



INTER-DISCIPLINARY URBAN WATER RESEARCH: Lessons in How to Integrate the Social and Physical Sciences

Two group-wide discursive sessions were held at the workshop, focussed on interdisciplinary thinking and how to integrate the social and physical sciences. The notes from these group discussion sessions are included below:

Group Discussion Session 1: The first group discussion considered the most important elements for achieving successful interdisciplinary research projects, which produced a number of ideas around the importance of trust, relationships and communication in interdisciplinary research, and the types of approaches that should be applied. The points raised by the group are listed below:

TRUST

- Trust is important in interdisciplinary projects and we need to find ways to facilitate it
- Trust underpins new approaches
- Trust comes from effective communication with knowledge

RELATIONSHIPS/COMMUNICATION

- Need to have a shared vision between all players involved.
- Need responsive systems that facilitate integration, interdisciplinarity and communication.
- Need to value interdisciplinary interactions between the social and physical professions and need to allow the time to build relationships.
- Communication is two-way, and feedback and interaction is needed to overcome barriers to understanding
- Good communication is needed from the outset of the project, including with the stakeholders so that there is stakeholder ownership of the project
- Need to give due credibility to all disciplines involved (e.g. not to have engineers perceived as more important than others such as landscape architects)
- Need to foster education for all disciplines about other disciplines, in order to avoid “blaming each other for who ‘needs to be engaged’ in the WSUD debate/discourse”
- Need more open-mindedness across traditionally segregated groups
- It is important to recognise language as a barrier and make sure there is a common understanding

RISK

- Need to change the way accountability is set up to prevent professional compromises which may occur in relation to the risk of litigation and increasing insurance costs.

PRACTICE

- It is important to put projects into practice ASAP, i.e. “learn by doing”. It is therefore not necessary to predict everything.
- Need to consider outcomes versus outputs i.e. work undertaken on an output may not have the desired outcome
- Flexibility is required rather than the expectation of fixed results
- Research is linear as is practice

THEORY/APPROACH

- By reframing questions, new approaches to problems can become apparent.
- Need to reflect on both the historical context and present situation before setting the vision for projects.
- Governance needs to change and be more integrated
- Quality of life and lifestyle are primary drivers for urban water management and these are common between countries
- Organisations that fund projects want results
- Need incentives to create a common vision
- Interdisciplinary research success isn’t about ticking boxes to ensure every group is represented, but ensuring that the approach is effective and the right groups are involved
- Interdisciplinary goals need to address inertia, while considering historical approaches and cultural learning



Group Discussion Session 2: In the second session, the group brainstormed possible scenarios for 2025 if we did not pursue interdisciplinary approaches to urban water management and went 'back into the silos'. Here, the group found that delivering better water systems require interdisciplinary efforts that incorporate trust, meaningful communication, respect, a shared vision, new institutional incentives, adaptability and flexibility, and the adoption of a 'learning by doing' approach to streamline these efforts.

- Large technical solutions would continue and these would be dominated by engineering
- Increases in taxes
- It would be inefficient and be a waste of investment
- There would be an inability to cope with climate change
- Conflict would increase in a negative way, however conflict between different groups could possibly generate change
- Current power arrangements are unlikely to change. It was observed that power is currently held with those who build infrastructure.
- Decision-making processes would be remote and undertaken exclusively by the powerful
- Water solutions would only be as good as the latest piece of technology.
- There would be no generational change and no challenge to the status quo until there is a crisis
- People generally only care about problems that affect them, except, for example, old growth forests in Western Australia

The group agreed that delivering better water systems involves:

- Trust
- Communication throughout (language, terminology, culture)
- Discipline respect
- Shared vision
- Redistribution of risk
- New institutional incentives
- Learning by doing
- Adaptability and flexibility (no regret solutions)