



Climate Change and Adaptive Capacity in Tweed: Profiling Resources

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Adaptive Capacity and Climate Change in Rural Canada

PURPOSE

Assess adaptive capacity in rural communities for meeting climate and weather risks.



Southern Ontario Projected Conditions (21st century)

- Greater climate variability in general
- Warmer wetter winters
- Hotter drier summers
- Increased extreme events (extended droughts, violent storms, hot spells)



Might result in increased pressure on:

- Human health (heat, smog, new infectious disease)
- Services infrastructure (1 in 100 yr floods come more often)
- Water quantity/quality; health of forests and managed ecosystems
- Economic opportunities; Insurance



Adaptive capacity for climate change

The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. *(McCarthy et al 2001)*



Adaptive Capacity depends in part on resources available

- Social resources
- Human resources
- Institutional resources
- Natural resources
- Economic resources



Why Social Resources?

- Fewer people left stranded or uncared for;
- Networks between communities get the word out and assistance in;
- People who care about their community will ensure it recovers.



Why Human Resources?

- Response to climate impacts is enhanced with residents who have:
 - strong skills and ingenuity
 - good physical and mental health



Why Institutional resources?

- The quality of utilities infrastructure affects severity of impact.
- Political connections may enhance community access to assistance.
- Effective communications services guarantee faster response from within and without.



Why Natural Resources?

- Better quality/higher quantity of affected resources mean greater ability to withstand climate impacts



Why Economic Resources?

- Greater financial assets mean more ability to recover from material loss.
- Diverse employment opportunities provide more options if climate affects particular type of occupation.

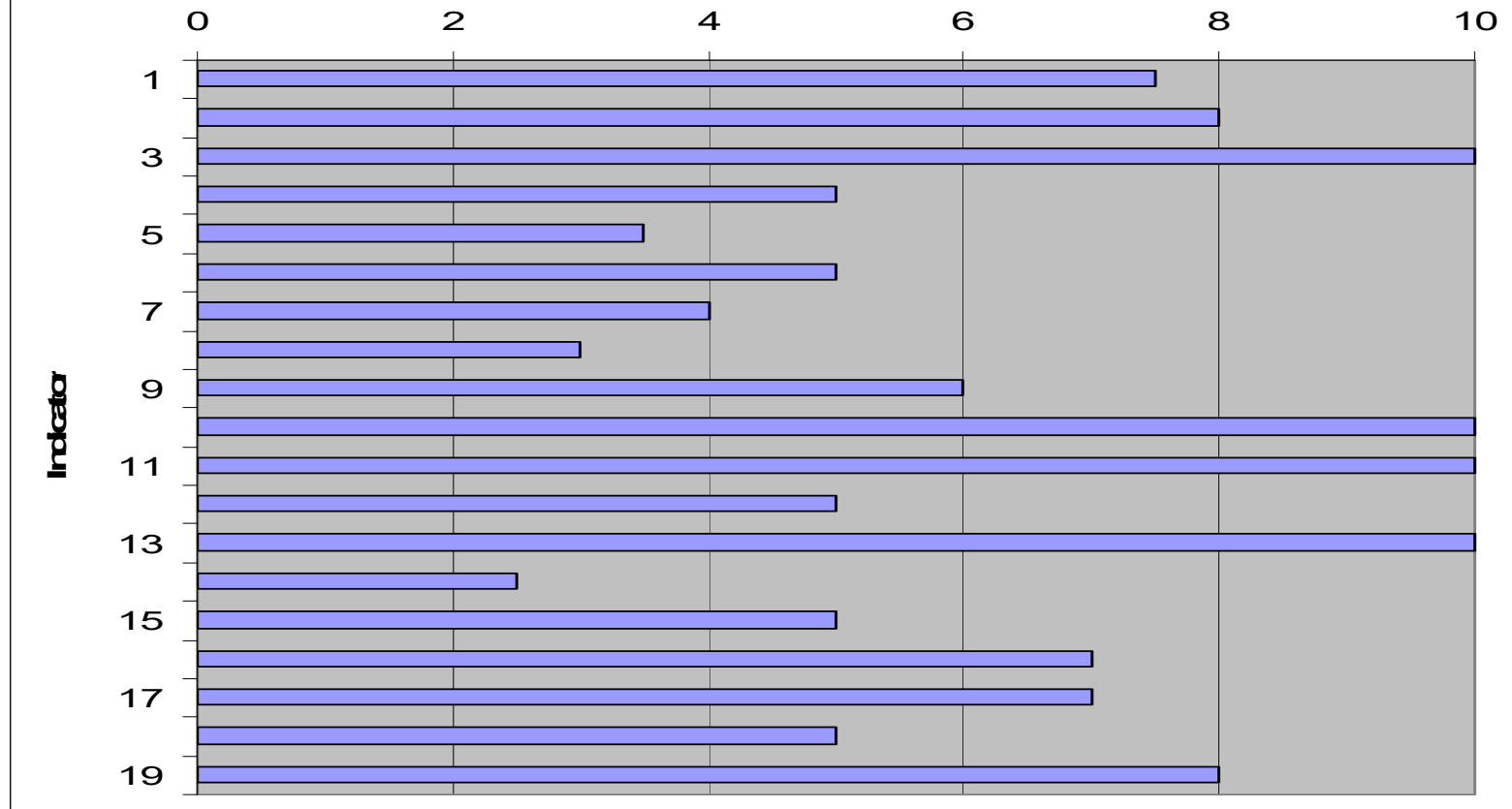


Social	Human	Institutional	Natural	Economic
<ul style="list-style-type: none"> •Community attachment •Voluntary involvement •Number of community events 	<ul style="list-style-type: none"> •School availability measure •Dependency ratio •Years of schooling completed 	<ul style="list-style-type: none"> •Elected representation •Age and condition of utilities •Number of emergency programs available •Community health and services measure •Radio/tv/ares 	<ul style="list-style-type: none"> •Frequency of water contamination •Frequency of water shortage •Quality/quantity assessment of surface water 	<ul style="list-style-type: none"> •Job diversity •Employment rates •Income level •Home ownership •Local business ownership



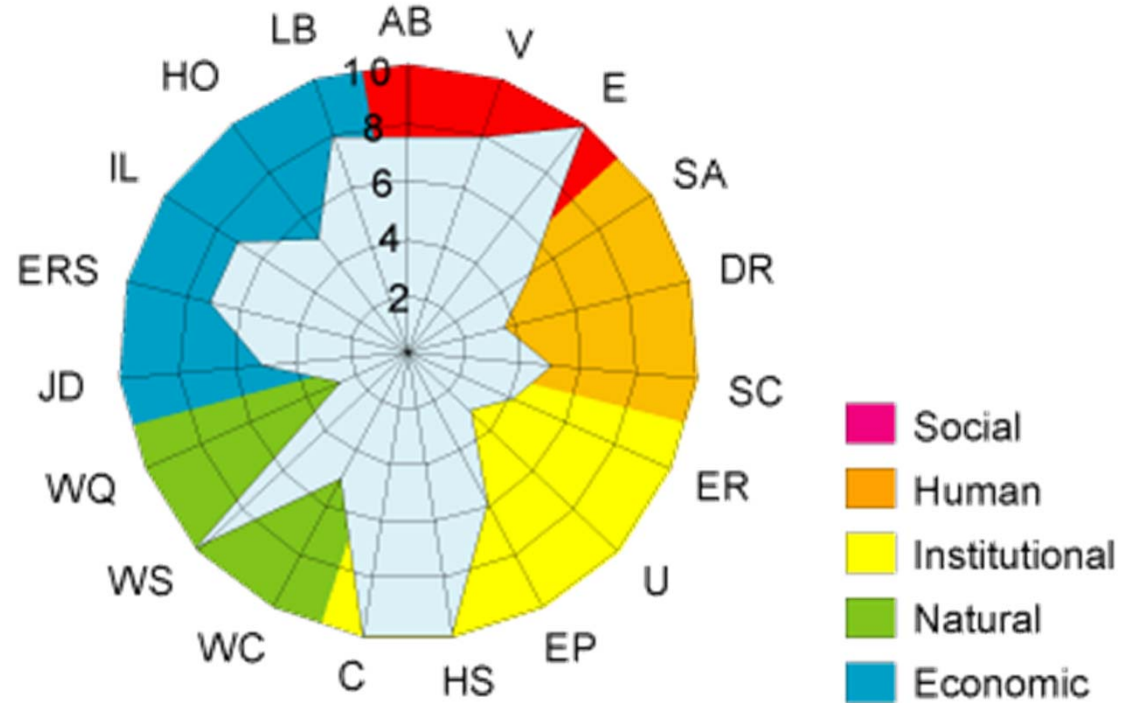
TWEED ASSESSMENT

Score out of 10





Tweed Profile





Social Resources

(From Household Survey, 2001)

percentage of residents volunteering

score: 0=0% - 10=100%

Tweed = 8



Human Resources

25 year trends in dependency ratio

(dependent's age = 0-15 & >64 ; adult pop. age = 15-64)

score:

10 - DR = 50 and stationary trend

7 - DR < 65 - >50 and decreasing trend

5 - DR < 65 - >50 and stationary trend

3 - DR > 65 - <100 and increasing trend

0 - DR = >100 and increasing trend

Tweed = 3



Institutional Resources

Community health and services availability
compared to other rural Canada sites

(hospital, ambulance, emergency, doctors, nurses, homecare visits,
social workers, public health nurse, food bank,
youth/women's/senior's drop-in centres, from NRE report, 2003)

score:

10=all services available within 30 min drive

0= no services available

Tweed = 10



Natural Resources

Frequency of water contamination

(Diverse reports on water management for southeastern Ontario/Hastings County/Deloro mine and Tweed Annual Report 2003)

score:

0= no water availability

2.5= water availability/high potential for contamination

5= water availability/ low potential for contamination

10= water availability/no potential for contamination

Tweed = 2.5



Economic Resources

Local business ownership

(from Tweed - Business Retention and Expansion Survey Report, 2004)

score:

0= no local ownership of business

10= 100% local ownership of business

Tweed = 8



Summary

Resource	Average score	Designation
Social	8.5	strong
Human	4.5	weak-moderate
Institutional	6.6	moderate
Natural	5.8	moderate
Economic	6.4	moderate



Questions