Early Warning System Ghana: how to successfully implement a disaster early warning system in a data scarce region

Job Udo (1) and Nicole Jungermann (2)

(1) HKV Consultants, Lelystad, The Netherlands (j.udo@hkv.nl), (2) HKV Consultants, Lelystad, The Netherlands (n.jungermann@hkv.nl)

Ghana is a country frequently struck by natural disasters like floods and droughts. Timely warning or detection of such disasters will mitigate the negative impact on lives and property. However, local data and monitoring systems necessary to provide such a warning are hardly available. The availability and improvement of internet, mobile phones and satellites has provided new possibilities for disaster warning systems in data scarce regions such as Ghana. Our presentation describes the development of an early warning system (EWS) in Ghana completely based on satellite based open data. The EWS provides a flood or drought hazard warning on sub-catchment level and links the warning to a more detailed flood or drought risk map, to enable the disaster coordinator to send warnings or relieve more efficiently to areas that have the highest risk. This is especially relevant because some areas for which the system is implemented are very remote. The system is developed and tested to be robust and operational especially in remote areas. This means that the necessary information is also available under limited internet conditions and not dependent on local computer facilities.

In many rural areas in Ghana communities rely on indigenous knowledge when it comes to flood or drought disaster forecasting. The EWS has a feature that allows indigenous knowledge indicators to be taken into account in the warning and makes easy comparison possible with the satellite based warnings.