Epidemiological Diseases surveillance and early detection system

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Abstract:

We develop an early detection system for diseases surveillance in Madagascar to help detect and prevent epidemic outbreaks (Diarrhea,Malaria,...). Advantages of such system are huge. First of all, It is open source so could potentially benefit from contribution of others. Second, It's relevant for policy makers and planners as It is a mean to address issues related to public health which is one of the key ingredients of economic growth in developing economies. Finally, It could be easily applied to other areas such as macroeconomic surveillance, meteorological or weather surveillance and predictions among many others.

The entire system benefits from cutting-edge technology in data collection (sms via android devices) and user-friendly dashboard interface for data visualization and forecasting. We argue that a systematic implementation of such system in risky and/or developing countries is key to achieve both sustainable growth but also minimize impact of disasters. This project was originally funded by USAID in 2013 to help Madagascar better monitor Malaria spreads knowing its threat for the population especially in vulnerable zone.

We have successfully able to monitor and collect data accross 54 sites covering the country. In addition, some sites are subject to biological monitoring and investigations to help understand causal agents that may cause these diseases.

Github link of the software