

Models and Farmers: Making Scientific Research Relevant to End Users

NASA IDS: Seasonal Prediction of Hydro-Climatic Extremes in the Greater Horn
of Africa (GHA)

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Backbone of Ethiopian economy

- Rain-fed agriculture,
- Accounts for 43% of GDP and 85 % of total employment
- Climate highly variable
- Subsistence farming



Why Weather/Climate information

- Forecast could play an important role:
 - Food security
 - Employment and
 - Other aspects of livelihoods
- Thus, the impact of the forecast could be multi-dimensional.



Where do farmers get forecast information?

- Media - electronics or print
- Direct contact
 - Community
 - Extension agents
 - NGOs
 - Others



Barriers to using forecast information

- Temporal and spatial scales
- Probabilistic nature of forecast
- Lack of access to information

- Nevertheless, farmers incorporate rainfall information in their decision making
- Commercial, emerging, smallholder



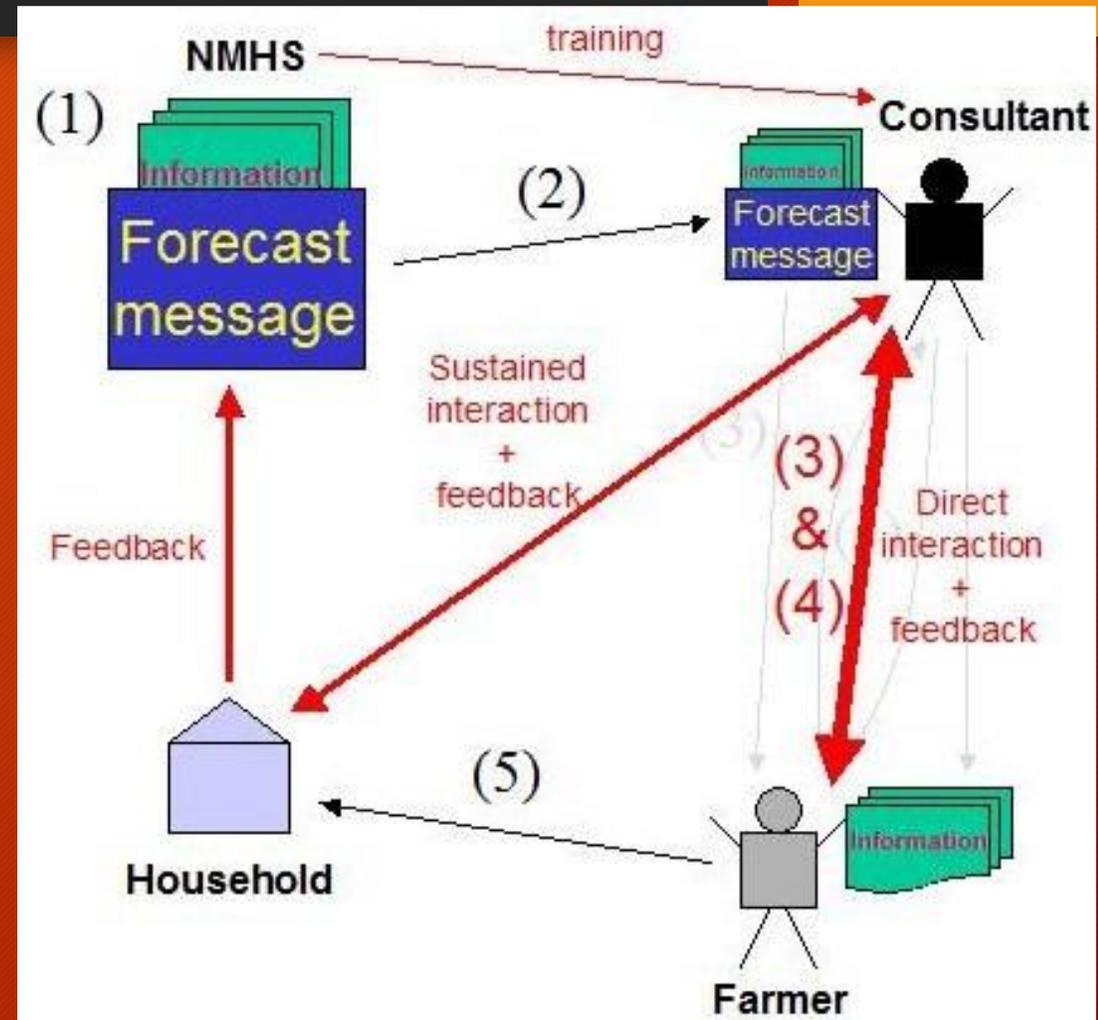
Decision making processes

- Farmers' decision making can be influenced by different factors:
- Traditional climate indicators (Roncoli *et al.* 2001),
- Household economic conditions (Roncoli *et al.* 2000)
- Cultural norms and traditions (Lyon 2000)
- Social interaction and observation (Valente 2005)
- > how info is communicated crucial for



Structure of information flow

- *Interactive dissemination methods are preferred*
 - *Users prefer to see demonstration of how it could work*
 - *Need to convert messages into information.*
- *Learning is experienced through repeated forecast dissemination*
 - *If there is a feedback to integrate farmers' needs into future forecasts*
 - *If forecast does not contradict with traditional forecast/indicators*
 - *Farmers learn most from personal experience*



Relevance of Predictive Science

- “Forecasts are only useful if the recipients can actually use it to improve their production” (Chipindu, 2002:132).
- Relevance to users means simultaneously useful, usable and desirable (Sanders, 2008).
- How do outputs of this project be relevant to end users (policy makers, hydropower managers and farmers)?

Thank you!



