

# Climate Forecasting and Agricultural Production: Participatory Development of Decision Support Tools



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## 1. Climate-Society Research Framework

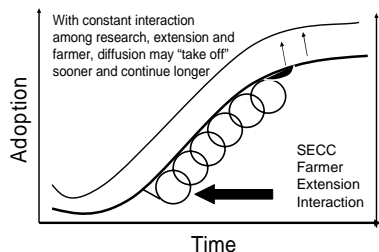


### Decision Analysis and Assessment : Goals

- Identifying end users, understanding decision processes, and the role of climate forecasts
- Assessing the accessibility, relevance, utility of SECC tools from end-users' point of view
- Evaluating SECC tools in terms of their actual use and impacts

## 2. Methodological Approach

### 2.1 Continuous Stakeholder Feedback



### 2.2 Diversity of Research Tools and Activities

| Activity   | N   |
|--|-----|
| Sondeos (conversational rapid appraisals)                      | 7   |
| Semi-structured interviews with producers and extension agents | 94  |
| Focus groups   | 8   |
| Web-based baseline survey of extension agents                  | 252 |
| Feedback from workshops  | 5   |
| On-line users' feedback  | 33  |

## 3. Results: Lessons Learned

### 3.1. Sondeos

Producers want information to be:

- concise
- site specific
- in layman terms

Need to customize forecasts to:

- agricultural calendar
- agricultural crops
- agro-climatic zones

### 3.2 Farmer and Extension Agent Interviews

#### Decision-Making Principles

- Avoid catastrophic losses, disinvestment
- Cover living expenses
- Repay debt
- Attain consistent production levels
- Ensure timely market delivery

#### Potential Responses to Climate Forecasts

##### Row crops

- Change planting date
- Adjust fertilization, input application
- Modify insurance coverage
- Adjust marketing strategy

##### Vegetable

- Clear ditches
- Switch variety
- Plan input purchases
- Adjust planting date
- Manage timing of farm work

##### Livestock

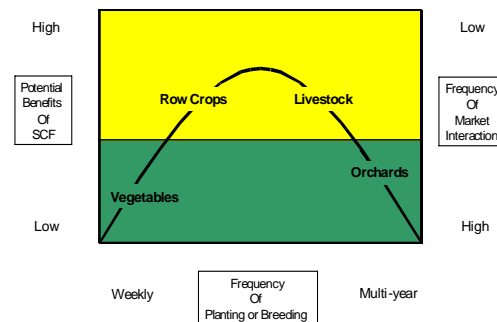
- Plant winter forage
- Adjust forage fertilization
- Manage herd size
- Buy feed ahead of time

##### Forestry

- Avoid planting in La Niña winters
- Harvest early before El Niño winters
- Adjust timing of prescribed burning
- Prepare resources to control wildfire

## 3.4. Focus Groups

### Potential for Forecast Use by different types of Farm Operations



### 3.5 Workshops and Online Feedback

Terms are defined in overly-technical language:

Zero frequency values in tools need to be explained

Most farmers have limited computer skills and slow dial-up connections

There is interest in information relevant to agents in urban counties, such as landscaping industry, and recreation

## 4. Conclusions

- Social science research elicits valuable feedback from stakeholders. This feedback can guide the development of an effective and user-friendly information system.
- Placing the stakeholders at the center of the research paradigm produces invaluable insight into practical potential adaptations to climate forecasts.
- The learning process is continuous, iterative and two-directional. Working closely with Cooperative Extension Service and farmers permits research and dissemination to occur simultaneously

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