

NEGOTIATING PARTICIPATORY ACTION RESEARCH IN AN ECUADORIAN SUSTAINABLE AGRICULTURE AND NATURAL RESOURCE MANAGEMENT PROGRAM

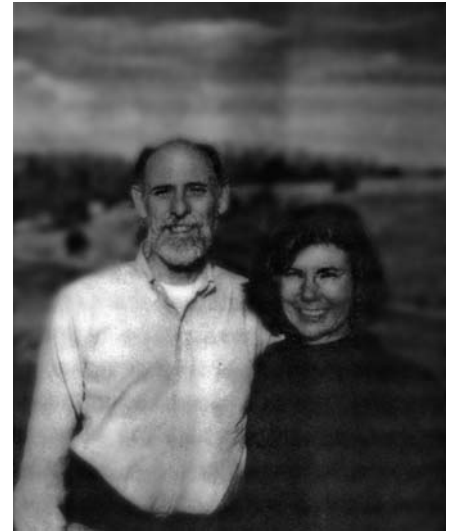
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Increasing support for sustainable development has stimulated institutional change for international programming. In the late 1980s, the United States Agency for International Development (USAID), in response to a Congressional request, created the new Collaborative Research Support Program (CRSP). That initiative focused on the research needs of sustainable agriculture and natural resource management (SANREM). Because of the broad range of the CRSP, the National Research Council was asked to design an integrated research approach, help define research priorities, and suggest management arrangements that would enable sharing knowledge with other AID development activities. The recommended research approach was interdisciplinary, intersectoral, participatory, and systems-based. It was also expected to link socioeconomic and ecological systems (National Research Council, *Toward Sustainability: A plan for Collaborative Research on Agriculture and Natural Resource Management*. Washington, D.C.: National Academy Press, 1991).

SANREM focuses on four critical, interrelated areas of inquiry. They include investigations of ways to integrate pest and nutrient management, plus examinations of how farm and nonfarm activities can be related to such endeavors. Then any integrated efforts to manage such complex interactions are considered. These are further

examined in the larger contexts of food and fiber production, politics and trade. In order to carry out such leading-edge systems-based research, the call for proposals for the SANREM CRSP asked for "innovative social science components that focus on these institutional and policy factors as they influence on-farm management decisions as patterns" (Ibid: 36). The interdisciplinary approach required not only parallel research projects involving scientists of different disciplines, but actual coordination and integration of disciplines at each site and in each research effort. While all the other CRSPs added social scientists, after 20 years, only two continue with a social science component. The experience of the other CRSPs suggested that when budget cuts came, it was easier to cut whole subprojects, and the easiest to cut were those of the social scientists. Yet, SANREM's commitment to a systems approach still includes an emphasis on social science as a major scientific partner in the enterprise. And social science can be more or less participatory.

The Request for Proposals (RFP) asked for farmer participation in all phases of the research and for mechanisms that ensure that it is sustained. The problem of resource degradation, whether of agricultural land or forests and prairies, cannot be solved without the active participation of those who depend upon those resources for a livelihood. Further, we do not yet have the technical answers of the appropriate ways of managing fragile lands—ways that consider both people *and* their environment. Thus, the program was designed to include not only research institutions in the U.S. and developing countries, but also nongovernmental development organizations (NGDOs).



Jan L. Flora (left) and Cornelia Butler Flora

These partners were included specifically in the consortium led by the University of Georgia to help insure that end-user participation was a critical part of each phase.

Models for Research and Action

To what degree is hypothesis-driven (rather than descriptive) research amenable to participatory research? Also, what are the limits of participation for research that attempts to generalize to global concerns as well as address local issues?

Participatory Action Research (PAR) deviates sharply from the professional expert model of research. Under the expert model, information, analysis, and solutions are delivered to the community from data extracted from the community. In PAR, the community participates in setting the research agenda, gathering the data, analyzing it,

and using it to identify alternatives for the community. SANREM, while attempting to differ from an expert model of knowledge discovery and top-down extension, still is firmly lodged in an academic context and a peer review reward system. Thus, there is the constant need to negotiate between global and local concerns. In addition, the inclusion of NGOs means a constant negotiation between development and research goals. It is in the negotiation that innovation takes place.

The successful SANREM CRSP (Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program) proposal discussed here is based upon a participatory research model of "farmer-back-to-farmer" developed by Robert Rhoades. (Rhoades, Robert, and Robert H. Booth, *Farmer Back to Farmer: a Model for Generating Acceptable Agricultural Technology*. Lima, Peru: International Potato Center, 1982). The goal is to provide generalizable technologies and processes that can facilitate environmental sustainability while at the same time strengthening the economic and social well-being of communities in areas currently threatened by environmental degradation. The technologies and processes addressed include actions of individuals, communities, researchers, development practitioners and policy makers. The SANREM approach is based on participation of the local community, collaboration among researchers and development practitioners in both the public and private sectors in both the U.S. and in host countries, and multidisciplinary collaboration including biological and social scientists. The process begins with identification of potential collaborators. These include researchers and development practitioners plus a site threatened by environmental degradation and that includes human, plant, and animal communities across a varied landscape. Site identification includes initial agreement by community leaders to participate in the process—although that process is not yet defined. The basic model is drawn

from the farming systems tradition, although the addition of gender analysis, based on the Harvard model of who has access to, use, and control of resources introduces the possibility of conflicting interests based on gender, class, ethnicity, and age. It also considers conflicts with those outside the community.

The Ecuadorian Case

The Ecuadorian SANREM research site is centered on four linked human communities and the surrounding forest and agricultural land. Located in converging watersheds in a mountainous region of the country, it has only been colonized relatively recently. Initial description and analysis of the current situation for SANREM begins with a Participatory Landscape/Lifescape Appraisal (PLLA) done by the community in concert with the researchers and development practitioners. The Ecuadorian version of a PLLA, called an *autodiagnostico*, or self study, was carried out in September of 1994, using a methodology developed by COMUNIDEC, an Ecuadorian NGO. Starting with this self-analysis, a set of hypotheses and information gaps were identified and plans of action to address them were solicited. Eventually, putting these plans of action together is very time-consuming, because they all must be coordinated and complementary to each other, and then they must be compatible with more global understandings of sustainability as well as the practical consideration of the improvement of local conditions. Thus, in order not to lose the initial momentum with the community, a series of bridging projects of a developmental nature were undertaken until the central research could begin.

The four communities are all products of relatively recent colonization, founded between 1961 (Palmitopamba) and 1978 (Playa Rica). Initially the four communities had attempted to gain legal status as *pre-cooperativas* (precooperatives), associations of persons used during the

agrarian reform in Ecuador to distribute land. The land, initially contained in large haciendas, was divided into smaller plots. This fragmentation began near the beginning of this century, but accelerated in the 1960s and 1970s through the sale of land to a growing number of colonists who arrived from other parts of Ecuador and in partial response to the Ecuadorian land reform of the 1970s. Some of the land had initial title (*escritura*) and some did not. And as property changed hands over time, those changes were not registered officially, although some were recorded in the *Actas* (official proceedings) of the community organizations (*comites promejora*). In order to get state services, legal status was necessary, although, through political connections, exceptions were made for all four communities. This allowed for the building of schools and a dispensary. But from early on, the communities sought *communa* status—legal recognition of an organization composed of families with land. Attempts to get that legal recognition are documented as early as the 1980s, and three recent attempts were made in 1990 and 1994, all without success, mainly because of the lack of clear title to the lands. Lack of legal status was one of the problems identified in the PLLA/*Autodiagnóstico* (self-study) in all the communities, but initially considered outside the purview of SANREM.

After the PLLA/*Autodiagnóstico*, a number of "bridging" activities were undertaken to give time for the preparation of sound research plans. The two permanent staff members gave training to community members in specific agricultural and animal management skills. A series of projects with new varieties of traditional crops was implemented, and the staff visited each community at least once a week. During that time, they not only worked with the community organizations, but provided transportation, technical advice on agricultural and livestock matters, and generally acted as good neighbors. Having a project vehicle that they generously put to local use was particularly helpful.

Research as a Defined Community Need

One of the initial bridging projects in the Ecuadorian case, which encompasses four communities and their surrounding hinterlands, was a registry of all of the farmers in the community and their families. The registry was done in response to a community goal identified in the PLLA: the need to establish the justification for legal status (*personería jurídica*) for the communities making them eligible for a variety of government services, including maintenance of the current satellite medical clinic (*dispensario*) permanently staffed by a resident nurse.

SANREM staff and the nurse worked together to administer a simple household registration form provided by the Ecuadorian Ministry of Agriculture, listing the names, relationships, age, educational level, and sex of each person in the household with their place of residence. The second page of the form listed the lands and the title status of each household. As is the case in many years of colonization, the land titles are extremely unclear and new personnel in the Ministry of Agriculture rejected the application (for the fourth time).

As part of the bridging effort, a team of two of the NGOs (Terranueva and Heifer Project International) with a joint work plan entered the data into the computer in the local SANREM office and created various graphics showing the results. That information was presented to each of the four communities. Those present at the meetings (the attendance was greater than the number of people participating in the *autodiagnóstico* at each site) interpreted the results. Data presented included the number of children under five (necessary to know for the organization of an immunization campaign), educational levels, and age distributions of the population in each community. In the discussion of the data, community members noted the decline in the number of children under two years, and linked it to a family planning

program initiated in 1993. They also proudly pointed out the high rate of literacy in the community, which they related to a government-supported literacy campaign in 1990.

Community as Research Evaluator

The community members also felt that the register was incomplete regarding the households covered and that the information was minimal considering what might need to be collected to get legal status. Thus, their desires for more complete information complemented the needs of the research teams for data on each household to further advance the various research agendas. At each of the four meetings, those present decided that more and better data would be useful. After much discussion, they voted to undertake a census: to participate in a data gathering exercise that would give them the baseline data needed to get their legal status. But at each meeting some worries centered around the question of whether the information could be used to collect taxes. It was always necessary to reassure each community that the data would not be used for that end. That concern raises an important issue in participatory research: who "owns" the data and what are the multiple reasons for collecting it.

The commitment of the research team to participatory development meant that it was necessary that the findings be responsive to the expressed needs of the community, while still meeting the data needs for SANREM as a whole. But it was also essential that the community would be left with the ability to carry out a census and analyze it on its own at another time, once the project had finished. Accordingly, it was important that the questions be worded properly. The reason each question was asked and the information it was supposed to elicit had to be made clear to all. The goal was to get the correct information. The enumerators had to reword questions when they were not understood and challenge answers they knew by experience were not correct. Again it was equally important to leave

each community capable of conducting similar research in response to later changing community interests. The concern for having a replicable process in place frames the training of the local enumerators, the revisions of the census instruments for completeness and coherence, and the strategies for presenting the data to the community.

Community and Data Collection

After the vote to participate in a census, the Terranueva/HPI team asked those present to name four individuals to serve as enumerators for their community. They offered to train the enumerators in the management of the *boleta* (census instrument) that was viewed by both SANREM and the community members as an important skill. SANREM had offered other training sessions in the communities, and participation had been high. In general, the communities all felt that the training was a critical part of their community development efforts.

The desirable characteristics for enumerators were: 1) willingness to perform the tasks entailed in data gathering (*disponibilidad*), 2) abilities to perform the tasks entailed in data gathering (particularly an adequate level of literacy), and 3) excellent relations with other members of the community. SANREM asked for a balance of men and women as well as including some young people. La Perla and Palmitopamba included some young people, both children of community leaders or some community leaders themselves, particularly members of the *Junta Pro-Mejoras* (Community Betterment Boards). The youngest enumerator was 13, while the other "jovenes" were in their 20s (one is considered a *joven* until one marries or is clearly not going to marry). Playa Rica named three community leaders. Chacapata's Parents Organization (*Junta de Padres de Familia*), which was the major functioning organization in the community as most of the officers of the *comite pro-mejoras* had moved away from the community, named four



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leaders to gather the data. The tie with the existing leadership gave added motivation to the enumerators to gather complete data, as the leaders felt a special commitment to getting legal status for their community.

Another goal of the census was to provide the base for a secondary level of organization that requires the participation of five primary organizations in the Ecuadorian legal context. Thus, a fifth community, Marianita, which was part of the nurse's territory (and therefore also necessary for her to continue with the *dispensario*), was asked to come to the meeting about the census in Palmitapampa. The representatives of Marianita decided to participate in order to save the dispensary and sent two enumerators to the training session. Their census instruments were checked by the SANREM team and entered into the computer along with those of the other communities, although analyzed separately. They joined with the effort, supported by SANREM partner COMUNIDEC, to get their *personeria jurídica* at the same time.

One of the seven research teams (HPI/Terranueva) developed a census instrument that would serve as a basis for selecting cases for more intense work and for conducting initial analyses in the community. It asked each of the other teams and the site staff to contrib-

ute questions and later met with each of them to critique the census instrument and reduce it to a manageable size. The discussion of the content of the census instrument was a product of the research needs of the various teams. First, it had to be agreed that this was the basis for shared information that would guide the variety of studies of households, communities, and the micro-region. These studies would take place during the project in order to understand the present overall process of moving toward more sustainable agriculture and natural resource management. There was agreement that what had to be sustained was the social, environmental, human, financial, and technical resources. Thus, while there was substantial concern with increasing income, equal value was also placed on the building of community organizations and improving the biodiversity in the area.

Coordination of the work plans and an understanding of the implications of participatory research was not complete at the beginning of November 1995. At the same time that the census instrument was being put together by social scientists from the SANREM team, the team from the Ecuadorian Central University entered the field with their students to gather data related to animal production (some of which were included in the general census). That

team was working on sixteen farms, four in each community. Students in veterinary medicine went to each farm, gathered the information, and prepared a management plan. The site manager had to intervene to decrease the invasive impact of students asking questions and to be sure the respondents were not overburdened by excessive and repetitive questioning.

The enumerators from the five communities went through several training sessions about the census instrument. The group discussed each question in terms of 1) did everyone understand what information was supposed to result from asking it, 2) was there a better way of saying it that would be more understandable by the local people, and 3) was the question interesting, or should it be dropped? After that, the census instrument was revised one more time, exact instructions for each question written, and another meeting held to further train the enumerators on how to carry out the census. Maps showing the location of households were drawn for each community, and households were then assigned to each enumerator. For the first time during the project, the question of community boundaries appeared. There was some disagreement on the part of the enumerators of who fell into which community and later one set of respondents asked to be reclassified from one community to the other. These potential sources of conflict were negotiated, and the census process continued.

At this point, the SANREM team with primary responsibility for the census had to come to grips with whether or not the local enumerators would be paid. Up to this point in the process, the participation of the local people had been voluntary. However, it was felt that since the data-gathering was work done by skilled individuals, they had to place meaningful value on their work. To recognize its exceptional nature, each enumerator would be paid one *jomada* (the cost of one day's work). The decision to pay the enumerators came after they had already agreed to participate.

Another community, Meridiano, not part of the project and which did not do the census, also asked to join in the legal effort led by COMUNIDEC. It, like the other five communities, collected the *cédulas* (identity cards) of all community members over 18, took them to the capital to be copied, and gave the copies to COMUNIDEC for the lawyer to use in filing for legal status for the community organizations from the Ministry of Social Welfare (instead of legal status for the communities from the Ministry of Agriculture, which required legalization of land tenure, a much more complicated and complicated process).

The interviews began in mid-January 1996. Once the interviewer arrived at each house the interviews took from 15 to 20 minutes, depending on the size of the household. If the head of household was not home, the enumerator returned around 5:00 p.m. to complete the census instrument. Households were assigned to enumerators by dividing the community and its presumed boundaries into quarters. Those with farther distances to walk between households had fewer households assigned to them. While some of the population in each community live in nucleated settlements (particularly those with school age children and businesses), many live on their farm land. The number of interviews completed by each interviewer ranged from seven to twenty-four. Most were completed in a period of four days, but there were still some stragglers after several weeks.

The interviewers reported that they were able to get good data, despite some reluctance at first from those who had not been at the meeting. Some again raised the worry that the information would be used for tax collection purposes. One of the interviewers reported that, because people were aware that he already knew a lot about them, they were much less likely to lie to him. Despite the intense training, some of the questions were still misunderstood, and several of the assigned enumerators were unable to attend the training session (at the last minute). In Playa Rica, the newly

arrived school teacher volunteered to be a fourth member of a team, as only three had been assigned there. He also did not go through the training. The completed census instruments were carefully checked by the local SANREM staff. The Terranueva/HPI team reviewed the completed census instruments (*boletas*) in separate sessions with the enumerators in each of the communities. In some cases, missing information such as amount of off farm work done by members of the household was collected by return visits by enumerators to the households.

The enumerators reported that they greatly enjoyed their experience, and felt gratified that they were contributing to the general welfare. They reported that the communities were eager to hear the results of the census, particularly the total number of people in each community. One person said because he now looked at the community in a much different way, he had improved his belief in the possibility to change things about his community in ways that he had not considered before. The review sessions also offered changes in perception. For example, enumerator Magaly, a thirteen-year-old girl, in discussion with Sara from Terranueva, stated that her mother did not work:

Sara: What does your mother do all day?

Magaly: She helps out in the fields, cooks, cares for the children, and helps out in the *tienda*.

Sara: Do you do those things sometimes?

Magaly: Yes.

Sara: Are you tired at the end of the day?

Magaly: Yes

Sara: Does that mean you work?

Magaly: I guess maybe it does... Maybe my mother *does* work. Because of this discovery, the responses to this question for all women were then reviewed—and often recoded.

Some conflicts over which community certain families belonged to emerged during the enumeration. Certain farms overlapped the boundary between La Perla and Palmitopamba and was claimed by both communities.

Some households were enumerated twice and were asked to choose which community they wanted to be associated with. Other households in one area were enumerated by one of the communities, but came to SANREM field personnel to ask to be counted with the other. Their request was honored. Fortunately, because of the decision to seek the organizational, rather than the legal recognition of territory, the conflict implicit in the fuzzy boundaries did not fully erupt to retard the process. This also helped the collection of data for the SANREM research objectives.

The response rate was phenomenal. Only two households out of 280 declined to be interviewed. The research teams were amazed by the completeness of the data gathered. While they were unable to obtain complete data on sensitive issues such as land ownership, they believed that they were more effective than outsiders would have been, Don Wilo Chamorro of Chacapta explains:

One of the problems that we had in the census was people not wanting to answer specific questions. In particular, I had some people refuse to tell me how much land they had. They wanted to know why I wanted this information, for whom I was collecting it, and what they wanted to do. They thought, "Oh yes, this is to make me pay more in taxes." There was nothing I could do so I just left this blank. Many people had a lot of mistrust in us—and these were people who knew us! If somebody else had come to do this census, like an outsider, the results would have been terrible. People would have told you anything but the truth—if they had said anything at all. And you would never know it! (Chamorro, quoted in Charles Ehrhart, "Preguntas al grupo focal—El censo." Field notes, 1996.)

Preliminary data has been taken back to the community and discussed. The usual problems of moving data from a questionnaire to a readable form have

emerged. The project has slowed down because of problems with funding and some recent landslides, themselves products of the deterioration in the landscape. Some tensions between development and research remain, but they are openly discussed by the team and the communities. And moving from an increased understanding of the situation to writing up the results is still difficult for the members of the NGDO teams. Yet the negotiations involved with the community, involving participation in WHO asked WHAT of WHOM have been key in not only assuring good data, but in increasing the capacity of the community to develop information that is increasingly critical in interacting with both state bureaucracies and private funders.

Once the data were entered into the computer and preliminary results (frequencies and crosstabs) were available, a workshop was held with the enumerators to jointly analyze and interpret the results and to assist them in understanding the basic data so that they could subsequently present the results to members of their own community. The ability of the enumerators to explain the results varied considerably and, in several cases, SANREM personnel had to assist them in organizing the discussion with community members.

Basic census information on Palmitopamba and La Perla was subsequently organized into an interactive computer program of demographic questions and answers about their community (using Netscape); graphics and photos from the community were incorporated into the program. These community-specific programs were included in educational fairs for presenting SANREM results to those two communities. The children were most enthusiastic about the exhibit.

In what ways did the participatory census benefit the communities, and in particular the enumerators? Some community leaders were able to use the results in development efforts. For instance in a focus group with enumerators to assess the value of their participation in the census, Charles Ehrhart

recorded the following testimony from Dona Nelly Villegas of Palmitopamba, who is the treasurer for the local Peasant Social Security (Seguro Campesino) group:

Already, this information has been very useful to us—and to other institutions wanting to help us. One organization came from Quito wanting to know how many people were here, what land ownership was like, and we gave them a copy of the census. They were very impressed and, I think, happy that we could save all of us from the trouble of having to ask and answer these questions again. It was really a magnificent form of work—with all the information staying here with us. That is why I wanted to collaborate with Terranueva. (Ehrhart, "Preguntas al grupo focal—el censo," Field notes, 1996)

Don Wilo Chamorro (cited in Ehrhart, field notes, 1996) head of the Parents Association of Chacapata explained the utility of the census in the following terms:

If we seek help from, for example, a ministry, the first thing they ask is how many people are there? Now we can answer this in a way that they will accept and respect. So, the census has been useful to the communities.

Regarding the census' utility to the schools, he observed:

You see, the school would want to know how many illiterates we have and how many children will be coming into the school next year or the year after, and the questions about *tierras* [land use and ownership] would be useful for someone else.

He also mentioned that the census had been checked by community leaders to determine who was not on a list of potential participants in *mingas* (community work groups).

Ehrhart also asked the enumerators if they thought they could carry out a survey regarding some community need (they agreed that a health survey was much needed). They felt that they could

readily teach others to become enumerators, but they recognized that they had not been trained in all facets of managing a survey. They felt that, as a group, they could learn and train others to do the steps that Terranueva/HPI had not presented to them: in other words, they needed training in other aspects of carrying out a survey, particularly in the organizational aspects. They were uncertain whether they could coordinate the entire effort *and* get the commitment of individuals who might be interested in learning how to do a survey, and in carrying it out.

As a result of having participated in the census, it *was* clear that the enumerators had gained a good deal of confidence in their ability to gather and understand social data, and that they felt that, with training in other facets of the process, collectively they could figure out how to organize a community survey on another topic of interest to the community. Moreover, they were convinced that they could gather primary community data more reliably than could outsiders.

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