

Identifying Neighborhoods at Potential Risk of Food Insecurity in Rural British Columbia

Authors : Amirmohsen Behjat, Aleck Ostry, Christina Miewald, Bernie Pauly

Abstract : Substantial research has indicated that socioeconomic and demographic characteristics of neighborhoods are strong determinants of food security. The aim of this study was to develop a Food Insecurity Neighborhood Index (FINI) based on the associated socioeconomic and demographic variables to identify the areas at potential risk of food insecurity in rural British Columbia (BC). Principle Component Analysis (PCA) technique was used to calculate the FINI for each rural Dissemination Area (DA) using the food security determinant variables from Canadian Census data. Using ArcGIS, the neighborhoods with the top quartile FINI values were classified as food insecure. The results of this study indicated that the most food insecure neighborhood with the highest FINI value of 99.1 was in the Bulkley-Nechako (central BC) area whereas the lowest FINI with the value of 2.97 was for a rural neighborhood in the Cowichan Valley area. In total, 98.049 (19%) of the rural population of British Columbians reside in high food insecure areas. Moreover, the distribution of food insecure neighborhoods was found to be strongly dependent on the degree of rurality in BC. In conclusion, the cluster of food insecure neighbourhoods was more pronounced in Central Coast, Mount Waddington, Peace River, Kootenay Boundary, and the Alberni-Clayoquot Regional Districts.

Keywords : neighborhood food insecurity index, socioeconomic and demographic determinants, principal component analysis, Canada census, ArcGIS

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