

Appendix 1

Supplementary Survey Results

Table A1.1 MANOVA and post-hoc tests (Bonferroni). The multiple comparison table shows the two components that showed statistically significant differences in the choices of definitions (C2 and C5), while C1, C3 and C4 do not vary significantly by definition. In sum, people who chose the community resilience definition were more likely to rate C2 higher than those who chose ecological resilience and much more likely than those who chose the engineering definition. People who chose community resilience were also more likely to rate C5 higher than those who preferred the engineering definition. Respondents who preferred engineering definitions of resilience were much less likely to rate C5 high.

Dependent Variable	(I) resDef	(J) resDef	Mean Difference (I-J)	Sig.
C1 Integrated ecosystem water management	Community	Ecological	-.064	1.000
		Engineering	-.292	.098
	Ecological	Community	.064	1.000
		Engineering	-.228	.354
	Engineering	Community	.292	.098
Ecological	Engineering	.228	.354	
C2 Decentralized water governance	Community	Ecological	.343*	.004
		Engineering	.593*	.000
	Ecological	Community	-.343*	.004
		Engineering	.250	.235
	Engineering	Community	-.593*	.000
Ecological	Engineering	-.250	.235	
C3 Adaptive water governance	Community	Ecological	-.105	1.000
		Engineering	-.078	1.000
	Ecological	Community	.105	1.000
		Engineering	.027	1.000
	Engineering	Community	.078	1.000
Ecological	Engineering	-.027	1.000	
C4 Water supply expansion	Community	Ecological	.114	.913
		Engineering	-.079	1.000
	Ecological	Community	-.114	.913
		Engineering	-.194	.591
	Engineering	Community	.079	1.000
Ecological	Engineering	.194	.591	
C5 Adaptation to flooding	Community	Ecological	.002	1.000
		Engineering	.378*	.027
	Ecological	Community	-.002	1.000
		Engineering	.376*	.046
	Engineering	Community	-.378*	.027
Ecological	Engineering	-.376*	.046	

Survey Instrument

Note: Only part of the data was used for this paper. Other data from this survey is used in a separate manuscript, currently in preparation.

Resilience definitions

Resilience as a concept is proliferating in many areas of resources management and governance.

Please indicate which definition of resilience resonates THE MOST with you

- Resilience refers to the time it takes a system to return to normal after a disturbance
- Resilience is the capacity of a system to absorb a shock without changing states
- Resilience is the ability of communities or society to cope with, adapt and transform in the face of change
- None of these definitions resonates with me
- I am not familiar with this concept
- I do not understand resilience well enough to define it

Please also provide your own definition if the suggestions provided above do not sufficiently capture your thoughts on the meaning of resilience (optional)

What specific actions or practices do you think can enhance resilience in the context of water planning or management? (optional)

Further comments or thoughts on resilience (optional)

General attitudes towards resilience

Please indicate how strongly you agree or disagree with the following statements

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am familiar with the concept of resilience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I apply resilience concepts in my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resilience is a useful framework in my line of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Resilience, as a concept or a framework, does not apply to my line of work

Resilience is just a buzzword and has no meaning for me

Please provide examples of novel practices or tools, in your line of work, that are inspired or motivated by resilience thinking (optional)

Resilience and novelty

Please indicate how strongly you agree or disagree with the following statements

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Resilience brings novel approaches and ways of thinking to my field of work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resilience thinking provides distinctively new tools and practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By applying resilience thinking, I do things differently in my line of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide comments or thoughts on the novelty of resilience (optional)

Strategies that build general resilience in the water sector

In the context of water planning and governance in general, several strategies have been identified as potentially useful for building resilience. Please indicate how important (or not) you think the following factors would be for achieving resilience. 1 = not important at all 5 = very important

	1	2	3	4	5
Polycentric governance (i.e., management or governance systems that have multiple centers of authority at different scales)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Redistributing functions, power and authority from national to provincial and municipal levels of government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to quickly respond to changes, reorganize and adapt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Openness to institutional change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rescaling governance from the local scale to the watershed or catchment scale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong integration of different water sectors (e.g., wastewater, bulk water, sanitation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inclusive, fair and equitable governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building redundancy in infrastructure systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having diverse water resource options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restoring and maintaining healthy ecosystems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acknowledging and dealing with uncertainty in the variability of the water cycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide comments or specific examples (optional)

Strategies that build resilience to drought

In the context of dealing with droughts, several strategies have been identified as potentially useful for building resilience. Please indicate how important (or not) you think the following factors would be for achieving resilience to droughts. 1 = not important at all, 5 = very important

	1	2	3	4	5
Diversifying sources of water supply	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using small-scale water storage systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing ability to quickly mobilize alternative sources of water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decentralizing drought management approach with authority to act at smaller scales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritizing demand management and water conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapting by switching to less water intensive livelihoods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water recycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanding water supply schemes (dams, tap into groundwater)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide comments or specific examples (optional)

Strategies that build resilience to floods

In the context of dealing with floods, several strategies have been identified as potentially useful for building resilience. Please indicate how important (or not) you think the following factors would be for achieving resilience to floods. 1 = not important at all, 5 = very important

	1	2	3	4	5
Increasing infrastructure redundancy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritizing learning to live with floods, rather than trying to prevent them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diversifying response options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Livelihood diversification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using “soft” or non-structural approaches, such as “green” infrastructure, flexible options, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fully utilizing the water cycle at the local scale (i.e., stormwater capture and reuse; use of treated wastewater, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting an integrated approach to manage water across different scales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritizing flood mitigation through infrastructure and planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide comments or specific examples (optional)

Strategies that build resilience in freshwater systems

In the context of management of freshwater resources, several strategies have been identified as potentially useful for building resilience. Please indicate how important (or not) you think the following factors would be for achieving resilience of freshwater systems 1 = not important at all, 5 = very important

	1	2	3	4	5
Restoring and maintaining healthy ecosystems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilizing natural or “green” infrastructure” (such as wetlands, streams, rivers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restoring, protecting or enhancing species diversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Imposing strict regulations on water withdrawals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing water resources management at the catchment scale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting integrated land and water use planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide comments or specific examples (optional)

Governance for resilience

Please indicate how strongly you agree or disagree with the following statements

Strongly disagree Disagree Neutral Agree Strongly agree

Building resilience necessitates governance transformation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building resilience necessitates strengthening of existing governance systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Governance for resilience necessitates stronger integration across different sectors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Governance for resilience requires a polycentric model (i.e., management or governance systems that have multiple centers of authority at different scales)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Resilience and social equity in the water sector

Please indicate how strongly you agree or disagree with the following statements

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
While equity is an important societal goal, it is distinctive and unrelated to resilience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are inherent tradeoffs between equity and resilience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equity, fairness and participation in governance increase resilience in the water sector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Social equity increases resilience in the water sector because

select all that apply

- Social equity contributes to a more stable society without social conflict
- Achieving any objective in the water sector requires buy-in from everyone
- Equitable systems are able to adapt better to changes or disturbances
- Social equity does not increase resilience
- I am not sure
- Other reasons _____

What role does social equity play in achieving resilience? (optional)

Demographic information

In which country/countries is your institution located?

Please select the field(s) that best describe your line of work

- Stormwater management
- Disaster risk management
- Water and sanitation
- Water resources management
- Flood management
- Water governance
- Other _____

Please select the sector(s) that you mainly you work in

- NGO
- Local government
- Provincial government
- National government
- Academia
- Independent consultant
- Private sector
- Other _____

What is the highest degree level that you have completed?

- Associate's degree
- Bachelor's degree
- Master's degree
- Doctoral degree
- Other _____

How would you best describe the type of work you are mostly doing at the moment?

- Administrative
- Engineering
- Outreach / communications
- Program Director / Executive

- Policy, governance, and/or regulation
- Research
- Other _____

Is conducting research a significant component of your work?

- Yes
- No

Do you consider yourself:

- Hispanic or Latino
- Black or African American
- Asian or Pacific Islander
- Aboriginal
- Native American or American Indian
- Arab or Middle Eastern
- White/Caucasian
- Other _____
- Prefer not to answer

What is your gender?

- Female
- Male
- Non-binary
- Prefer not to answer
- Other _____

What is your age?

- Less than 25
- 25-34
- 35-44
- 45-54
- 55-64
- 65 or more

What is your current country of residence/ work?

In which country or countries does most of your work take place?