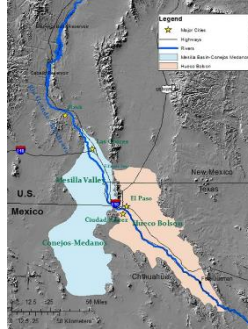


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## Application of OECD Water Governance Indicators to Rio Grande/Bravo (VanNijnatten 2020)

- Regional institutional framework in place, but TB water info systems not in place; lack of mechanisms for stakeholder engagement; no equity
- Multi-scalar reality challenging; some innovation on ground, not connected to larger framework
- Surface-subsurface separate
- **No innovation in system; lack of political will**

## Survey in US-Mexico RGB region: Public Engagement in Water Management (100 resps., summer 2020)

- Engagement of all water users and actors needed; not equitable (agriculture); local initiatives need to be better linked to transboundary/national regime; not enough support for participation, little transparency; need to know it makes a difference
- Overwhelming consensus that broader and more meaningful engagement can lead to better mgmt

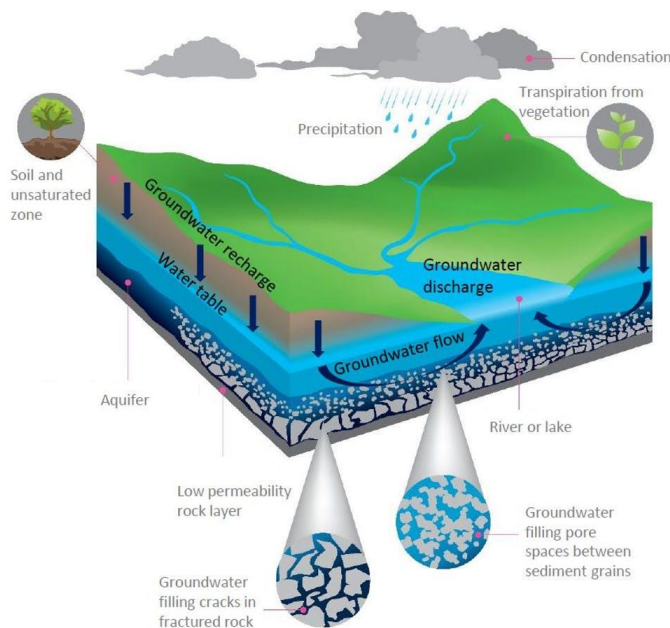
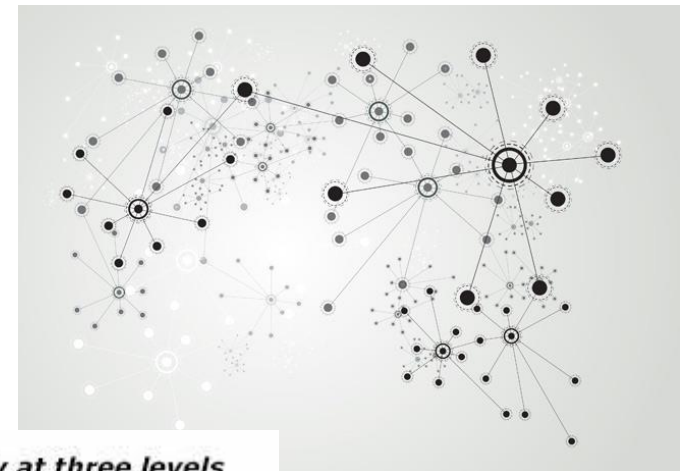
## Key Factors for Cooperation in Transboundary Aquifer Systems – Existing Research:

- Pre-existing regional institutions, agreements and cooperation; previous water interactions
  - Informal mechanisms may work
- Scientific interactions and knowledge dissemination critical where new knowledge needed
- Third party interactions key but needs tangible support
- **Political will?**

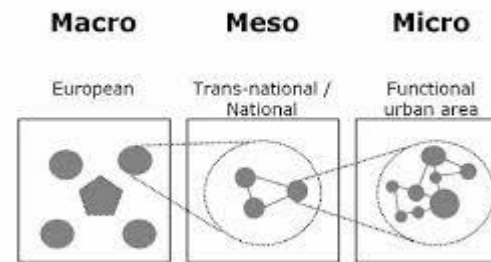
# #1. Transboundary Aquifer Systems

Hydraulically related formation ► but multi-scalar!

So how to govern?  
Polycentric Management



## *Polycentricity at three levels*



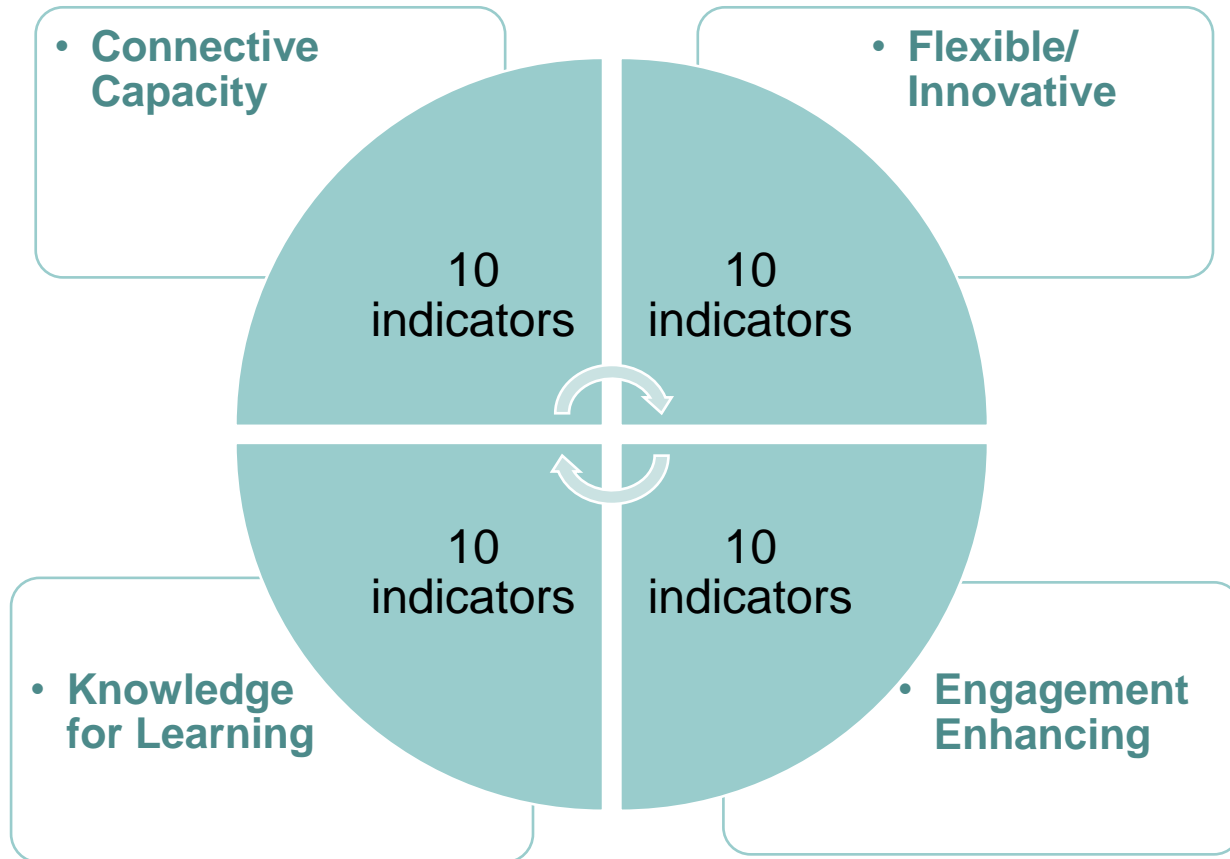
Fortify the connections in the binational system, building on

# #2. What Institutional Framework?

## Adaptive Governance Indicator Set (*VanNijnatten and Johns*)

► need to **link and shift across scales**

► need to **gather, process and disseminate info - and learn**

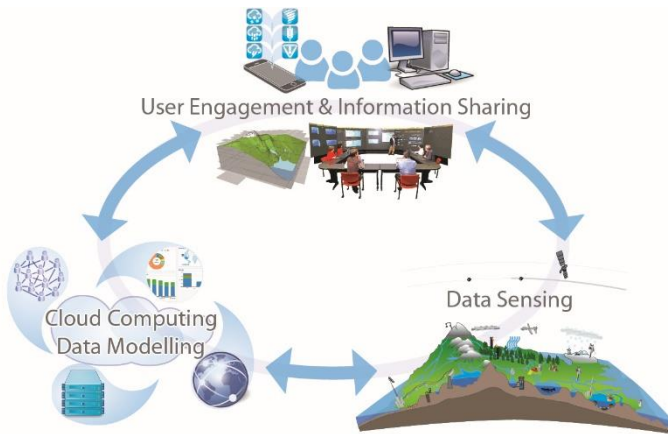


► Rules should evolve, institutions reorganize in response to feedbacks, new conditions, entrepreneurship facilitated – **requires flexibility**

► requires collaboration, co-mgmt., broad stakeholder **engagement**

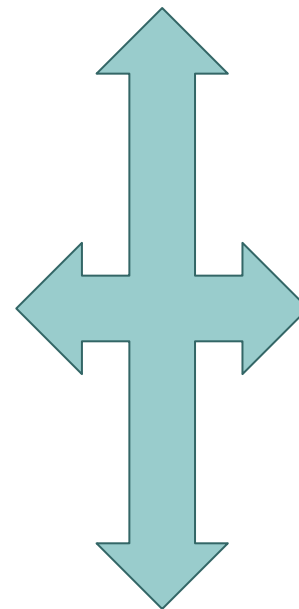
# #2 - What Institutional Framework(s)?

Knowledge gathering,  
dissemination - learning



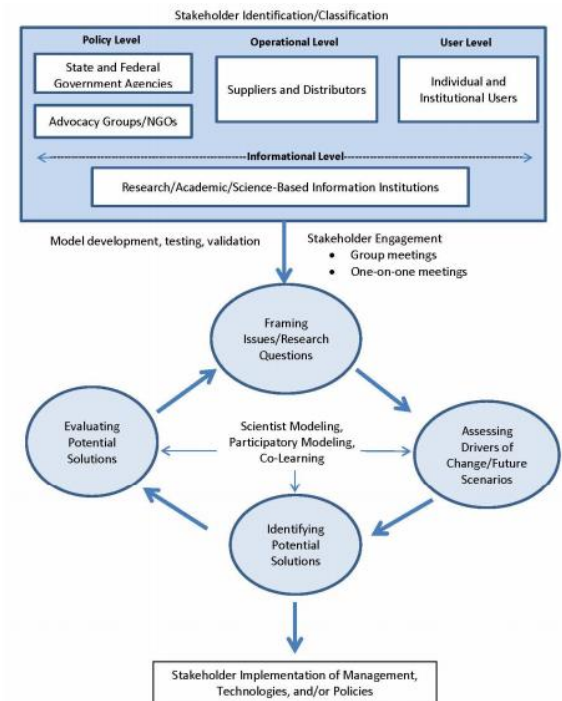
Source: *Global Water Futures*

Binational  
Framework



Basin-level  
initiatives

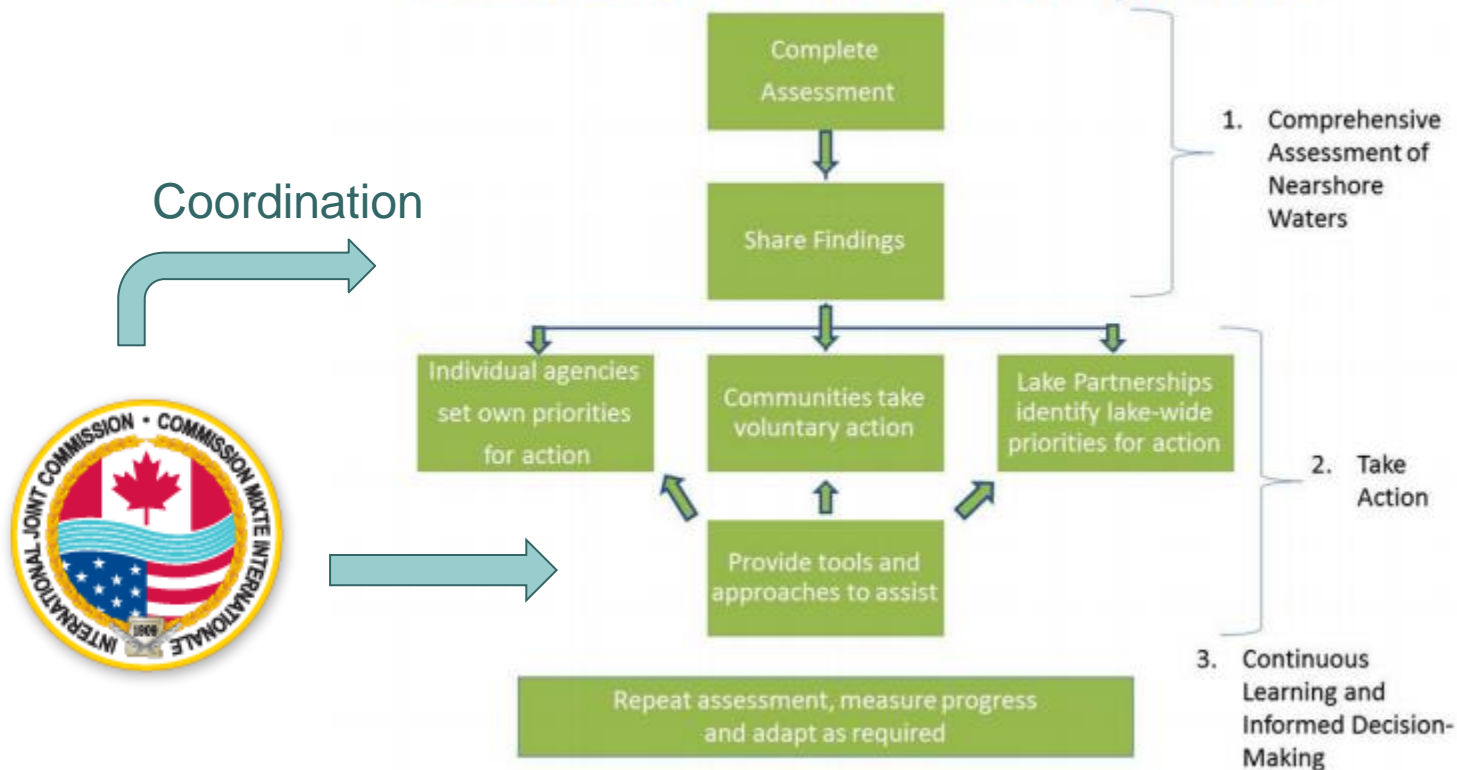
Broad and meaningful  
stakeholder engagement



Source: *Hargrove and Heyman, 2020*

# #4 – Case Study: Great Lakes Non-point Source Pollution - Upscaling Local Initiatives into a Basin-wide Strategy

## Nearshore Framework Components



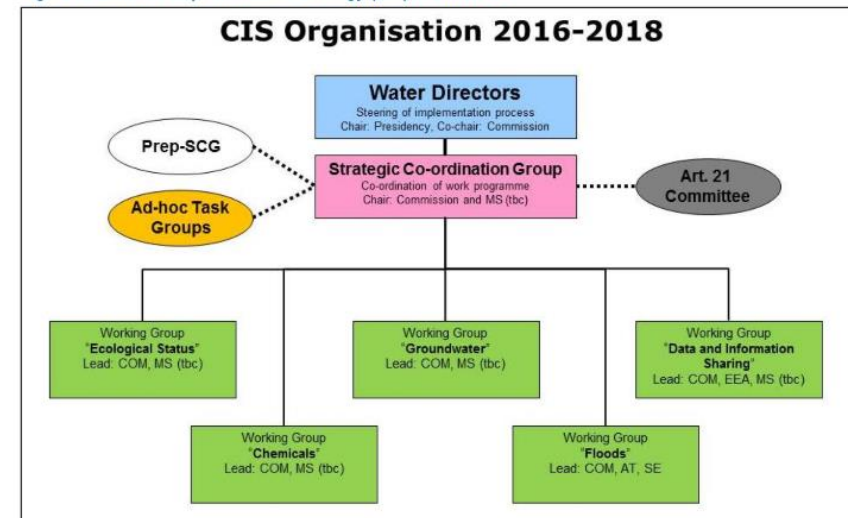
Source: *International Joint Commission* (2016)

# #4 – Case Study: Danube River Basin Aquifer Management in Complex Context



- Groundwater Task Group
- Data information sharing, exchange & harmonization
- Monitoring and reporting
- Implementation strategy

Figure 9: Common Implementation Strategy (CIS) of the WFD



[Source: WFD CIS Work programme for 2016–2018]

## “The River’s invisible twin”

- 14 countries, huge numbers of users
- International Committee for the Protection of the Danube R. (ICPDR): Groundwater Guidance Document + EU Water Framework Directive