Vulnerability of Rural Communities to Climate Change: a Social Work perspective

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Objective

To present the results of the Community vulnerability assessment to climate change of Taber, Alberta

Outline

- IACC project
- Climate Change
- Case study
- Vulnerability Assessment
- Location: SSRB, Taber
- Research questions
- Relevance of the study
- Data collection
- Analysis
- Findings: Exposures, Adaptive Capacities
- Conclusions

Institutional Adaptations to Climate Change Project

South Saskatchewan River Basin (Canada)

Caption: Bonnie Galenzoski

Elqui Valley (Chile)

Caption: David Sauchyn

Social Sciences and Humanities Research Council of Canada (SSHRC)

Canadian Plains Research Center, University of Regina.

Climate Change

In the context of human induced global warming, climate change is expected to affect human and natural systems, such as water, agriculture and human health.

(IPCC, UNFCC)

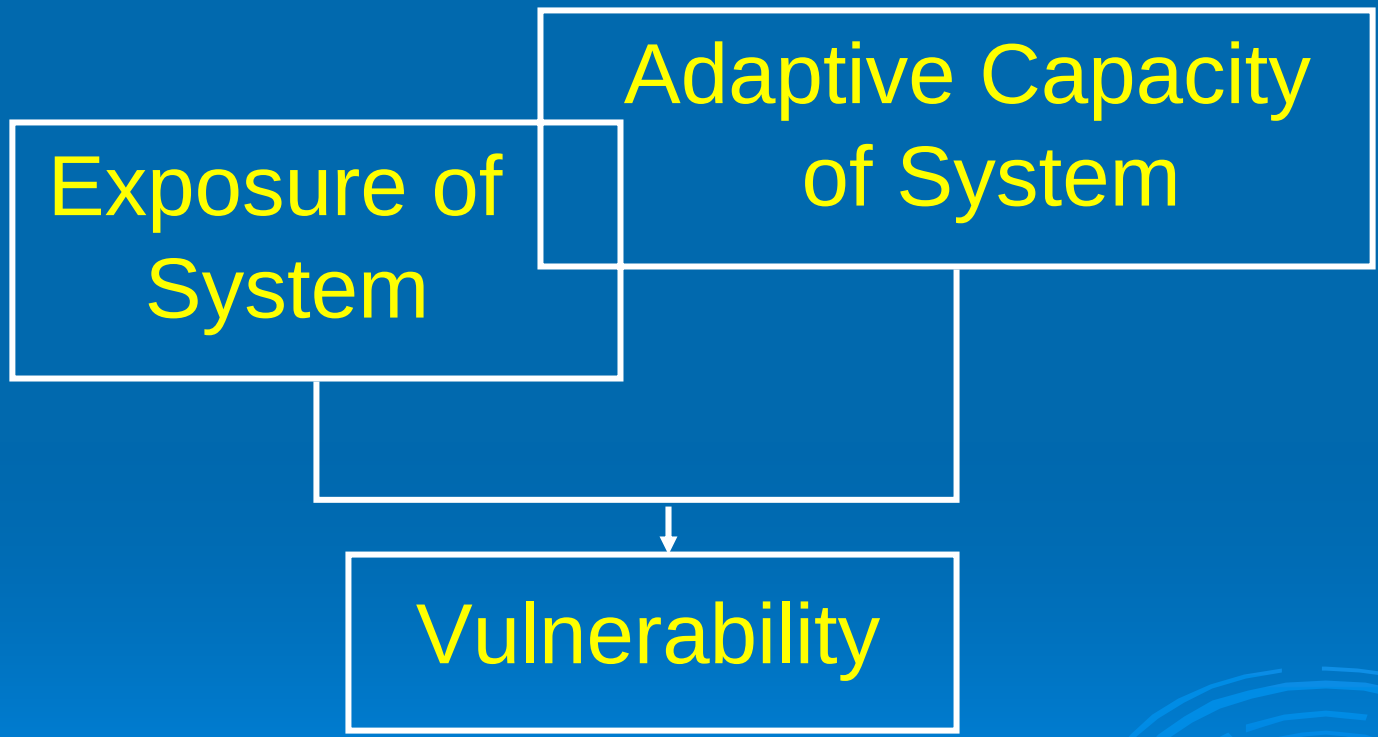
Case Study

In depth data collection with multiples sources of information (Creswell, 2007)

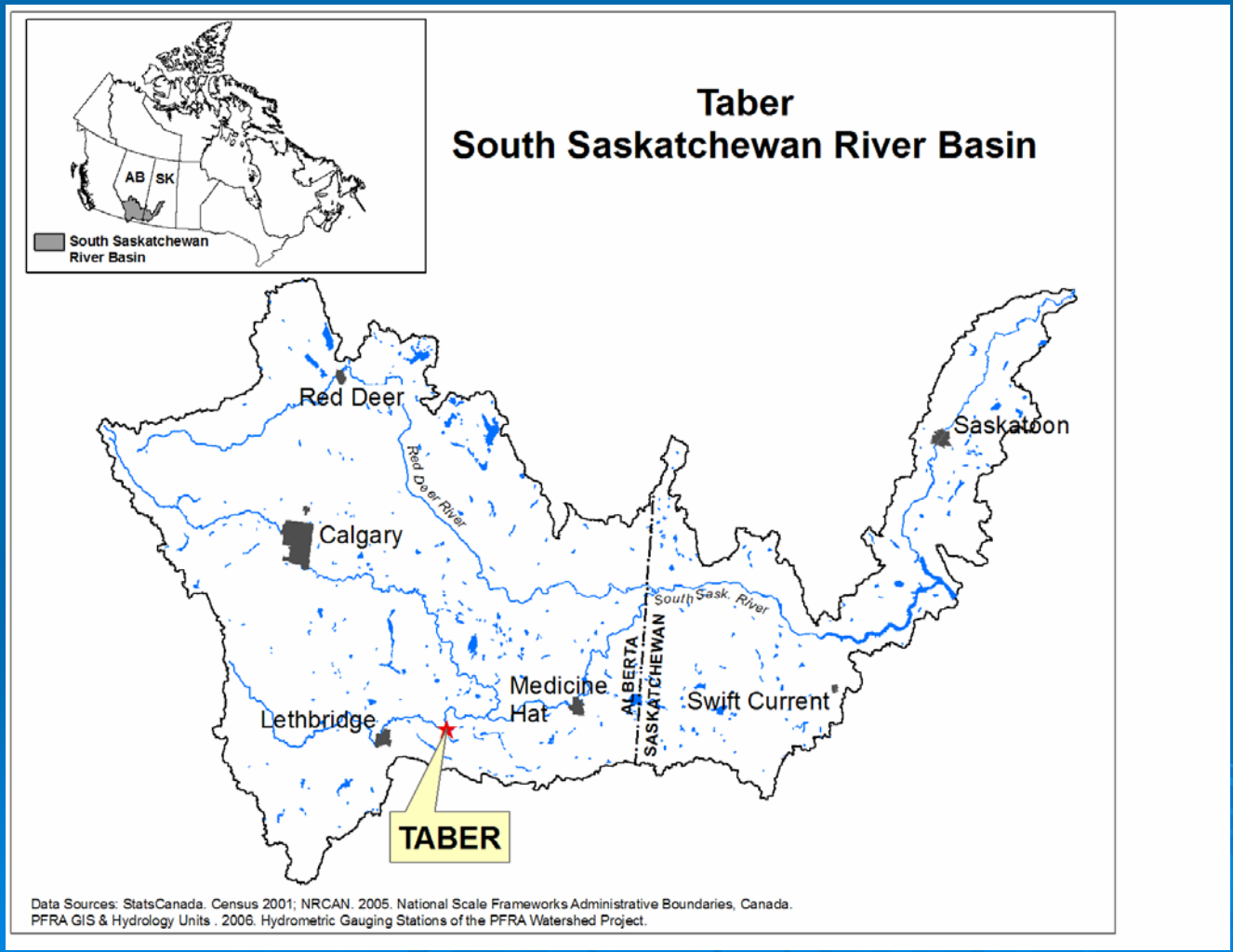
Ethnography

Participatory approach

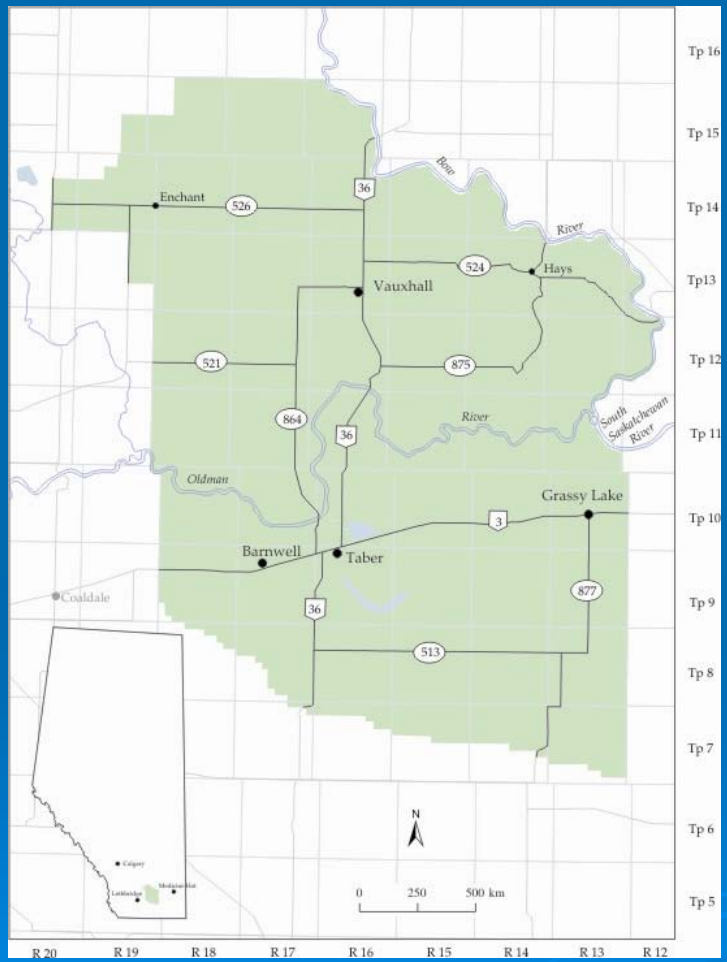
Vulnerability Assessment: as an starting point



Location: SSRB



Location: Taber Community



Courtesy of Dianne Perrick, Canadian Plains and Research Centre

Population; Towns
Proper conditions for agriculture
Varied crop production: corn, sugar beet, potatoes, onions…
Food processing industries
Oil and Gas industry

Climate Change scenarios, by 2050:
Increase of temperature (imp. during the fall)
Increase in precipitation (more in the winter months and less during the summer)
More precipitation in the form of rain:
Runoff, less available soil moisture
Increase in frequency of consecutive dry days or droughts

Research questions

The Problem: the **vulnerability of the Taber community to climate change**

- *To identify the main exposures that affect the community of Taber.*
- *To assess the ways in which the community of Taber have dealt with the exposures.*

Relevance of the Study

- Understanding of human aspects of climate change.
- Social work: well being, equity, definition and redefinition of issues in rural areas, more holistic conception of environment.
- IACC project: improve the way institutions formulate and implement strategies in order to reduce vulnerability of regional rural population.

Data Collection

- Strategies: Staying with the community, key informants, purposive sampling.

- Techniques:

Semi-structured interviewing

Documentation

Workshop, focus groups

Analysis

- Saturation
- Constant Comparative Analysis

Interviews were recorded and transcribed. Codification with NVIVO software.

Findings: Exposures

- Environmental:
  - Water: Drought, flooding.
  - Temperature: Chinooks, fluctuation.
  - Hail, wind, weather becoming more extreme.
- Economic:
  - International driven prices, competing with subsidized economies.
  - High input costs
  - Oil sector

Findings: Exposures

- Employment:
  - Food processing and oil sector
  - Labour shortage in agriculture
  - Agriculture is not a secure source of revenue
- Social:
  - Services in larger settings.
  - Withering of social support network
  - Tension among people of different cultural backgrounds.
  - Youth do not seem interested in further education.

Findings: Exposures

- Institutional:
  - Alberta Environment (dams)
  - Alberta Government (slong term support to rural communities)
  - Water management plant constraints
  - Housing, lack of funding.
  - Educational Institutions Challenged

Findings: Adaptive Strategies

- Water management:
  - Irrigation
  - Rationing
  - On farm storage
- Financial:
  - Crop insurance
  - Diversification of income
  - Immigrants and seasonal workers to fill jobs in agriculture

Findings: Adaptive Strategies

- Technology: Irrigation, harvesting.
- Social:
  - Specialized educational programs,
  - Immigration.
  - Youth, lack of interest for farming.
- Internal Institutions
  - Variety of growers associations
  - Irrigation Districts
  - Social programs.
- External Institutions: agriculture research, funding, technical assistance.

The Future

- Exposures:
  - Drought
  - Water conflicts
- Adaptive Strategies:
  - More rain and heat can bring new opportunities for agriculture
  - Technology: irrigation, agriculture.
  - Education in water conservation
  - Development of non traditional energy sources

Conclusion

Although Taber is facing stressors, the community has adapted to those exposures.

Future vulnerability of Taber will depend upon its capacity to deal with more frequent droughts or rainfall events and to meet social arising issues.

IACC project website:

http://www.parc.ca/mcri/index.php

Questions