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Economic impacts of potential food and mouth disease agro-terrorism in the United States: A computable general equilibrium analysis

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Foot and mouth disease (FMD) is contagious and has high agro-terrorism potential because it can be easily transmitted via inanimate objects, and can spread up to 100 kilometers by wind. An outbreak of FMD in developed countries results in massive slaughtering of livestock (for disease control) and disruptions in meat supply chains and trade, with potentially large economic losses. Although the United States has been FMD-free since 1929, the potential of FMD as a deliberate terrorist weapon calls for estimates of the potential physical and economic damages that could result from an outbreak. This paper estimates the economic impacts of three alternative scenarios of potential FMD attacks using a computable general equilibrium (CGE) model of the U.S. economy. The three scenarios range from a small outbreak successfully contained within a state to a large multi-state attack resulting in slaughtering of 30 percent of total national livestock. Overall, the value of total output losses ranged between $37 billion (0.15% of 2006 baseline economic output) and $228 billion (0.92%). Major impacts came from the supply constraint on livestock due to massive animal slaughtering. As expected, the output loss was heavily concentrated in agriculture and food manufacturing sectors, with the loss ranging from $23 billion to $61 billion in the two industries.

Biography

Gbadebo Oladosu holds a Ph.D. in Energy and Environmental Economics from the Pennsylvania State University, USA and is a Research Economist in the Renewable Energy Systems (RES) group of the Environmental Sciences Division (ESD) at Oak Ridge National Laboratory. Dr. Oladosu has published in several peer-reviewed journals. He has contributed to technical reports and books on climate change, bioenergy, and the economic impacts of sudden events, such as earthquakes, hurricanes or terrorist attacks.

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