

Field Project 4—Integration of Climate Information from Multiple Sources through Group Discussion in Ugandan Farm Communities (Ben Orlove, Jennifer Phillips; Duration: 2 years, 2004-2006)

This project falls at the intersection of two questions. (1) What is accomplished during group discussion in planning future activities? (2) How do people integrate new aids for information processing and decision making with those already established in their cultures? Group discussion of plans is found in most cultures, for many possible reasons: the discussion may have both a cognitive component, e.g., adopting a common set of group goals, and sharing of information, and an affective component. The latter may include reducing anxiety about how other members will feel about novel forms of action. The problem of integrating different methods is also ubiquitous. One can point to many examples of poor integration: a new aid is either not used at all or is overweighted. An example (drawn from scientific subcultures) is the overweighting of statistical significance in scientific inferences. This project examines an instance in which some forecast-users have extended established group processes for information processing to these new aids; we will assess the effectiveness of this extension.

These two themes merge our recent observations of community discussion of farming plans in Uganda. Farmers throughout the world have traditional or indigenous methods of making climate forecasts, and vary considerably in the extent to which they incorporate forecasts derived from modern ocean/atmosphere models into their decision making (Orlove Chiang Cane 2000, 2002), as well as the extent to which good decisions result from the use of these forecasts (Hammer et al. 2001). Preliminary work in Uganda (Phillips Orlove 2003) shows that some farmers do integrate traditional and scientific forecasts in their practices, often using the traditional method for selecting a planting date but using the scientific forecast to choose crops and crop varieties and to provision livestock with fodder and water. Our initial research in Uganda (Phillips and Orlove, 2003) shows also that farmers place high importance on collective discussion in shaping the use of forecasts. They gather spontaneously in public places to converse about forecasts and their possible uses, and sometimes for "listening groups" that assemble to hear and discuss radio programs that present forecasts. These gatherings draw on established group dynamics within this society; farmers frequently gather in informal meetings in public places to discuss many matters of village life, and they have long been accustomed to listening to suggestions and guidance from central authorities (traditional kings in pre-colonial times, British administrators in the colonial period, government officers since independence) and to discussing these directives later among themselves. We note that seasonal climate forecasts, generally similar in form around the world, are presented to potential users in many different cultures, and that these users often have established forms for discussion, with specific group dynamics. The research in Uganda, by examining a case where cultural forms of discussion may be quite distinct, will allow for the exploration of such forms where they may be less distinct and therefore less evident to researchers.

Building on this initial research, we will observe and code group interactions in the processing of climate information. We will study 4 to 5 farming or pastoralist communities in each of two major language groups in Uganda.

The first phase will involve field reconnaissance, ethnography and initial surveys covering farming systems, perceived and actual vulnerability to climate extremes,

traditional forecast techniques, access to media, perceptions of past and present climate variability, planning horizons, perceived riskiness of different choice options, and group organizations and contexts for decision making. We will obtain background information of central issues of framing. Preliminary work suggests the importance of two areas of framing. Reference point framing differs between individuals and between communities, with some having a lower reference point of “adequate food supply” for harvests, focusing on subsistence needs, and others having a higher reference point of “increased availability of consumption goods,” focusing on participation in market economy and new goods. Time horizon framing also differs between individuals and between communities, with some centered on recent extreme events (of failed harvests or of bumper crops) and others based on a longer period. We will also obtain background information on issues of affect. Though affect, like cognition, rests on universal human capacities, it also, like cognition, shows considerable intercultural variation. Preliminary work also suggests that there are some culturally-specific forms of affect. Our initial focus groups have demonstrated the importance of fear, as close to a universal affect as there may be; we note also the great significance of shame, in particular the concern not to show disrespect to traditional customs and to elders. We note the potential role of positive affect in shaping decisions as well: individuals report a feeling of satisfaction that comes from seeing well-fed children and animals, and a feeling of pride connected with participating in highly-valued urban lifeways, particularly those associated with new consumer goods.

In addition, we will examine the cultural patterning of group discussions. Though meetings in Ugandan villages are, at a gross level, similar to meetings in the US—they have a well-defined opening, a phase of presentation of views and discussion, a summing up and a closing, there are also cultural specificities that merit attention. Though Ugandan meetings may have heads who recognize speakers, move through agendas, and call for votes, they also have key participants, often senior clan members, religious or ritual practitioners, and/or village elders, whose approval is often needed before moving to a new topic or reaching a resolution. These meetings also have, in addition to a set of participants, a set of on-lookers, often women, children and members of neighboring villages; they stand or sit at some distance from the meeting and do not speak directly, but offer a kind of chorus of comments. The participants often note the approval or disapproval of these on-lookers, who influence the outcome of meetings. A final difference is that, after the close of Ugandan meetings, the participants often do not disperse but have an immediate post-meeting gathering, usually without the meeting head; these gatherings are often important for processing information, since they confirm or alter the interpretation of the meeting. We note that meetings in other cultures (including sub-cultures within the US) may have other such cultural specificities, and that it is important to recognize these to use these to code discussion more realistically. Around the world, climate forecasts, developed within the broadly shared international scientific culture, are presented to potential users, who discuss them in the context of groups with different cultural rules for meetings.

In the second phase, seasonal forecasts will be translated into local languages and transmitted over local radio stations. Surveys and focus groups before and after forecast release will be coded for individual and emergent group framing of decision problems, for affective processes, and for shared goals in the integration of new climate

information. We will also directly observe and code “listening group” discussions and other farmer meetings. We anticipate observing 3 to 5 such groups in each of our communities, so we should assemble a significant body of data on group discussion. These assessments will include communities that have "listening groups" and ones that do not. We will look for the associations between different types of framing and influence of affect on group decision processes. Our initial work leads us to hypothesize the existence of significant inter-group and inter-community differences in reference point framing, due to the strong values placed on agreement which would lead small initial differences between groups to become larger in the course of discussion, but lower levels of inter-group differences in time horizon framing, because of the spatial variation in extreme events. More theoretical work leads us to anticipate an association between different types of framing and different forms of affect; for example, groups with lower reference points may emphasize the positive affect of satisfaction. We note that an important aspect of this study is that we will be able to observe the use of forecasts by a large sample of farmers, so we will be able to control for the independent effects of individual characteristics and group characteristics. We are particularly interested in observing the ways that an established social form (“listening groups”) can influence the perception and use of forecasts that are delivered in a new form (radio programs), since this opens the possibility for adopting established social forms for new ends in other settings as well.

In the latter part of the two-year study we will conduct meetings to disseminate preliminary findings to members of the communities involved and to meteorologists and agricultural experts who interact with them. We will include information about how scientific forecasts and traditional forecasts are used and about how group discussion modifies the use of forecasts. We will stress that way that reference point and time horizon framing influence the perception of forecasts. We will attempt to include members of different communities and different language groups in such meetings. Through our preliminary work, we have established a network of contacts at government agencies (Ministry of Water, Lands and the Environment, Ministry of Information, National Agricultural Research Organization) and development-oriented non-governmental organizations (Oxfam, The Hunger Project, World Vision), and we will invite representatives from these organizations, in addition to the National Meteorological Service and Ministry of Agriculture staff who are more formally linked to forecast production and dissemination. We will use our regional contacts to extend this information outside Uganda into neighboring countries, through our contacts with the biannual Greater Horn of Africa Climate Outlook Forums and through the Network of Climate Journalists and Scientists of the Greater Horn of Africa <http://www.dmcn.org/general/media.html>.

The collective discussions studied here afford an excellent opportunity to examine group processes and goals in framing decisions and in using scientific information, within well-established and cohesive community groups. It will be interesting to see in what respects (if any) these group processes differ from those in more formal and less closely-knit decision-making groups studied in other projects proposed for this Center. Specific links to other components include the following:

Lab 1. This field component will address issues of reference points and temporal horizon framings that are explored in this lab project that centers on framing effects. In our field

setting, we will observe inter-individual and inter-group variations in the setting and consequences of these framings. .

Lab 2. This field component will examine the question of prior experiences and risk, since some communities will have had recent droughts, floods or bumper crops while other will not. This component will also assess the effects of individual differences and group processes in use of forecasts.

Lab 3. This field component will examine differences in strategic orientation. Preliminary work suggests that female-headed households emphasize assuring subsistence needs while male-headed household emphasize disposable cash income. Different language/ethnic groups may also vary in their strategic orientation.

Lab 4. This field component will examine the effects of participation in “listening groups” (groups which have specific tasks of forecast interpretation different from the broader and more diffuse goals of other village meetings) on use of forecasts and will also assess the effects of on-lookers at meeting, two aspects of the context and social goals in the lab project.

Field 2. This field component will study the interpretation of seasonal forecasts that are generally similar to the ones in Brazil in two ways: these are forecasts of the nature of the rainy season in tropical regions marked by sharp contrasts of dry and rainy seasons, and these forecasts draw on information from national meteorological services and from regional Climate Outlook Forums.

Field 3. This field component will examine issues of forecast perception, especially framing and affect, that are at work in the areas subject to Rift Valley Fever as well. The close spatial overlap of these projects will allow direct involvement of personnel in both, as well as the coordination of outreach.

Field 5. This field component will address the interaction of individual and group processing of information on the use of forecasts in a manner that parallels this project in Argentina. As in the Argentine case, we will examine the effects of several different types of groups. The differences in cultural background and economic and technological level between Uganda, Argentina and the US will extend the range of comparison.

Theoretical 4. This field component will examine the role of interdependence on investment, the focus of this theoretical component, through an examination of the investment of time in participation in “listening groups”. “Listening groups” present the same free-rider problems as other forms of collective action, and are therefore a useful case to consider.