

# WIMEA-ICT Project Monthly Progress April 2018

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# March Progress

- Refinement of methodology
- Supervised WDR work

# **Topic: working title**

- Modeling the value of meteorological information in health sector policy analysis in Uganda

# Problem

- Goals towards eradicating weather-sensitive diseases such as malaria remain unmet in a context where meteorological (weather & climate) information is available

# General Objective

- The study aims at modeling relationships between key variables, which are necessary to achieve value from meteorological information in the health sector. The models will provide a shared understanding about the contribution of key stakeholders in order to guide health sector

# Specific objectives

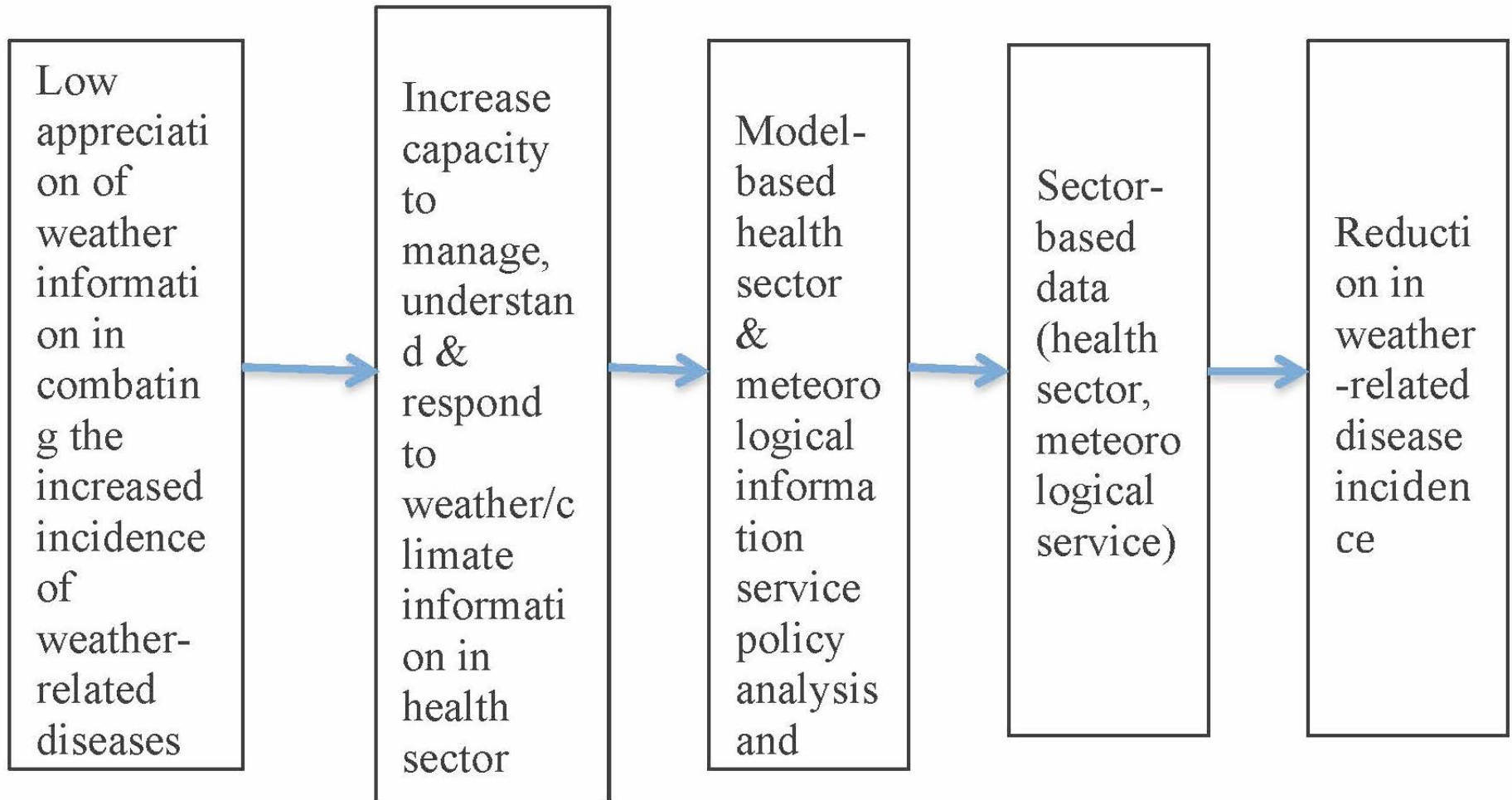
## Specific objectives

- To determine which variables influence the value of weather information to the health sector.
- To design a generic stakeholder relationship model that traces health sector value from weather and climate information systems.
- To quantify and simulate the generic model that demonstrates the systemically persistent weather/climate-sensitive health challenges
- To conduct model-based sensitivity analyses and “what-if” experiments in order to propose optimal systemic weather/climate and health sector policy changes.

## Research questions

- What factors influence the value of weather and climate information in the health sector?
- How do stakeholders in weather, climate and health information systems relate in tackling weather and climate-sensitive health sector challenges?
- Why has the incidence of weather-sensitive diseases persisted in Uganda?
- What is required for Uganda to get the best health sector value from weather and climate information systems?

# Conceptual framework



# Methodology

- Received feedback on methodology section from supervisors
  - Analysed research approaches
    - Math modeling
    - Design science research
    - Laboratory experiments
    - Experimental Simulation
    - Laboratory experiments
    - Field study/field experiments
    - Case study
    - Action research (SD falls here- changing structure of problem environment)



# Linking Specific objectives with methodology

## Specific objectives

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## Methods

- Prob. Identification: Literature review/document analysis - reference modes/BOT graphs
  - output: review paper: traces the state of usage of weather information systems in health sector policy in Uganda
- Model building stage: Field study, case study, FGDs
  - a) Causal loop modeling - group model building
    - Eight-factor procedure relationship validation
    - clarity, quantity existence, connection edge existence, cause sufficiency, additional cause possibility, cause/effect reversal, predicted effect existence and tautology
    - Output- paper: Using SD to clarify weather information usage for the health sector: multi-stakeholder approach
  - b) Stock & Flow modeling
    - Case study
    - FGDs
    - Paper:
- Experimental simulation
- Model use/implementation & theory extension
  - Interface design to facilitate model use
  - Case study: FGDs
  - Application of SD in extending knowledge in of RBV, dynamic capabilities, Value engineering & decision theories
- Sampling procedure
  - Purposive & stratified random sampling

# May 2018 Plans

- Present to HDRC – 13<sup>th</sup> May 2018

- Thank You