Integrating the INFORM Risk Model to the

Advanced Early Dengue Prediction and Exploration Service (AEDES)

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Introduction

Background

Project AEDES

Project AEDES was developed in 2019 as a big data early warning and surveillance system for dengue. The system intends to nowcast probable dengue cases and dengue-related deaths using Google Search Trends, precipitation, and temperature readings from climate data.

The product aims to address 2 key challenges for public health and local government officials:

* Get ahead of the lagged delay of dengue reporting by using real-time information to infer if dengue cases and deaths are about to spike
* Anticipate areas that may be affected by dengue to prioritize health aid, supplies, and proactive fumigation to prevent the outbreaks.

INFORM Framework

The INFORM risk assessment framework will be integrated to the platform for dengue assessment in regions and provinces of the Philippines, and aspiringly to other countries. We will be following the INFORM Epidemic Model developed by the Joint Research Center of the European Commission. Given that the model has been established and follows a consensus-based methodology, it is deemed to be an appropriate framework to follow for analyzing crisis risk at all levels (global, regional, or national) and scope.

For better appreciation, we will be using a composite indicator that combines various indicators into three dimensions or risk:

* Hazards, which captures the events that could occur in a certain location and exposure to such hazards;
* Vulnerability, which shows the susceptibility of communities to the identified hazards; and
* the Lack of Coping Capacity, which represents the lack of resources to lessen the impact.

Research Questions

The paper intends to answer the following questions:

How can

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