



MAP THE SYSTEM CANADA

2023 FINALIST SHOWCASE: SYSTEM MAPS



MOUNT ROYAL UNIVERSITY
Institute for Community Prosperity



UNIVERSITY OF
OXFORD

Saïd
Business
School



ATCO™





MAP THE SYSTEM

Map the System is an initiative of the Skoll Centre for Social Entrepreneurship, based at the Saïd Business School, University of Oxford. Map the System is an opportunity for students and recent graduates to learn more about the issues they care about and present their findings to the world. Tackling global challenges starts with understanding a problem and its wider context rather than jumping straight into a business plan or an idea for a quick fix. Participants are asked to demonstrate a deep understanding of a pressing social or environmental issue by mapping out the landscape of the current solutions and identifying missing opportunities for positive change.

THE CANADIAN EDITION

Map the System Canada provides an opportunity for Canadian students and educators to participate in the renowned Map the System global competition. As part of the global competition, Canadian teams compete in a National Final that brings together emerging systems change leaders who are passionate about social and environmental change. Map the System was brought to Canada in 2016 to support Canadian students. The Canadian edition of Map the System is managed by the Institute for Community Prosperity at Mount Royal University. The Institute works to connect students with social impact learning through applied, community-partnered research, creative knowledge mobilization, and systems focused education. In 2022, Map the System Canada partnered with ATCO to continue to bring this system mapping opportunity to students.

PREFACE

Map the System is a window into what students are interested and passionate about and each year we are moved by the life, knowledge and commitment that students from across Canada put into their projects. At its core, Map the System Canada is an opportunity for students to catalyze learning and become future change leaders across our country.

In 2023, we welcomed 14 Canadian post-secondary institutions into Map the System. The Map the System Canadian competition is a huge undertaking that cannot be brought to life without a community of leaders and collaborators committed to meaningful changemaker education. We would like to take this opportunity to acknowledge the dedicated systems change educators who have supported students each step of the way. Your hard work and dedication has made this competition what it is and is helping to shape the future of your students.

On behalf of our partners and hosts; the Institute for Community Prosperity, ATCO, and the Skoll Centre for Social Entrepreneurship, we would like to congratulate all the 2023 student teams and acknowledge the time and commitment it took to complete your MTS project!

For all these reasons and more, it is with great excitement and pleasure that we have compiled all the system maps from the 2023 Canadian Finals. This work is an archive and a call to action. It is also a showcase of individual courage. The maps presented here are the results of countless hours of labour, but more than anything else, they are the seeds of a small group of people who are committed to changing the world.

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Participating Institutions




Royal Roads
UNIVERSITY

 ST. MARK'S COLLEGE
CORPUS CHRISTI COLLEGE

 **THE UNIVERSITY**
OF BRITISH COLUMBIA

 Athabasca
University

 UNIVERSITY OF
CALGARY

 MOUNT ROYAL
UNIVERSITY


HUMBER


LAURIER
WILFRID LAURIER UNIVERSITY


Toronto
Metropolitan
University

 UNIVERSITY OF
WATERLOO

 UNIVERSITÉ
Concordia
UNIVERSITY


HEC
MONTREAL

 **McGill**
UNIVERSITY

 **UDS** Université de
Sherbrooke

Leaks in the Pipeline: Barriers to Student Success in the Post-Secondary System

Team: Karen Fletcher

The post-secondary system in Canada centres “traditional students” who can study full-time at conventional universities without needing to miss class. This excludes people who live far from a university, who have caregiving responsibilities, who have to work full-time and those who have medical needs requiring many appointments, among others. The complexity of the post-secondary landscape in Canada, involving multiple provincial funders each with their own requirements, industry regulators, and the ways of teaching and learning entrenched in the academy make change difficult as change in one area may cause issues in another. However, we cannot content ourselves by declaring a system which excludes those who are different as “good enough,” so this project examines how non-traditional students are pushed out of university and what can be done, instead, to support them.

A Sustainable Solution to Water Scarcity

Team: Alexander Memrik, Karen McEwen, Ariel Piyale-Anisman and Tetiana Rohachova

We are researching sustainable solutions to water scarcity in South Africa. Some of the key findings from our research is that South Africa has fog that can be harvested and the most impacted by water scarcity is the local rural population.

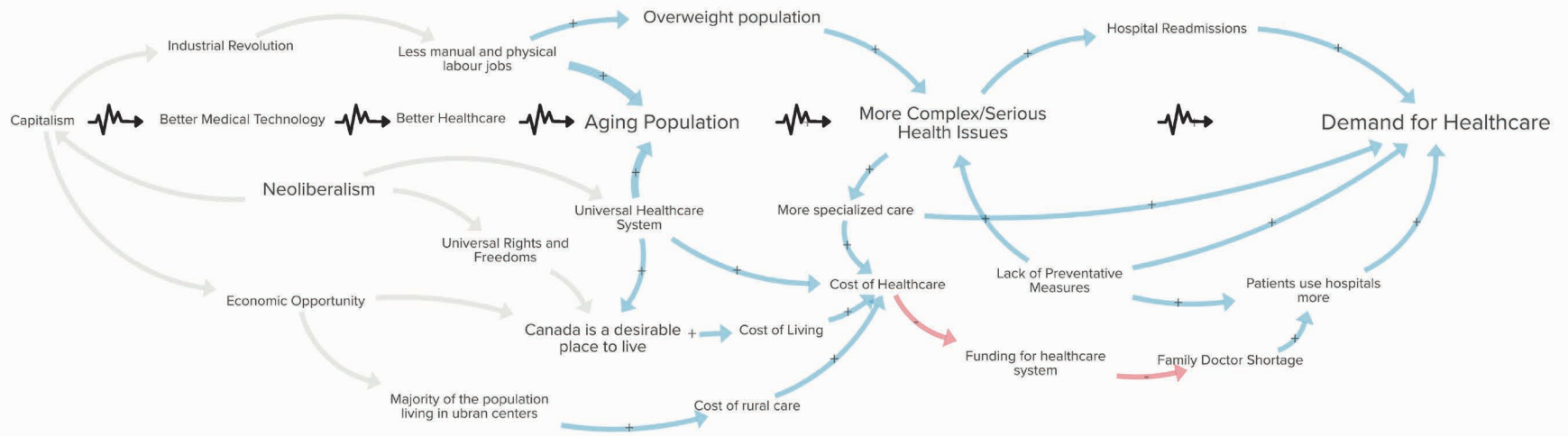


Beyond the Bedside: the Nursing Shortage in British Columbia

Team: Anthony De Lazzari, Sawyer Drummond, Samrath Gill, Renai Jose and Jessica Sangalang

Amidst growing publicity, we began this project with our expectations of the nursing shortage heavily influenced by the media. After critically examining the desperate cycle of staffing shortages, increased workloads and nurse burnout, we've discovered how multifactorial the healthcare system truly is. Any change to the system, be it in solutions or exacerbating factors, has diverse impacts on all other stakeholders. Our interviews underscored the necessary reciprocity in the system; solutions must both reduce workload and increase the supply of nurses. It's difficult to comprehend 70h work weeks, yet, this unfortunately is the reality for some nurses, many with families of their own and who are not exempt from the economic and social realities of the province. Beyond the bedside, the nurses that we publicly praise for their dedication and resilience must also receive this same support internally from the very system dependent on their vitality.

INCREASED DEMAND FOR HEALTHCARE MAP



Legend

- Increases
- Leads to
- Decreases

Shifting Mindsets: Towards a Thriving Colombian Coffee Production

Team: Miguel Angel Higuera Silva

When coffee prices go down, producing coffee becomes unsustainable. This research project analyses the causes of Colombian coffee farmers' economical vulnerability and addresses deeply rooted neo-colonial mindsets. During the research process some surprising key elements were discovered, such as the deep distrust amongst farmers of national institutions, or the subtle exclusion of the coffee growers from the information system. Simple but powerful interventions include efforts to translate information to Spanish, shifting financial flows to empower grassroots solutions, and seeing farmers as assets of change. At the end, one of the lessons learned was that "Trust, knowledge translation, financial resources, and the worry for a fair system already exist in every part of the value chain. The issue is that each stakeholder uses them for their own interests, competitively instead of collaboratively."

But how is this still happening in Colombia?

In producing countries, more than 70% of production is shipped internationally, usually in the form of green coffee, which means that value addition is captured by increasingly consolidated roasters and retailers in importing countries.⁸ This is one subtle way in which neocolonialism still permeates the international coffee trade⁹.

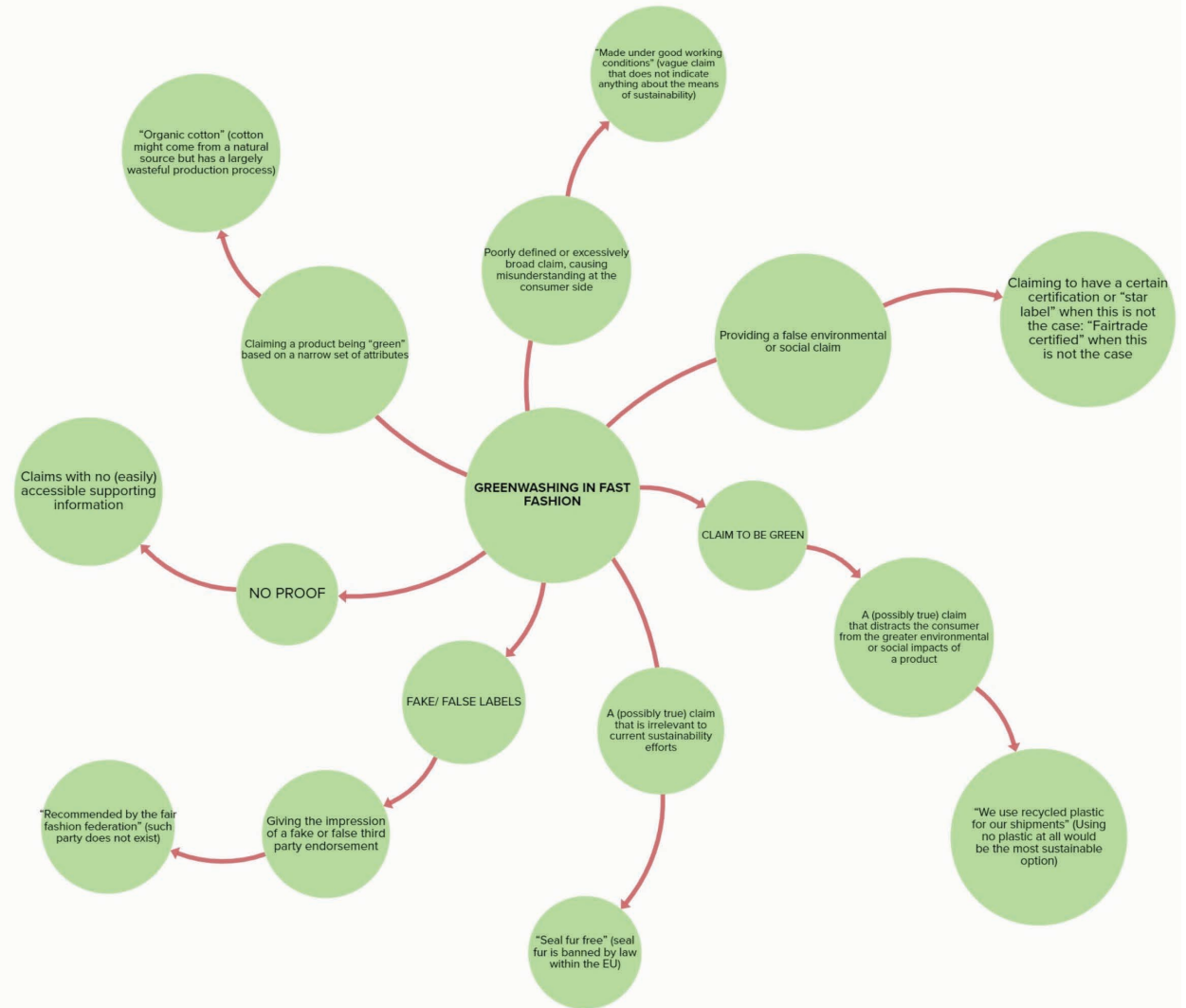


Fast Fashion is (Still) Not Sustainable: A Systems Thinking Look at Fast Fashion's "Sustainability" Efforts

Team: Kimberly Almeida, Marilyn Borges, Navrose Juneja and Augustina A. Ngene

As fast fashion brands like Shein, Zara, H&M continue to capture markets with new fashion trends and mass production, their processes contribute to a large amount of social and environmental problems globally such as environmental pollution, resource depletion, worker exploitation and injustice. With the negative attention fast fashion is getting, global fast fashion brands have turned around to try and reinvent themselves as "sustainable". While there may be a few of their practices that are somewhat less damaging, their overall major ecological impact remains harmful. What ends up happening is that the "sustainable" label is perpetuating fast fashion by allowing these brands to appeal to an increasingly eco-conscious consumer base. Our project aims to show that "sustainable" fast fashion is not only not sustainable, it is perpetrating one of the most polluting consumer industries we have by allowing these brands to market themselves as more eco-friendly. So far the "sustainability" of fast fashion is "label deep" and does not represent a genuine solution to the fashion industry's pollution and sustainability crisis.

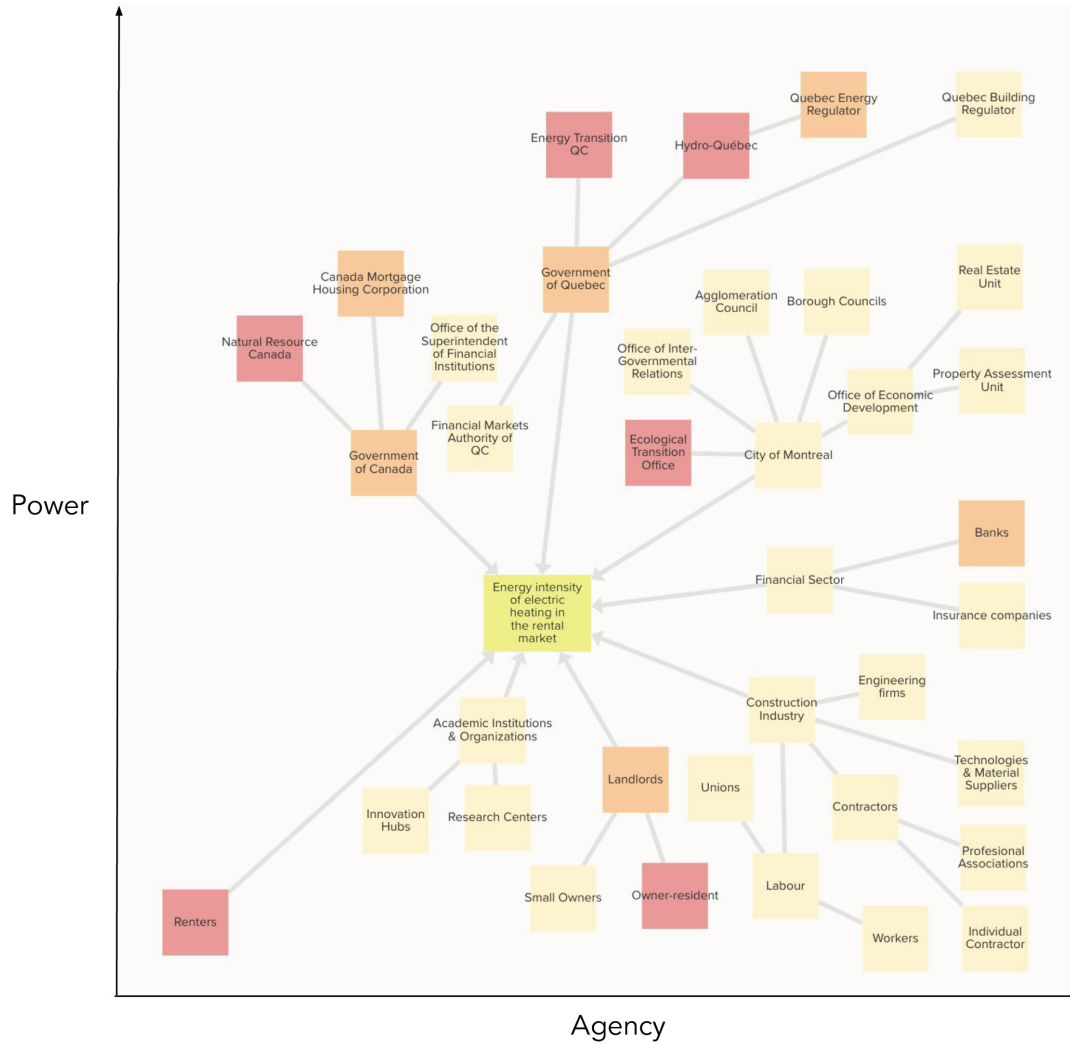
Understanding Green Washing in Fast Fashion



Places We Live: Saving Up Valuable Energy

Team: Louise Foglia and Julien Otis-Laperrière

The residential building stock in Canada is energy intensive and in poor condition, limiting our ability to decarbonize the overall economy and negatively impacting the lives of powerless renters. During cold weather, particularly in Quebec's largest city, Montreal, the demand for electricity for heating is causing energy scarcity and power problems, leading Hydro-Québec to plan for production expansion. Even if the hydroelectricity grid is considered clean, dam projects perpetuate settler-colonial development patterns and damage ecosystems. Hence, to achieve its complete electrification and help its Northeast neighbours become net zero, Quebec has pressure to optimize its residential electricity usage by renovating its building stock. Although the rental stock is predominant in Montreal where half of Quebec's population live, measures, strategies, and incentives targeting this segment are particularly weak.



Stake

Degree of concern on the issue

- Most concerned
- Concerned
- Less Concerned

Power

Degree of leverage on the structure and control on the status quo

Agency

Directness of the control the actor has over the outcome

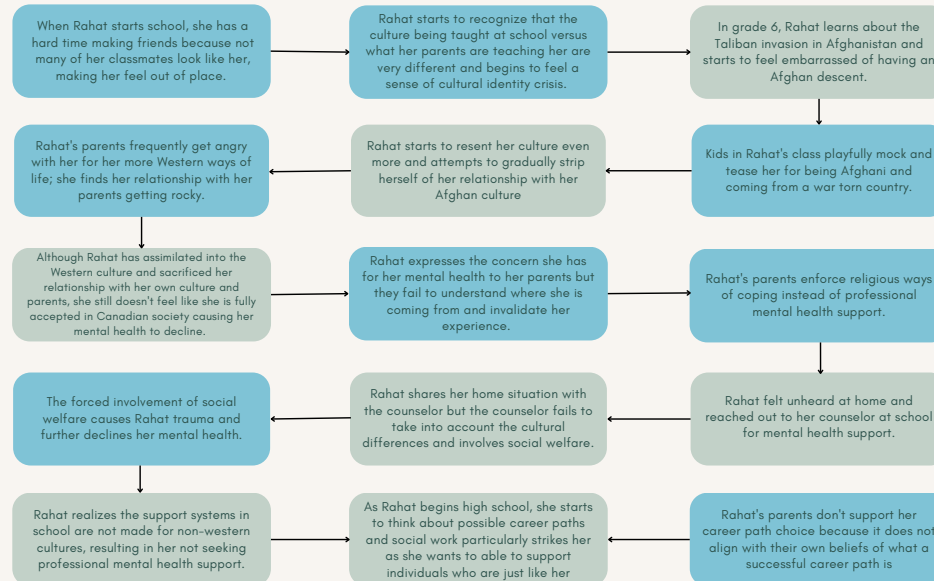
Navigating Cultural Identity as a Third Culture Canadian

Team: Amisha Sharma and Alita Vaz

Navigating and understanding one's cultural identity is often a complex social challenge for all Canadians due to Canada's colonial history, as well as Canada's contemporary commitment towards immigration and multiculturalism. For Third Culture Canadians, the issue of understanding cultural identity is especially difficult as they often feel pressure to balance two or more cultures, without much support in understanding and practicing their various cultures. As Canada's immigration rates continue to rise, so do the amount of Third Culture Canadians. Despite the growing number of Third Culture Canadians and Canada's commitment to multiculturalism, there is an underwhelming middle space which consists of inadequate support for Third Culture Canadians to understand and practice their cultures that are dominated by the western culture in Canada. Looking at the systems in place, many are filled with mental models and behaviours that place Third Culture Canadians in a middle space of not belonging, which causes them to experience a cultural identity imbalance resulting in unique mental health challenges due to the mental stressors.

PERSONA MAP

Start: Gulraiz and Qasima Ehsani, both medical doctors in Afghanistan, decided to move to Canada for a better life and to fulfill their American dream. Gulraiz and Qasima both had to endure much hardship when settling in Canada. Although they were not able to get jobs as doctors, they both acquired jobs at grocery stores which gave them time to attend English classes in the evenings and study for their credential recognition. After a couple of years, Gulraiz and Qasima had a daughter named Rahat. As Rahat grew up, her parents raised her with Afghan values and culture, and they always spoke Pashto at home and followed the Afghan traditions.



█ directly impact mental health

Rahat's Potential Futures

Rahat pursues a career path in medicine to satisfy her parents, but it has a huge toll on her mental health.

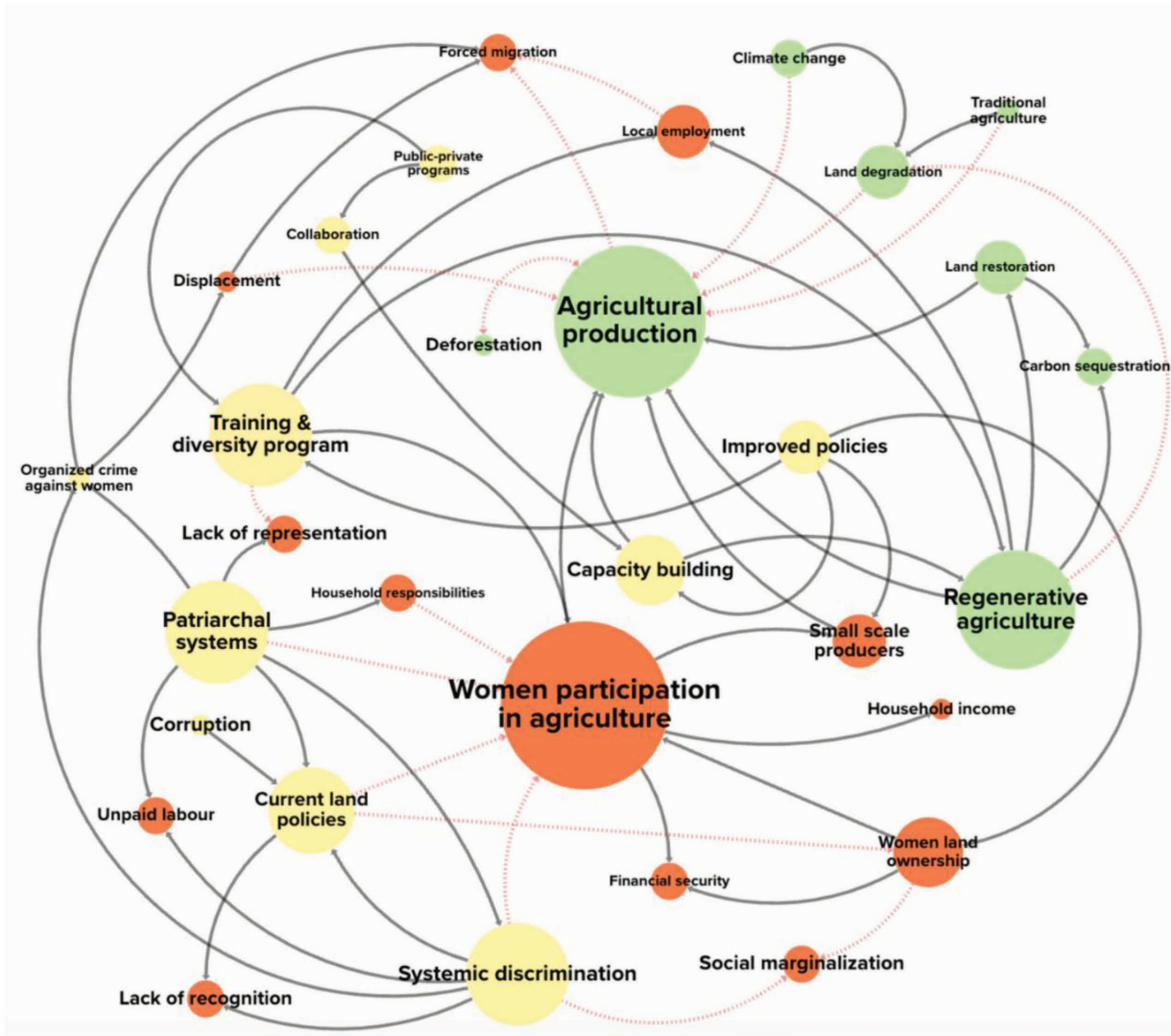
Rahat finds herself at odds with her parents yet again but chooses to follow her heart. She tells her parents she is pursuing nursing in order to prevent further conflict in the home.

Rahat decides she doesn't want to go to university, causing a rift between her and her parents. Her parents kick her out of the home and she ends up in a womens shelter.

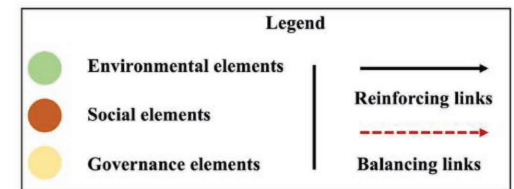
Regenerative Agriculture and Gender Equity in Mexico

Team: Alejandra Chacon Gallardo, Jofri Issac and Katherine Matos

Our research examines the relationship between regenerative agriculture, gender equality, and sustainability in Mexico. The country is experiencing the adverse effects of climate change on agriculture, exacerbated by resource-intensive farming practices. To promote sustainable agriculture and address gender inequality in the sector, we focus on women's role in agriculture and the challenges they face, such as crime, patriarchal systems, and poor governance. Using a systems thinking approach, we explore the potential of sustainable interventions to improve conditions for women and simultaneously promote climate-resilient farming practices in Mexico.



SYSTEMS MAP

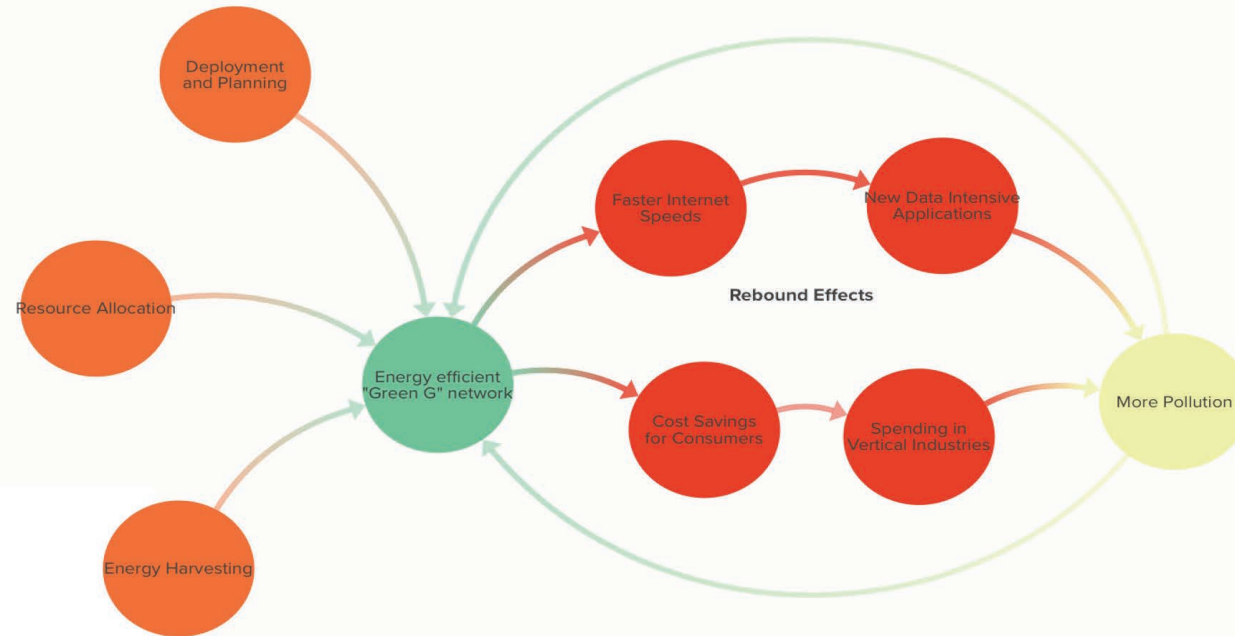


The Wireless Crisis: Increasing Digitization While Decreasing Emissions

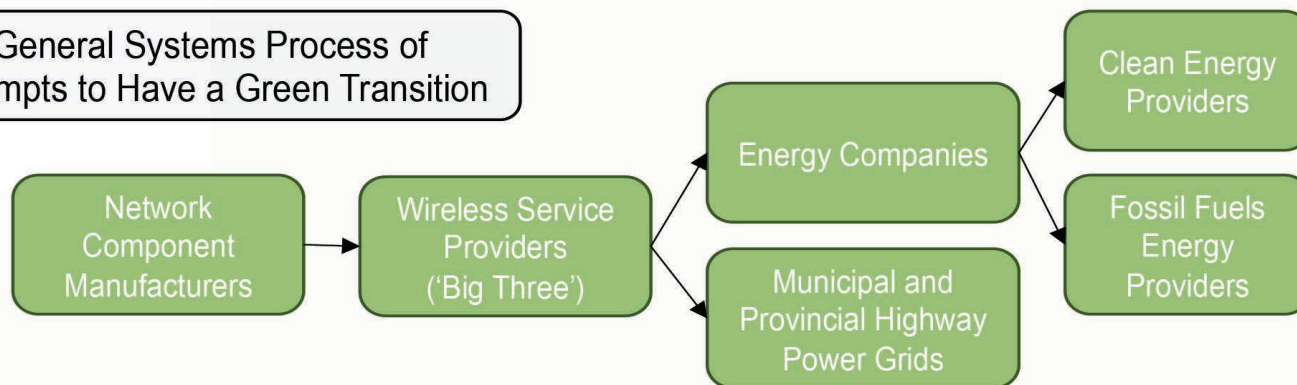
Team: Dana Cramer and Kevin Hudes

The COVID-19 pandemic has revealed the essentiality of digital systems, as many are increasingly relying on Wi-Fi enabled devices and digital infrastructure for connectivity. To avoid the emerging climate crisis, each sector of the economy must prioritize environmentally sustainable strategies and solutions. The wireless industry is tasked with the challenge of increasing connectivity while simultaneously decreasing emissions. With the deployment and prospect of many new resource-heavy technologies, including the Internet of Things, artificial intelligence, and quantum computing, the wireless industry faces pressure to decarbonize in the midst of a mass technological upheaval.

Increasing Digitization While Conducting a 'Green' Transition



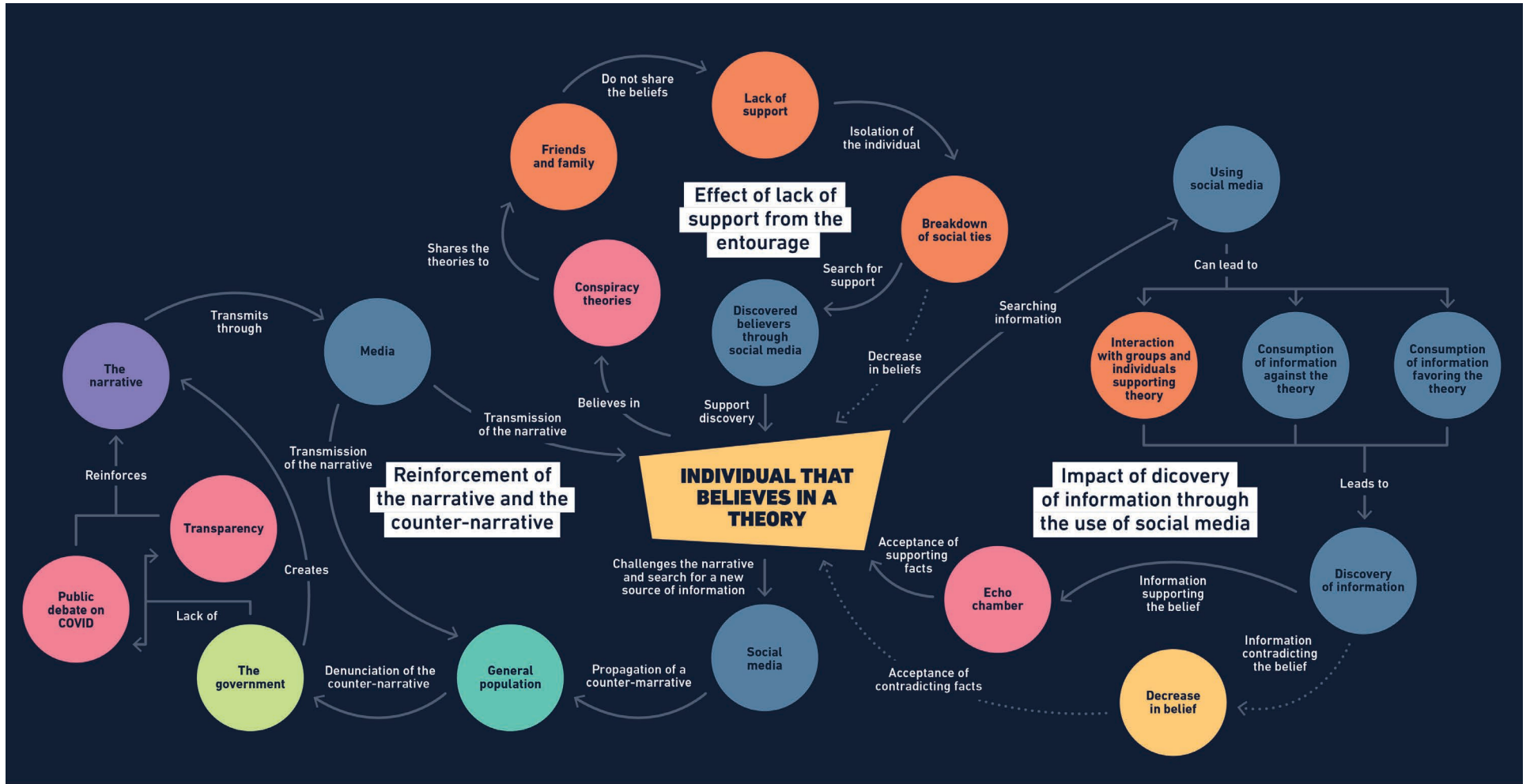
General Systems Process of Attempts to Have a Green Transition



The Rise of Conspiracy Theories in Quebec During the Covid-19 Pandemic

Team: Frédéric Hébert, Sergey Rebrov and Charles Simard

The covid-19 pandemic illustrated a few problems in our society. While conspiracy theories existed in the past, they have become more prevalent in Quebec since the COVID-19 pandemic. The root of this subject is more complex than anticipated, reaching multiples actors of the system. The refusal of public authorities to accept this discourse in the public square, in addition to the distrust of adherents of conspiracy theories towards political leaders, has reinforced the beliefs of this minority and ostracized them from the rest of society. This challenge has also been reinforced by the tendency of social media to show only content of interest to individuals and by the reluctance of those around them to help conspiratorial individuals. All of these factors create a discourse and context in which conspiracy-minded individuals become increasingly isolated from society as their thoughts are rejected by the majority, creating a loop reinforcing conspiratorial beliefs.



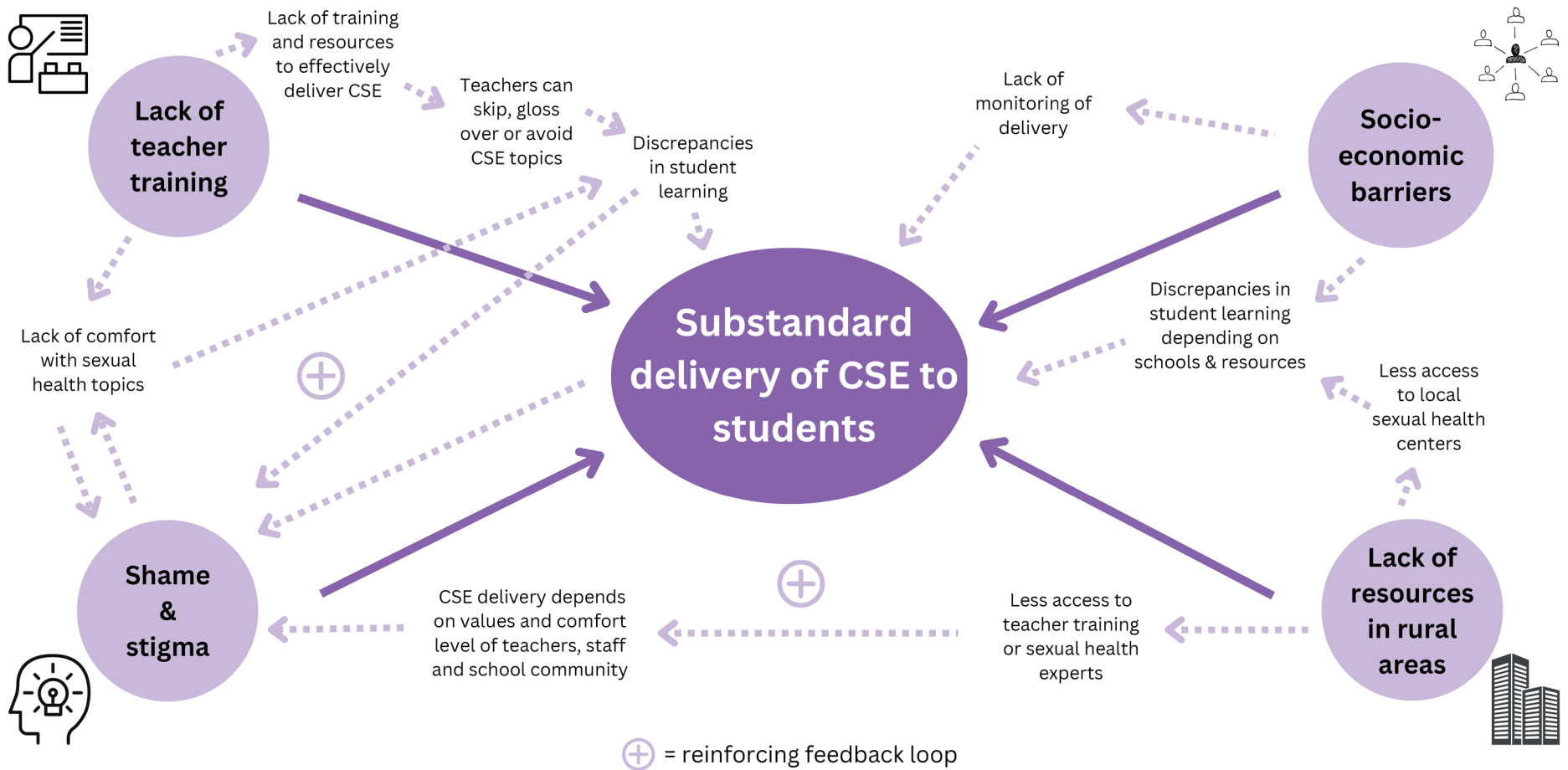
● Medias
 ● Entourage
 ● Politics
 ● Population
 ● COVID-19
 ● Problems
 ● Solutions
 Diminution

Sexual Health Education in BC School Systems

Team: Raiyana Alibhai, Jenna Ramji, and Gabriela Villamil

Comprehensive sexual health education (CSE) is recognized as a human right, however, this right is not upheld in many BC schools. The challenge that our project focuses on is the delivery of CSE in BC school systems. The mental models underlying the substandard delivery of CSE are rooted in shame and stigma surrounding sexuality, as well as negative stereotypes, which have led to barriers impacting how CSE is taught. Root causes such as lack of teacher training and absence of resources have created a reinforcing feedback loop between shame and lack of sexual health knowledge. Our project aims to investigate the current solutions that attempt to tackle our challenge, and also propose interventions that can be implemented to break and weaken the reinforcing feedback loops within the system.

The Root Causes of Substandard Delivery of CSE



Family Physician Shortage: A Canadian Healthcare Crisis

Team: Winston Cheung, Brandon Pentz and Tina Wong

The shortage of family physicians is a Canadian healthcare crisis that affects approximately 6 million Canadians. As a team consisting of a family medicine resident, a postgraduate Doctor of Pharmacy Student, and a health researcher, we are passionate to investigate this issue on a deeper level through Map the System. From issues of limited funding for family medicine residency positions, to a lack of medical student interest in family medicine as a specialty, and high administrative duties, we were able to identify several root causes of this complex issue. By researching the existing solutions from the lens of local, provincial, and national initiatives, we were able to identify some gaps and levers of change to find potential solutions to this far-reaching problem.

Lack of funding for medical trainees



Wetland Management in the Regional Municipality of Durham, Ontario

Team: Jordan Li, Sukhmani Sadiora, and Adriana Ceric

Balancing the need for housing, preserving carbon-sequestering and biodiversity-rich wetlands, and promoting Indigenous reconciliation in Durham, Ontario, Canada, poses a complex challenge. A power hierarchy and a lack of knowledge-sharing between various levels of Canadian government, citizens, non-profit groups, and Indigenous peoples only adds to this burden. Unraveling the layers of power between stakeholders exposes the suppression of critical voices and teachings, perpetuated by loops related to infrastructure, economy, and the environment that reinforce prioritizing land development over wetland and culture preservation.

The Full Picture

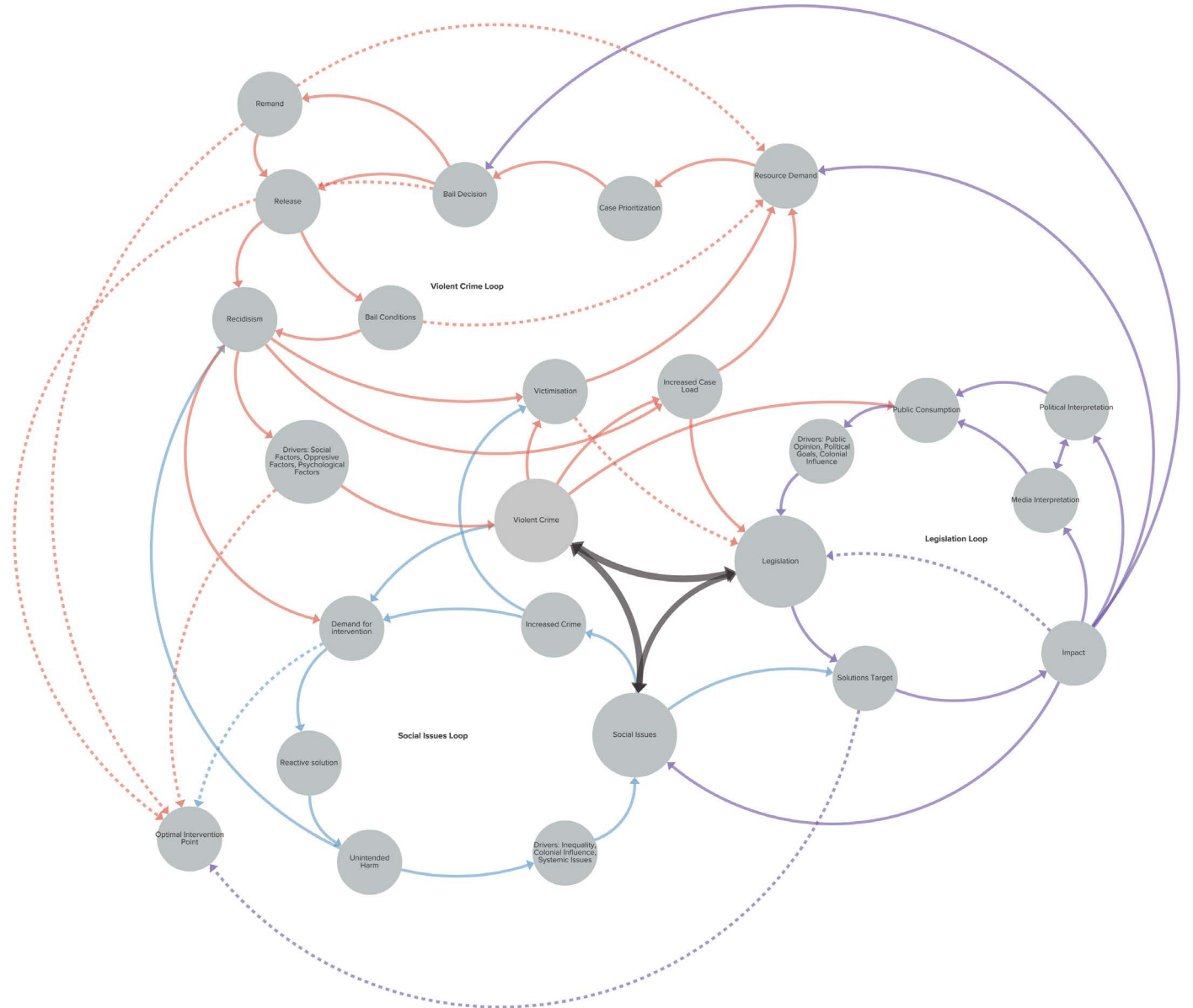


Broken Bail: The Canadian Bail System

Team: Collin O'Halloran and Kevin Wattier

The Canadian Bail system is integral to public safety and justice within the country. Despite this, the system is failing to ensure the safety of victims and the public, while also failing to address the needs of offenders. Complex layers of social issues, legislation, and violent crime are contributing to systemic failures within the bail system. These problems have contributed to recent trends of violent crime and the over-representation of minorities within the larger justice system. These failures within the bail system not only contribute to the public's confidence in justice but also cost lives.

Systems Map





Top 6 Finalists



**Athabasca
University**

Leaks in the Pipeline: Barriers to Student Success in the Post-Secondary System

Team: Karen Fletcher



ST. MARK'S COLLEGE
CORPUS CHRISTI COLLEGE
Community of St. Marks at the University of British Columbia

Beyond the Bedside: the Nursing Shortage in British Columbia

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McGill
UNIVERSITY

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THE UNIVERSITY
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PARTNERS & SPONSORS

INSTITUTE FOR COMMUNITY PROSPERITY

The Institute for Community Prosperity connects students with social impact learning through applied, community partnered research, creative knowledge mobilization, and systems-focused education. It is based at Mount Royal University, an undergraduate liberal arts institution in Calgary, Canada. The Institute designs and hosts learning experiences to help students lead transformative change in their communities.

ATCO

With approximately 7,600 employees and assets of \$25 billion, ATCO is a diversified global corporation with investments in the essential services of Structures & Logistics (workforce and residential housing, innovative modular facilities, construction, site support services, workforce lodging services, facility operations and maintenance, defence operations services, and disaster and emergency management services); Utilities (electricity and natural gas transmission and distribution, and international operations); Energy Infrastructure (energy storage, renewable energy generation, industrial water solutions, and clean fuels); Retail Energy (electricity and natural gas retail sales, and whole-home solutions); Transportation (ports and transportation logistics); and Commercial Real Estate. More information can be found at www.ATCO.com.

SKOLL CENTRE FOR SOCIAL ENTREPRENEURSHIP

Map the System is an initiative of the Skoll Centre for Social Entrepreneurship, based at the Saïd Business School, University of Oxford. The goal of the Skoll Centre is to maximize the impact of social entrepreneurship in transforming unjust or unsatisfactory systems or practices around the world in order to address critical social and environmental challenges.