


**The Water-Food-Energy-Climate Nexus:  
an opportunity for rural-urban policy integration**


Bill Reimer, Josh Barrett, and Kelly Vodden  
<http://billreimer.ca>  
<http://cdnregdev.ruralresilience.ca/>  
<http://icrps.org>  
<http://rupri.org>  
<http://rplc-capr.ca>  
<http://crrf.ca>

**Canadian Regional  
Development**  
A Critical Review of Theory,  
Practice, and Potentials




**Développement régional  
canadien**  
Un examen critique des théories,  
des pratiques et des potentiels

The Water-Food-Energy-Climate Nexus: An Emerging Challenge for Rural Policy  
ICRPS, RUPRI, and RPLC  
Memphis May 18, 2015



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- This presentation will consider how current policy concerns with the water-food-energy-climate nexus may create opportunities for rural-urban dialogue and negotiation in Canada. Canadian policy has been drifting toward an urban-dominated approach to rural, remote, and northern issues. Associated with this tendency is the loss of sensitivity to the fundamental interdependence between urban and non-metropolitan regions. This presentation will outline a framework of four fundamental manifestations of rural-urban interdependence and use them to suggest ways in which urban residents' concerns with water, food, energy, and climate might create new opportunities for improving the conditions of rural people and communities. Evidence from a national Canadian study on new regionalism will be used to illustrate the challenges and opportunities created by these concerns (<http://cdnregdev.ruralresilience.ca/>).
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### How can we improve collaboration between rural and urban places and people?

- Urbanization continues
- Power and decision-making dominated by urban areas
- Urban regions and people preoccupied by urban issues
- Rural regions and people must form alliances with urban people to get attention



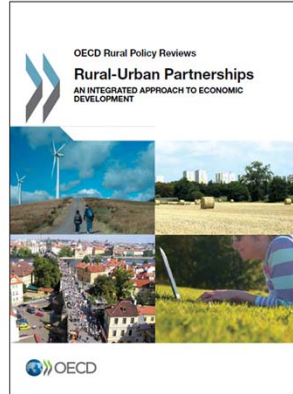
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- Question: How can we improve collaboration between rural and urban places?
- Important because:
  - Urbanization continuing (especially in Canada)
  - Power and decision-making dominated by urban areas
  - Urban regions and people preoccupied by urban issues
  - Rural regions and people must form alliances with urban people to get attention
- As a result the question of how to do so becomes increasingly important.

## OECD: Rural-Urban Partnerships

- ▶ Promote understanding of linkages
- ▶ Develop strategies for functional geographies
- ▶ Foster rural-urban dialogue
- ▶ Promote inclusive governance
- ▶ Clarify partnership objectives



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- Fortunately, we have a very useful study to guide us – OECD Rural-Urban Partnerships
- Extensive study of available research plus 11 case studies
- They argue for the importance of looking to “functional regions” as a basis for partnerships (*In the sense of “functioning” rather than having common objectives from different paths – as found in the philosophical tradition.*)
  - Particular focus on linkages within these regions
- Use a taxonomy of flows (goods and services) to map boundaries and investigate the linkages in regions.
  - By looking at where people commute, where services are delivered, and where natural resources are used we can identify regions that are already linked.
  - Most of these link rural and urban regions.
- As a result of their analysis they propose a number of recommendations for building rural-urban partnerships that take advantage of these existing linkages.
  - (\*) Promote better understanding of the linkages
  - (\*) Develop strategies that take into account the functional geography
  - (\*) Foster dialogue between rural and urban actors (especially around a common “national” agenda)
  - (\*) Promote inclusive governance approaches within functional regions
  - (\*) Clarify partnership objectives.
- There is much useful material in this report – but it remains frustrating when it comes to implementation.
  - Promoting, Developing, Fostering, and Clarifying are all valuable goals, but we see little in the framework that will help us understand why these goals are so seldom met.

## Challenges and gaps

- ▶ Regulatory and political barriers
- ▶ Lack of trust/social capital
- ▶ Lack of incentives to partner
- ▶ Policies that widen the gap between rural and urban areas



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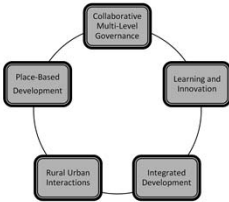

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- To answer this, the authors suggest four challenges that hinder rural-urban partnerships
  - Regulatory and political barriers
  - Lack of trust/social capital
  - Lack of incentives to partner
  - Policies that widen the gap between rural and urban areas
- Note that these have a remote relationship with flows and exchanges: they are more about social relations, regulations, motivation, and perception.
- Led us to consider how rural-urban relationships function in our own research – and what we might add to the OECD framework to extend the insights to implementation.


## Canadian Regional Development Research

<http://cdnregdev.ruralresilience.ca/>


- ▶ 5 Local Field sites
- ▶ 5 Themes
- ▶ New Regionalism





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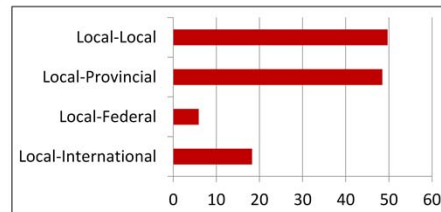
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- Canadian Regional Development Research
- Project has been underway since 2010
  - 4 Provinces and 5 subregions
  - Mostly small regions by population standards (pop 13K to 150K) with one very highly populated (2 million).
  - 1 includes a Metropolitan region (ON) but most have smaller centres (10K and under).
- Study investigates the manifestations of New Regionalism in these locations.
  - (\*) Focuses on 5 themes: Innovation and Learning, Integrated Development, Multi-level Governance, Place-based Development, Rural-Urban Interdependence.
  - Paid particular attention to the management of water resources, recreation, and economic development.
  - Includes use of available data, documents, and 189 interviews with local people – carefully selected to represent government, community, NGO, business, and service organizations.
- Included in these data are responses to questions about rural-urban interrelations
  - How they experience and relate to regional boundaries
  - The nature and extent of collaboration between rural and urban locations (both within and among regions)

## Findings: “Rural” and “Urban” varies

- ▶ Rural and Urban distinctions scale by region
- ▶ Little correspondence between the formal designations of boundaries and the local designations and identities.
- ▶ Local-Local and Local-Provincial links dominate

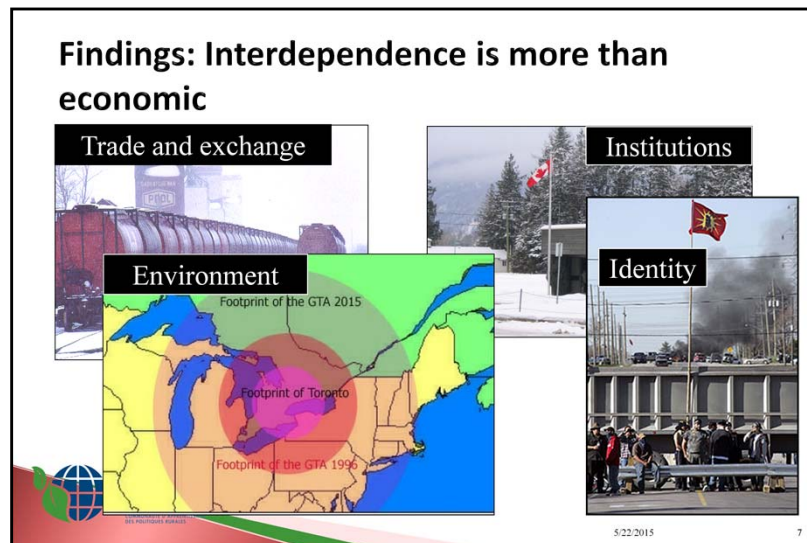
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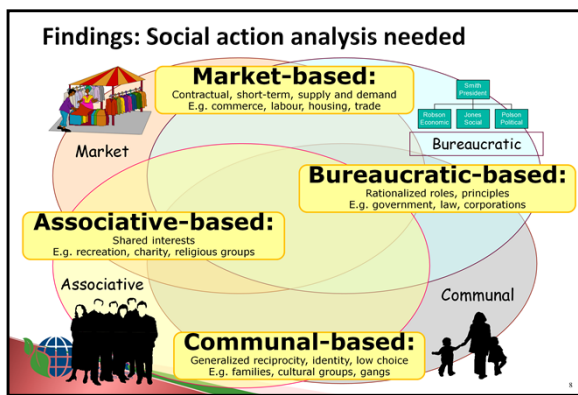
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- There are a number of findings that emerge from this research that are useful for understanding rural-urban relationships – along with opportunities related to the water-food-energy-climate nexus.
- (\*) One is that the meaning of rural and urban varies considerably from the formal designations of statisticians and governments.
  - In remote regions, a settlement of 10K can become viewed as an urban centre – and related to as if it were a large metropolis when it comes to the dynamics of partnership.
  - *In the Kittiwake region of NL, Gander (11K) and Lewisporte (3.4K) were regularly referred to as urban centres.*
  - *In The Kootenays of BC, Nelson (10K), Castlegar (7.8K), and Trail (7.6K) often received this identification.*
  - *In Rimouski, QC – decision-making was heavily conditioned by the dominance of the city of Rimouski (a city of 47K in a region of 55K)*
- (\*) The perception of regional and community boundaries do not correspond well with the formal boundaries of municipalities and service organizations.
  - The more informal identities remain as salient features of social cohesion, social capacities to act, and willingness to make the compromises necessary for collective action (as necessary for partnerships).
- (\*) Most rural-urban linkages were local-local, local-provincial, local-international rather than local-federal.
  - Reflects the Canadian political structure: where provinces hold the power over municipalities for both their policy and finances.



- Interdependence involved more than economic (trade and exchanges).
- We considered 2 places as interdependent if a change in one of them created a change in the other.
- From this point of view...
  - Institutional conditions, history, and regulations are as important as trade and exchanges for the linkages between rural and urban places.
  - Emerged in our analysis of the interview data.
  - Used a four-fold distinction in our analysis: trade and exchanges (formal and informal); (\*) institutions, (\*) environment, and (\*) identity.
    - Institutions most often discussed as manifestations of rural-urban relationships in our interview data (51.3%), then Trade and Exchanges (46.1%)
  - Environment (21.5%) and identity (18.2%) , although less salient that the first two were also included as important issues of discussion.
    - With respect to the Nexus issues, Water has the highest priority (34.8%), then energy (22.7%), food (16.4%) and climate (1.1%) (energy highest in BC -54.5%).
    - Most communities do not have time or resources to deal with climate change issues.





- Our research also suggests that social action analysis would be a useful extension of the OECD research.
- Move beyond the “encourage”, “promote”, “develop” and “facilitate” recommendations of the report to examine how the linkages and collaborations emerge and develop.
- We can learn many lessons from the adoption of innovation, social capital, social cohesion, network, and social mobilization literature regarding where and how social action takes place
  - People frame their activities, organize their behaviour, and take collective action in many ways.
  - Trade and exchange within markets is only one of them.
    - It carries particular norms and expectations that must be met in order for trust to develop and collective action to occur.
  - But these norms are quite different from those that structure collective action in other spheres.
    - (\*) Like within bureaucracies (where rules, roles, and regulations predominate)
    - (\*) Or third sector organizations (where commitment to causes and outcomes, rituals, and charisma are important) [Associative-based]
    - (\*) Or families and ethnic groups (where shared identity support collective action). [Communal-based]
  - Yet within these other spheres there are many linkages between rural and urban.
    - They are often not visible to our analysis since we do not have the indicators which are sensitive to them.
- The lessons here are
  - To work with those networks and groups that already have an interest in rural-urban collaboration,
  - Cast our net sufficiently wide to recognize those outside the formal spheres of business and government, and
  - Extend our repertoire of indicators to reflect these other types of social relations.
  - When we broaden the framework in this way, we see considerable potential in the water-food-energy-climate nexus.





- This nexus represents sets of common interests among rural and urban people and groups
- There are already many networks working across rural and urban contexts around these issues.
  - City-farm food baskets, farmers' markets, alternative energy initiatives, environmental groups, recreation groups are all examples.
  - (\*) Formal control over the management of water resources by provinces has created many examples of difficulties (\*) (and disasters – e.g. Walkerton 2,300 ill, 7 dead, May 2000) when provincial austerity measures result in loss of control and infrastructure.
  - (\*) But it was the Miramichi salmon fishers (an associative-based group) that united corporations, municipalities, environmentalists, and citizens into a watershed management committee (<http://www.mwmc.ca/>)
  - (\*) Food access and quality issues have stimulated many rural-urban initiatives – especially in Ontario and Quebec. (\*) The QC rural pact supported local food, urban agriculture, and city-rural festivals. Our region in Eastern Ontario has used the local food movement as a vehicle for rural and urban integration.
  - (\*) Energy and (\*) climate change manifest fewer examples of collective action but they have generated many individual and network initiatives that have the potential for rural-urban collaboration. (\*)
    - Environmental groups are the obvious example – but the mistrust that has grown up among many of these groups, the private sector, and governments must be (and can be) addressed.
  - (\*) Another promising venue for such collaboration is with Indigenous Peoples (note the Identity issue).
    - In Canada 1<sup>st</sup> Nations peoples have found new mechanisms for collaboration as a result of court decisions granting them governance and resource control.
    - They are developing sophisticated approaches to water, food, energy, and climate as a result of this – and getting the ear of the private and public sectors as a result.
    - Most of these are rural based – but cross the rural-urban differences rather easily.

## Strategies for action

- ▶ WFEC Nexus provides focus for rural-urban collaboration
- ▶ Begin with existing networks and groups
- ▶ Expand vision beyond market-based relationships
- ▶ Develop better indicators



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- What are the implications for the Water-Food-Energy-Climate Nexus?
- (\*) Water-Food-Energy-Climate Nexus can be a driver and venue for rural-urban collaboration
  - These are common concerns that are shared by both rural and urban people and groups
- (\*) Working from existing linkages is a reasonable strategy, but (\*) should be expanded beyond market relationships.
- (\*) This requires a shift in the way we think about and measure the linkages between and among rural and urban places.
  - Use the market, bureaucratic, associative, communal lens to inspire the expansion of indicators.
  - Exchanges and transfer are still important
    - But should be expanded to include informal exchanges (NRE research shows they are particularly important for rural people and groups)
  - Mapping the geography of bureaucratic rules, regulations, and jurisdictions takes on greater significance
    - Note how this would help to overcome a serious limitation of the transfer approach: absence or diminution in transfers is often an indication of rural-urban interdependence.
  - Including network analysis in all its forms (spatial, content, and structure) would become a key indicator for associative and communal relations.
  - Developing more subjective indicators for conceptual and identity sharing would be very useful.
- All of these indicators would become important tools for the social cohesion and motivational aspects of rural-urban linkages, partnership development, and the many opportunities that are inherent in the water-food-energy nexus.

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