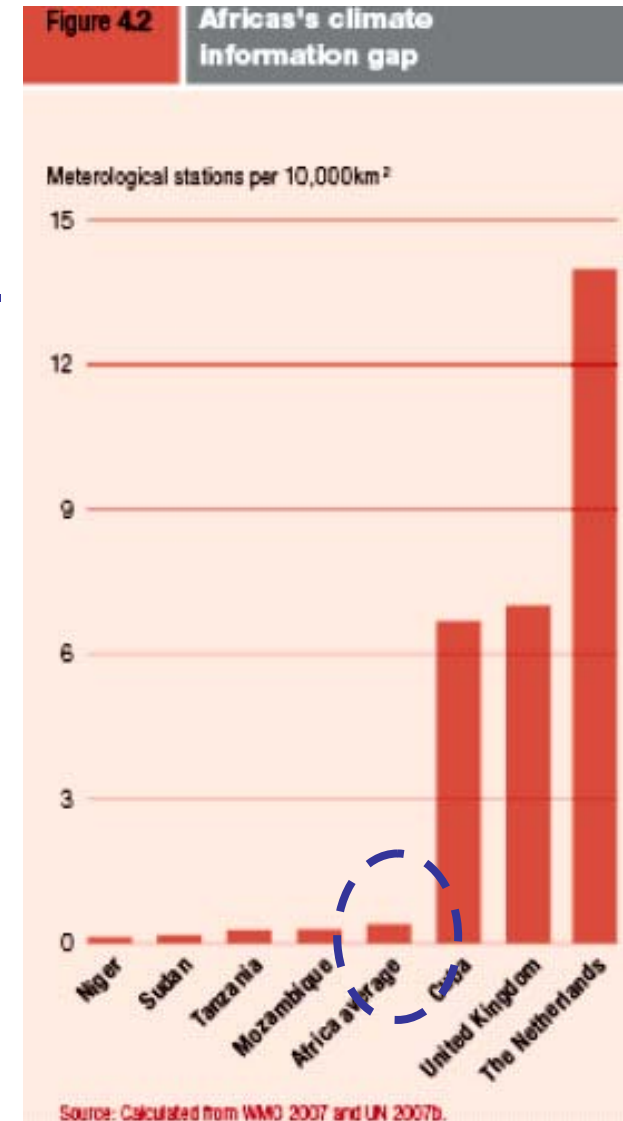
Strategies yielding benefits regardless of future climate scenarios

- Address the climate – development nexus
- Build climate (and general) resilience
- More effective in short-term
- Address current development priorities and needs
- Guiding principles appropriate also in CC-context



Adaptation approaches must be well-informed ***- knowledge and dissemination gaps -***

- Uncertainty (GCM etc, downscaling)
- Non-stationarity (reassess agric. potential and water structures)
- Hydrometeorological data
- Tools (models, early warning)
- New land-use practices
- Local knowledge
- Vulnerability $><$ CC; hot spots



Implications for adaptation ?

- Integrate with general development, CC one of several development challenges
- Focus on improved management of current climate variability (no-regret land & water interventions)
- Target overall vulnerability and resilience
- Focus on the needs of the poor and marginalised; local/community level
- Realise adaptation-mitigation-development synergies
- Holistic, integrative and multi-sectoral



Adaptation challenges - summary

- **Facilitate adaptive capacity and resilience in many small-scale and diverse households**
- Integrating livelihood, land and water resources and ecosystem concerns across scales and sectors
- Building management capacity in water resources systems and identify and invest in water infrastructure adaptations
- Resolve distributional issues (winners – losers)
- Facilitate exit from non-viable land and water use activities
- Financing mechanisms



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Thank you

Enjoy the workshop