



SANREM CRSP

#### ABOUT SANREM CRSP

SANREM's mission is to assist in the analysis, creation and successful application of decision support methods, institutional innovations and local capacity approaches to support participatory sustainable agriculture and natural resource planning, management and policy analysis at local, municipal, provincial and national levels.

#### ABOUT THE AUTHOR

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## SANREM CRSP RESEARCH BRIEF

Sustainable Agriculture & Natural Resource Management Collaborative Research Support Program

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### LOOKING AT THE LANDSCAPE THROUGH LOCAL LENSES: INTEGRATING COMMUNITY VALUES AND VARIATION IN INDICATORS OF SUSTAINABILITY

*Are there tools that enable us to identify culturally relevant indicators of sustainability and quality of life? Can we quantify local people's assessments of environmental change, which are qualitative in nature? How can we ensure adequate representation of the diversity of local perspectives?*

Increasingly, donors and decision makers require hard evidence of the effectiveness of research and development programs. Scientific research can substantially improve environmental planning and policies by providing operational measures that signal when ecological or socioeconomic conditions are reaching critical thresholds.

Conventional approaches to environmental monitoring hinge on externally-imposed standards, such as crop yields or income levels, which are assumed to be universally applicable and equally relevant for all sectors of the population. But such parameters fail to adequately represent local people's holistic understanding of the environment, being biased in favor of monetary or material valuation over aesthetic, emotional, moral, and spiritual considerations.

This brief illustrates an innovative tool that enables researchers to elicit culturally relevant indicators, many of which are non-monetary and non-material. But it also shows how qualitative parameters can be quantified for evaluative and comparative purposes. The analysis of quantified data makes it possible to unveil and reflect underlying patterns of intra-cultural diversity in environmental assessments.



Example of photo elicitation plate. Respondents were asked, "Could you tell us a story about this photograph?".

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This approach, based on applied ethnoecology and modified projective techniques, was pioneered by University of Georgia anthropologists Virginia Nazarea and Robert Rhoades, in the context of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP). First tested in the Philippines SANREM CRSP site, the methodology was replicated successfully in different ecological and cultural contexts.

## BACKGROUND

The case study focuses on the Manupali watershed, in northern Mindanao. The watershed encompasses the Mt Kitanglad National Park, one of the most important biodiversity reserves in the country. In recent decades, the buffer zone surrounding the Park has undergone massive deforestation. Immigrants from other parts of the country, attracted by land availability and favorable agricultural conditions, moved in and converted forest to farmland.

As a result of this influx, the current population is characterized by multiple layers of ethnicity – native Talaandigs, Dumagats or Lumads from the Visayan Islands, and Igorots and Ilocanos from Luzon. The agricultural landscape is an equally composite patchwork of production strategies, including irrigated rice, corn, sugarcane in the lowlands, and corn, coffee, and temperate climate vegetables in the uplands. Agricultural intensification, coupled with heavy application of chemical inputs has resulted in high rates of soil erosion and water quality degradation.

## RESEARCH APPROACH

### Sampling design

- Respondents were selected from *three villages* along an elevational gradient and among people above 40 years of age (likely to have more extensive ecological knowledge).
- The sample was *stratified* to represent significant social differentiation variables: *ethnicity*, *gender* and *age* as follows:
- Equal numbers of participants (n=18) were *randomly* selected from the 3 main ethnic groups: Igorots/Iloganos, Dumagats/Lumads, and native Talaandigs.
- For each ethnic group respectively 3 men and 3 women were *randomly* selected from 3 age cohorts: 40s, 50s, and 60+ (for a total of 9 men and 9 women).

**Recommended Sampling framework  
(original sample n=54)**

Ethnicity	40-49 yrs		50-59 yrs		60+	
	Men	Women	Men	Women	Men	Women
Igorots/ Iloganos	3	3	3	3	3	3
Dumagats/ Lumads	3	3	3	3	3	3
native Talaandigs	3	3	3	3	3	3

- Because the method requires that participants engage in a relatively tedious and time-consuming process, individuals who were unwilling to do so were eliminated from the list.
- The small size of the remaining sample (n=51) limits the validity of statistical tests, but it does allow for a more contextualized understanding of perceptual data and emerging patterns.

While this brief focuses on the application of TAT interviews and scores, this technique was used in combination with other tools, including:

- *Oral histories* describing patterns of resource use as 'lived experience';
- *Human activity grids* based on observation of informant intensity and frequency of resource use (conditional upon his/her consent);
- *Cognitive mapping* depicting the relative salience of environmental features from the informants' point of view.

### Methodological tools

Researchers adopted and modified a commonly used projective technique for psychological assessment known as Thematic Apperception Tests (TATs), consisting of a set of cards each showing an ambiguous representation, generally drawn, of one or more human figures. The respondent is asked to tell a story about each card. The theory is that respondents reveal their concepts and wishes in the process of making sense of the figures.

This study used 20 photographs of scenes from the watershed, illustrating aspects of the landscape, sustainable and unsustainable agricultural strategies, and humans in relations to plants and to each other. Respondents were asked, "Could you tell us a story about this photograph?"



“...This mountain needs to be taken care of because there are trees, there are weeds. These trees are used to preserve the water, this will also give fresh air here; the weeds are used as places to live for the animals in the mountain. I can see the flowers in the mountain, these flowers can make the mountain beautiful and make it more beautiful to look at if there are trees that grow flowers.”

- Dumagat male in his 50s

Pretesting of the materials and methods is essential since the structure and significance of storytelling varies across cultures. The visual tools were developed by drawing from materials and insights generated by their previous and concomitant research, pre-tested with respondents of both genders and different ethnic groups.

### Data analysis

Local enumerators interviewed respondents in their native language. The elicited stories were tape-recorded, transcribed verbatim, and translated into English by two assistants who constantly cross-checked each other. The transcribed stories were analyzed and a total of 32 themes were identified.

The themes were clustered in four major categories:

- 1) intrinsic value (i.e. beauty, harmony, diversity, sense of place, interconnectedness of natural elements, etc.):

*What I can say is that the trees in the environment are all very beautiful... this can make us feel cool and we get fresh air...*

*When there are a lot of fruits, there are also a lot of birds that feed on it and their voices or humming are good too.*

- 2) care for and use of environment (i.e. usefulness of resources, but also concern for using them sustainably, etc.):

*The trunks can also be used as posts for houses and are more comfortable than bamboo... The leaves can be used as roof for the nursery ....*

- 3) production orientation (i.e. commercialization, use of inputs, economic success, etc.):

*The sugar cane here is nearing harvest, they are healthy... I think they will get plenty of money.*

*The corn kernels are very big, I am not sure if they added fertilizer or not?*

- 4) social, political, economic relations (i.e. family health, livelihood strategies, social stratification, government control, life difficulties, etc.):

*This house indicates that the owner is poor. Because sometimes owners of houses like these are being oppressed by the rich.*

*These children here, they are healthy because their mother took good care of them even if they only have a common life because they are farmers...The children who live in the mountains are better taken care of than children from the towns.*

The stories were scored based on dominant themes pertaining to locally relevant concepts of sustainability and quality of life. The scoring was done by three graduate students from different disciplines and countries. Eventually the project intends to take the TAT categories back to local people to see how closely the scoring system corresponds to their way of classifying themes.

A score of 1 or 0 was given depending on whether a particular theme was present or absent in a TAT story (TAT stories contained more than one theme). The total score for a theme was the number of times it was mentioned by all the informants (the maximum score being 20 x 51 = 1,020 points).

## RESEARCH FINDINGS

### Total sample

The data shows that local people give priority to values that are not often reflected in conventional measures and indicators. For instance, direct uses of natural resources were stressed more than their commercial worth. Also salient for watershed residents were intrinsic, non-utilitarian values, such as beauty of the landscape, diversity of plants, and interconnectedness of natural elements.

Themes related to family and community relations, social hierarchy, and government authority, were also prominent. While generally predis-

posed to accept the status quo and the downsides of development, the informants nonetheless questioned the necessity of changes that threatened quality of life and environmental health.

By disaggregating the data by significant social differentiation variables, the researchers found that environmental perceptions and priorities differed according to the informant's positioning in the local social structure (that is, her/his *vantage point*) which is determined by gender, ethnicity, and age.

### Gender

Discourse analysis of stories shows women dominating in managing internal relations and ensuring social stability, and men prevailing in control of resources and contacts with markets and the state. Women showed greater appreciation of indigenous knowledge, while responsibility for natural resources received more attention by men. Commercialization was more emphasized by men. Social hierarchy and government control were also more salient for men, while family relations and human health scored higher in women's stories.

### Ethnicity

Usefulness of resources was a primary concern for all ethnic groups. But commercial and production issues were mentioned more frequently by Dumagat settlers, who have greater access to capital and resources than other groups. On the other hand, social inequality and state power were

more salient for indigenous Talaandig, who have suffer greater marginalization.

### Age group

Informants in their 50's were less focused on the inherent beauty and direct use of resources, more attuned to their commercial value, and more willing to use external inputs. The hypothesis is that farmers who are now in their 50's, might have been more deeply influenced by Green Revolution ideas, promoted during the 1970's.

During that time period, these farmers were in their 20s, a more impressionable age. Younger people, on the other hand, may be more aware of

the failures of the Green Revolution and more committed to restoring the environment.

## CONCLUSIONS

Quantitative, operational indicators of sustainability and quality of life do not always coincide with what matters to local people. This case study indicates that modified TATs, complemented by other ethnographic methods, can be used to integrate local perspectives and concerns into environmental monitoring.

Moreover, it points to the importance of an analytical approach that encompasses the diverse angles from which the landscape is perceived by people belonging to different ethnic, gender, and age groups. The method has great potential not only for cross-cultural comparison but for investigating finely-patterned intra-cultural variations as well.

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This brief draws from an article by Virginia Nazarea, Robert Rhoades, Erla Bontoyan, and Gabriela Flora entitled "*Defining Indicators Which Make Sense to Local People: Intra-Cultural Variation in Perceptions of Natural Resources*," published in: *Human Organization*, Vol. 57, No. 2 1998, pp. 159-170.

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