Notice of the Final Oral Examination for the Degree of Doctor of Philosophy of

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MASc (Ryerson University, 2012)
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“Exploring the Geography of Food Deserts and Potential Association with Obesity in Rural British Columbia”

Department of Geography

Thursday, November 24, 2016
10:00AM
David Turpin Building
Room B215

Supervisory Committee:
Dr. Aleck Ostry, Department of Geography, University of Victoria (Supervisor)
Dr. Christina Miewald, Department of Geography, UVic (Member)
Dr. Bernadette Pauly, School of Nursing, UVic (Outside Member)

External Examiner:
Dr. Evan Fraser, Department of Geography, Simon Fraser University

Chair of Oral Examination:
Dr. Venkatesh Srinivasan, Department of Computer Science, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

The main goal of this study was to investigate whether residents of rural areas especially in deprived communities in BC have reasonable geographic access to healthy and affordable food providers (e.g., supermarkets, grocery stores, and farmers' markets), and if lack of access impacts their weight status. As well, I investigated the extent to which farmers' markets improve food accessibility in BC’s rural food deserts.

In order to identify food deserts, the methodology which has been developed by USDA was modified and adapted to BC’s rural situations. In the first step, using Principal Component Analysis, deprived rural regions were identified based on selected socioeconomic and demographic variables. Then, using ArcGIS Network Analyst extension, the distance based on driving time from the Population Weighted Centroid of each rural region to the closest supermarket or grocery store was calculated on BC road networks. A 15 minute driving time cut-off was set to identify low access areas. Deprived rural regions which were also classified as low access were identified as food deserts. The impact of food accessibility on the weight status of rural British Columbians was investigated using the 2013-14 Canadian Community Health Survey (CCHS). A hierarchical regression model was constructed with weight status of residents as the dependent variable and distance to the closest supermarket or grocery store as the independent target variable.

I found that food deserts are more concentrated in the Central Coast, Cariboo, and Peace River regions of the province. In addition, farmers’ markets play no role in providing healthy foods to the residents of food deserts. Lastly, distance from food stores is not significantly associated with the weight status of rural respondents in CCHS data. The findings of this study can be highly beneficial to government officials within different jurisdictions and health practitioners to develop or refine food policies toward providing healthy and affordable food to deprived residents and Aboriginal peoples in rural and remote communities.