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Book Review: *Farming in a Changing Climate:
Agricultural Adaptation in Canada* Edited by Ellen
Wall, Barry Smit, and Johanna Wandel

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Farming in a Changing Climate: Agricultural Adaptation in Canada. Edited by Ellen Wall, Barry Smit, and Johanna Wandel. Vancouver, BC: UBC Press, 2007. xiii + 273 pp. Maps, figures, tables, notes, references, index. C\$85.00 cloth, C\$32.95 paper.

This timely collection will be of interest to scholars, policymakers, and agriculturalists throughout North America and beyond. It offers both a comprehensive collection of recent research on the vulnerability of Canadian farming systems to climate change and a thorough and articulate presentation of the breadth of concepts and methods currently employed in climate change vulnerability assessments. The volume is information-dense in places, but necessarily so, given its broad thesis. Despite the breadth of content, the editors provide a balanced and coherent message, with individual chapters presenting varied but complementary contributions, organized in terms of three methodological approaches: impact based, context based, and process based.

Impact-based approaches describe the predominant method used in vulnerability assessments, entailing a top-down projection of climate change scenarios onto

a farming system, given a set of assumptions about farm-level adaptive behavior. Context-based approaches evaluate the conditions that either promote or restrict adaptation. Process-based approaches entail a more systemic account of the farmer's institutional decision-making environment in order to assess capacity for adaptation. The implicit message offered is that none of these three approaches provides a complete assessment of vulnerability in isolation, but rather that they must be employed in combination; the weaknesses and gaps of each are also rendered.

The book highlights the salience of climate change for Canadian agriculture, while emphasizing the wide range of anticipated impacts by region and farming system. Contributors agree that the potential exists for successful adaptation to climate change in most agricultural sectors and regions in Canada, but that adaptation will require a significant, proactive effort that faces several challenges. While limited space prevents a complete summary, two challenges are of particular note. First, although farmers have expressed historic adaptive ability, adapting to climate change will require strategies that may not necessarily be aligned with current trajectories in modern industrial farming systems, which themselves reflect adaptations to a dynamic and competitive global marketplace, including, for example, specialization and the adoption of high productivity varieties that may be sensitive to particular impacts of climate change. Second, several chapters also point out the cumulative effects of multiple stressors imposed on agricultural communities today, such as declining commodity prices and rural out-migration, which may inhibit future adaptation.

While some literature on adaptive capacity in agriculture focuses primarily on farm-level adaptation strategies, contributors to this volume emphasize that successful adaptation implies substantial commitments from institutional actors, including governments, insurance providers, business associations, and scientific organizations, among others. The multiple challenges for the researcher engaged in vulnerability assessments also emerge, including the need to downscale global climate models for regional applicability; care in establishing an appropriate set of baseline conditions; contending with changes in average conditions versus variability in those conditions; and recognizing gaps in knowledge. Concluding chapters synthesize the findings of individual chapters into a set of policy implications that should prove valuable well beyond the Canadian context. **Debra Davidson**, *Department of Rural Economy, University of Alberta*.