

Modeling the socio-economic value of meteorological information systems

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Work Done in March

- Refinement of:
 - Background to the problem
 - Statement of the problem
 - Objectives
 - Scope/application sector

Refined Statement of the Problem

- Investments in meteorological information systems have effect on:
 - capacity to deliver expected weather information
 - Efficiency & effectiveness of decisions made with available weather information in the multi-stakeholder (user) environment
- Despite present investments in meteorological information systems, capacity to deliver and use weather information has remained low, thus the recurrent deaths and losses as experienced by the target users of the meteorological information systems due to bad weather events.
- Hence the need to study the dynamics surrounding the generation, delivery and use of meteorological information systems in order to create a better understanding of the problem among stakeholders and hence develop systemically embedded policy to tackle the problem

Refined main objective:

- The research aims to use system dynamics modeling approach to demonstrate of the value of meteorological information systems.

Refined specific objectives:

- Investigate the variables that influence the value of meteorological information systems in a multi-stakeholder environment.
- Design causal loop diagrams, which reflect relationships between the identified variables that influence each other in the process of creating value for stakeholders
- Develop a system dynamics model by way of stock and flow diagrams, which quantifies the variables and reflects the established underlying feedback structure of the variables.
- Conduct a sensitivity analysis using simulation experiments in order to replicate the reference mode and secondly, establish and propose the optimal policy for increasing the value of meteorological information systems to a selected sector of application

Refined Scope

- The study will focus on exploring the value of meteorological information systems to the weather-related communicable disease control health system in a developing world context. The study will target districts in Uganda with the highest incidence of weather-related ailments in order to demonstrate the difference that meteorological information systems could make in such an environment in order to get value for the investment and/or illustrate the investment gaps necessary to fill in order to register expected value.

Next steps: April targets

- Review & complete section one: dynamic hypothesis, definition of key terms, scope, justification & significance
- Complete section two: literature review
- Methodology

- Thank You