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Inter-American Water Resources Network
Red Interamericana de Recursos Hídricos
Réseau Interaméricain des ressources hydriques
Rede Interamericana de Recursos Hídricos
www.iwrn.org - www.iirh.org - since/desde 1994



Systems Analysis and the Americas



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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



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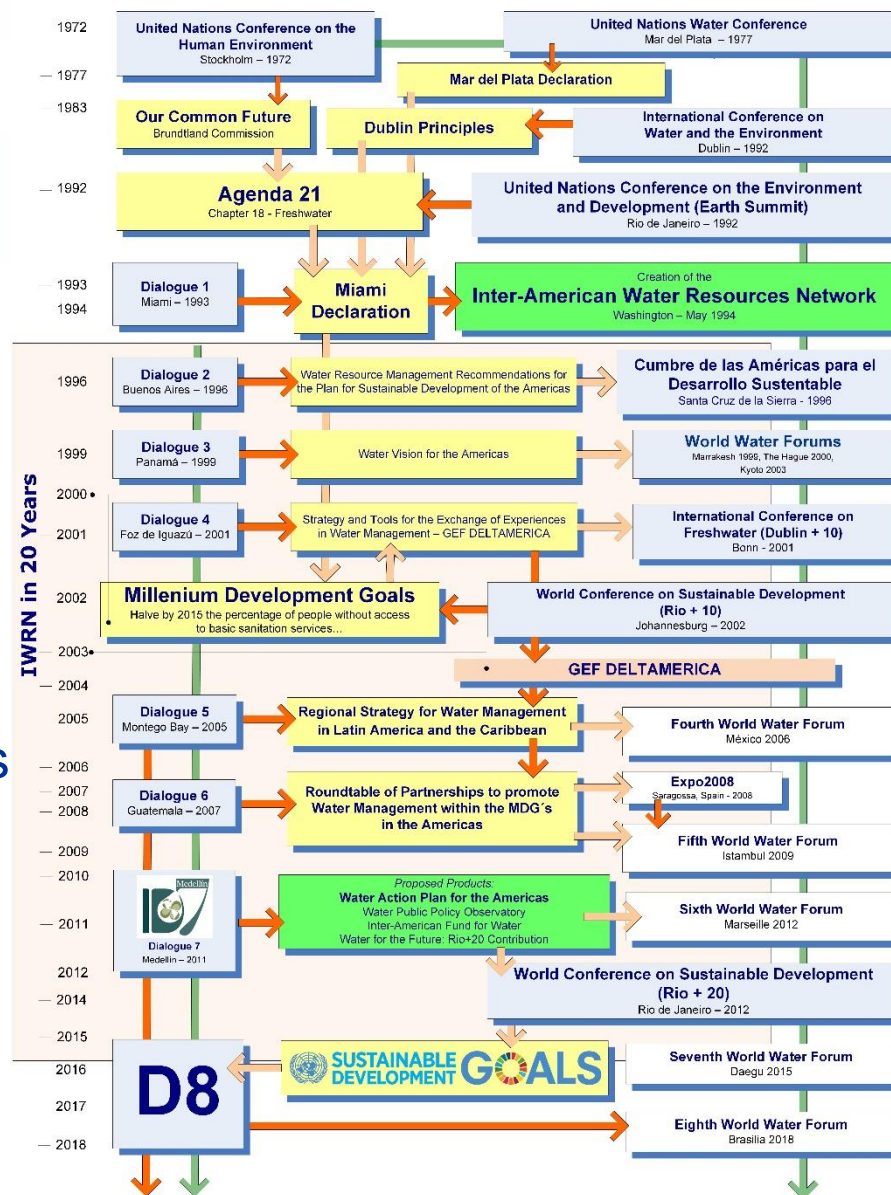
Inter-American Water Resources Network

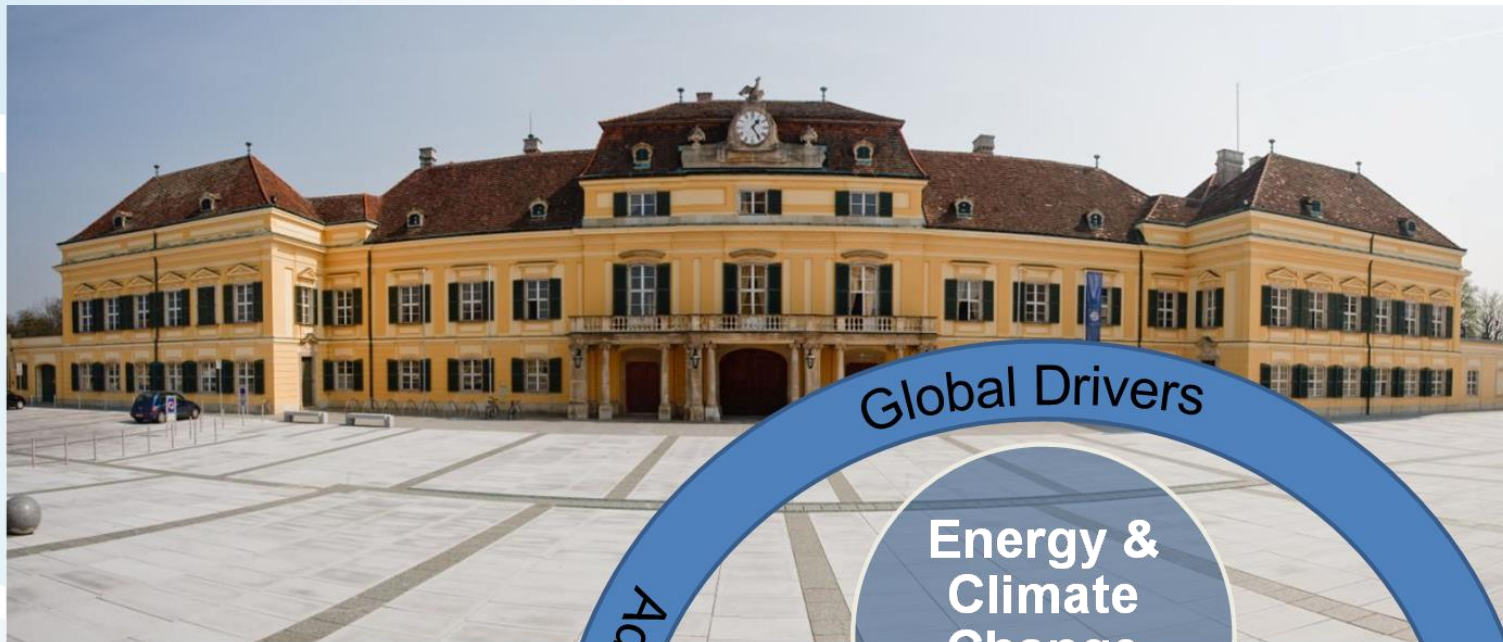
- Founded in 1994 as the main recommendation of the First Inter-American Dialogue on Water Management
- Multi-Stakeholder, formal participation of Member States of the Americas through the OAS
- Organized 7 Water Dialogues and several specialized meetings since 1993 (Fortaleza 2015, Bogotá 2018)
- Executed 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



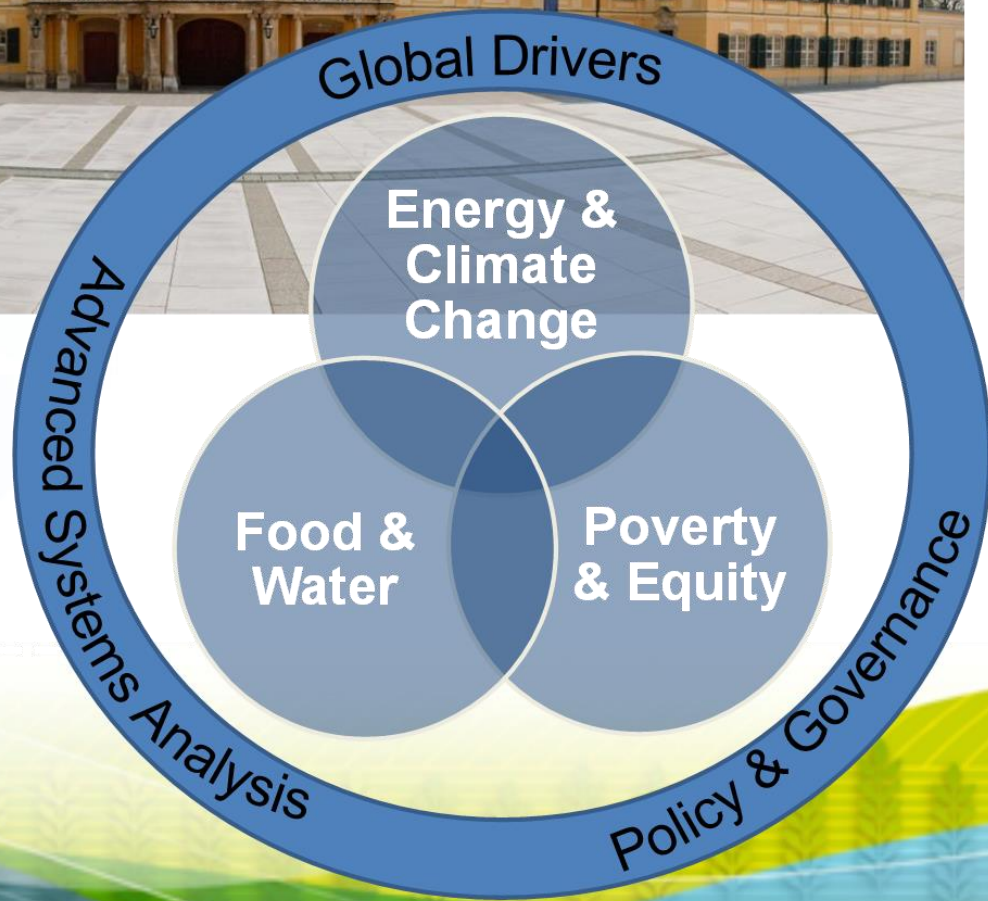
Inter-American Water Resources Network

- 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

Food/Land Use System

- Preparing land
- Growing crops
- Raising livestock
- Harvesting produce
- Drying, processing
- Storing food products
- Transport, distribution
- Preparing food

Biomass, crop residues,
biofuel feedstocks, land

Fertilizer, irrigation, fuel,
processing, transportation

Irrigation, food processing,
sanitation, health risk

Runoff, pollution, storage,
purification, flood protection

Energy System

- Extracting resources
- Harnessing hydro, wind, solar, biomass energy
- Generating and transmitting electricity
- Production, refinement and distribution of transport fuels
- Storing, buffering

Hydropower, power plant
cooling, extraction, (bio)fuels

Water pumping, delivery, water
treatment, energy for desalination

Water System

- Manage renewable surface- and groundwater resources
- Distribute water supply for human consumption
- Collect sewage
- Treat wastewater to protect human and ecological health
- Transfer between basins
- Desalination

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)

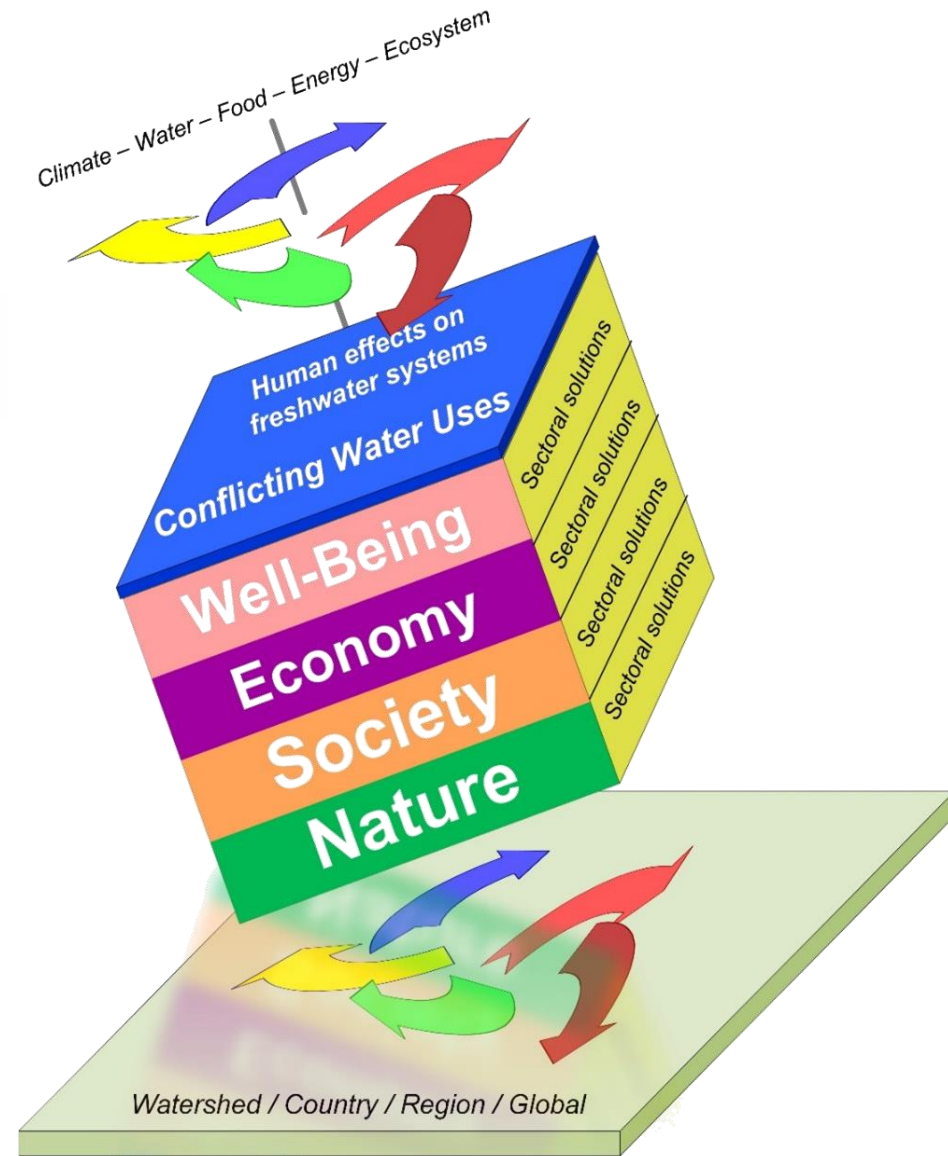
What actions –policies/investments supported by evidence for interaction?

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

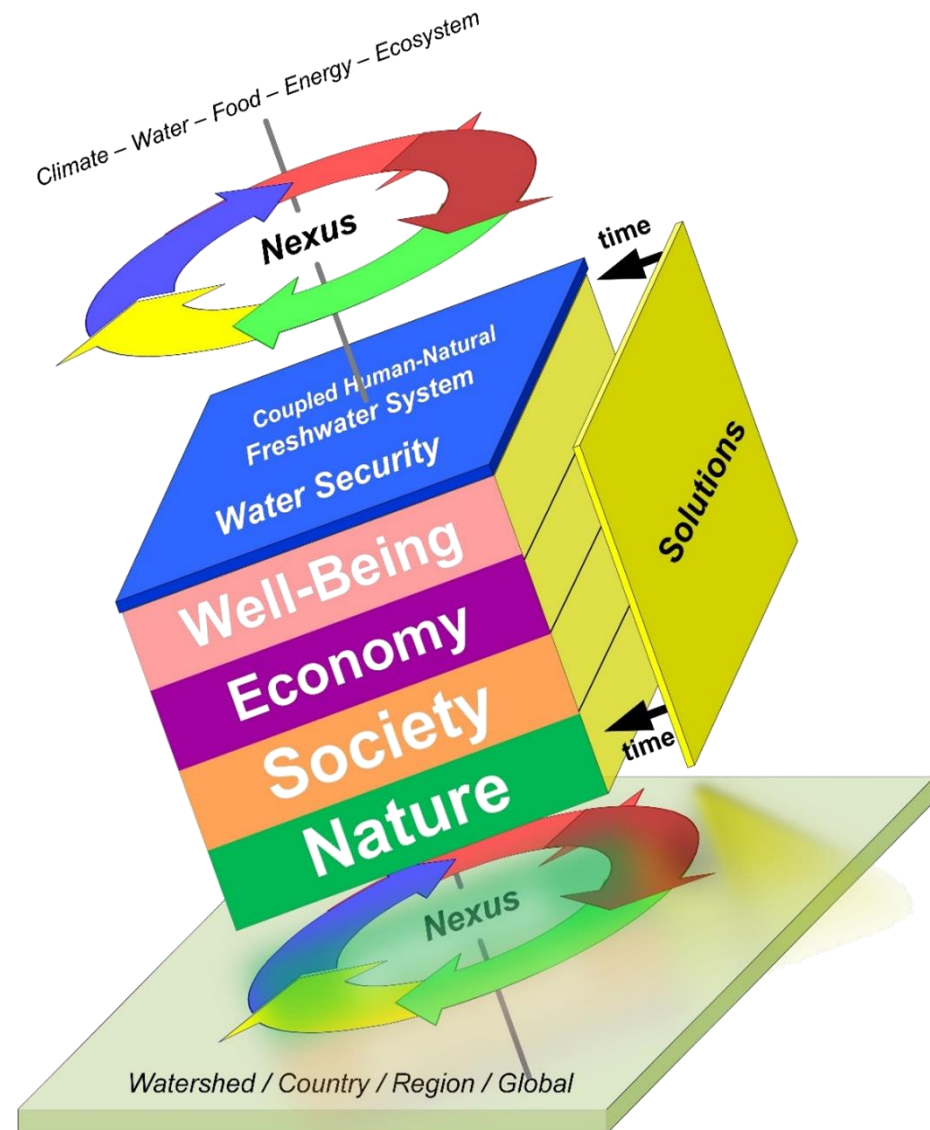


Cosgrove et al (IIASA), 2015, adapted by Palombo 2016



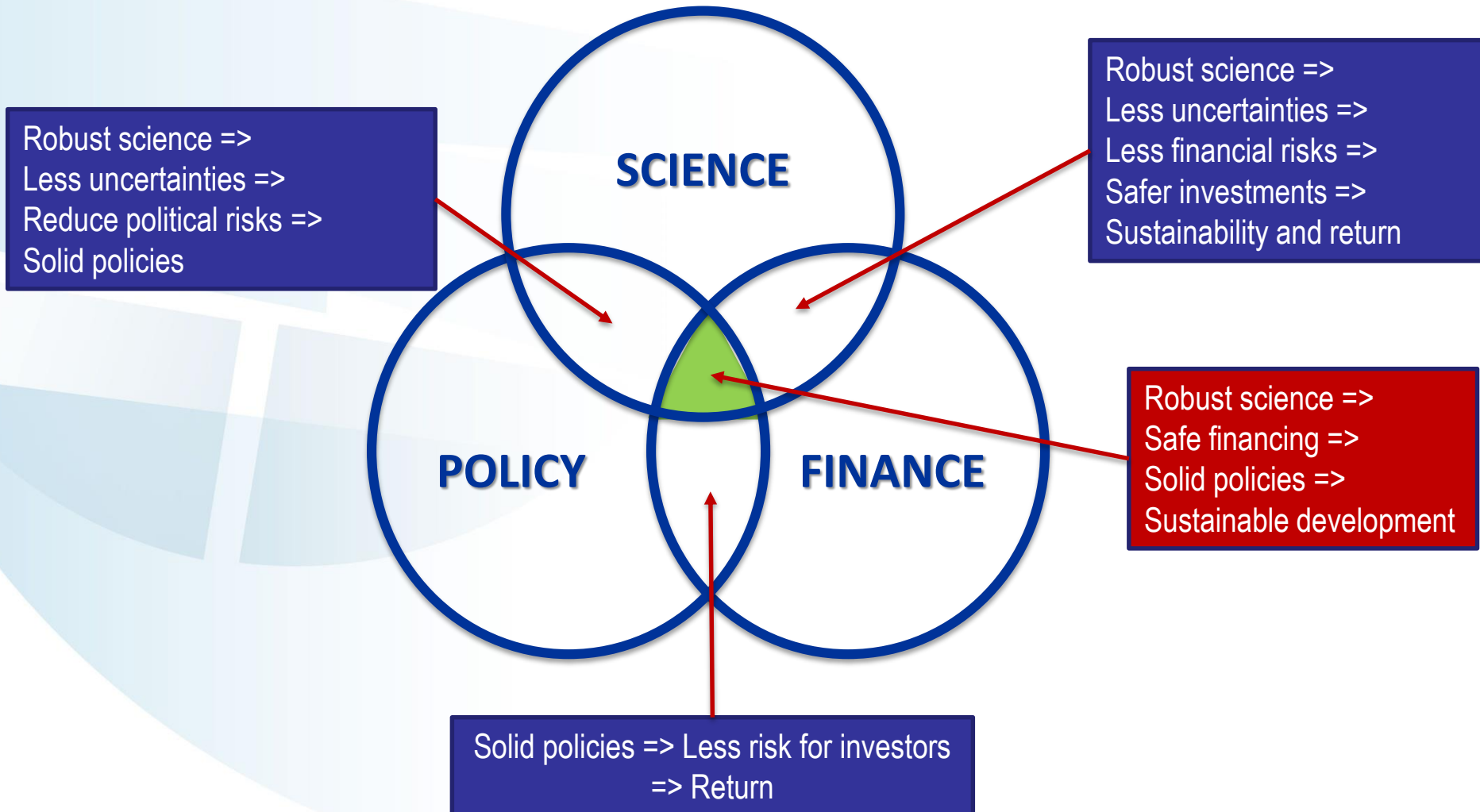
Desired future dynamics

- 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)

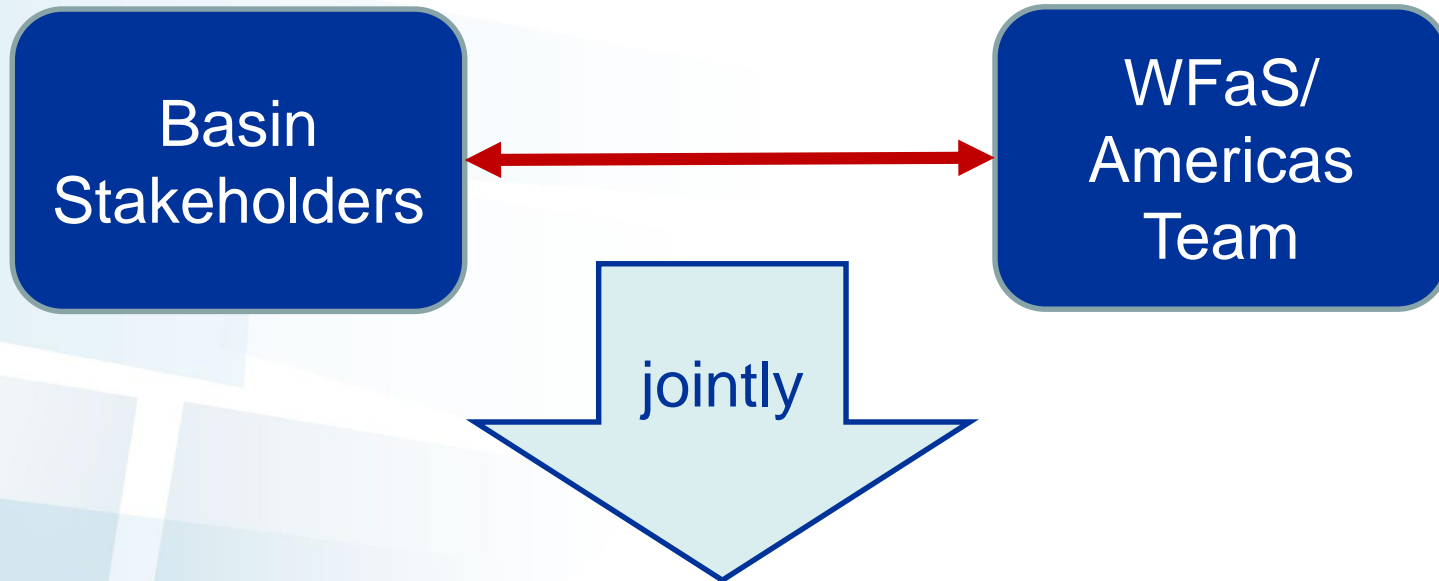


Cosgrove et al (IIASA), 2015, adapted by Palombo 2016

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



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

Commitment
Co-evolve

Project Team

Response
Co-evolve

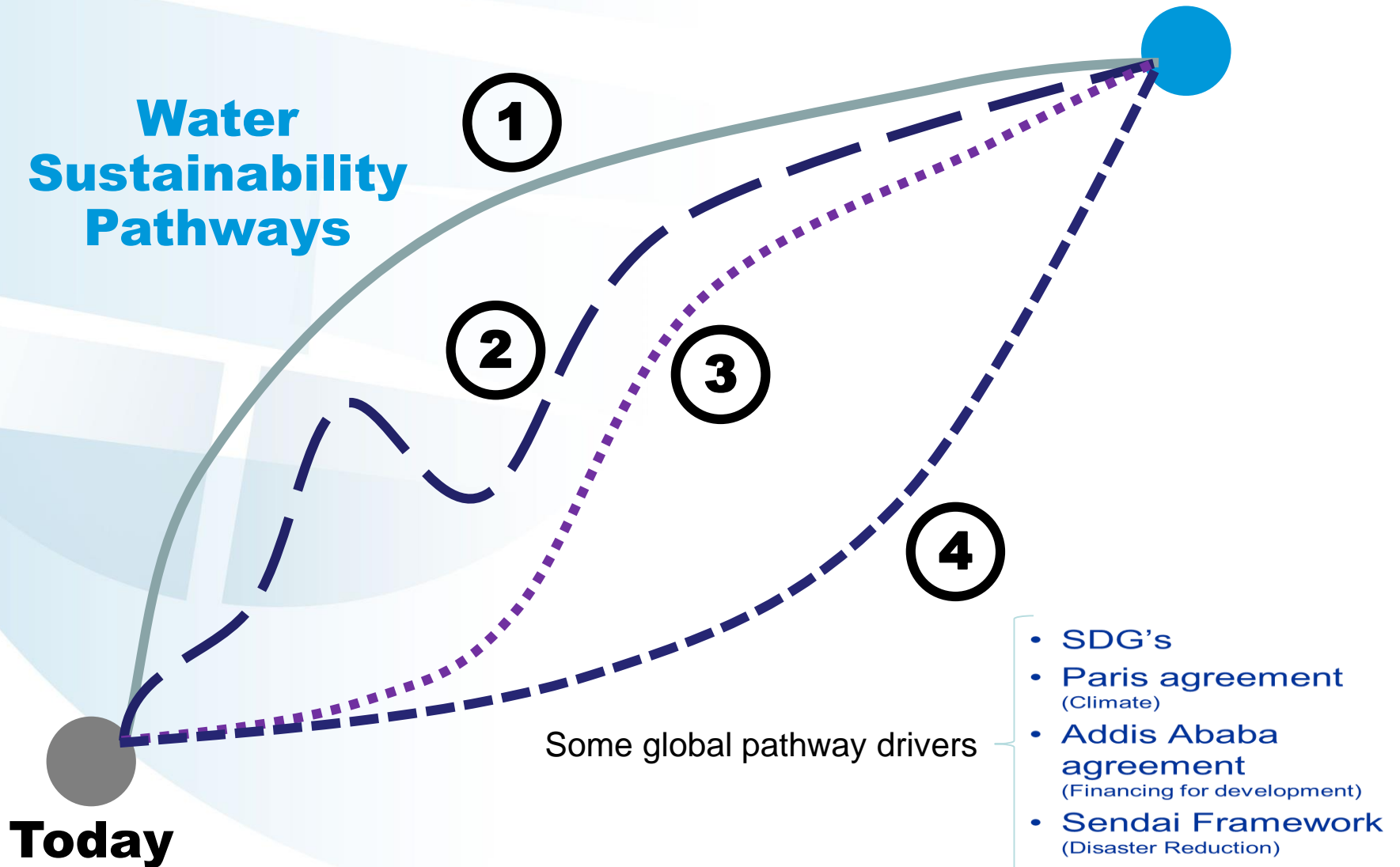
Next: Future Scenarios and Solutions



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

Water Sustainability

Water Sustainability Pathways



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

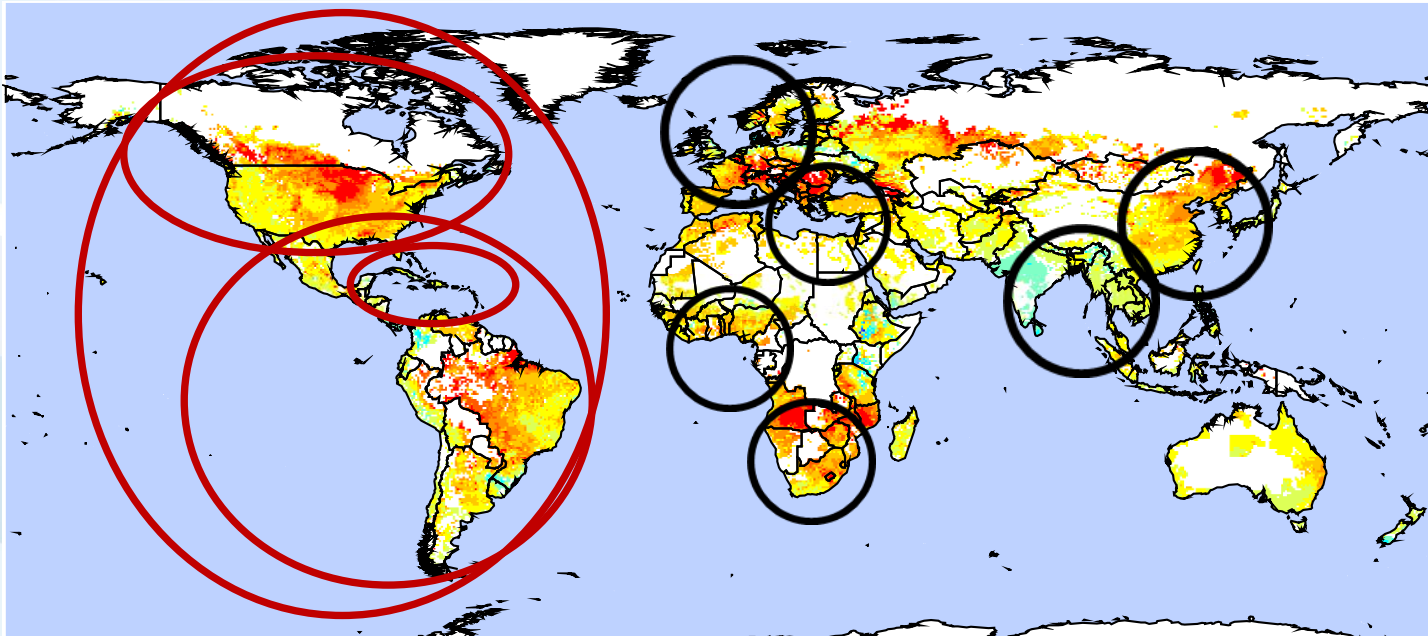
Future

- 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

WATER FUTURES AND SOLUTIONS REGIONAL INITIATIVE FOR THE AMERICAS

{INITIAL PROPOSED PARTNERS}
IIASA - IWRN - OAS

{INITIAL PROPOSED COLLABORATORS}
IICA - IANAS - CCA - CAALCA - GWP
IFCE - FUNCHILE - IINGE/UNAM
WITH THE SUPPORT OF {PROPOSED}
GEF

[DRAFT] CONCEPT NOTE
DRAFT FOR INTERNAL DISCUSSION



Draft

Prepared by

Alberto J. Palombo
Inter-American Water Resources Network (IWRN)

Draft Version: 2017-11-01

Another example...

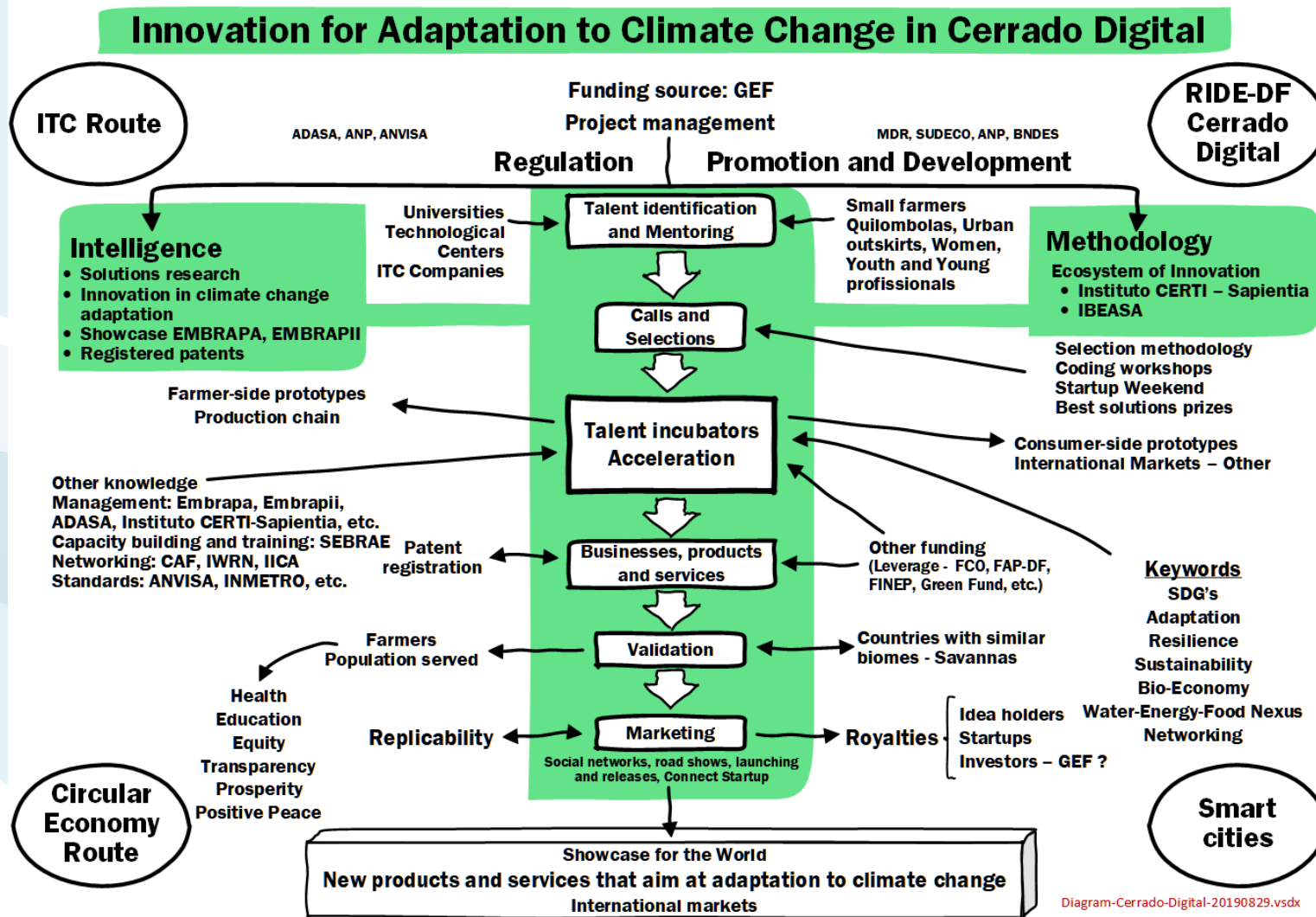


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¡Gracias!
Obrigado!
Thanks!

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