

Principles of Watershed Services & the Ecosystem Approach

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Outline

1. Watershed services
2. Applying the Ecosystem Approach
3. Ecosystem valuation and natural infrastructure



*water purification
flow regulation
water storage*



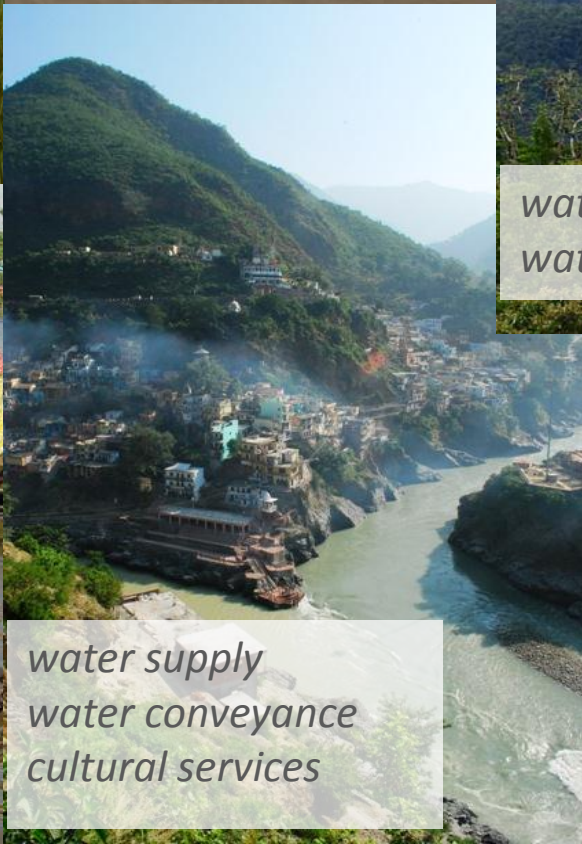
water for food



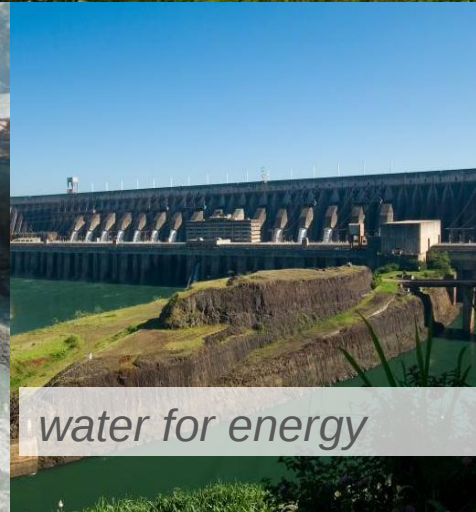
*water supply
water storage*



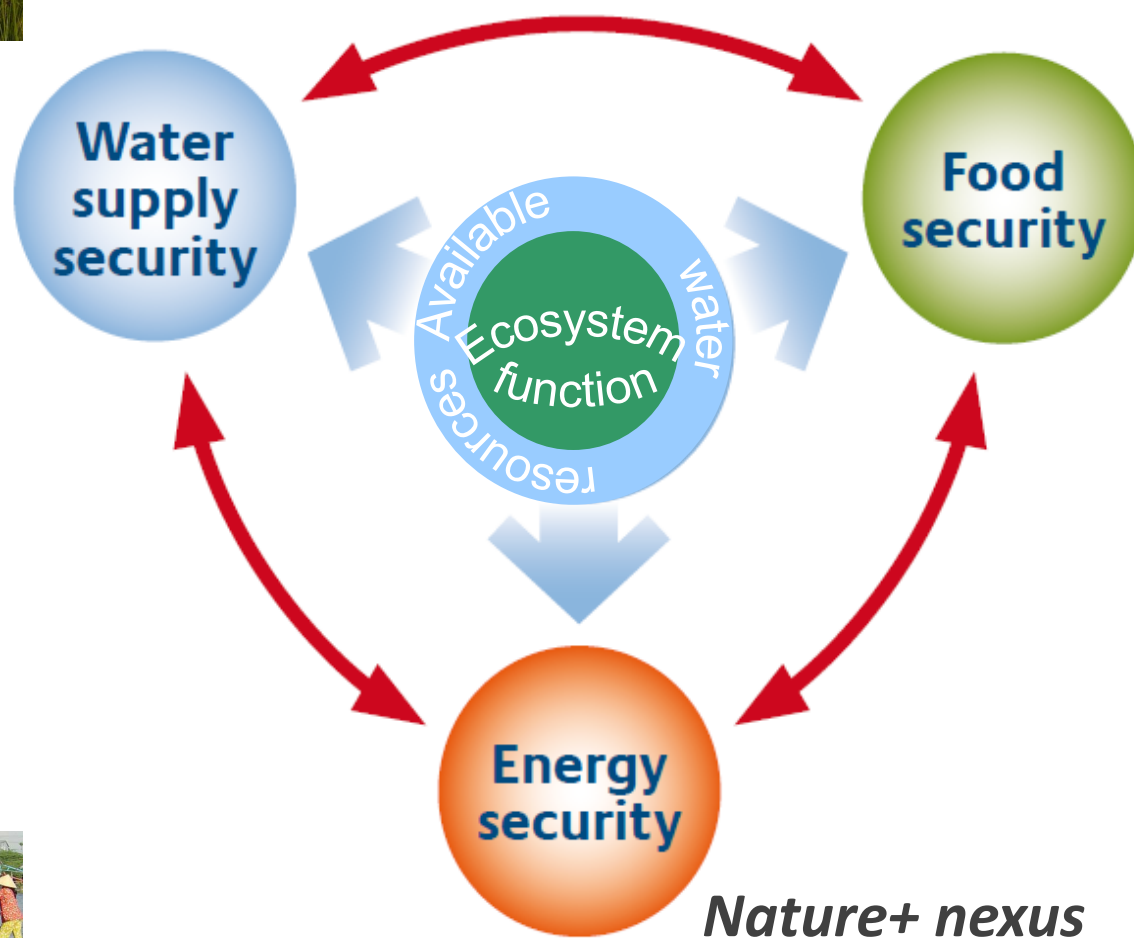
fisheries provision



*water supply
water conveyance
cultural services*



water for energy



Nature+ nexus



Ecosystem Approach, or Not?

IWRM...

‘a process which promotes the **coordinated development and management of water**, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems’

Nature as constraint

- mitigate
- offset
- minimise

Nature as a toolbox

- service
- solution
- starting point

What you do...

- maintain/restore ecosystem functions and services

... and how you do it

- enhance equitable sharing of benefits
- promote adaptive strategies
- implement management actions through decentralisation
- foster intersectoral / inter-disciplinary cooperation
- create platforms for negotiation

Komadugu Yobe/Lake Chad

- drought – 1970s & 1980s
- population 23m, growing at 2.5%
- flow declined 35% since 1960s
- failed dam & irrigation projects
- devastation of agriculture, fisheries
- siltation and infestation
- rising conflict
- institutional paralysis
- deeper poverty, increasing vulnerability

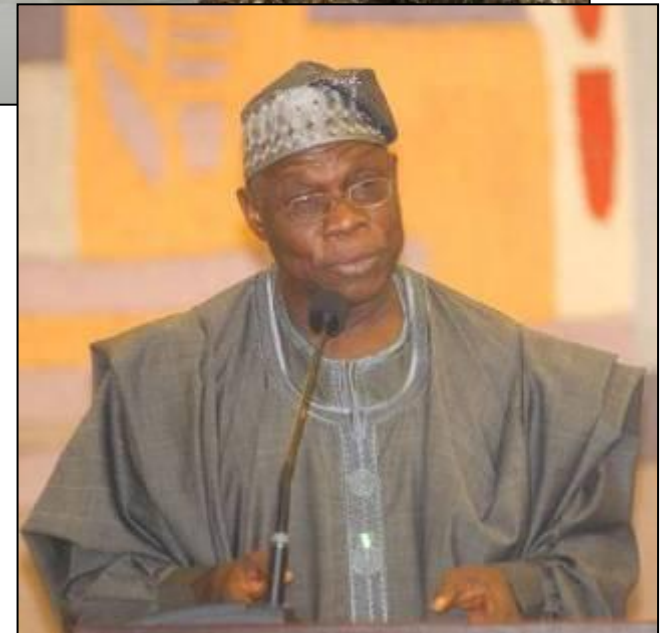


Watershed Services Lost

- Water supply/conveyance
- Crop irrigation
- Soil nutrient dispersal
- Fisheries productivity
- Weed control
- Hazard regulation
- Wildlife habitat
- Heritage & identity



- Information: water audit
- Consensus building: catchment management plan
- Results : pilot restoration
 - flows and fish habitat
 - conflicts resolved
 - livelihood prospects ↑
- Agreements & governance reforms: water charter
- Trust fund for investment



Catchment Management Plan

1. Normalisation of flows
2. Conservation of water, soil & biodiversity
3. Sustainable use and regulation of groundwater
4. Foster efficiency & multiple use of water

What you do...

maintain/restore ecosystem functions and services



5. Getting better information
6. Social mobilisation and strengthening capacity
7. Establishing partnerships to enhance equitable sharing of benefits
8. Improving national policy/legislation & international agreements

... and how you do it

- promote adaptive strategies
- implement management actions through decentralisation
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- create platforms for negotiation





2. Applying the Ecosystem Approach

The IUCN Water & Nature Initiative

1

New national water policies

2

Multi-stakeholder platforms empowered

3

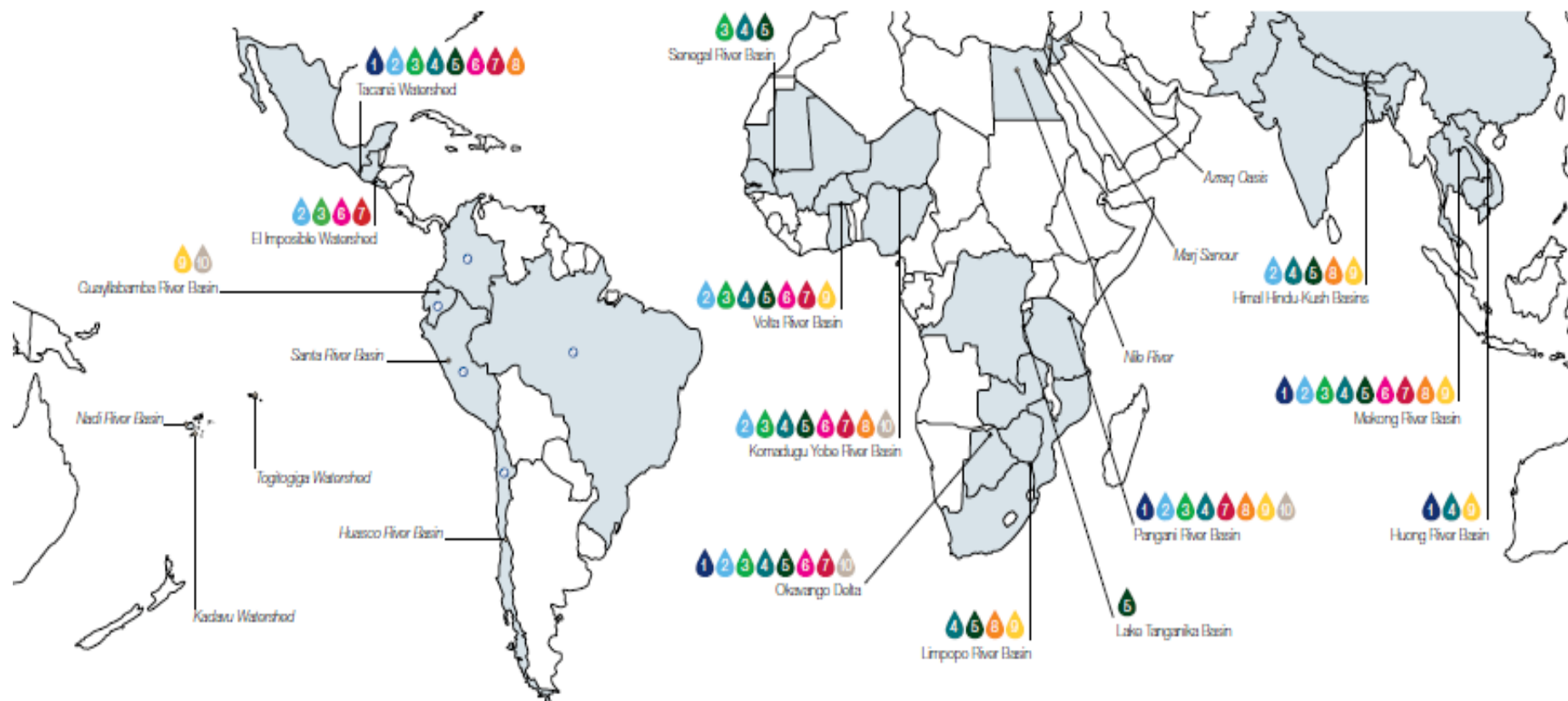
Basin-level water forums

4

Partnerships for sustainable water

5

New transboundary agreements



6

New income generation for poor people

7

New assets for sustainable livelihoods

8

Reduced vulnerability to climate risks

9

Toolkits drive innovation

10

Major basin financing mobilised



Ecosystem Approach to Action Plan

1. What is the problem?
2. What ecosystem services are needed to solve the problem?
 - what technologies, infrastructure and/or ecosystem services are needed?
3. What actions are needed on the ground?
4. What governance is needed to enable action?
5. Who needs to be empowered to act?
6. What knowledge and capacities are needed?
7. What incentives and financing are needed?





3. Ecosystem Valuation & Natural Infrastructure

<i>Facility</i>	<i>Built</i>	<i>Natural</i>	<i>Valuation</i>	<i>Investment</i>
Storage	• reservoir	• upland soils • lakes • aquifers		
Conveyance	• canals	• rivers		
Flood regulation	• levees • dams	• wetlands • floodplains		
Water filtration	• filtration plant	• wetland		
Coastal protection	• sea walls • breakwaters	• mangroves & reefs • barrier islands		



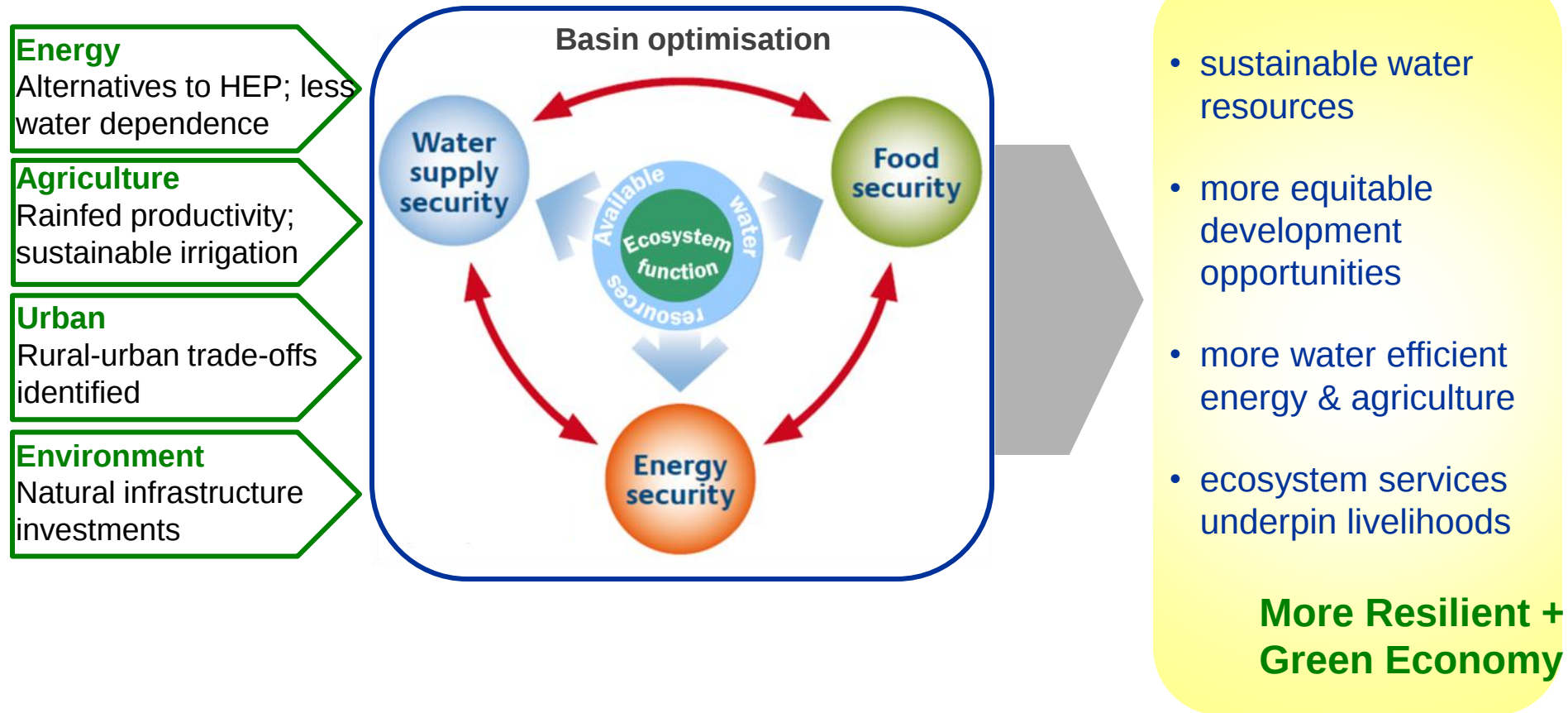
Ecosystems are infrastructure –
part of the “*stock of facilities, services
and installations needed for the
functioning of a society and economy.*”



Think different.

About nature.

Basin infrastructure portfolios



Based on: ECOWAS, 2012



Financing Needs



Build & Refurbish

Restoration

Operations

Resource Management

Maintenance

Conservation



Re-thinking investment

- Basins – built + natural infrastructure
 - multiple objectives
 - engineering
 - ecosystems
 - people & institutions
- Investment mechanisms
 - PES
 - city water funds
 - strategic investment





What to invest in?

- Qualitatively different
 - ecosystem restoration & mgt.
 - tools & technologies
 - stakeholder knowledge and skills
 - empowering people to act
 - participation, consensus building
 - good water governance
- Social development & equity
- Mobilising the 7 questions...





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