



Integration through engagement: building bridges between people and their cultures in river basin management

Dr Katherine DANIELL

The Australian National University, Australia

Presentation Plan



INTRODUCTION

- Need for integration through engagement?
- Frameworks for appreciating people and their cultures

Using cultural theory:
Upper Iskar Basin flood & drought risk management case study (Bulgaria)

CASE STUDIES

Cultural dimensions:
understanding participation in river basin management across countries

DISCUSSION

Conclusions and perspectives on bridge building

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River basin complexity



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Picture credit: <http://www.dekalbilswcd.org/Watershedinfo.html>

Water governance responses? Cooperation, participation and conflict transformation

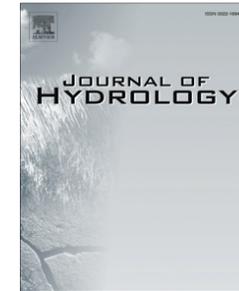
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Journal of Hydrology

journal homepage: www.elsevier.com/locate/jhydrol



Editorial

Water governance across competing scales: Coupling land and water management



1. Introduction

Water governance is becoming an increasingly important area of study for hydrologists, as the impacts of human decisions on water flows and their various management scales are recognised. Hydrology has long tackled issues of water flow and quality across basins—from rain to soil and sub-soil. from upstream to down-

responsible for them. Yet, within decision processes, individuals and groups play major roles in constructing which scales are considered to be important, embedding their own views, knowledge and values within these preferred representations. Some act to bridge scales (e.g. knowledge brokers, boundary organisations) while others act to design and reinforce existing boundaries and scales of governance. Facilitation and coordination across compet-

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Appreciating people and their cultures: foundations for bridge-building



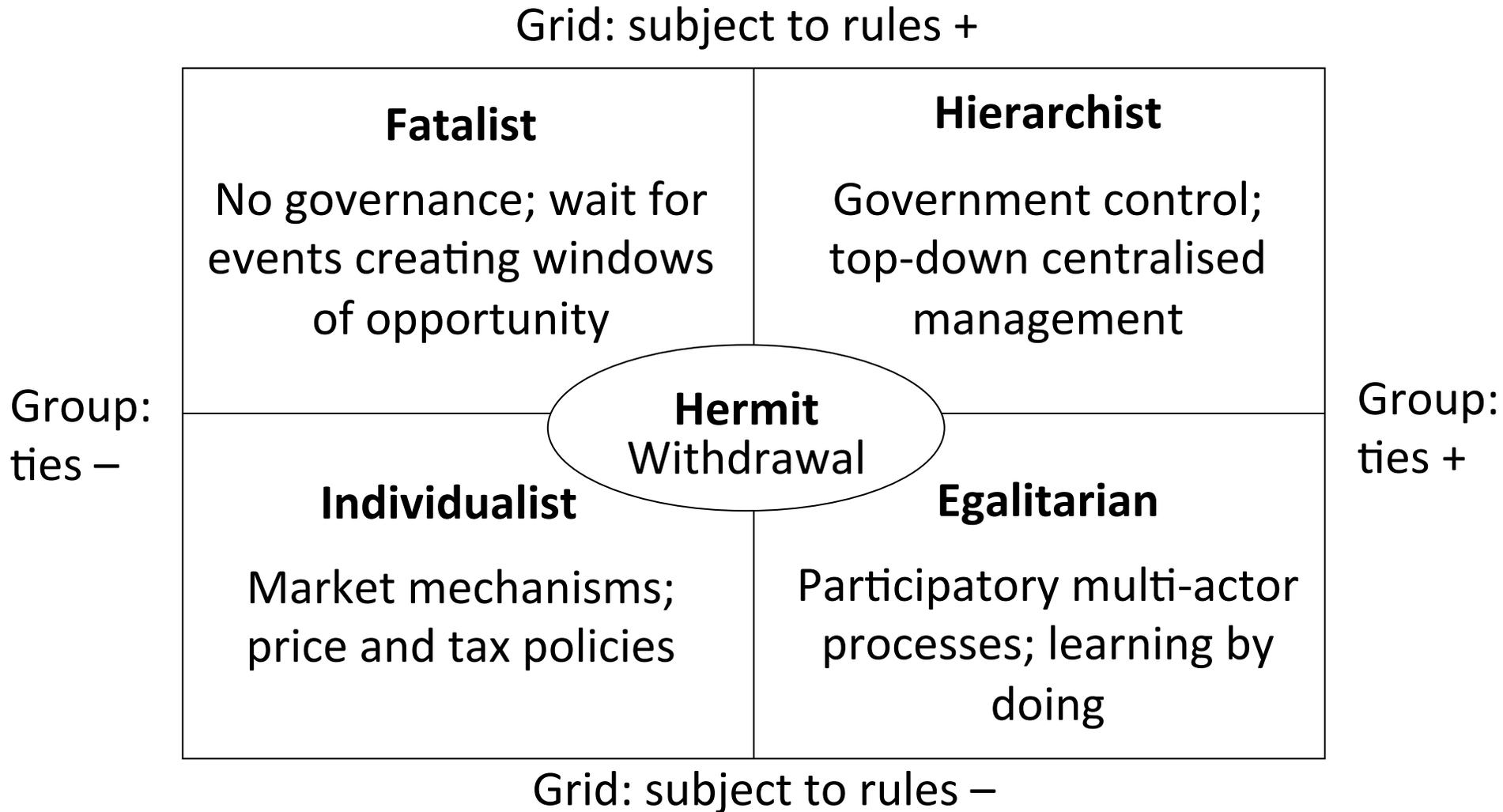
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Analytics (1): Cultural Theory



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Analytics (2): Cultural Orientations



Individualism
(vs. collectivism)

Power Distance
(in/equality in
authority)

**Uncertainty
Avoidance**
(in/tolerance to
ambiguity)

**Long-term
Orientation**
(vs. short term)

Indulgence
(vs. restraint)

Trust
(high vs.
low)

Masculinity
(vs. femininity)

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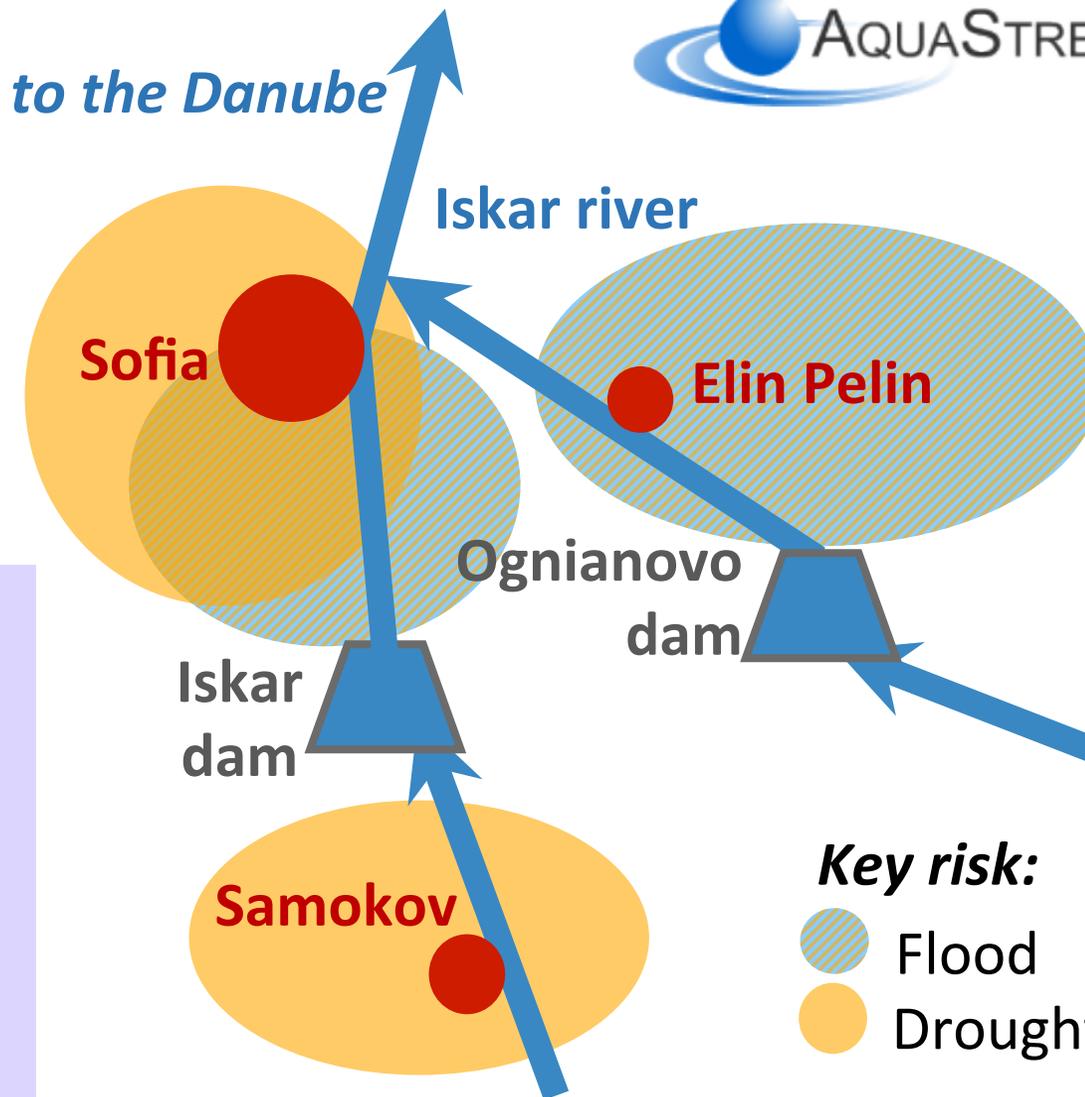
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Living with floods and droughts in the Upper Iskar Basin, Bulgaria



Process co-engineering:

International researchers
Mixed Bulgarian stakeholder group

Process participants:

National policy-makers (1 group)
Regional stakeholders (2 groups)
Local citizens (3 groups)

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Initial stakeholder problem views



Grid: subject to rules +

Group:
ties –

<p>Fatalist</p> <p>No way to avoid floods/droughts; wait for others (govt /donors) to help with and fund restoration</p>	<p>Hierarchist</p> <p>Build more (or fix) hydrotechnic infrastructure (dykes, dams); develop better expert flood models</p>
<p>Individualist</p> <p>Take/buy what water is available (has previously led to corruption around dam water releases)</p>	<p>Egalitarian</p> <p>Management system not working and need for coordination, participation of all stakeholders</p>

Group:
ties +

Grid: subject to rules –

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Bulgarian Process Outline (1 year)



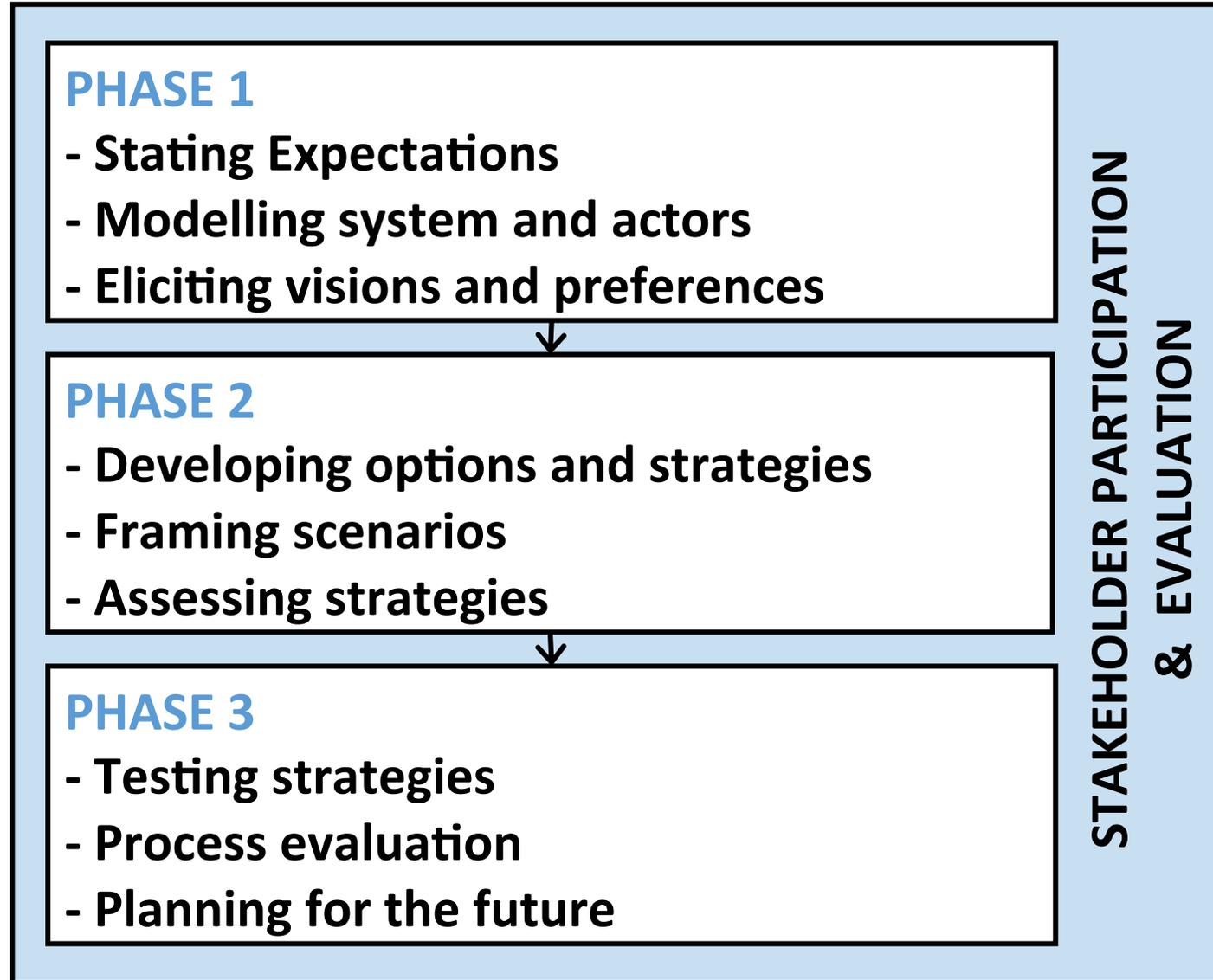
Individual interviews

Workshops 1,2 & 3

Individual & group interviews

Workshops 4a

Workshops 4b & 5



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(Ferrand, Hare and Rougier 2006)

Iskar engagement phase 1 & 2



Expectations



Visions & preferences



Strategy creation & options evaluation



Causal mapping



Time, duration	Needs				Options implemented	ПКВ	Type	Impacts on:						
	Infrastructures	Citizens	Institutions	Other resources				Cost	Households	Industry	Agriculture	Politics	Nature	Infrastructures
	1	1			Държавно законодателство	П	Управление				+	+	+	
			1		Контрол на оттока	П	Управление & Инфрастр				+	+	+	
					Разработване на план за оп	П	Управление				+	+	+	
					Съхраняване на вода	П	Управление & Инфрастр				+	+	+	
					Договаряне на намаление	П	Управление				+	+	+	
					Съхранение и възстановяв	П	Инфрастр уктра				+	+	+	

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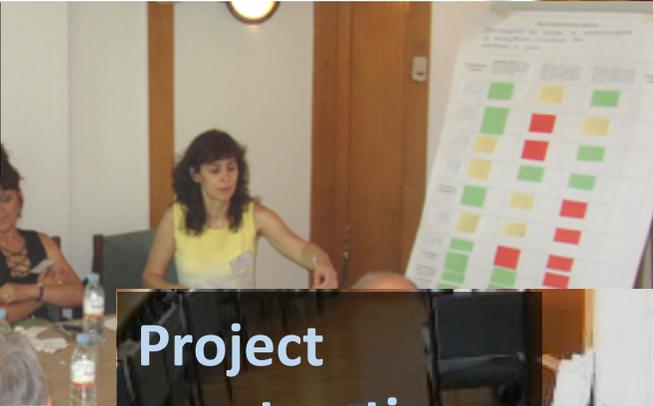
Iskar engagement phase 3



Strategy fusion



Robustness analysis of new strategies



Project construction



Vertical integration



Action plan



Evaluation jury



Google Earth



Spatialising of projects



Voting on projects



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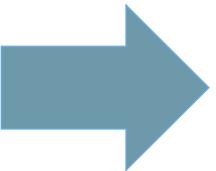
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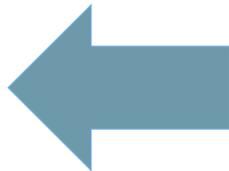
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Final stakeholder planned actions



Grid: subject to rules +

	Fatalist No funding/lack capacity to enact plans	Hierarchist Infrastructure restoration & new projects (multiple); planning; modelling/early warning systems
Group: ties – 	Individualist Education programs; Encourage flood insurance culture	Egalitarian Development of citizen crisis management groups; reforestation for erosion prevention

Group: ties +


Grid: subject to rules –

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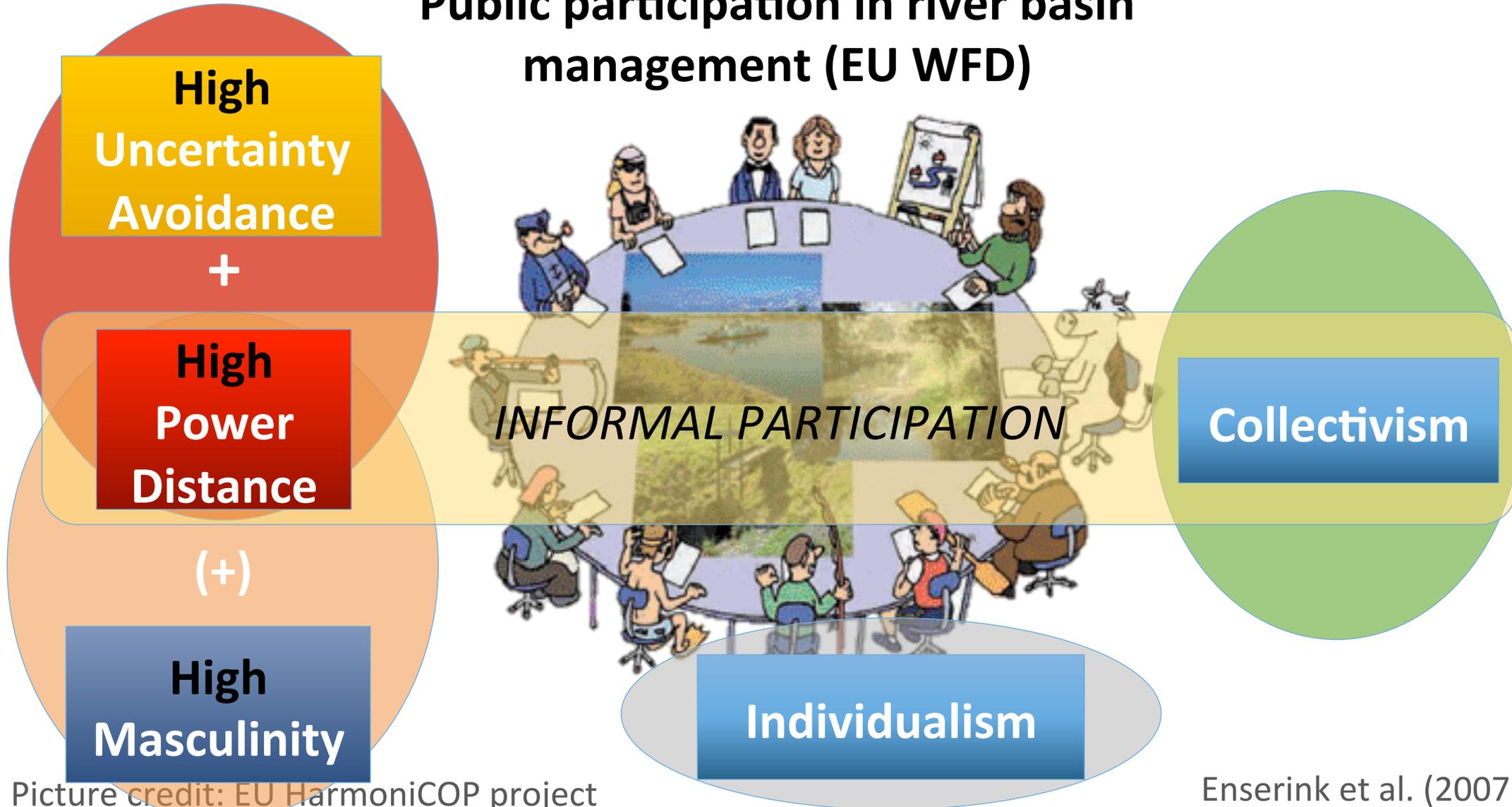
Cultural dimensions:
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Conclusions and perspectives on bridge building

Cultural hypotheses

Public participation in river basin management (EU WFD)



Picture credit: EU HarmoniCOP project

Enserink et al. (2007)



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Cultural analytical tools for designing engagement processes



'Factors affecting participation' (FAP) – Maleki and Bots (2013)

Inputs to Public Participation (PP)	Process and interactions in PP	Outcomes of PP
1) Public Demand	4) Process format	8) Outcome expectation
2) Preferred participants	5) Process scope	9) Conflict resolution mentality
3) Role and intention of participants	6) Interpersonal trust	
	7) Communicativeness	

Engagement process design case studies



FLOOD & DROUGHT RISK MANAGEMENT

Upper Iskar Basin
Bulgaria



Photo credit: www.novinite.com

ESTUARINE RISK MANAGEMENT

Lower Hawkesbury River
Australia



Photo credit: www.hawkesbury.com.au

INTER-PROVINCIAL WATER CONFLICT

Zayandeh-Rud River
Iran

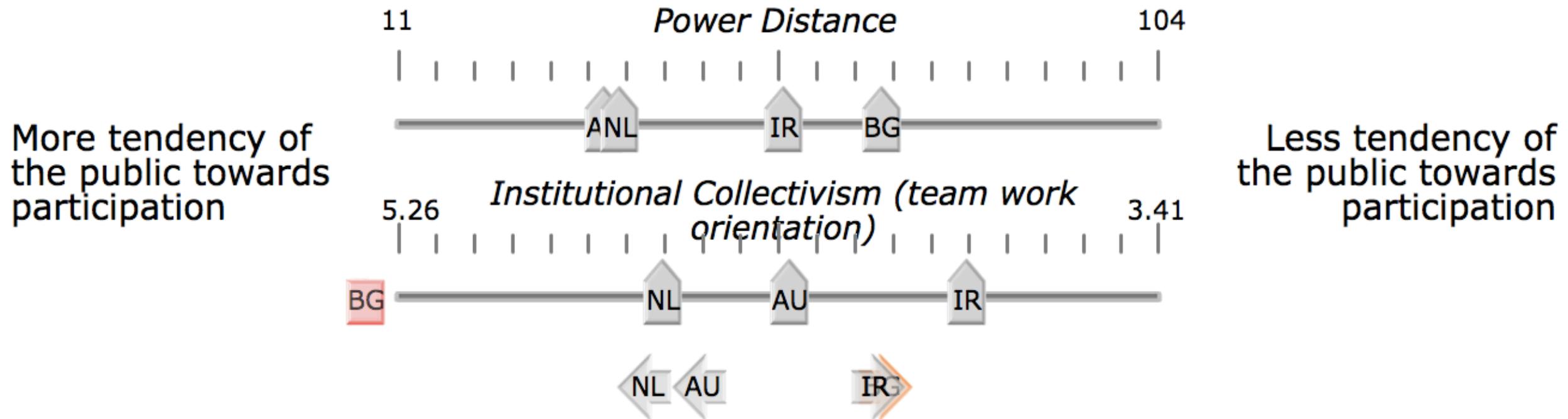


Photo credit: Ehsan Nabavi 2014

Employing the culturally sensitive factors affecting participation



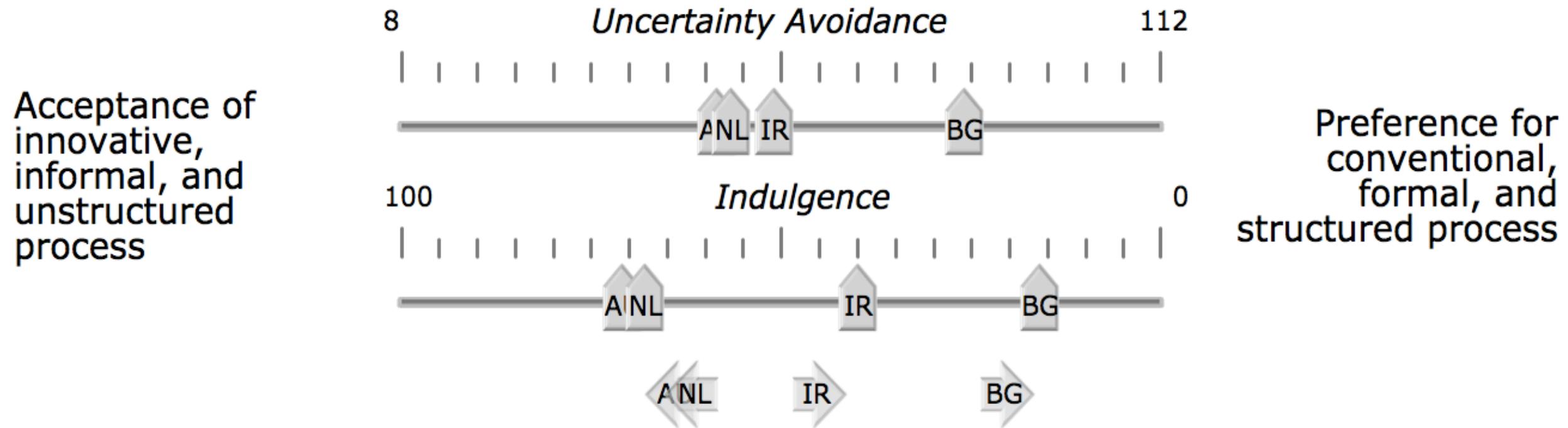
FAP1: Public Demand



Employing the culturally sensitive factors affecting participation



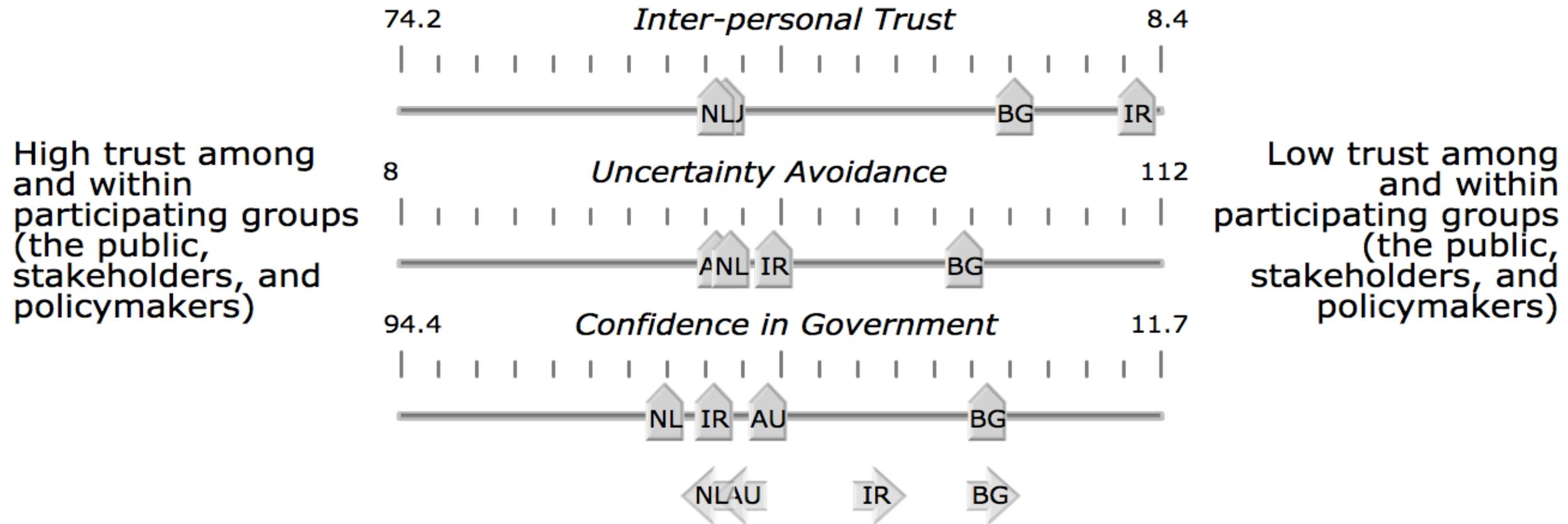
FAP4: Process Format



Employing the culturally sensitive factors affecting participation



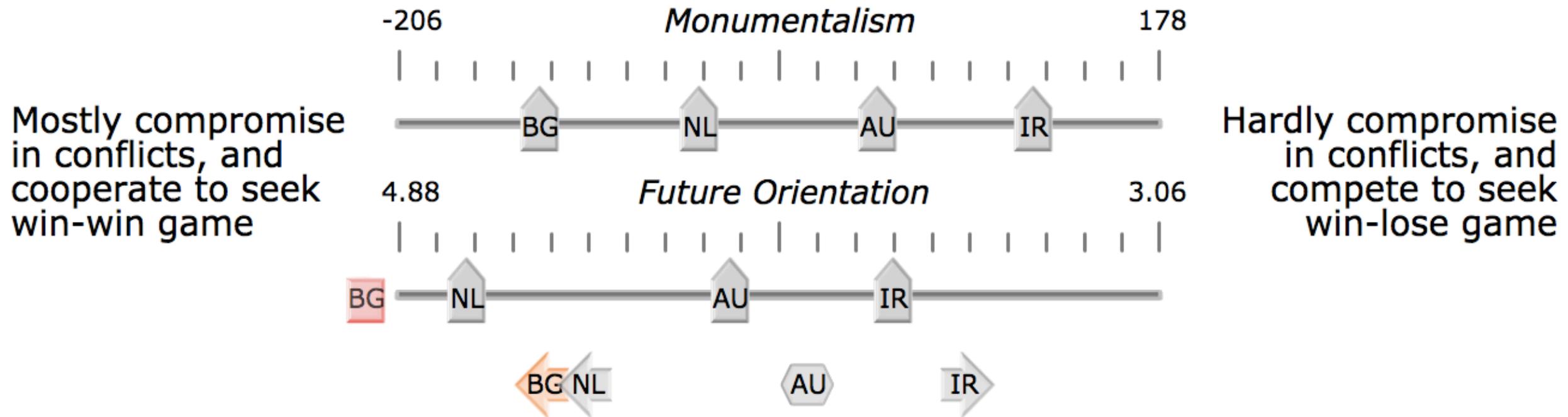
FAP6: Inter-party Trust



Employing the culturally sensitive factors affecting participation



FAP9: Conflict Resolution Mentality



FAP in river basin engagement design



- determining objectives
- who to involve
- which methods to use
- what risks to manage



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FAP in river basin engagement design



- Bulgarian 'co-engineering' process mixed-methods choice
 - **suiting** cultural preferences
 - **pushing** boundaries



Split groups:
other stakeholders /
policy-makers



Vertical integration



Evaluation jury



Project
construction

FAP in river basin engagement design



- Different methods selected in a similar Australian process
 - **suiting** / **clashing** with cultural preferences



FAP in river basin engagement design



- From an Iranian water **conflict** situation
 - Development of a process to encourage **cultural transformation**



Building people's trust



Active participation



Enroling real 'actors' in Forum Theatre



Transformation of understanding & willingness to engage and work together

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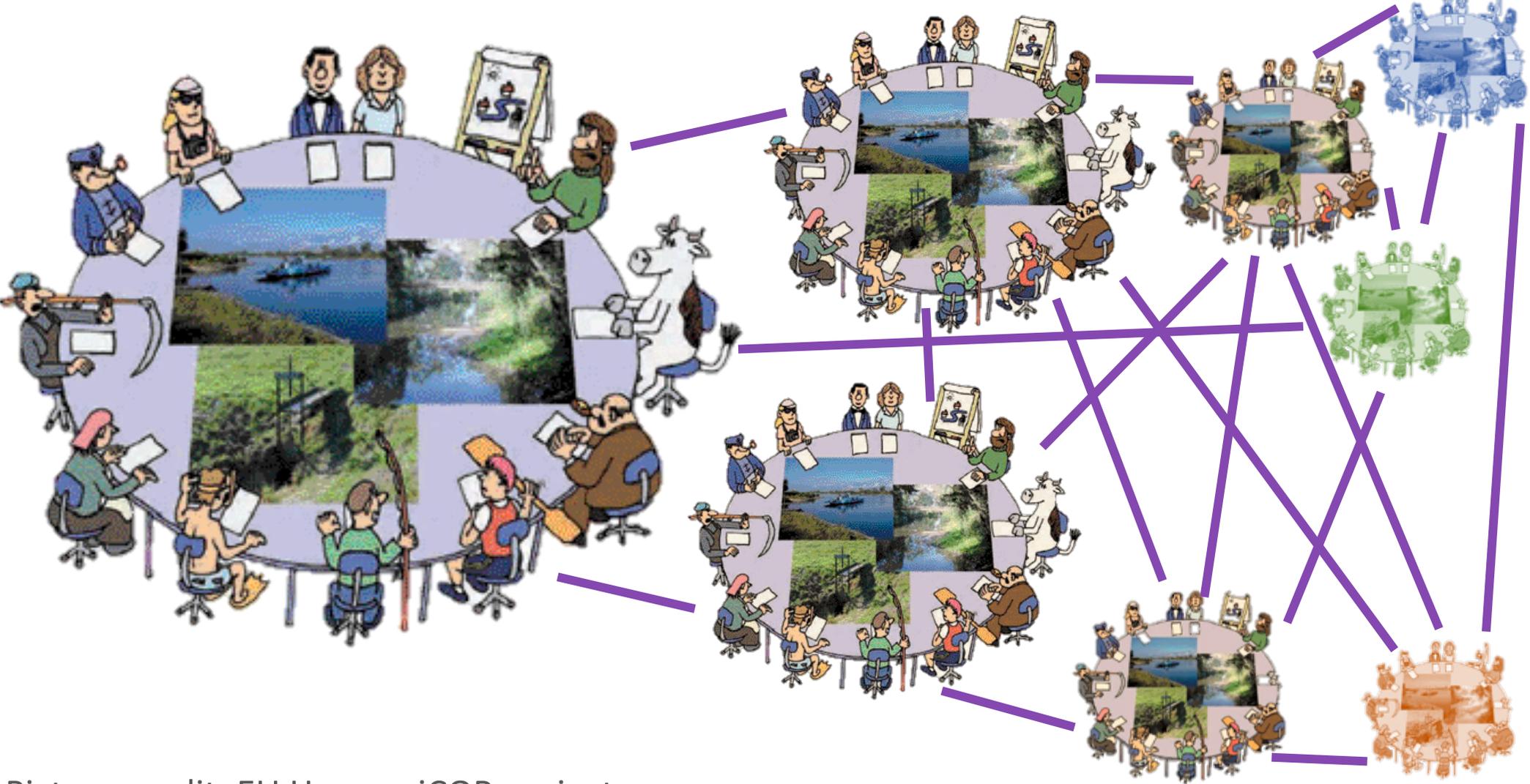
Conclusions and perspectives on bridge building

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Insights on integration through engagement



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Picture credit: EU HarmoniCOP project

Final perspectives on bridge-building



Photo credit: <http://www.castellersdevilafranca.cat/images/DSCN7745.jpg>

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Thank you
Any questions?



katherine.daniell@anu.edu.au

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Where do people fit?

The scale puzzle – Part 1



(A) SPATIAL

Areas



Globe

Bio-region

River basin

Catchment

Sub-catchment

(B) TEMPORAL

Rates, frequencies, durations



Inter-decadal

Annual

Monthly

Daily

Per minute

(C) ADMINISTRATIVE

Administrations



Inter-/supra-national

National

Regional

Provincial

Local

(D) INSTITUTIONAL

Rules



Constitutions

Laws / regulations

Operating rules

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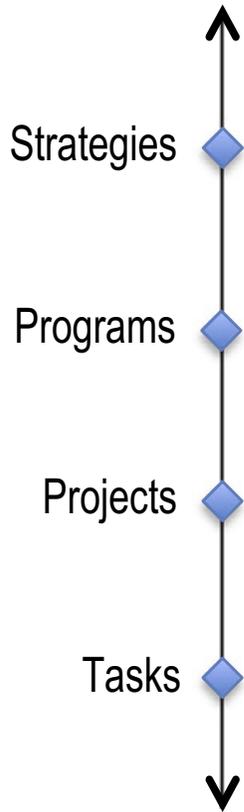
Where do people fit?

The scale puzzle – Part 2



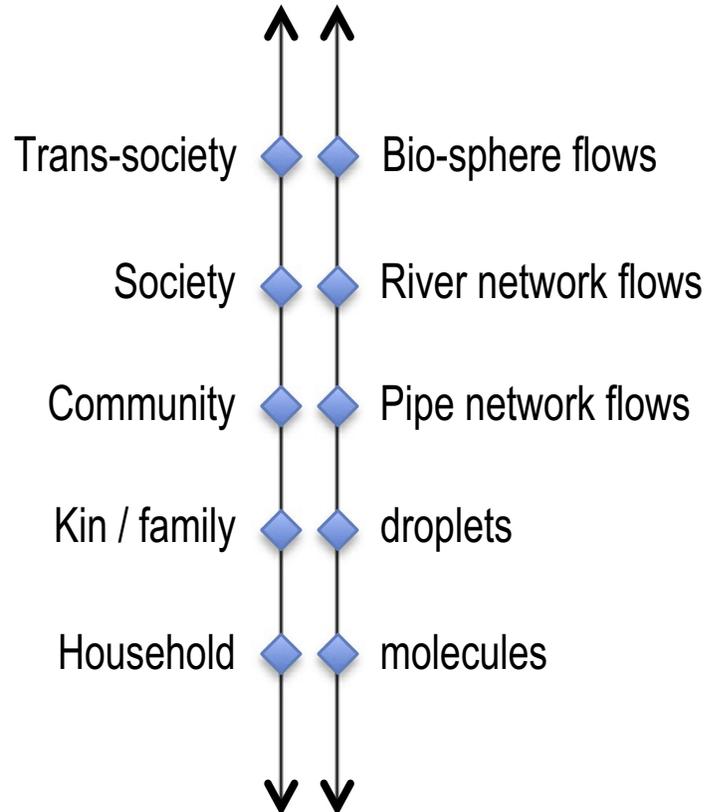
(E) MANAGEMENT

Plans



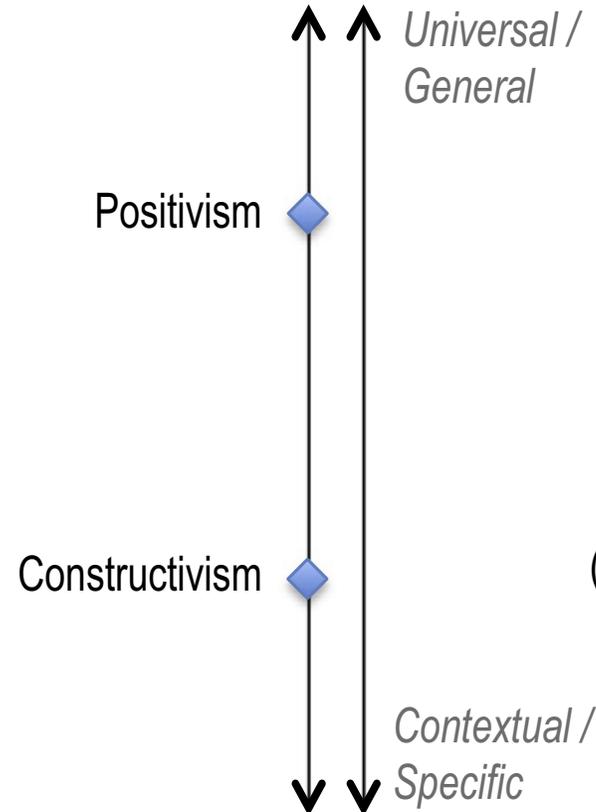
(F) NETWORKS

Links / volumes



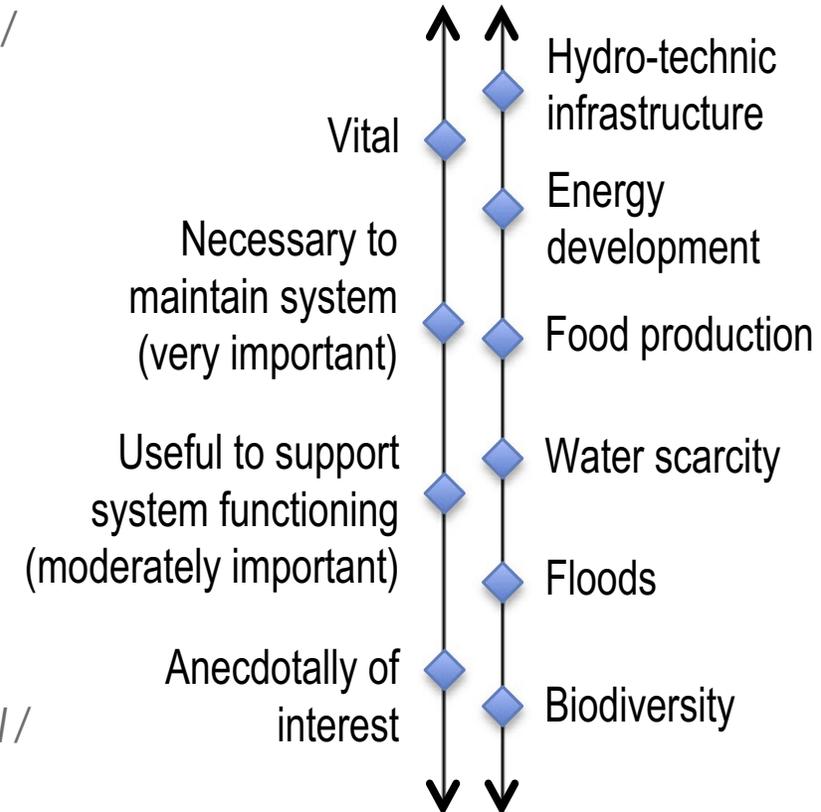
(G) KNOWLEDGE / INFORMATION

Truth / Information specificity



(H) STAKES / ISSUES

Importance / issue category



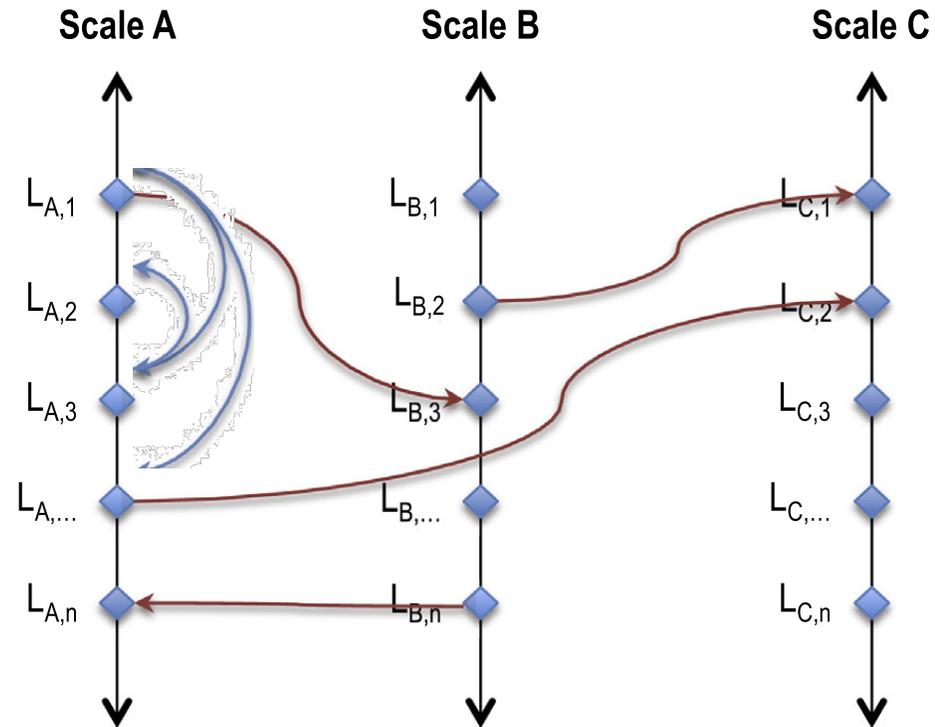
What do people manage?

The scale puzzle – Part 3



Externalities that create cross-scale and multi-level linkages

- Physical or material flows
- Information and knowledge
- Political and social control
- Financial flows
- Human flows
- Irreversibility effect



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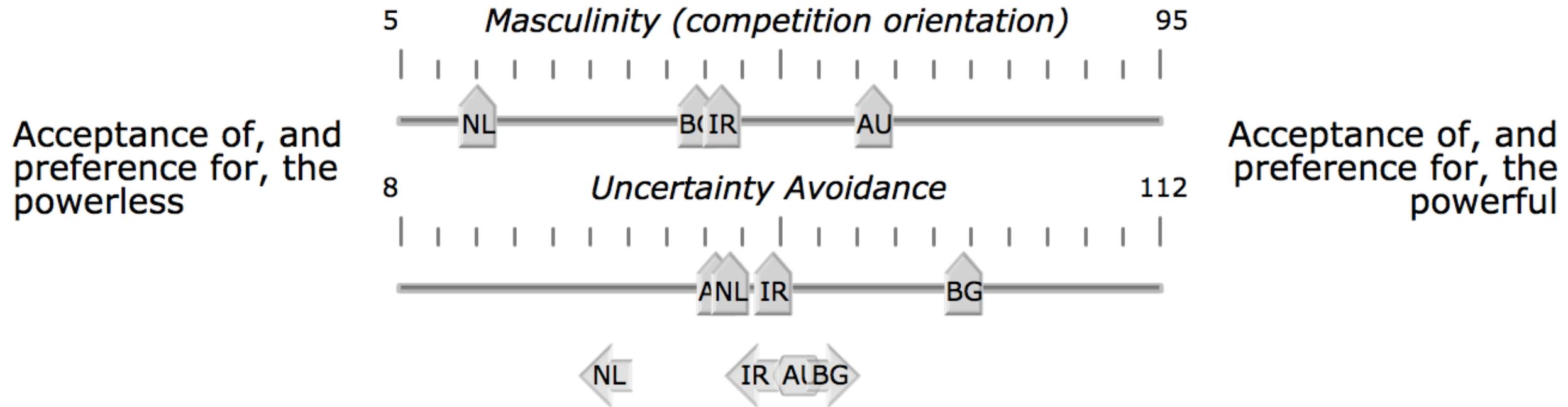
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Employing the culturally sensitive factors affecting participation



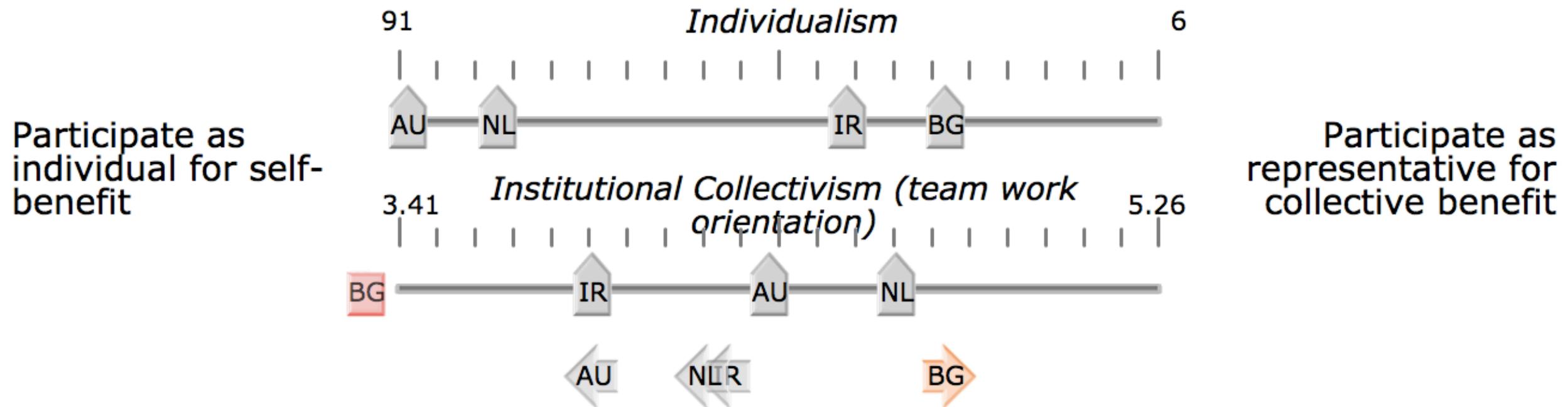
FAP2: Preferred Participants



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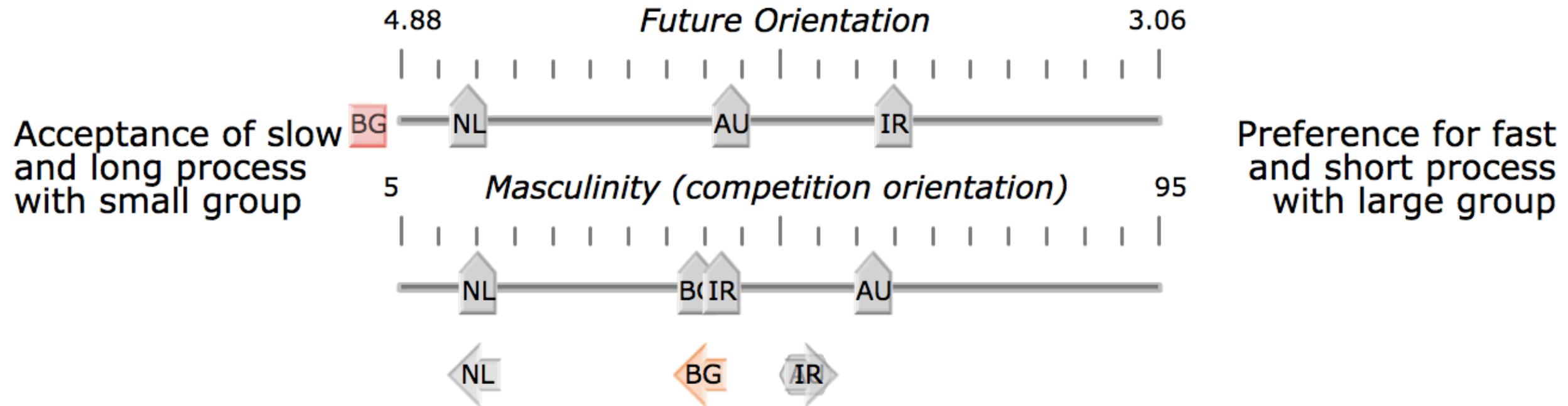
FAP3: Role and Intention of Participants



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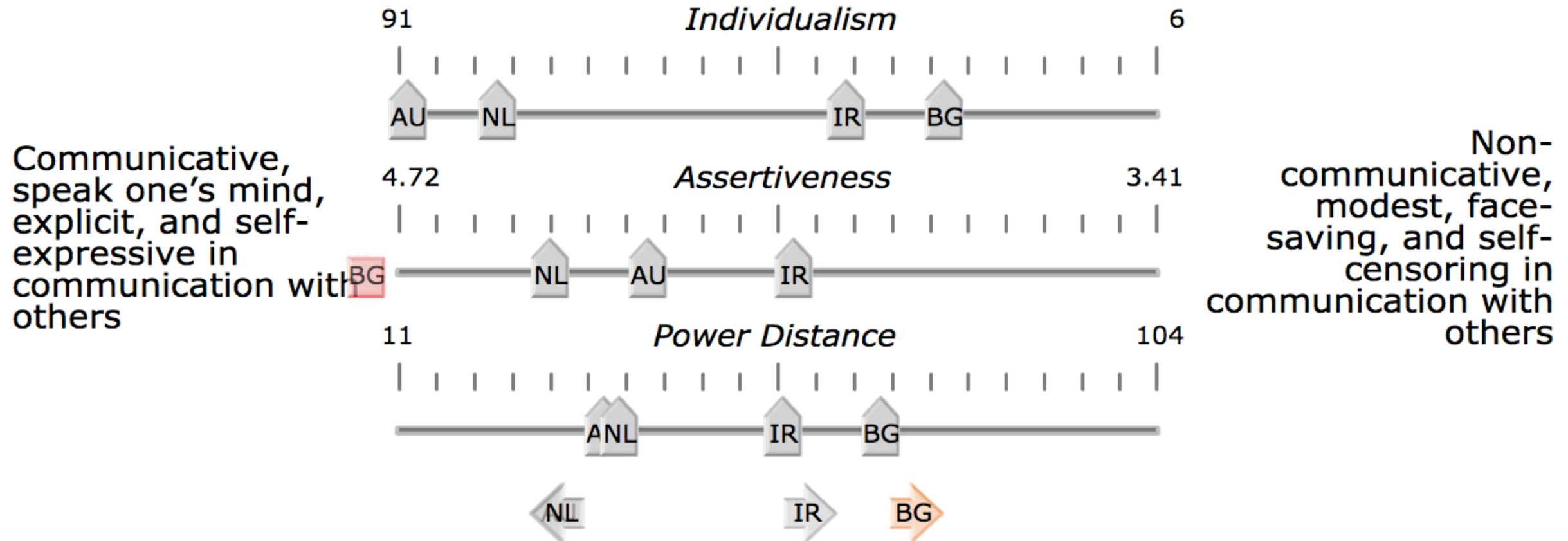
FAP5: Process Scope



Employing the culturally sensitive factors affecting participation



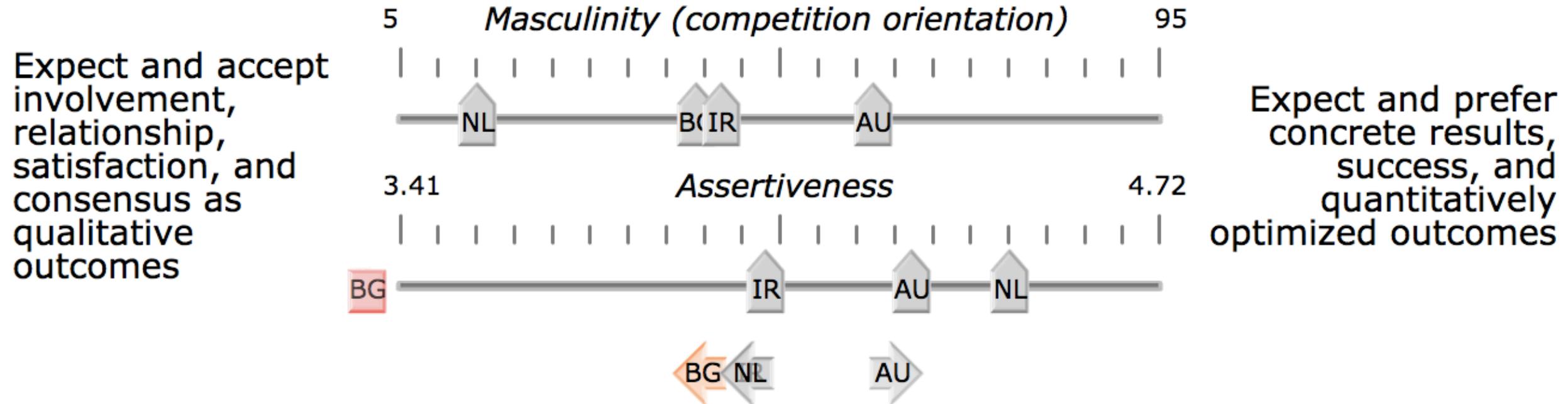
FAP7: Communicativeness



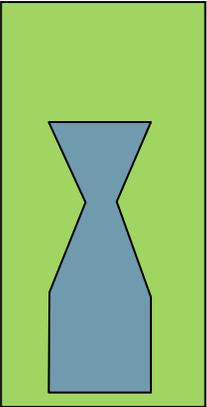
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FAP8: Outcome Expectation



Estuarine risk management in the Lower Hawkesbury River, Australia



- National
- State
- Regional
- Community
- Individuals

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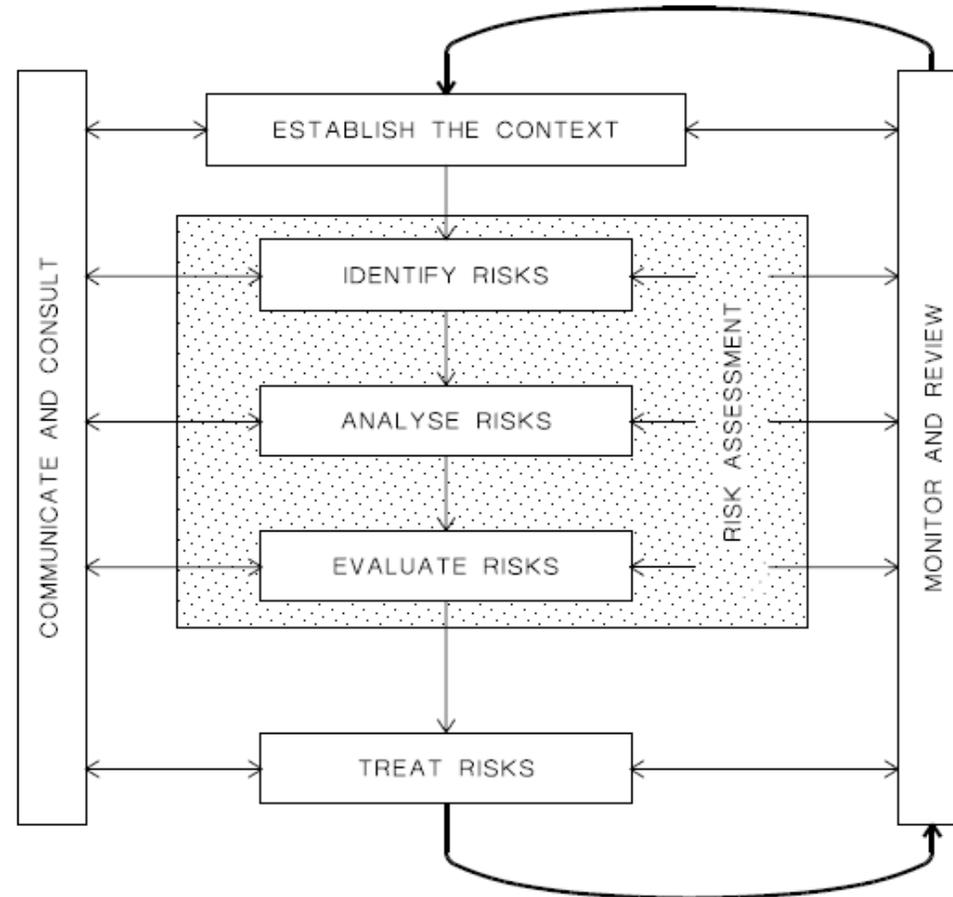
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Australian Process Outline (AS/NZS 4360:2004)

Lower Hawkesbury Estuary Management Plan (LHEMP) Process

- **Workshop 1**
- **Document Review**
 - Estuarine Processes
 - Management / Legislation
- **Estuary Report**
- **Workshop 2 (agency only)**
- **Workshop 3**
- **Written Plan**
- **Implementation**



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Hawkesbury engagement process (1)



Individual values and issues cards



Issues/values matrix



Card classification



Spatial mapping



Collective discussion on estuary visions & values

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