COMPLETED PROJECT

A COLLABORATIVE GOVERNANCE APPROACH TO CRITICAL SYSTEMS RISK ASSESSMENT

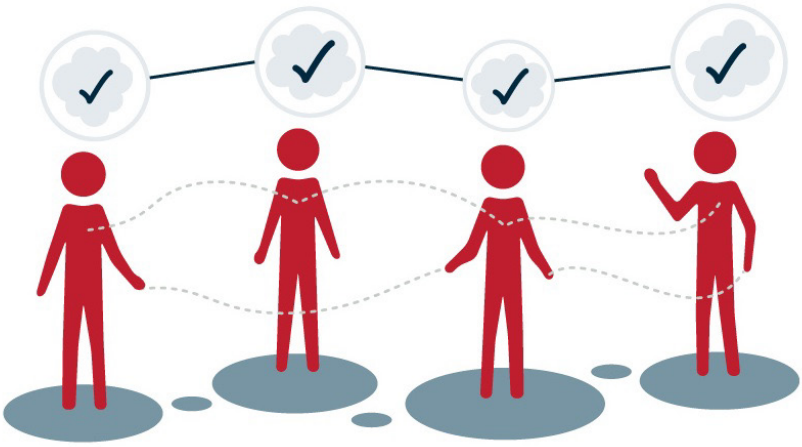

Photo: @gavinkeech

CONTEXT

Québec's 2014-2024 civil protection policy defines a critical system as a system responsible for the production or provision of services or resources necessary for life and the functioning of communities (drinking water supply, transportation, etc.). Municipalities and their citizens are extremely dependent on the services and resources provided by critical systems, which are often delivered at the regional level through intermunicipal agreements. Climate change affects the frequency and intensity of natural hazards, which can weaken critical systems and threaten those who depend on them. It is therefore essential to assess the risks facing these systems and develop or improve management tools, taking into account the variable context of critical systems (in terms of management, operations, governance, etc.). The large number of organizations that must be coordinated to manage an event that would have cascading consequences requires shared risk management but can be difficult to implement.

OBJECTIVE

In close collaboration with two MRCs, build a global critical systems risk assessment process at a regional scale in a climate change context, supported by a collaborative governance approach.

METHODOLOGY

- Introduce and supervise a collaborative governance process related to the management of critical systems in each MRC;
- Assess the risks facing critical systems in each MRC and identify potential risk mitigation actions across the region;
- Assess, compare and document the process with the two pilot MRCs to allow transfer to other MRCs.

REFERENCES

M-C Therrien et al. 2020, Démarche de gouvernance collaborative d'appréciation des risques des systèmes essentiels. Rapport final, 98 pages.
https://www.ouranos.ca/publication-scientifique/RapportTherrien2020.pdf

VULNERABILITIES, IMPACTS AND ADAPTATION PROGRAM : CROSS-CUTTING ISSUES

PROJECT START AND END DATES
MAY 2017 • OCTOBER 2019

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- MRC d'Argenteuil and member municipalities
- MRC de Brome-Missisquoi and member municipalities
- Ministère de la Sécurité publique

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Rapport final

See reverse side for results

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RESULTS

Together with the MRC d'Argenteuil and the MRC Brome-Missisquoi, the action research project established the basis for a collaborative governance approach to assessing the risks to essential services under a changing climate. The process used combined two main approaches: soft systems methodology (living lab) and a collaborative work process. This mixed approach maximizes the potential for learning and co-construction through an iterative process that promotes dialogue between tacit and scientific knowledge, between practitioners (stakeholders) and researchers. The collaborative process was carried out in three iterative collaboration cycles—(1) diagnosis, (2) modelling and (3) situational analysis and prototyping of tools—in order to obtain a result that best corresponds to the participants' perception. The first cycle (diagnosis) concluded with the creation of two visual representations specific to each of the two MRCs: the first, a mapping of essential services and the second, a situational mapping of the collaborative context. The second cycle focused on the modelling of a generic collaborative governance framework adapted to the realities of an MRC (Figure 1). Finally, the third cycle allowed the partner MRCs to initiate the implementation of a methodology for assessing the vulnerability of certain essential services to the main climate hazards likely to occur on their territory and to prototype three concrete tools related to the generic collaborative governance model with the goal of reducing this vulnerability: an alert and monitoring system, a mapping of essential services and their vulnerabilities to key climate hazards, and a plan for mitigating these vulnerabilities.

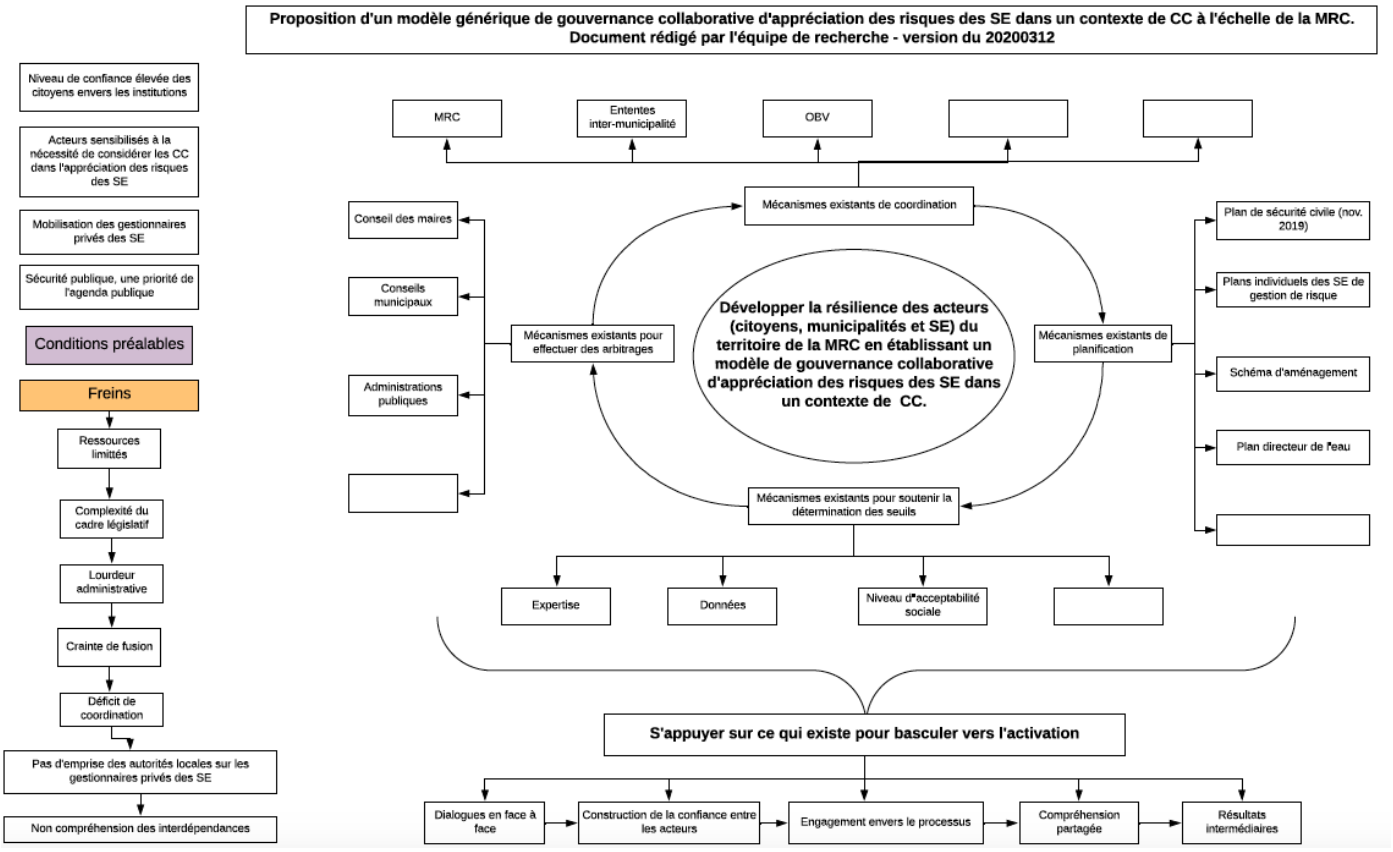

Figure 1 : Generic collaborative governance model for the assessment of risks to ES under a changing climate at the MRC level

BENEFITS FOR ADAPTATION

- → The involvement of the MRCs resulted in a better understanding of the notion of essential systems as well as greater awareness of the impact of climate change on essential systems and the importance of considering their vulnerabilities from an adaptation perspective.
- → The project was an opportunity to bring together and facilitate discussion between organizations unaccustomed to exchanging or working together on these issues.