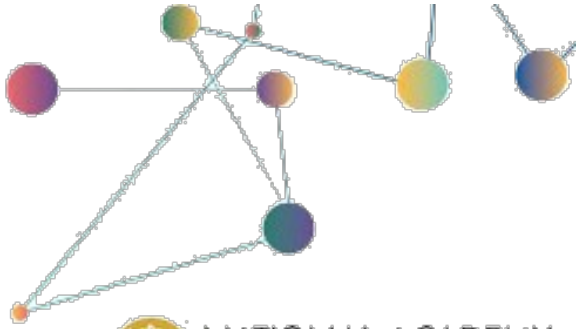
International Institute for Applied Systems Analysis
IIASA www.iiasa.ac.at

Inter-American Water Resources Network
Red Interamericana de Recursos Hídricos
Reseau interaméricain des ressources hydriques
Rede Interamericana de Recursos Hídricos
www.iwrn.org - www.rirh.org - since/desde 1994

science for global insight

Systems Analysis and the Americas



International Institute for Applied Systems Analysis
IIASA www.iiasa.ac.at

CAPES

FGV

NATIONAL ACADEMY OF SCIENCES

Water Futures and Solutions
WFaS for the Americas

Alberto Palombo, Secretary and Executive Director
Inter-American Water Resources Network

Rio de Janeiro, 5-6 September, 2019

International Institute for Applied Systems Analysis
IIASA www.iiasa.ac.at

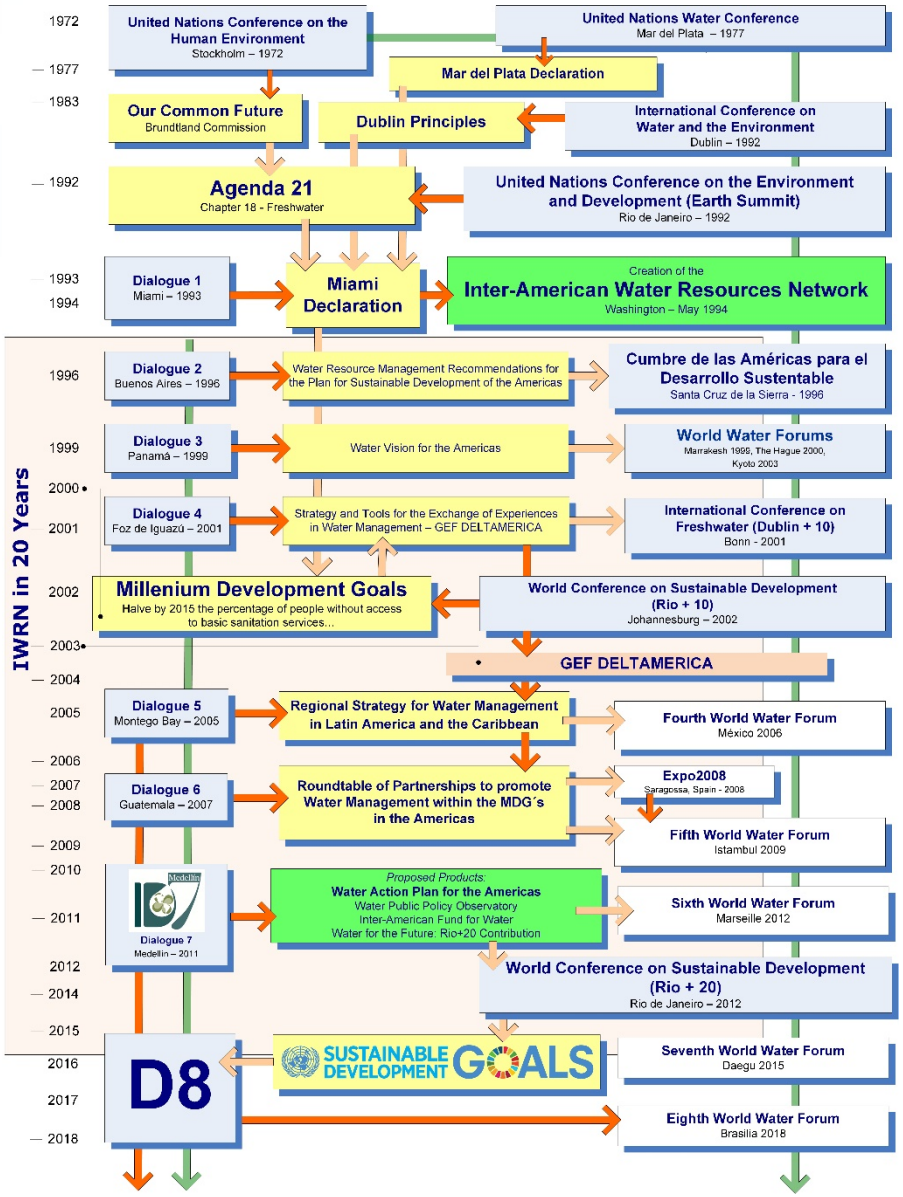
Inter-American Water Resources Network
Red Interamericana de Recursos Hídricos
Reseau interaméricain des ressources hydriques
Rede Interamericana de Recursos Hídricos
www.iwrn.org - www.rirh.org - since/desde 1994

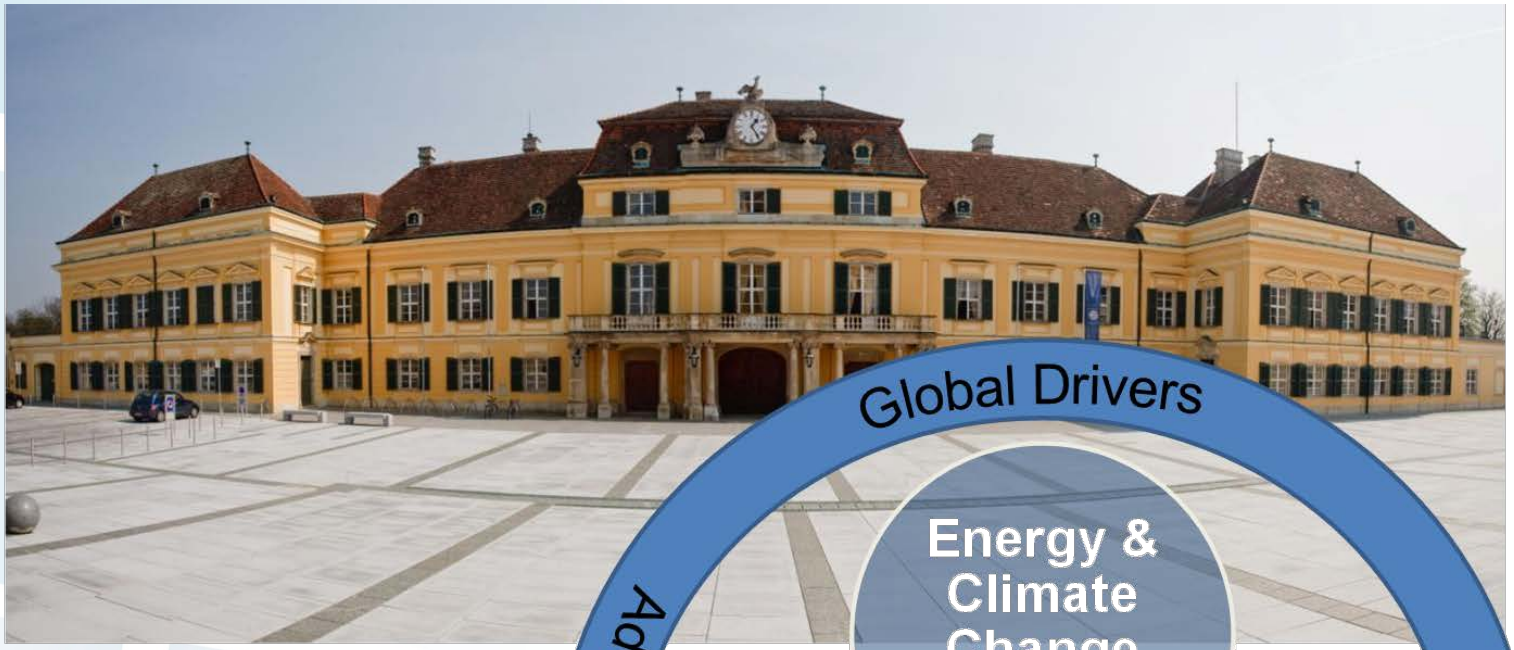
Inter-American Water Resources Network

- Founded in 1994 as the main recommendation of the First Inter-American Dialogue on Water Management
- Multi-Stakeholder, formal participation of Member States of the Americas through the OAS
- Organized 7 Water Dialogues and several specialized meetings since 1993 (Fortaleza 2015, Bogotá 2018)
- Executed through the OAS the GEF-DELTAMERICA Project
- Recognized as a formal mechanism for the discussion of water management issues to assist in public policy discussions (OAS Inter-American Council for Integral Development - CIDI)
- Preparing a GEF MSP proposal to establish the WFAS CoP for LAC

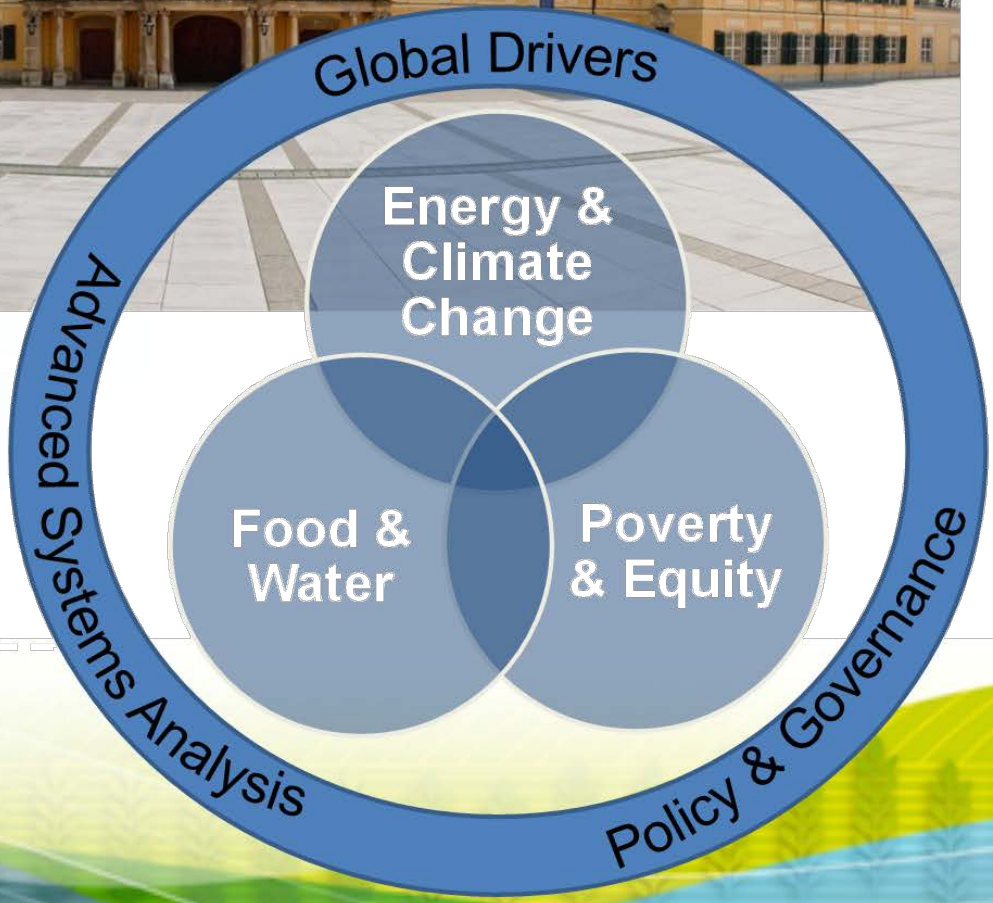
Inter-American Water Resources Network

- IWRN has served as a barometer to measure the development and impact of water policy enactment as well as recommending better management practices since 1994 across the Americas.
- It is a network of networks, honing on water issues across society.
- Each Dialogue has left a positive mark for the countries that have hosted them.
- It proposes collaborative initiatives like WFAS, CoP on water governance, and water information summits.



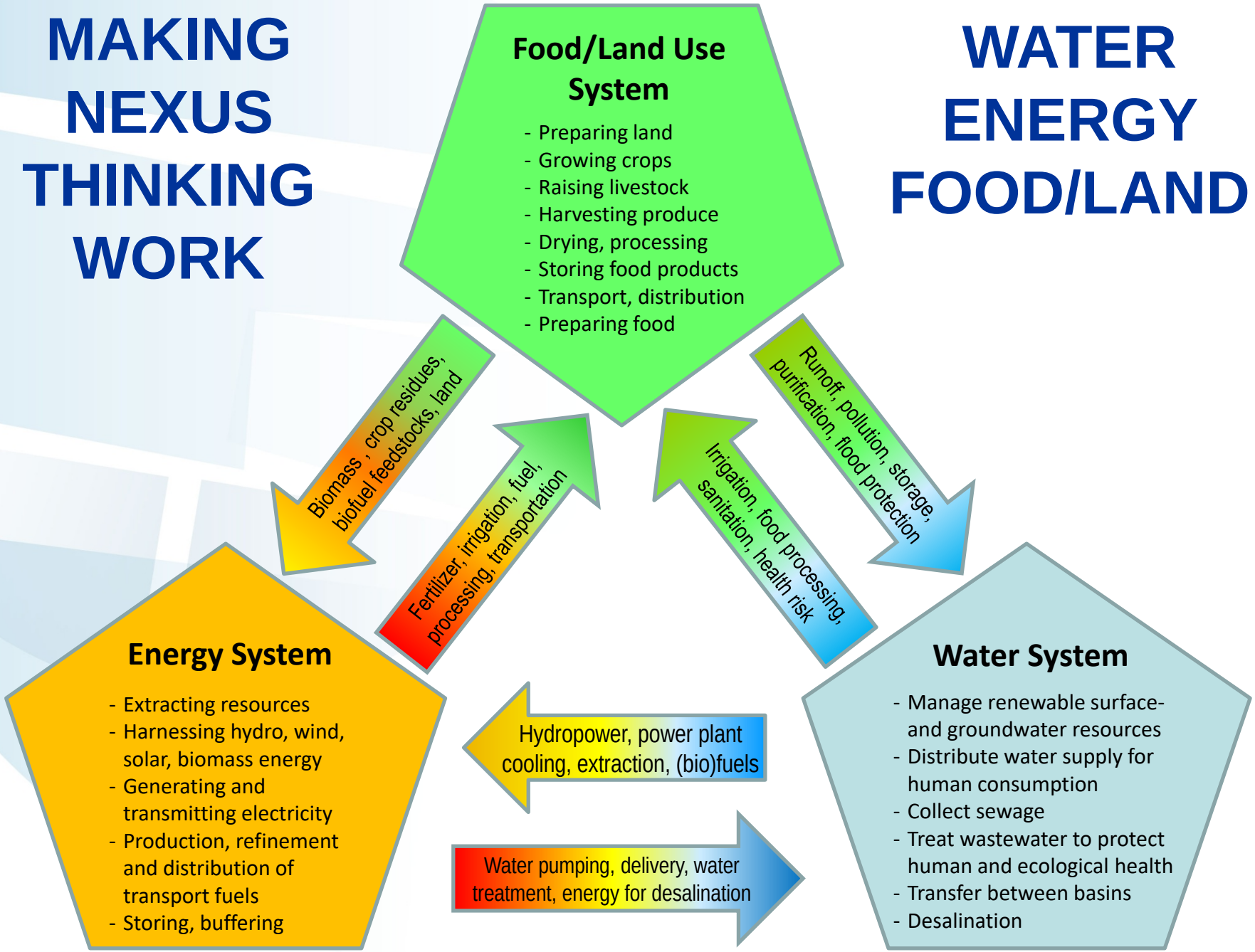


IIASA - RESEARCH FOR A CHANGING WORLD



MAKING NEXUS THINKING WORK

WATER ENERGY FOOD/LAND



IIASA | PiRHO iWRN

Context: A rapidly changing (complex) world

- Up to 2 billion more people by 2050.
- Need to produce 70% more food.
- With increasing development energy and food demands are rising. Water demands to meet these are expected to rise by 55%.
- Set against a background of a more variable and changing water resource availability.
- Up to 40% of the world´s population will live in severe water stressed regions.
- Increased migration (from climate, resource scarcity)

What actions –policies/investments supported by evidence for interaction?

Context: A rapidly changing LAC

- LAC is the fastest growing region in the world – urban-wise and economically
- More than 60% of LAC is on transboundary basins or aquifers – need for proactive collaboration and good neighboring
- The region is the largest agricultural frontier of the world – Pressure on water resources by farming will be also one of the greatest in the world.
- Heterogeneous water availability: Tropical rainforest (Amazon – super humid) and driest dessert (Atacama)

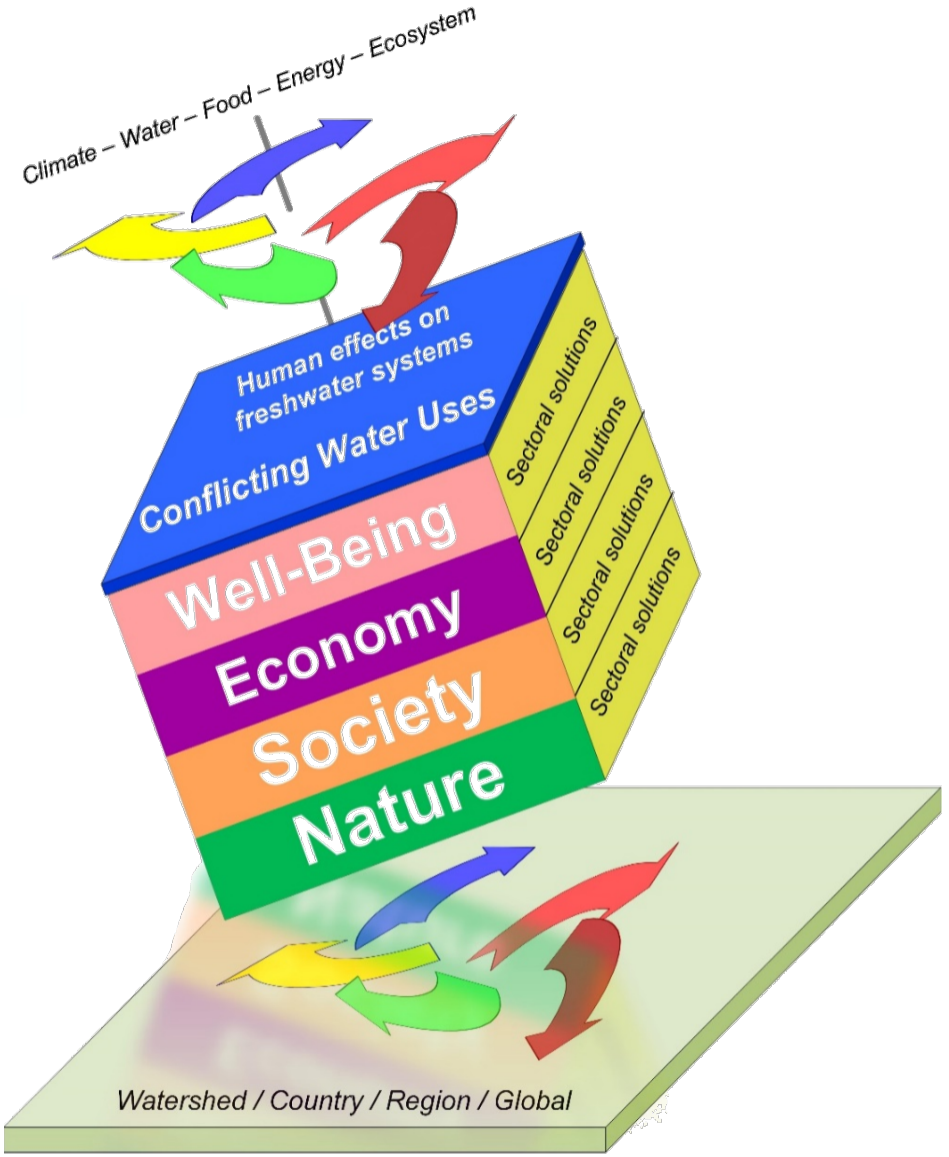
What actions –policies/investments supported by evidence for interaction?

Science to policy elements

- Provide best available evidence
- Diagnostic- scale and magnitude of the challenges
- Develop scenarios
- Pathways to targets
- Pathways to meet basin, national, regional and global needs
- Possible options and solutions for the future
- Understand synergies and trade-offs
- Set indicators to have significant points of reference

Current dynamics

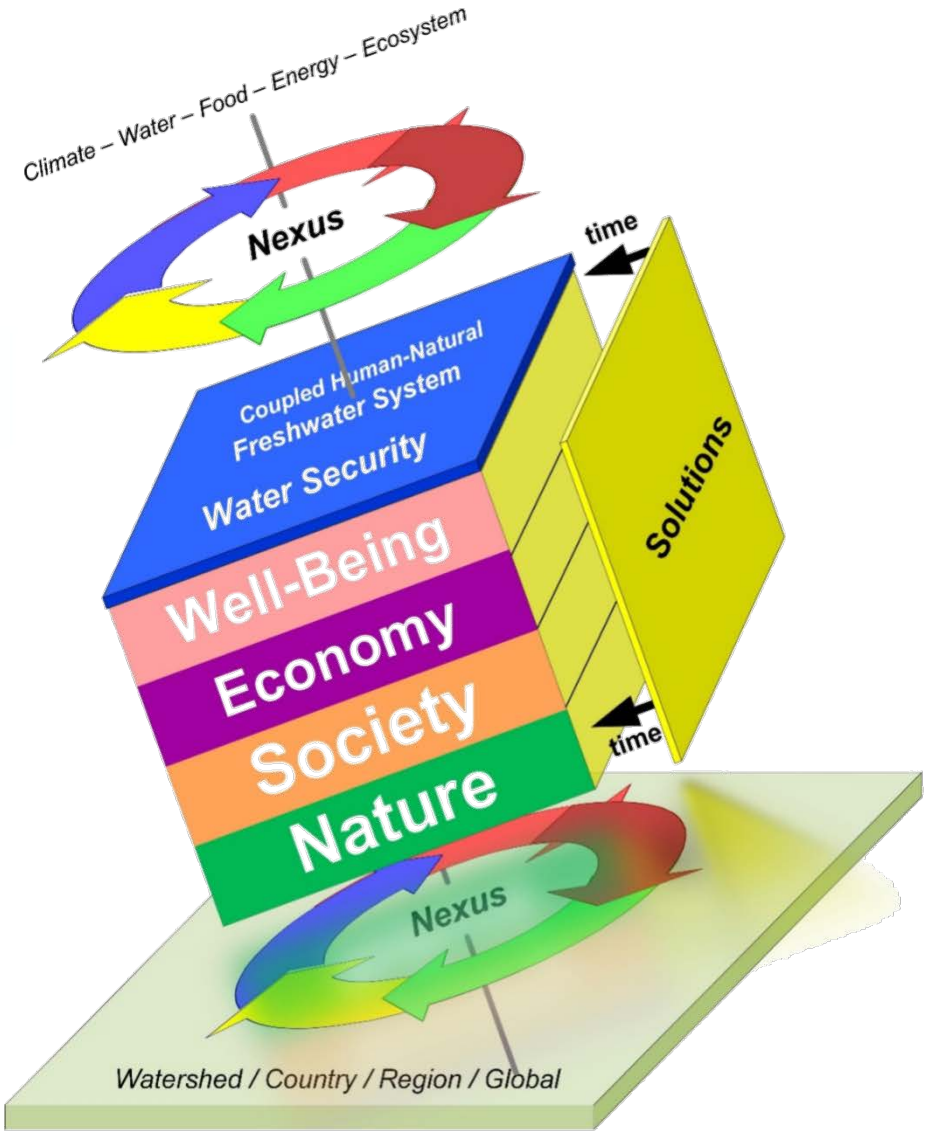
- Dimensions and sectors are affected by the lack of coordination *(un-governance)*
- Opportunities for synergies between solutions are not "part of the game"
- Invaluable loss of "breath" of systems



Cosgrove et al (IIASA), 2015, adapted by.Palombo 2016

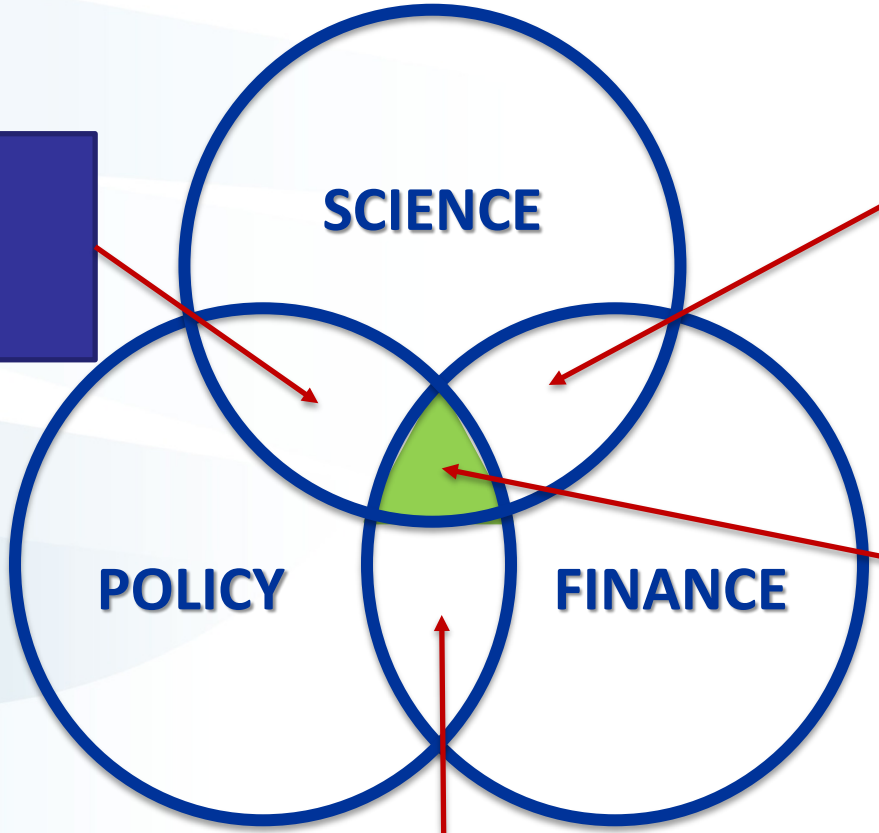
Desired future dynamics

- The dimensions take advantage of the transfer of "breath" that offer integrated and adapted solutions
- Governance offers incentives for synergies
- Benefits are balanced and trade-offs are often considered (win-win)



Cosgrove et al (IIASA), 2015, adapted by.Palombo 2016

Science, policy, and financing for a world with water security



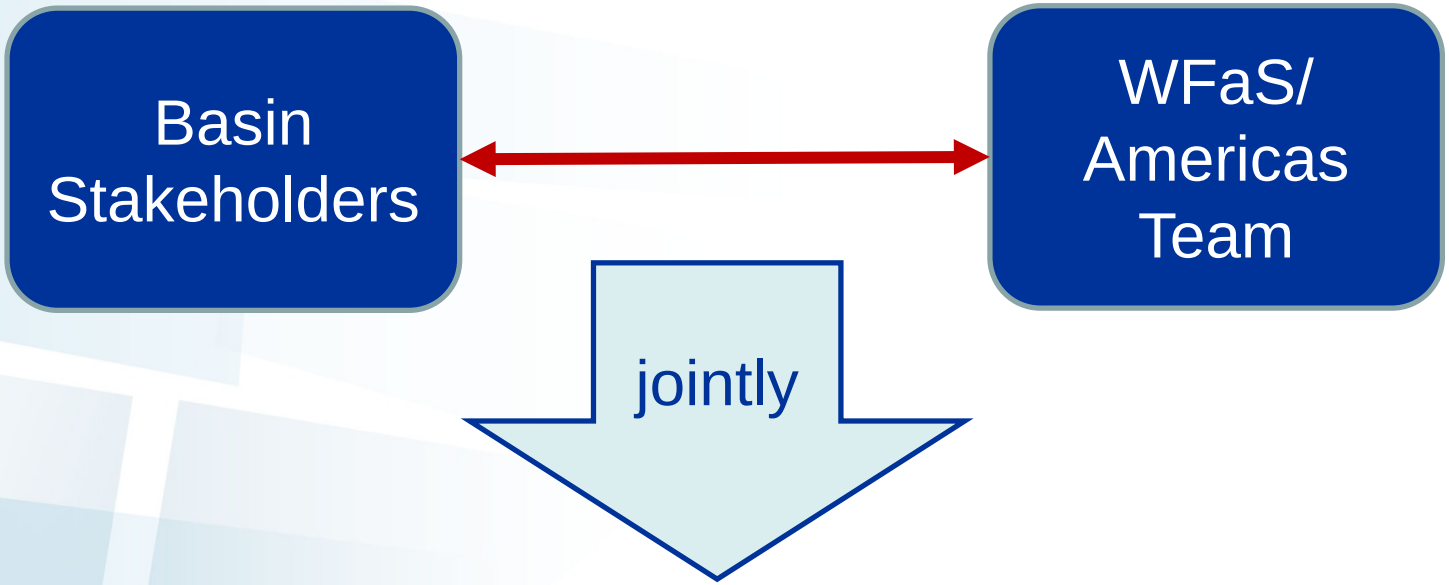
Robust science =>
Less uncertainties =>
Reduce political risks =>
Solid policies

Robust science =>
Less uncertainties =>
Less financial risks =>
Safer investments =>
Sustainability and return

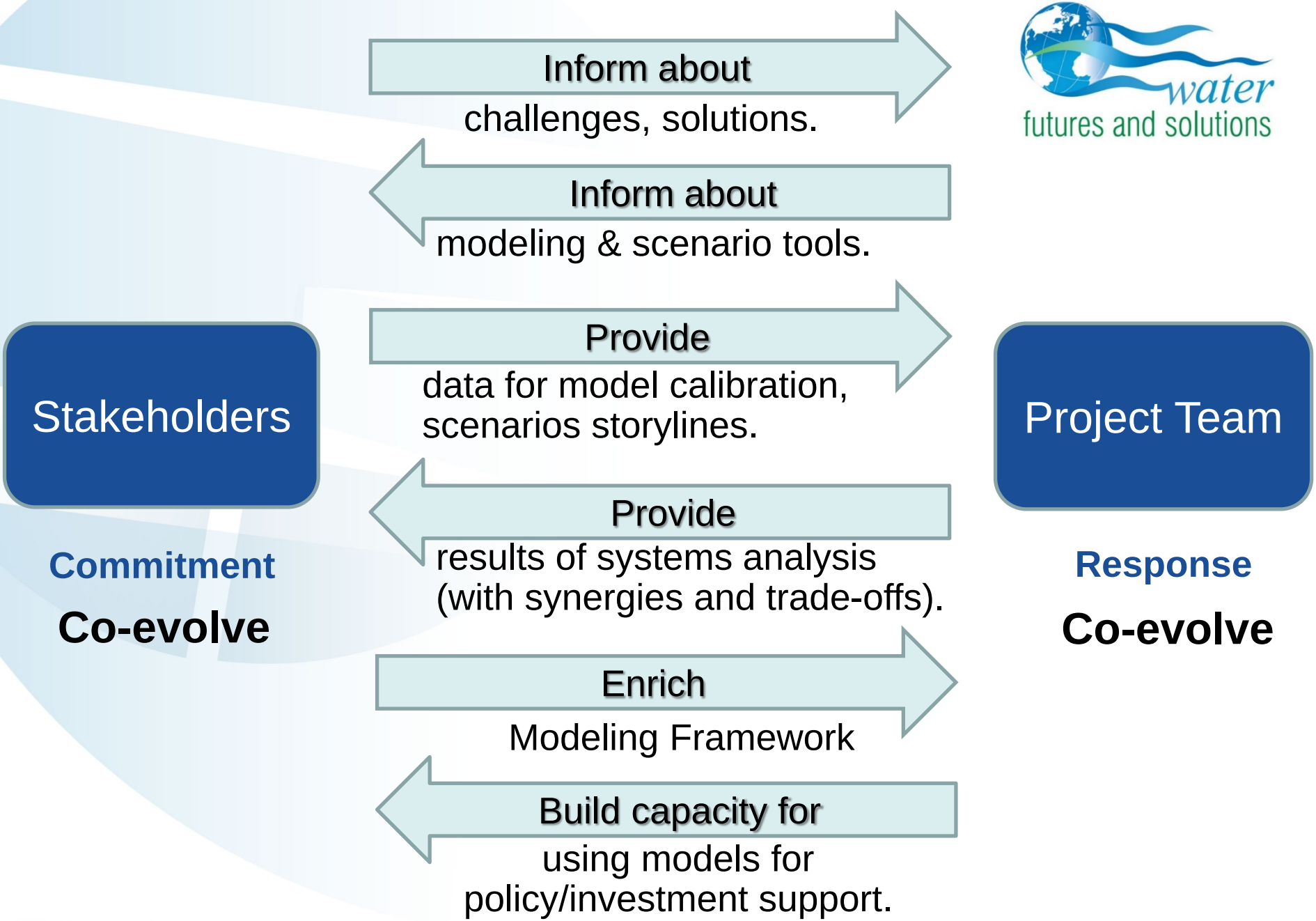
Robust science =>
Safe financing =>
Solid policies =>
Sustainable development

Solid policies => Less risk for investors
=> Return

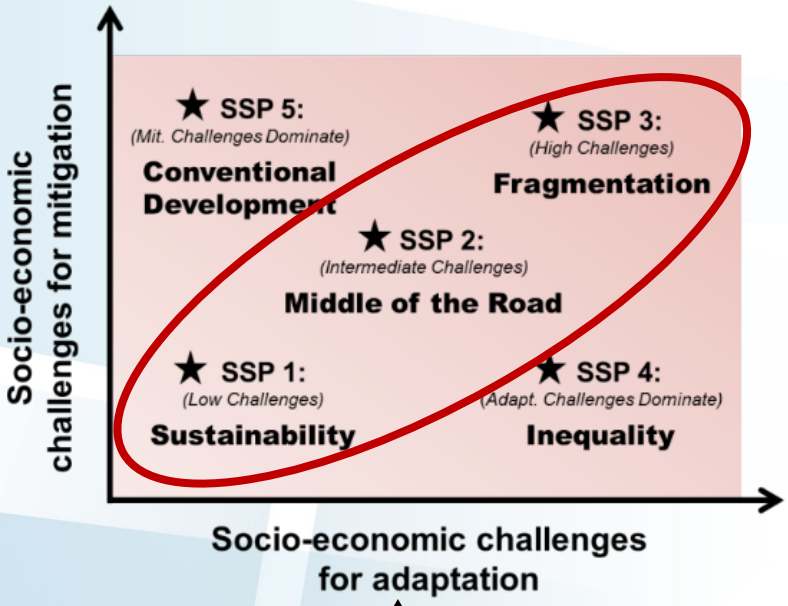
Regional Approach



- Frame the most pressing Nexus problems, that require system analysis
- Co-design/support of policies/investments/options based on science modeling input

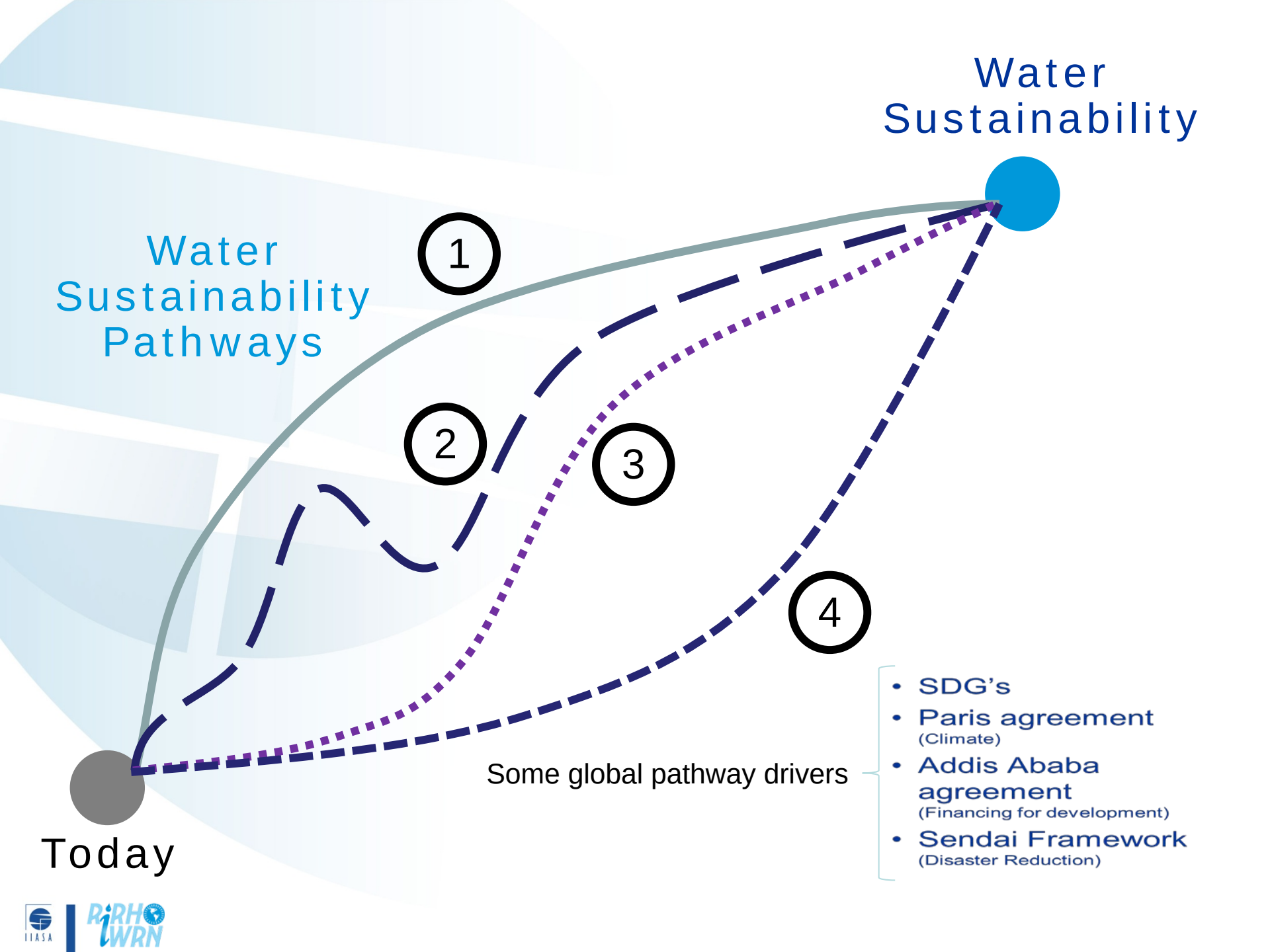

Inform about
challenges, solutions.
Inform about
modeling & scenario tools.
Provide
data for model calibration,
scenarios storylines.
Provide
results of systems analysis
(with synergies and trade-offs).
Enrich
Modeling Framework
Build capacity for
using models for
policy/investment support.
Stakeholders
Project Team
Commitment
Co-evolve
Response
Co-evolve

Next: Future Scenarios and Solutions



Development of scenarios and PATHWAYS needs to be interactive between science, policy, investors and others to establish priorities and ownership

IIASA | RiRHO iWRN


Water Sustainability
Water Sustainability Pathways
1
2
3
4
Today
Some global pathway drivers
• SDG's
• Paris agreement (Climate)
• Addis Ababa agreement (Financing for development)
• Sendai Framework (Disaster Reduction)

Needs

Developing and sharing a common framework through regional platforms

– Water Futures and Solutions for Americas?

- Understanding context specific priorities and solutions
- Representation of multiple **water and water quality** issues at regional and global scale
- Building interdisciplinary and trans-disciplinary capacity and forums
- Consideration of migration rural to urban and inter country/continent
- Governance and decision making

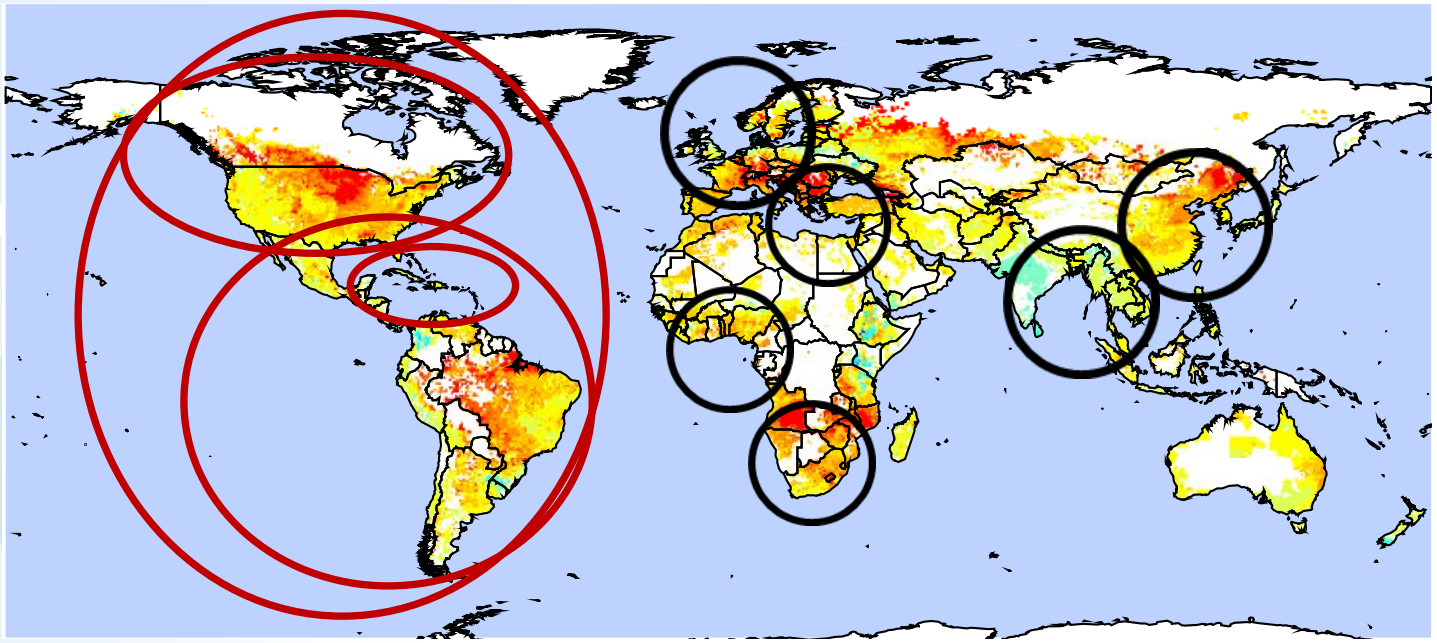
Future

- Where?
- What scenarios?
- What data?
- What pathway?
- What potential solutions?
- What scale
- With who ?
- You …….?

Using an integrated systems based approach

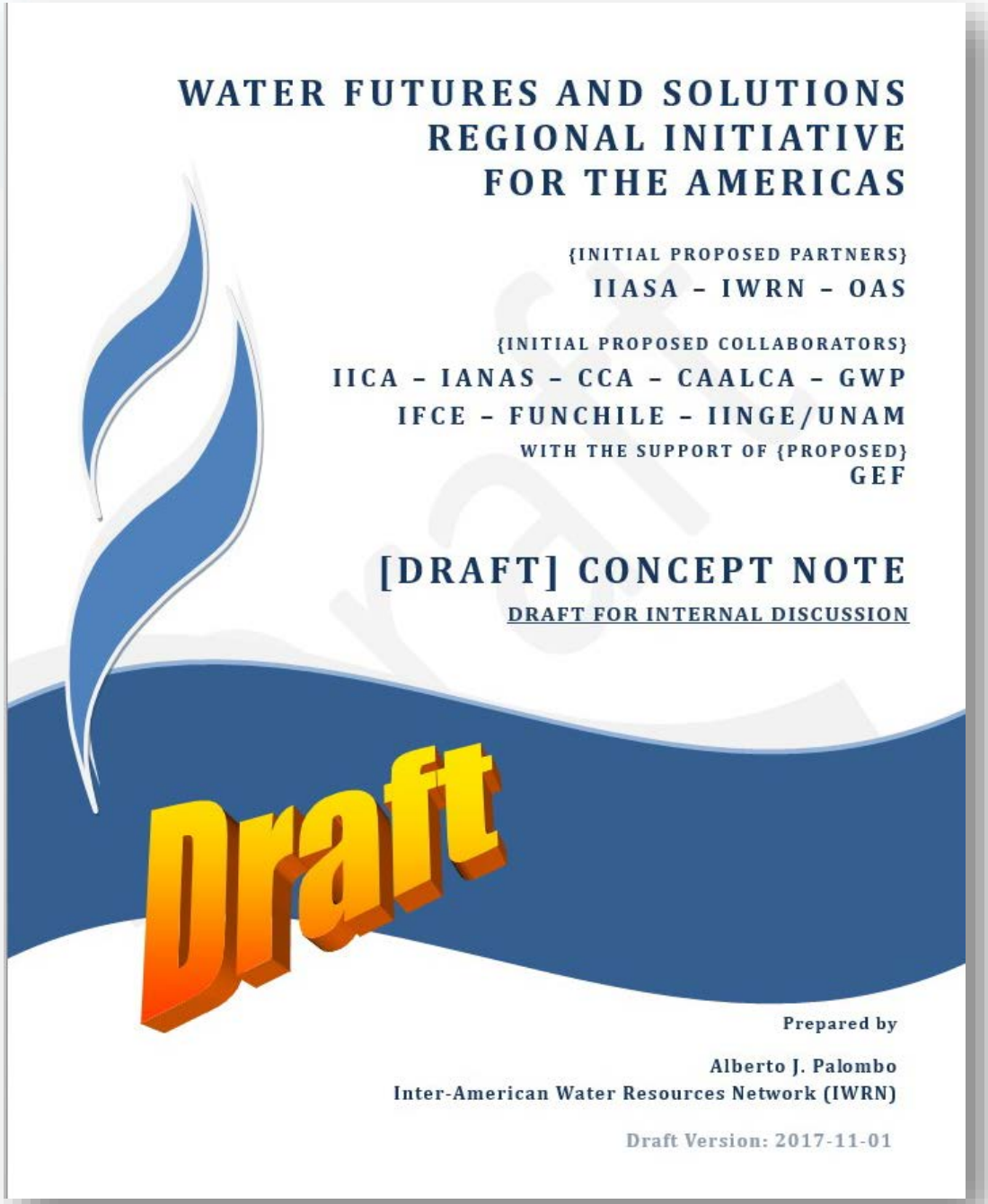
Regional Nodes → Global Framework

WFAS/Americas

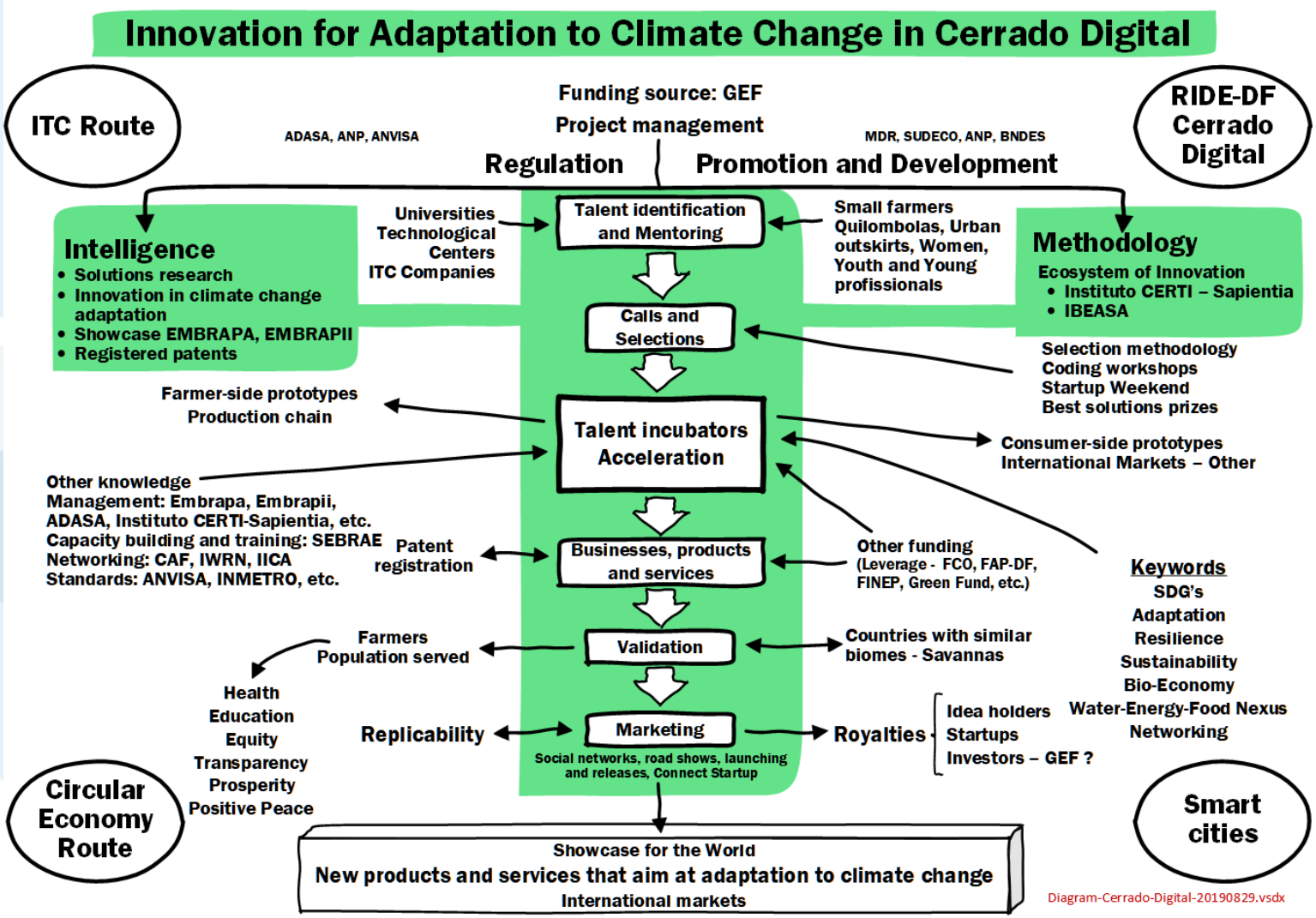


Proposal:

Regional Initiative for Water Futures and Solutions for the Americas



Another example…



¡Gracias!

Obrigado!

Thanks!

Systems Analysis and the Americas

International Institute for Applied Systems Analysis
www.iiasa.ac.at

CAPES

FGV

NATIONAL ACADEMY OF SCIENCES

apalombo@iwrn.org
waterfutures@iwrn.org

IIASA | RiRHO iWRN