The impact of BSE (2003) on farmers’ crisis management capacity in Alberta

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Objectives

1. To illustrate the impact of BSE and other agricultural crisis in Alberta.
2. Introduce the temporality framework – event sequencing and outcomes.
3. To discuss briefly the policy implications arising from the research findings.
## APRI core project

**TSEs and Social-Economic Impact in Alberta (2006-09)**

<table>
<thead>
<tr>
<th>U of Alberta</th>
<th>U of Calgary</th>
<th>U of Lethbridge</th>
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<tbody>
<tr>
<td>Ellen Goddard (co-leader)</td>
<td>Josephine Smart (project leader)</td>
<td>Ian MacLachlan</td>
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<tr>
<td>Vic Adamowicz</td>
<td>Patrick Feng</td>
<td>Ivan Townshend</td>
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<tr>
<td>Debra Davidson</td>
<td>Melanie Rock</td>
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<td>Chokri Dridi</td>
<td>Alan Smart</td>
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<td>Cindy Jardine</td>
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<td>Tomas Nilsson</td>
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<td>Jim Unterschultz</td>
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<tr>
<td>Michele Veeman</td>
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Methods

1. Qualitative data – **fieldwork** in M.D. Bonnyville (70 interviews in 2006 + 31 interviews in 2007) + Saddle Hills County (26 interviews in 2007)
Methods con’t

• Fieldwork = learn the language
  live with the community
  listen to what people have to say
  multiple interviews
  observe what/how people do
  gain trust and rapport
  gain the *emic* ("native") perspective

• To build up an informant cohort (N=120) in 3 rural communities for longitudinal tracking of social-economic changes and to provide timely consultation on policy issues.
Methods con’t

2. Document analysis – government reports, literature review, archival material, farmers’ log books and other records
3. Census data
4. Media analysis
Crisis and risks in farming

- Farming is riddled with on-going *crisis* and risks; universal.
- farmers (must) have strong resilience.
- *Economic*: commodity prices ($\leftrightarrow$ input costs, income), labour shortage/cost, trade ban (e.g. BSE), policy changes (e.g. SRM removal).
- *Diseases*: BSE (2003), foot-and-mouth (1952)
- *Weather*: drought, flood
- Affect income, farm management, animal health, human health, and resilience
Resilience

“You wake up every morning, you just keep going.” (a farmer from La Corey, Alberta, July 2006)

1. A core of strength to support a rebound or recovery from disruption.

2. *Economic*: debt load, dependency ratio, life cycle, off-farm income, commodity prices, government programmes/subsidies …
3. **Operational/management**: access to labour, size of farm, size & type of herd / cultivation, operating debt load, degree of self sufficiency
3. **Social**: well-being = networks of kin and friends, intra-familial demographics and dynamics, access to institutional support (family, extended family, church, special interest groups, etc)

- Personal/household resilience
- System resilience or structural resilience
Average soil moisture (30 year average), 1971-2000
Computed Soil Moisture as Plant Available Water to 120 cm Depth

Computed as of July 18, 2004

non-agricultural area

Soil Moisture (mm)
- 0 to 25
- 25 to 50
- 50 to 75
- 75 to 100
- 100 to 125
- 125 to 250

Based on Nov 01 et 2003 field soil moisture sampling and unverified weather data from Environment Canada.
Canadian Beef & Cattle Industry

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<tbody>
<tr>
<td>Canada</td>
<td>32.85</td>
<td>26.5</td>
<td>78,288</td>
</tr>
<tr>
<td>Alberta</td>
<td>3.45</td>
<td>5.0</td>
<td>21,099</td>
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</table>

- AB, SASK, MN = >80% cattle
- AB = 71% of Can. beef slaughter capacity
- multi-billion $ business

- 20th May, 2003 1st BSE case
- trade ban = economic repercussions
- South Korea and China (PRC) are still closed
- as of Sept. 2007, 10 cases + 1 = 11
- 2nd May, 2007 most recent BSE case

# Total number of farms in Alberta

<table>
<thead>
<tr>
<th>Area Name:</th>
<th>2001¹</th>
<th>2006²</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Region 1 - (CAR)</td>
<td>3,125</td>
<td>2,838</td>
<td>-287</td>
</tr>
<tr>
<td>Agricultural Region 2 - (CAR)</td>
<td>6,205</td>
<td>5,867</td>
<td>-338</td>
</tr>
<tr>
<td>Agricultural Region 3 - (CAR)</td>
<td>7,125</td>
<td>6,846</td>
<td>-279</td>
</tr>
<tr>
<td>Agricultural Region 4A - (CAR)</td>
<td>3,320</td>
<td>3,019</td>
<td>-301</td>
</tr>
<tr>
<td>Agricultural Region 4B - (CAR)</td>
<td>5,690</td>
<td>5,217</td>
<td>-473</td>
</tr>
<tr>
<td>Agricultural Region 5 - (CAR)</td>
<td>12,430</td>
<td>11,472</td>
<td>-958</td>
</tr>
<tr>
<td>Agricultural Region 6 - (CAR)</td>
<td>8,655</td>
<td>7,791</td>
<td>-864</td>
</tr>
<tr>
<td>Agricultural Region 7 - (CAR)</td>
<td>7,110</td>
<td>6,381</td>
<td>-729</td>
</tr>
<tr>
<td><strong>Total farms</strong></td>
<td>53,660</td>
<td>49,431</td>
<td>-4,229</td>
</tr>
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</table>


3 approaches in disaster studies

1. Single event framework, e.g. Katrina in New Orleans = a particular event in a particular place at a particular time
2. General category framework, e.g. earthquakes, tsunami
3. Temporality framework = holistic & historical contextualization of event sequencing and variable outcomes

Key references: Hoffman (1999), Oliver-Smith & Hoffman (2002), Smart & Smart (in press)
A Tale of Two Regions in Alberta

M.D. Bonnyville

Saddle Hills county

Cases of BSE

Recovery Programs

<table>
<thead>
<tr>
<th>Year</th>
<th>Programs</th>
<th>Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>15</td>
<td>$1 billion</td>
</tr>
<tr>
<td>2002</td>
<td>5</td>
<td>$1.85 billion*</td>
</tr>
<tr>
<td>2003</td>
<td>6</td>
<td>$1.1 billion*</td>
</tr>
<tr>
<td>2004</td>
<td>2</td>
<td>$1.08 billion*</td>
</tr>
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</table>

*Not all funds included above are directed exclusively to cattle farmers. Major farming funds are included in their entirety.
On-farm
- animals & crops
- land rental
- farm gate sales
- farmer’s market

Mutual Aid
- equipment exchange / co-ownership
- labor exchange

Off-farm
- “in-town” work
- oilpatch
- school bus driver

Casual / Informal
- seasonal
- causal
- short term

Government programs
- federal
- provincial

Other income
- oil well payments
- old age pension

Tim and Deb Stone and relatives in Savanna, 2007

Farm household Income (cash & kind)
Animal management after BSE

• Culling on the farm to reduce financial burden of feeding animals that are “worth nothing” – bison, deer, cull cow.
• More DIY diagnosis and treatment of animal health problems, including prolapse and C-sections. (Note – a farmer is also a vet.)
• Buying cheaper animal medications from U.S.A.
• Higher frequency of terminating sick animals on the farm instead of using “expensive” vet service.
• Older cows are keep on active breeding for longer than ever = herd size increases = higher operating expenses
When an animal is worth only $100, you don’t spend $300 for a procedure like Caesarian. In 2004, we had 3 animals who had difficult births. They were shot on the farm.

(Roy & Sheila Runzer of Glendon, July 2006)
Drought and animal health in NE Alberta 2002

- 2002 feed shortage in Alberta
- Inflated prices at $100+/bale
- Shipped feed from other parts of AB & other provinces at high cost
- Sent animals to BC, SASK, or MN to be custom fed with mixed consequences – some were very negative to animal health
- Reduced ration as last resort; price of cattle was high and most farmers try to keep their herd
- Drought expenses drawn from loans or savings = diminished economic resilience
We and two of our sons moved with the cows. The cost of hay in Alberta went up to $100/bale. We need about 40 bales/day for 1000 animals. On top of that, you have to add the straw and grain costs. Manitoba was windy and cold in the winter; it was cold. The animals were kept outside and they needed extra straw. We also built extra fences to keep out the wind. We returned to BSE in June 2003. couldn’t give them [the cows] away.

(A farming couple from La Corey, NE Alberta. July 12, 2006)
Drought/grasshopper, BSE and farmers’ health

- Drought impact very “in your face”
- BSE impact is “silent” and “delayed”
- Stress induced by income decline (BSE), increasing debt load, visible deterioration of animal health (drought), heightened sense of helplessness
- Tension in social relationships
- Depression – loss of interest in animal health or anything, lethargy, avoidance of social interaction (even with family members) ….
- Suicide
Suicide #3  This farmer was a regular at the county office. He’d come in and chat with everybody. One day he came in as usual, sat with both his elbows on the table. As usual, John offered his packaged cigarettes. Normally his farmer would refuse, and he would roll his own cigarette and smoke with John. This day, he took the offer and commented, “Maybe I’ll take one. This other stuff (i.e. his own rolled cigarettes) tastes like shit.” The same day later, John was out on county business. Met a RCMP who informed him that there was an accident in the north. Some guy shot himself. John asked what kind of vehicle the victim drove. A blue Chevrolet. John somehow knew that it was this farmer who was at his office in the morning. And he was right. (Smoky Lake field note July 17, 2006)
## How does event sequence affect outcomes?

### NE Alberta
- By May 2003, diminished economic and social resilience due to the drought in 2002.
- Reported depression & suicide.
- Economic resilience boosted by government programs.
- Off-farm income is crucial & masks the extreme impact of BSE; full time off-farm & part-time on farm is increasingly common.
- Many farmers are downsizing their operation in 2007 to reduce debt or to accommodate off-farm work.

### NW Alberta
- By May 2003, enhanced economic & social resilience due to the good year in 2002.
- Reported stress, no suicide.
- Economic resilience boosted by government programs.
- Off-farm income increases; contributes to farming operating expenses.
- Impact of 2006 drought not yet obvious; gov’t programs + strong mutual aid networks (homesteading in the region until the 1960s – many kin networks are still in place).
Conclusion

- Farmers take great pride in the well-being of their farm and livestock.
- Family farm management is mostly responsible and ethical.
- Under extreme economic and emotional distress such as those caused by the recent drought & BSE, the resilience of effective crisis management among farmers take a toll.
• The growing trends in DIY diagnosis and treatment of animal health problems and animal management practices deserve further attention.
• Their implications for farm policy and vet service delivery are important.
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