

Opportunities for a Regional Approach to Address Drinking Water Challenges in Rural Newfoundland and Labrador:

A Literature Review

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Introduction

Over the past decade, rural water supply systems in Canada have been engrossed with challenges such as limited and aging/failing infrastructure, inadequate human and financial capacities, uncoordinated water governance, and fragmented policy regulations, all of which affect public water supplies. There have also been issues of communities under long-term boil water advisories (BWAs), high levels of disinfectant by-products, conflicts associated with multi-use watersheds, and outbreaks of giardia. There have been significant efforts (though fragmented and uncoordinated) by water researchers, water managers and governments to find lasting solutions to these challenges to ensure the supply of clean and safe drinking water to Canadians. Part of these efforts has been to explore options for regional-scale management of drinking water where appropriate. This article reviewed literature on the feasibility of a regional approach to water management challenges in rural Canada.

Review Summary

Peer-reviewed articles and grey literature on water management systems in Canada and elsewhere sourced from online databases were reviewed after cataloguing based on their relevance to the study objectives. The review identified current challenges facing drinking water systems and recommended solutions, particularly those related to regional approaches. The feasibility of such approaches and successful case examples were also examined.

❖ Components of Water Management Systems

- ✓ Regulations, policy and planning; Source water; Water infrastructure; Human and financial capacities; Water quality monitoring

❖ Drinking Water Challenges

- ✓ Cost of providing and maintaining aging/degraded water infrastructure
- ✓ Public acceptability of water treatment technologies
- ✓ Inadequate qualified staff, skills and compensation
- ✓ Inadequate planning for water infrastructure, assets management
- ✓ Multi-use watersheds
- ✓ Non-enforcement/non-compliance with water laws and regulations
- ✓ Long-term BWAs, high DBPs

❖ Potential Solutions

- ✓ Improve policy and planning, financial and technical support for water infrastructure as well as governance structures
- ✓ Contracting, amalgamation or joint ventures
- ✓ Regional approaches or water service sharing

Regional Approach

❖ Reasons for Regional Approaches

- ✓ Complexity of water management challenges requires an integrative and all inclusive approach
- ✓ Failure of current management models
- ✓ Water sources cross communities requiring all stakeholders' participation in its management
- ✓ Need to combine limited human and financial resources

❖ Benefits

- ✓ Reduction in financial expenditures
- ✓ New/improved infrastructure
- ✓ Critical mass of resources and water management best practices
- ✓ Improving water quality supply hence, public health.

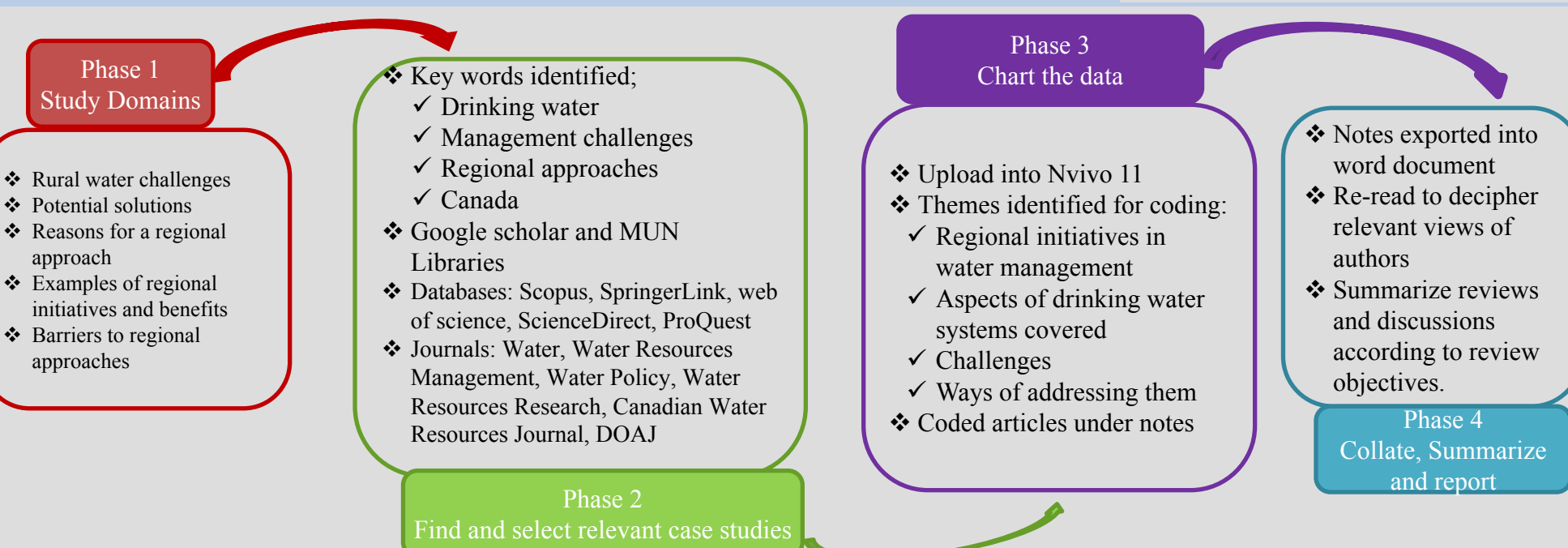
❖ Challenges and Way Forward

- ✓ Place-based and declining populations
- ✓ Unwillingness and lukewarm attitude, fear of loss of independence and of subordination by larger municipalities
- ✓ Fear of increased taxation

❖ More research needed into conditions, processes and actors required to implement regional approach

❖ Sensitization through education and consultations

Scoping Method



Selected References

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