

Communal Participation and Sociocultural Change in Rural Yucatan: Participatory Research, Health, and Quality of Life

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Abstract

Participatory research (PR) methodology strengthens the community's capability to identify, rank and solve its main problems, to negotiate with outside agents such as official and private agencies, and to change local behavioral patterns that contribute to impoverishing human health and well-being. Here we report results of the application of PR methodology to health and environmental issues in The Port, a rural coastal community in Yucatan, Mexico, and how PR methodology helped to improve cultural, social, biotic, and abiotic characteristics of the environment. Our results suggest that microenvironmental changes in the socialization and resocialization processes of participants in PR have positive effects on health and the quality of community life. Such changes respect the communal culture (local timetables, places and ways of meeting, political and religious affiliation, and relevant issues), while providing the community with new methodological tools to analyze its problems.

Keywords: communal participation, sociocultural change, rural, Mexico, participatory research, well-being, rural women

Introduction

In the past, environmental change was associated mainly with progress. Forests cleared for agriculture, swamps drained, tropical forests exploited and monocultures established over great surfaces were associated with advancing civilization (Glacken 1967; Passmore 1974; Tibaldi 1980; Mason 1993; Ponting 1992). Now this vision has changed and, currently, considerable attention is paid to the negative effects of environmental change, such as pollution, lost biodiversity, global warming, or damage to stratospheric ozone (O.P.S. 1993).

Some of the anthropogenic environmental changes that the planet has undergone, such as the extinction of endemic

animal and plant species in Africa, America and Oceania, could be classified as negatives. Others, such as the eradication of malaria in countries like England, improvements in feces disposal and handling of foods and water for human consumption, and progress in microbiological and pharmacological knowledge, could be classified as positives. The latter have contributed to the increasing life expectancy of populations in Europe and the United States (McKeown 1976).

In the second half of the 20th century we have become aware of the dangers of uncontrolled environmental change. There is a suspicion that the dominant way of life as a whole is, in its inner logic, pernicious for both the environment on a planetary scale and for the well-being of most of the human beings on earth (Enzensberger 1976). Even the claim for a sustainable development, made from the dominant core of capitalist society, is illusory (Frazier 1997) or ideological in nature.

The goal of this paper is to provide the results of a research project on human ecology in Yucatan, Mexico, emphasizing the benefits obtained by members of a rural community after initiating some microenvironmental changes (MEC). As has been proposed by several authors (Dickinson 1995; Cervera 1996), human ecology can be understood as an interdisciplinary field for the scientific study of the interrelationships between sociocultural systems, biotic and abiotic environment, and human biology. We define microenvironment as the set of biotic, abiotic, social, cultural, and psychological factors that surround individuals and families at home.

In the first section of the paper, we describe the Participatory Research (PR) methodology and the PR activities carried out in The Port, a small rural community in Yucatan, Mexico, between 1992 and 1997, emphasizing those actions directly related to MEC. In the second part of the paper, we provide evidence of the effects of MEC on health and the quality of life of individuals, families, and the community. The relationships between the PR activities carried out in The Port and the MEC are analyzed and the results and main conclusions are described.

Sociocultural Changes, Participatory Research and Communal Participation

Sociocultural changes

One of the main characteristics of the contemporary world is the extent and depth of the processes of change, of which microenvironmental sociocultural change is a part. Sociology and anthropology have produced concepts of social and cultural change which recognize the close link between society and culture (Aguirre 1982). Social change is understood as a modification of the basic social institutions of a society and its inner relationships (Giddens 1994; Horton and Hunt 1991), while cultural change is any cultural adaptation allowing the human being to face environmental changes (Beals, Hoijer and Beals 1977).

Currently, sociocultural changes, derived from the worldwide spread of capitalism, have impacts not only on more developed countries such as England, Germany, France, and the United States, but also on many other societies and cultures, whose structure and functioning have been deeply transformed. Such changes, which began with the European expansion around the world, have been accelerated in recent decades due to economic and social factors. There is a growing integration of local, regional, and national economies in the world market. This global economy needs social factors, such as the media, to spread stereotyped cultural patterns that come from a few hegemonic centers: United States and Europe (Giddens 1994; Dorfman and Mattelart 1973; Mattelart 1974).

Most rural populations in countries like Mexico live under economic and social influences that promote environmental change of variable magnitude and depth, many of which do not necessarily improve the quality of life or well-being of such populations. Frequently, such peoples do not have the opportunity to analyze these social and economic influences, and they have even less opportunity to decide if, how, or to what extent they want to accept them (Nahmad 1995). The sociocultural changes and the poverty of many rural communities in developing countries have left them without the methodology or experience to negotiate with the government and/or national or international agencies. Consequently, these communities cannot obtain resources to solve problems they have identified as their own (Cernea 1995; O.P.S. 1993).

Participatory Research Theory

The Participatory Research methodology used in this study was designed to involve people in a conscious analysis of their reality and to encourage them to: 1) understand communal problems as their own, 2) increase their knowledge of

the PR methodology, 3) develop further research in an autonomous way, and 4) solve those problems.

There are three basic steps in PR methodology: *to see*, *to analyze*, and *to act*. In the first step, the PR group identifies community problems, following an exhaustive review of its environmental, socioeconomic, and cultural situation. In the next step, several tasks are carried out: identified problems are analyzed, and their causes, interrelationships, and consequences are researched. This sometimes requires gathering information on the local, regional, national, or even international level. Problems are ranked and one is selected to work on, depending on its relevance and the real possibilities of the community to cope with it. Feasible actions are identified or designed to solve the selected problem (Viga, Dickinson and Castillo 1995; Castillo, Viga and Dickinson 1996). Detailed descriptions and analysis of the PR methodology can be found elsewhere (Schutter 1981; Schutter and Yopo 1982; Yopo 1982, 1985; Barquera 1986; Dijk and Duron 1986).

A PR process has seven stages: 1) inviting the community to take part and to form a group of "facilitators"; 2) training the facilitators in PR methodology; 3) diagnosis and ranking of problems to be addressed and the selection of one to work on; 4) analysis and action, the stage when the three steps of PR (to see, to analyze and to act) are carried out; 5) evaluation of work done; 6) celebration, a meeting to rejoice in the progress made, and 7) return to step 3, updating the diagnosis and selecting a new problem to address.

The main agents within PR are the "facilitators," and "fellow researchers." The former are those members of community, trained in the PR methodology, who make the PR process easier for the community as a whole. Two of the main tasks of facilitators are to spread results of the PR meetings in the community and to bring the opinions of the community to the meetings. Fellow researchers are outside individuals who train facilitators, monitor the process and, on request, systematically provide information not available to the community.

The Participatory Research Process in The Port

PR methodology was applied to The Port community from summer 1992 to spring 1997, in the framework of a research project on human ecology. One of the main goals of the project was to improve the health and well-being of the community studied, by actively involving community members in formulating and assessing activities and programs to address problems which community members have identified. Improving health and well-being in the community required introducing sociocultural changes to individual, familial and social levels.

The PR group was comprised mainly of adult women, although elders, mature and young adults, adolescents and children of both sexes were represented in the group. The group heterogeneity included political and religious affiliation and socioeconomic status. Evening working meetings were held weekly in the small community hall of The Port, except during summer and Christmas vacations. At the end of each session, a report, including the names of assistants, main points discussed and decisions reached, was written by one of us (DV or TC). We analyzed the data collected in sessions and the general PR process once per week.

The main problems identified in the initial diagnosis (1992) were: flooding of the town, cleaning of the abandoned lots, plague of the coconut plantations, alcoholism, lack of health services, and widening of the roads. In that PR cycle, about 20 young and adult facilitators attended the PR meetings. The first community issue approached by the PR process was the lack of medical services in The Port. In 1995, after 10 months of negotiation between the community and authorities of the Ministry of Health, an advanced student of Medicine was appointed to work at The Port five days per week in a small provisional clinic, and a native woman from the community was trained as a community health promoter. In 1996 a larger clinic was built and two nurses joined the medical student (who changed each year). In 1998 only one nurse is working in the health center. The availability of basic health services means not only that patients receive timely attention, but they also save time and money by not traveling to other communities.

By the time negotiations with health authorities ended, the project's scientific research team had results of studies on the health, ecological, and socioeconomic conditions of The Port (Dickinson and Ortega 1994). Relevant results were that 72% of the families did not have a toilet and over 75% of the individuals had positive test results indicating they had at least two parasites. The community was given this information and a second cycle of PR began, in which 20-30 people took part. This time the PR group designed a community health program, to address health issues at the individual, environmental, and community levels (Castillo and Viga 1994; Castillo et al. 1995).

The PR group decided first to improve feces disposal in the community. They gathered and analyzed information about several designs for toilets and latrines suitable for rural conditions. During this stage of the work PR members visited San Bernardo, another rural community in the same region of Yucatan, to find out how a latrine called a double dry toilet² works. To visit San Bernardo the PR group had to solve difficulties such as the opposition of some husbands to their wives traveling, and some men's reluctance to experiment with the double dry toilet. By this time, the PR group

had examined a toilet proposed by the Ministry of Health, which strongly pressured the community to accept a toilet that uses water and a cesspool and even offered financial support to build such a toilet in The Port.

After analysis, the group decided that the double dry toilet would be better for the environmental and economic conditions of The Port because, as a result of the coastal environmental conditions of Yucatan, cesspools usually contaminate groundwater because the watertable is only one meter deep. The community is also constantly at risk of flooding from hurricanes, heavy rains in summer, and storms in winter. The first double dry toilet was built in The Port in January 1995 and the first chamber was sealed in July 1995. After the Opal and Roxana hurricanes hit the Yucatan in Fall 1995 it became clear that the original design of this toilet had to be modified, because the floods produced by the hurricanes prevented the normal working of microbiological processes. A sample taken from the first chamber in June 1996 was not microbiologically inert, twelve months after sealing the chamber, a time equivalent to twice the time supposedly needed.

Because the double dry toilet took about one year to yield results, in the meantime the PR group selected alcoholism as the next issue for the community health program to work on. Following the PR methodology, the members of the PR group gathered and analyzed information on the nature and characteristics of alcoholism, with special attention on the physical, economic, social, cultural, health, and moral consequences of the disease on individuals, families, and the community. The group decided to research patterns of alcohol consumption and to use this information as a basis for possible actions. In a working meeting, fellow researchers explained the main steps of a research study on social aspects of health-related issues and emphasized the requisites that the data must fulfill to be useful for the purposes of the research.

Surveys from three different groups — hard drinkers, their relatives, and other members of the community — were prepared. In several working meetings the group analyzed known aspects of alcoholism and ways to express and ask the correct survey questions. Sample surveys were conducted first on members of the group itself, and then on other persons in the community to test the inquiries and to train the group.

According to PR methodology, fellow researchers must encourage facilitators to make decisions by themselves, because facilitators should be responsible for putting them into practice (Dijk and Duron 1986). In order to decide the number and wording of questions, and to who, when and where such surveys should be applied, facilitators worked first in 4-6 persons groups. Then, in a plenary meeting, each group presented the results of their work and collective decisions were made according to the technical proposal of Beal

et al. (1980) and Vargas and Bustillos (1989). Fellow researchers did not take part in any of the working groups. They played an observer role. In the plenary meeting, their participation was constrained to organizing discussion and information, without taking part in the decision making. Other activities of fellow researchers were technical: to provide the PR group with information on alcoholism not available in The Port, to type draft surveys, to print the final version of the survey, and to process data using a statistical package.

A total of 218 surveys were obtained, including surveys from hard drinkers (48), their relatives (72), and other members of the community (98). Data on the pattern of alcohol consumption in The Port showed who drinks, when they started to drink, and where, with whom, and why they drink. The survey also provided information about the attitudes of each group on alcoholism and the suggestions they made about how to solve this problem.

The data were analyzed by the PR group and some possible actions were discussed: an anti-alcoholism campaign, promotion of Alcoholics Anonymous groups and sporting activities, restriction of alcohol availability, and decreasing the number of places selling alcohol in the community.

The work of the PR group was interrupted in the summer of 1996 because of the summer tourist season which provides many families an opportunity to increase their income. After the summer vacation season ended, the PR meetings did not resume immediately for several reasons, including new religious activities, changed schedules, and a two-month-long knitting course organized by an official agency. Finally in April 1997, the group decided to stop the work temporarily because so many meetings fatigued the group. In addition to the PR meetings most of the women attended religious activities and school meetings, worked in a sewing workshop and the salt fields, and took turns in the community kitchen where breakfast for school children was prepared (Dickinson et al. 1998).

The fellow researchers had different reasons for stopping the regular meetings after five years. In our opinion, fighting alcoholism in the community affects the economic interests of locally powerful people involved in selling alcohol underground or in the proliferating bars in the community. In the case of some women, the research on alcoholism introduced conflict into their relationships with their husbands, who were hard drinkers. These men, as the research progressed and the time to make decisions was near, harassed their wives and hindered their collaboration with the PR group. In addition, a woman who led the PR group runs a restaurant where alcohol is served on weekends and during vacation periods. This might suggest that there was a conflict between her eco-

nomic interests and her awareness of the damage caused by alcoholism to individuals, families, and the community.

In our experience there are some possible problems and pitfalls related to PR development. First PR is a middle - or long-term process, and this fact could have negative effects on the planning of a project that has a tight timetable, limited budget, and very specific goals. Also, facilitators establish the pace and timetable of work, following criteria that could be alien to fellow researchers. In our case, facilitators scheduled school meetings and religious or civic activities at the same time of previously appointed PR meetings without informing fellow researchers, wasting time and financial resources.

Another problem was that facilitators brought to the PR process cultural traits such as authoritarian, passive, non-critical or submissive ways of relating with others. Such behavioral characteristics existed prior to their PR experience and made the progress of PR difficult. Moreover, in the first analysis of a problem, facilitators tended to use information directly available to them. This information was often insufficient and, when fellow researchers emphasized the need to gather and analyze other information, facilitators became impatient and prone to make impulsive decisions. Finally, when analyzing a problem, criticisms of the opinions of facilitators frequently were understood as personal aggressions.

Discussion

In sociology, the "socialization process" implies the identification and validation of symbols, the attainment of behavioral norms, feelings and values related to the building of social reality, and the incorporation of individuals into their society and culture. The resocialization process involves changes in such norms, values, and feelings, as individuals face a changing sociocultural background (Krotz 1984).

Our results show that the PR process in The Port favored a resocialization process in the PR group. As we reported above, the PR group was heterogeneous in gender, age, socioeconomic status, and political and religious affiliation, which favored the interchange of opinions and experiences and respect for sociocultural diversity, a relevant objective of PR methodology.

There was other evidence that resocialization took place. Analyzing the lack of health services, facilitators proposed solutions such as demanding services from the Yucatan governor, even before gathering and analyzing enough information about the problem. When facilitators made their own PR methodology, they also acquired a new way of thinking that enabled them to include additional information in the analy-

sis of the problem: previous experiences of the community regarding health services, official criteria to provide such services to rural communities, and the number and distribution of physicians in the Yucatan. The analysis of this information was the basis for the facilitators' actions.

An additional indication of facilitators' resocialization is that, as the PR process developed, they gave more opportunity to others to express their opinions, regardless of age or gender. In the discussion about the name of the popular kitchen, children's opinions prevailed. When discussing the visit to San Bernardo, men and women had different opinions, all people were heard with attention and consideration, and the collective decision was in favor of the women's opinion. When the Ministry of Health made the toilet proposal, the PR group carefully and meticulously compared it with the double dry toilet, even consulting experts from Merida. The design and fulfillment of the alcoholism survey led to an increased independence and confidence on the part of the facilitators, who did not need the support of fellow researchers. In general, these examples show the acquisition by facilitators of skills to gather and analyze the information needed to address a given problem.

Records of ethnological research currently available in The Port show that children play during meetings regardless of the kind of the meeting — religious, working or scholarly. Children also play during meetings regardless of the place and time of the meetings (Castillo 1998). Such child behavior was occurring at the beginning of the PR process reported in this paper. To reduce the interference of children, we organized activities for them that were unrelated to the issues the PR group was working on. After a period of time, the activities for children became directly related to the agenda of the PR group, and their products were reported to the plenary sessions. Finally, children took part in the working teams, along with adolescents, youths and adults.

Finally, in a meeting held in 1998, when discussing the management of the popular kitchen, former members of the PR group applied the three steps of the PR methodology to decide future actions. This indicated that these persons learned and used the methodology (Castillo 1998) and that they had undergone a resocialization process.

From a given point of view, some results reported here would be classified as negative, such as the increased conflict between wives and husbands and the harassment of wives by husbands during the work of the PR group on alcoholism. However, in our opinion, such behaviors express a women's stronger role in the community. In the cultural background of rural communities in developing countries, critical and reflexive women (more aware of their rights, dignity and value as human beings, and able to make and carry out their own decisions) cause animosity, suspicion, and even fear

among men and women who were educated to believe that women must be submissive to traditional authorities, such as men. And these people fight any sign of revolt from women. According to this traditional role, women must accept non-critically alien decisions that involve them, such as the large number of pregnancies a woman in a rural community in Mexico is expected to have.

An alternative to fighting those feelings and behaviors that are unfavorable to women, is to work simultaneously with men and women to promote changes in masculine behavior and attitudes. We worked on this since some men were members of the PR group and others attended the meetings on an irregular basis. But probably our main impact on masculine behavior may turn out to be through the socialization and resocialization of boys who attended the PR meetings with their mothers. There they learned about types of relationships between women and men that are different from those that are traditional in their community and culture.

Learning of PR methodology empowers women to fight gender discrimination and ill-treatment. Certainly, increased harassment of women and conflict between women and men at the family and communal levels are not desirable. But probably harassment and conflict are inevitable consequences of the changes women must undergo to improve their lives and reach equality with men, especially in rural communities of developing countries. If this is true, to face an increase in conflicts such those discussed here, as a consequence of women's empowerment and ability to play a new role in society, is a negative outcome only in a very, very short term.

Discussion

Our results suggest that making PR methodology available to The Port, training the facilitators, and encouraging them to work on relevant communal issues that they have identified, is a sociocultural change at the micro level. The PR group was always supported by civil authorities of the community. It successfully negotiated with health officers for medical services for the community, promoted the testing of a toilet suitable for local environmental and economic conditions, and researched alcoholism, an important health issue for the community.

The PR experience in The Port shows that people from a poor rural community in a developing country can analyze and change their living conditions. The experience also promoted multiple leadership, quite different from the cacique-like,³ so common in rural areas of Latin America. However, we found that the core of the PR group was formed by a small group of very active women. These same women are also in charge of several of the religious activities and the kitchen for

school-aged children, and they regularly attend school meetings. When some of these women are absent from the community or become ill, it is difficult to engage other people to take up their activities. In fact, the elementary school teachers in The Port have told us that sometimes, when several of these active women are going to be absent, it makes no sense to hold a parents meeting at the school.

Over the course of the five year study, adults underwent a resocialization process, in which they learned new ways to think, discuss, analyze, and act. During this time, some adolescents who were part of the PR group matured, married, and became pregnant. The women regularly brought their children to meetings. This gave the preschool and school-aged children exposure to the PR methodology as part of their own socialization (Castillo et al. 1997; Viga, Dickinson and Canto 1997).

We have evidence based on oral communication and from current ethnographic work that facilitators continue to apply the PR methodology in their daily lives, modifying the social relations between adults and children, between wives and husbands, and between men and women (Castillo 1998). Transforming the socialization process and influencing a resocialization process are basic elements for innovation and, according to Giddens (1994), only when change modifies the basic institutions of society can it reach the level of social change.

The PR experience we report in this paper ended in 1997 when, according to one of the participant women, they confronted the local caciques that control alcohol distribution in The Port and became afraid. Other possible explanations for the interruption of the PR work are: 1) weariness of several of the members of the group who take part in other communal activities and 2) unsolved contradictions between the role some persons played in the PR group and their economic interests related to the sale of alcoholic beverages.

The above-mentioned factors are some of the difficulties rural communities must overcome to obtain the social changes needed to improve their well-being. However, our results suggest that the PR carried out in The Port from 1992 to 1997 promoted sociocultural change which, irrespective of the contradictions and difficulties already mentioned, has had positive effects on the health and quality of life of individuals, families, and the community. Medical services are now available and a new health center has been built, the collective awareness of the fragile ecological conditions of the community has been increased, and a group of community members has tried to solve health problems such as environmental pollution by human feces and alcoholism.

Since the core of the PR methodology is to train community members in analyzing and transforming their reality, all the people who have taken part in the PR process, includ-

ing the authors of this paper, have been agents of the socialization and resocialization processes which promote social and cultural changes in the community (Castillo et al. 1997).

In this paper, we provide evidence that changes in the behavior of the facilitators of the PR group in The Port have had positive effects on health, quality of life, and the environmental awareness of the community. Since human ecology studies the interrelationship between sociocultural systems, ecosystems, and human health and well-being (Cervera 1996, Dickinson 1995), it is possible to conclude that the reported PR process has contributed to improvement of the human ecological standard of The Port.

Endnotes

1. E-mail address: dickinso@cieamer.conacyt.mx
2. The double dry toilet is composed of two separate chambers. The urine is separated from the feces, the latter going to the chamber in use. When the first chamber becomes full, it is sealed and the second chamber starts to be used. In normal circumstances, six months are needed for the material in a sealed chamber to become microbiologically inert; after such time, the chamber can be emptied and used again.
3. Cacique, a word coming from a Caribbean language, in Latin America generally means a person who has and exerts a despotic and arbitrary power over other persons, including making decisions that affect them.

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