Initial Findings Report: Exploring alternatives for water system management
Prepared by: Sarah-Patricia Breen
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Introduction

This report presents the initial findings of a study that explores alternative approaches to solving challenges related to the management of drinking water systems. This work was driven by a 2011 study that identified drinking water systems in the Kootenay Development Region as a topic of concern. In 2013 a series of interviews identified a range of challenges related to drinking water systems. This study brings together a range of solutions into a theory-based framework and asks participants for feedback on these ideas. The feedback provided by participants is a first step toward refining the framework so that it can i) provide practical solutions and ii) inform decision making, programs, and policy.

2015 Study Participants

- Local participants from municipalities and regional districts, including: water system engineers and managers, general local government managers, and planners
- Regional/provincial/federal participants from agencies that provide support, programs, funding, policy, and regulation

Results Overview

All participants were asked questions about the applicability and feasibility of 6 types of ideas. Regional/Provincial/Federal agencies were asked questions specific to their support for local implementation of the ideas. Table 1 shows the majority response for each type of idea, with a brief explanation. It is important to note that there is a range of responses. For example, 'yes' ranges from existing examples to being interested but with limitations.

Table 1 – Results Overview

		Applicable	**Feasible**	**Support For**
1.	**Integrated Planning**	'Yes' – internal focus on single system or catchment area suggests regional scale less applicable	'Yes' - recognizing limitations of capacity, resources, priorities	'Yes' – near tie with 'not sure' suggests uncertainty
2.	**Knowledge Sharing**	**'Yes' – dominant response, suggests high level of support for collaborative efforts related to knowledge and capacity building**	**'Yes' - dominant response, existing and potential efforts suggest high level of support, recognizing capacity limitations**	**'Yes' – dominant response, suggests high level of support for increasing sharing of and access to information**
3.	**Water System Design**	'Yes' – new technology favoured, as opposed to	'Yes' – near tie with combined 'not sure' and	'Yes' – with recognition that these are local

	Applicable	Feasible	Support For
	linking systems, suggests internal or single system focus	'no' suggests barriers (e.g., bylaws)	decisions and support for new ideas did not mean new requirements
4. Water System Operations	**'Yes' – dominant response, suggests high level of interest in collaboration (e.g., training and equipment sharing) and recognition of need for asset management**	**'Yes' - dominant, but increased number of qualified responses combined with higher number of 'not sure' suggests logistical challenges**	**'Yes' – dominant response, suggests high level of support for collaboration, recognizing that this is a local choice**
5. Implementation and Evaluation	'Yes' with limitations – near tie with combined 'not sure' and 'no' suggest low prioritization	Tie between 'yes' and combined 'not sure' and 'no' suggest resource and capacity challenges	'Not Applicable'
6. Institutional Structure	'Yes' suggest recognition of potential, but 'not sure' and 'no' responses suggest uncertainty	Tie – 'yes' and 'not sure' suggest potential but uncertainty surrounding challenges and mechanisms	'Not sure' – recognition of benefit, but uncertainty surrounding mechanisms

Overall, ideas relating to larger-scale, collaborative efforts around 'knowledge sharing' and 'water systems operations' appear to be of most interest. When asked about interest in this framework if it was provided as a tool, the majority of local participants indicated some level of interest. However, the range of responses suggests that parts of the framework may be more immediately applicable than others.

Recurring Points

There were several recurring points, providing important context for this study. These points include, but are not limited to:

1. Capacity limitations
   - Including: time, money, information, staff
   - Limits priorities and what is possible
   - Trade-offs between the short and long term
2. Integration challenges
   - Working in silos - within and between organizations
   - Recognizing complexity, but having to work within limitations of mandates
   - Relationships, communication, and understanding
3. Jurisdictional conflict
   - Level of local control and decision making power within multi-use watersheds

- Despite existing flexibility within the local government system, perceptions of the institutional structure (e.g., path dependence and legacies – 'how it's always been done) can limit thinking outside the box or participation in new approaches

4. Supports Required
   - Reliable and stable financial resources
   - Understanding and support from local elected officials and consumers
   - Easy access to relevant, appropriately presented Information
   - Plans that go beyond a fulfilling a requirement and provide practical guidance and achievable goals

5. Drivers of change
   - Recognition that change is not easy
   - Need for both local and upper level action
     - Local champions are a necessity, but cannot do everything
     - External support is required (e.g., organization, facilitation, etc.)

The majority of participants recognize a need for some degree of change in the management of drinking water systems. However, there is also recognition that change is not easy and that desire for change is tempered by existing constraints.

Next Steps

Detailed data analysis is ongoing, to be followed by article(s) for publication. This report has been provided to all participants and feedback has been incorporated in the final version. **If you have any comments or questions about these initial findings please send them to me (swbreen@sfu.ca).**

Acknowledgements

Research Ethics (Approval number #2012s0754)

Participation in this project is voluntary and participants will be kept confidential to the best of my abilities. If you have ethical concerns about the research you may contact you may contact Dr. Sean Markey, Senior Supervisor, at spmarkey@sfu.ca or 778-782-7608, or the Simon Fraser University Office of Research Ethics http://www.sfu.ca/ore/contact-us.html.

Author Contact Information

- Sarah-Patricia Breen, swbreen@sfu.ca
- Project website: http://cdnregdev.ruralresilience.ca/?page_id=227