



## Coping with the BSE Crisis in Canada

**Bovine spongiform encephalopathy (BSE)** has been found in 25 countries, costing billions of dollars in those affected economies, and as a global phenomenon has had profound social and environmental impacts at multiple scales of organization. In Canada the socioeconomic impacts of BSE were especially potent for farm households who were forced to take adaptive action in response to the crisis.

To evaluate how farm households adapted to the BSE crisis in Western Canada, our study included a mail-out survey of 826 farmers, 27 individual interviews and 12 group interviews with farmers and ranchers in Alberta, Saskatchewan and Manitoba.

Our results showed that farm households adapted using three general strategies: **'exiting'** from beef production or agriculture altogether; **'enduring'** or adaptations that seek stability; and **'innovating'** to pursue new opportunities.

### EXITING Getting Out

Exiting adaptations were predominately viewed as a last resort. The prospect of farm exiting represented much more than the loss of a business to many farmers but also a loss of home, heritage, and for those who out-migrate, a loss of community.

**"Your home is right where your cattle are, you look out your window and you see a cow. You never get away from it—it's who you are. And it is not an easy thing to pull up. Where are you going to go; what are you going to do? You can't get a job tomorrow; it's a very difficult situation. The future doesn't seem that good."**  
*(Manitoba Farmer)*

### Take Home Lessons

- ▶ Farm households adapted to BSE using three adaptation types: exiting, enduring and innovating.
- ▶ **Farm exits** were mostly forced and thus often left households vulnerable.
- ▶ **Enduring** is important in short-term crisis although long-term chronic enduring increases vulnerability.
- ▶ **Grassroots innovations** were especially important in the relative absence of expert-driven innovation.
- ▶ **Familial adaptations** can be as important as those made in the farm operation.
- ▶ **Government support** for adaptation encouraged a return to the status quo

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Downsizing the herd represented a moderate form of exiting and a minority (28.8%) of respondents agreed that it was an important adaptation. Even fewer (17.6%) respondents indicated that “finding the first and best way out of the cattle industry” was an important response.

BSE not only forced established farmers to exit but also discouraged prospective farmers from entering the industry – a phenomenon we refer to as “premature exiting.” Many respondents expressed concerns about the implications of BSE for the next generation of farmers. As one respondent from Alberta indicated, “Young farmers [age 20+] were so discouraged they turned to new careers.”

Farm exiting, farm entry and farm transfers between generations are challenging processes that require further consideration in adaptation research and increased government support, especially during times of crisis.



Dave Pogson with his daughter Ashley. BSE pushed farm youth away from agriculture, exacerbating concerns over the loss of the next generation of farmers.

## ENDURING Making Do... Waiting

Enduring adaptations attempt to regain stability on the farm rather than pursuing new opportunities. They allowed respondents to persist in the short term and, in effect, to avoid making substantial immediate changes. These strategies were relatively common, and mainly focused on reducing expenditures such as reducing vet visits.

For example, many respondents (41.1%) agreed that taking out more loans was an important short-term enduring response as many families were forced to go “waist-deep into debt.”

Although some enduring adaptations entail a minimal commitment on the part of the farm households and could thus be seen as temporary (and less central) coping responses, our results suggest that the “chronic enduring,” where one enduring response leads to the next, can undermine the capacity to undertake more proactive adaptations and the ability to cope with future adversity.

Enduring adaptations, in our study, were linked to declines in economic, social (e.g. exhaustion and stress) and natural (e.g. overgrazing paddocks) capital. Soil erosion, pollution of waterways and overstocking-associated introduction of disease into wildlife populations were seen as consequences of enduring adaptations that will have long lasting, although often underappreciated environmental and social implications.

## INNOVATING Capturing Opportunities

Adaptations that were included in the innovating adaptation type represented a substantial and proactive change in management practices and a move to experiment with new strategies, technologies, partnerships and ideas.

**Market-oriented.** The majority (61.9%) of respondents agreed that ‘finding other markets for livestock’ was an important strategy for adapting to BSE. Half (51%) agreed that marketing directly to consumers was an important adaptive response. Respondents identified farmer-owned slaughter cooperatives as an urgently needed adaptation to gain more power in the marketplace, “*cooperatives and organizations where we can maybe drive our own markets.*”

**Production-oriented.** About half (54.6%) of respondents agreed that rotational grazing was an important innovating adaptation that allowed producers to maximize pasture carrying capacity. Survey respondents were less inclined towards more specialized alternative farm management practices such as holistic management (HM) and organics.

### Families Facilitating Adaptation to Crisis

Farm adaptation includes BOTH adjustments in the farm operation (operational adaptations) as well as the farm household (familial adaptations), often transferring human and material resources between the two. Familial adaptation becomes more important during crisis when operational responses are often inadequate. The inter-dependence of the

farm operation and farm household is a critical source of adaptive capacity that has allowed family farming to persist whereas all other sectors in agricultural have become corporate owned.

Thus, families were central to all three adaptation types, and particularly in grassroots innovating adaptations which were enabled by interpersonal connections and social networks amongst families, for example, when farmers engaged in direct to consumer marketing to friends and family, when they participated in holistic management clubs, or when they worked with other farm households to form slaughter or marketing cooperatives.



### Grassroots Innovation: Thinking Beyond Technology and Commodity Production

Research on adaptation in agriculture generally emphasizes the importance of individual farms in short-term reactive adaptation, whereas agribusiness and governments are responsible for fostering longer-term adaptation by implementing strategic large-scale strategies and by developing technologies to address current and future problems. This characterization denies any influential role for farmers and rural communities in generating long-term adaptation strategies and, indeed, can even undermine grassroots adaptations.

Research on farm adaptation has likewise primarily focused on agronomic farm adaptation strategies that maintain or increase agricultural productivity. However, few farm households rely solely on commodity production to support their livelihoods and most also pursue multi-functional activities (i.e. extra-agricultural), which often include non-farm employment or other non-farm business activity.

*“One of the local packers looked into getting a killing plant and upgrading this killing plant... the guy told him it would be 5 to 7 years before he could get all the government bookwork done... So that’s frustrating: here I am a producer that wants to market cattle through this and he’s on the packing end of it that wants to provide a service for us... we can’t go to a big multinational because they don’t want to be bothered with us.”  
(Manitoba Farmer)*

This focus on government and industry in strategic adaptation, on technology and on commodity production reflects that policy-makers and scientists are primarily concerned with maintaining and increasing food production and gross domestic product at national and international scales of organization. However, our shift in perspective and focus on improving farm livelihoods and rural communities as the goal for adaptation highlighted the importance of familial and multifunctional strategies in rural adaptation. Confronted by rural/farm decline, farm households are making adaptive decisions that go beyond maintaining (enduring) or improving (innovating) commodity production. They are also adopting strategies that add value to farm products, that deliver environmental or agro-tourism services, that glean income from non-farm employment or entrepreneurship, and that draw from and contribute to the social and cultural capital in rural communities.

### The Role of Government: Maintaining the Status Quo

Government support at the farm level promoted stability, with inadequate support provided for change-orientated adaptations.

In managing the BSE crisis, the Canadian federal government worked most closely with highly influential actors in the beef industry (e.g. large producer organizations, slaughterhouses, feedlot operators, banks) while encouraging producers and the general public to wait out the crisis and that a return to normalcy was inevitable and desirable.

One of the outcomes of this top-down process is that it was the larger and more powerful actors that received the most compensation relative to those that were less influential (e.g. cow calf operators, family farms, direct marketing operations, regional abattoirs). These unequal power dynamics encourage and enable governments to support adaptations that maintain the status quo rather than facilitate change-orientated adaptations

that have the potential to redistribute power to less influential actors and to support more proactive adaptations and change.

Indeed, some have argued that crises such as those associated with zoonotics allow powerful actors not only to perpetuate the status quo but also to enable change that ensures their dominance in society while marginalizing alternatives. Thus, one-size-fits-all regulatory changes in the meat processing industry, such as those implemented in Canada in response to BSE, disproportionately encumber smaller and start-up processing plants who lack the capital and economies of scale to invest in bringing facilities into compliance. These regulations thus provided a competitive edge to the already well-established and highly concentrated meat-processing industry in Canada.

Producers in our study called for governments to support grassroots innovations that would increase domestic slaughter capacity, to facilitate the creation of producer-owned slaughterhouses and to diversify export and domestic market opportunities. Instead, governments predominately focused on regulation-based mitigation strategies to re-establish pre-BSE trade and production conditions in the cattle industry. Government support for adaptation at the farm level focused on enduring adaptations that were congruent with a desire to return to the status quo, and a valuable opportunity to support a wider diversity of rural adaptations was lost.

**The challenges associated with predicting and controlling zoonotic diseases** are being exacerbated by the intensification of global meat and livestock trade and as climate change facilitates their spread.

Government decision-making would ideally involve those most affected by these crises to help more effectively anticipate the rural consequences of zoonotics like BSE but also to ensure that farmer needs are prioritized and to enable the survival of farm households and rural communities now and into the future. ►

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