

Development of an Inoperability Input-Output Model (IIM) to Assess the Mindanao Power Crisis

Francesca Dianne B. Solis¹, Krista Danielle S. Yu¹, Raymond R. Tan^{2*}

¹School of Economics, De La Salle University, 2401 Taft Avenue, 1004 Manila, Philippines

²Center for Engineering and Sustainable Development Research, De La Salle University, 2401 Taft Avenue, 1004 Manila, Philippines

email:

The Mindanao Power Crisis has plagued the country's southernmost island with severe power interruptions that cause disruptions on the region's economic activities, since 2010. Given that more than fifty percent (50%) of power generated in Mindanao is produced through hydroelectric plants, its energy sector is highly vulnerable to climate change-induced perturbations. The persistent shortage of electricity among regions in the island has increased the urgency to resolve the issue at hand. Decision makers need to account for the economic impacts of a power shortage in the island to the rest of the country. Various recommendations to ease power disruptions to possibly allow the increase in economic capacity of Mindanao's economic system have been made. With this, we develop a multiregional inoperability input-output model to analyze the power shortage resulting from climate change induced events in order to aid in formulating rational adaptation policies for Mindanao. Such policies should also account for indirect effects of power losses on different economic sectors.

Keywords: Climate change adaptation; disaster risk management; inoperability input-output modeling (IIM)