

The Hood River Project Take a Walk on the Applied Side¹

Kenneth M. Keating, Ruth L. Love, Terry V. Oliver, H. Gil Peach,
and Cynthia B. Flynn

Bonneville Power Administration, Bonneville Power Administration,
Bonneville Power Administration, Pacific Power and Light,
Social Impact Research Inc.

Our work on Hood River energy conservation is part of a large, ongoing project that is trying to answer several important questions about residential weatherization programs. For example, what is the maximum market penetration of home insulation when all economic barriers are removed? What effect will such a program have on the electrical use of the community? Could such a program help avoid new transmission construction? What effect will such a program have on the conservation awareness, attitudes, and behavior of the community? The Hood River Conservation Project (HRCP) is a \$21 million, 3-year effort to weatherize all 3,100 electrically heated homes in a study area of 6,000 homes. It is funded by the Bonneville Power Administration (BPA) and is administered by Pacific Power and Light (PP&L), an investor-owned utility based in Portland (OR). The research component of the project accounts for about \$5 million of the project budget. Applied sociologists were instrumental in the design and management of the project and the research.

While it may be a coincidence that four of the five authors are directly involved with the HRCP, it was no coincidence that all of us were attracted to it from the earliest stage. Here was a project located in a small, relatively isolated community. It could provide insight for the future of weatherization programs. It would certainly have a major impact on the community. And although the insulation, storm windows, and heat exchangers would be offered at no cost to the owners or occupants, the success of the project was in no way assured. Research was designed into the heart of the program and the research budget was generous. It was an attractive opportunity for applied sociologists to work together both as individual sociologists and as productive members of an emerging interorganizational network. The project offered both an adequate resource base for work and a wide scope for thought and action.

The emergence of the project, the consensus approach to the research, the 16 separate research studies, and the social analysis of the community are described in detail elsewhere (Oliver et al., 1984; Peach et al., 1984; Keating, 1984; Keating and Flynn, 1984; Flynn, 1984). Rather than discuss the same material, this paper examines the

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roles of sociologists in the HRCF against the background of a recent article on applied sociologists (Freeman and Rossi, 1984). In their article, Freeman and Rossi discuss valuable attributes of successful applied sociologists. These include a wide research background, knowledge and appreciation of other disciplines, the ability to make pragmatic decisions on research precision, managerial competence, and multidimensional communications skills. The Hood River project is an excellent example of these attributes in an applied setting. These are generically "applied" skills that are also needed by applied economists, anthropologists, and other applied social scientists. The "sociology" skills are equally important. Our research team brought key sociological perspectives and social-science skills to the project. These included an appreciation for nonquantified data; awareness of the complexity of communities, community networks, and the reality of community values; sensitivity to research with human subjects; nonreactive interviewing techniques; and standards for research integrity. Other skills required were research design, sampling techniques, survey design, questionnaire construction, and the ability to combine academic rigor creatively with field situations. The remainder of this paper discusses the applicability of the applied sociology skills.

LESSONS FROM SOCIOLOGISTS

The Hood River project arose from a longstanding challenge from the Natural Resources Defense Council (NRDC) that basically contended that electric utilities were ignoring large conservation resources by not really "trying" to get them. The NRDC suggested that by insisting that households help pay for the weatherization of their homes, utilities were leaving out renters and those who could not afford their share. Thus, a large fraction of households were being left poorly insulated. In addition, the levels of insulation beyond those said to be cost-effective by the utilities had never been field-tested. Interested organizations throughout the region along with the NRDC and PP&L suggested that a test of an all-out effort should be attempted. The BPA, a federal agency that distributes and sells power from dams in the Pacific Northwest area, was asked to fund a two-year experiment. Because the BPA is supported by revenues from ratepayers in the region, the project would be a regional effort. The BPA agreed to consider the project if the objectives were clear and it involved a well-designed research agenda. For the costs involved, the research results would be more valuable to the region than the extra energy savings that would result. PP&L agreed to take the lead coordination role and implement the program.

Hood River County and nearby Mosier were selected as the appropriate site. The area is about 30 miles from larger communities; since it was only about an hour's drive from Portland, however, the logistics were manageable. It was on the edge of two of the region's three climate zones, was served by both PP&L and a public utility (the Hood River Electric Cooperative), and it had a mix of small urban and rural populations. In the 11 months before a formal contract was

signed, marketing, evaluation, and implementation subcommittees met--often twice a week--to design the project. The committees were composed of representatives from private utilities, public utilities, the Northwest Power Planning Council, BPA, and NRDC. In addition to planning the details of the project, the committees were organized to achieve a consensus among these entities, which often had divergent perspectives. The consensus would assure that every group agreed to the objectives of the project and to the research methods used, so that no group would later attack the main findings of the project on a fundamental technical issue. Four of the authors were involved on the committees from the first week. Oliver became the contract manager for BPA. Peach eventually assumed the role of the evaluation coordinator for PP&L. Keating and Love provided technical review for BPA. The sociologists quickly demonstrated their usefulness in what was clearly a community social experiment, as the following examples indicate.

* The community was a key unit of analysis. For evaluation purposes, two other communities were selected for comparison. Five years of billing histories were gathered on a random sample of 800 households in each of the three sites. Before awareness of the planned project could contaminate Hood River, we worked with Oregon State University to do a baseline, pretest survey. In that way, baseline energy use, attitudes, weatherization status, housing stock, and demographics were put together six months before the project was announced.

* The engineers associated with the project wanted to do much metering of space heat demand in the homes in Hood River and on the power lines leading into some neighborhoods. Social scientists helped by explaining the usefulness of stratified sampling and by insisting that a "post-test only" design was unacceptable.

* Hood River was an interesting community, but was it representative of other communities in the region? Each community would have unique features, and a sample size of one was not helpful. However, we suggested two ways to measure how generalizable the impacts of the program would be. One was to measure the extent to which the households matched ratepayers in the rest of the region. The second was to compare the housing stock in Hood River to that in the rest of the region. The comparisons were to be made with two instruments. First, Hood River and the two comparison communities, as well as an 800-member random sample of PP&L consumers spread over the four-state region, were to be surveyed before and after the project. The second instrument was a personal interview with the 320 specially monitored households in Hood River, using the same survey instrument used with a stratified random sample of 5,100 households throughout the region. Rather than asserting or denying the representativeness of the project impacts, we convinced the project managers to measure them.

* Perhaps the largest sociological contribution was in marketing. We pointed out that it would be necessary to sell the project to the community as well as to individuals in the community. The community was more than an aggregation of consumers. Depending on how the project was presented, interest groups would form for or against the project. With only a weekly newspaper, the spread of information was

bound to depend heavily on informal networks. These could be used to help the project, but word of a lack of consideration for community values and sensitivities could spread quickly and hurt the project. The utility industry is accustomed to turning to professionals for assistance in marketing. An established marketing firm was brought in to make a presentation to the marketing committee. After they explained their approach, Love asked how they would approach minorities and the poor. They replied that there was no strategy--that these groups were normally ignored in a large marketing effort. Since the program goal was 100% participation, the door was open for new alternatives. We argued that a professional social-impact researcher would help the project in two ways. We could learn enough about the community to market the project without alienating any faction or group, and some of the potential negative impacts of the project could be foreseen and mitigated. Two sociologists were interviewed and Flynn was selected to do a community assessment before the project was fully planned. The complexity of the community, the factionalism that developed around prior projects, the strength of the noninstitutional opinion leaders, and the bias in the community against "handouts" were covered in the thorough assessment. The value of this type of analysis was self-evident, and PP&L decided to keep Flynn on as a consultant. Her ongoing reports keep project management aware of rumors and confusion about the project that can arise over time, as well as those aspects of the project that are working well from the community's point of view.

LESSONS FOR SOCIOLOGISTS

Although we made beneficial contributions, they alone were not sufficient to make the project succeed. But our experiences illustrate the value of "applied" skills discussed by Freeman and Rossi (1984).

Broad Research Background and Appreciation of Other Disciplines. When project planning began, the sociologists on the research team had almost no experience with research on utility distribution systems, electrical metering, weather data collection, measuring wood stove heat, or a multitude of other skills needed for the complex research project. We did have extensive experience in other applied research and we were accustomed to working in interdisciplinary settings, contributing our perspectives and skills and learning from the expertise of others. In Hood River, we depended on engineers to tell us what hardware was needed. Meteorologists and extension agents provided subtle--but important--geographic distinctions in the community. Economists and utility staff defined the cost-effective limits of the project and accessed vast utility data files. Utility linemen and consulting engineers provided a reality check that kept research designers from ignoring the physical laws of electricity and the practical constraints of the electrical transmission system. All of these parties continue to contribute as the project progresses.

Pragmatism in Research. The scope and uniqueness of the project attracted a wide variety of researchers. Each had one or two pet

projects that they wished to add to the research design. For awhile, the project design resembled a Christmas tree upon which everyone wanted to hang an ornament. Yet Hood River was a community, not a laboratory. The research team had to decide what was "too much," what could be done elsewhere, and which suggested projects would be detrimental to the overall goal of the project--maximum penetration of weatherization measures. Hard decisions were made to exclude important research ideas, such as an extensive investigation of indoor air quality, diaries of behavior in households, multiple measures of wood use, and dictation of varying levels of insulation in the homes. Another example of the pragmatism of applied research was the willingness of the team to limit the precision of some research components. The problem of misplaced precision was a continual issue. If all we were looking for was an indication of an impact, we didn't need to measure the impact to three decimals. If the representativeness of a particular result could not be proved and would lack policy relevance, we could not spend ratepayers' money simply because it was an "interesting" measure. We also chose to measure a few major variables on a large sample rather than follow engineering preferences to measure a multitude of details on a few units.

Managerial Competence. According to Freeman and Rossi (1984:578), "managerial competence...explains more effectively why some research projects are successful than does the researchers' level of conceptual and technical expertise...." The Hood River research team and those who directly support them in the BPA and PP&L number no more than a dozen. In order to manage the 16 distinct--but interdependent--research projects, Oliver and Peach leverage the work of about 80 professionals through 11 subcontractors. The ability to hire, manage, review, coordinate, and pay these contractors involves managerial skills not taught in graduate sociology departments. In the Hood River project, the research is tracked and budgeted by two microcomputer programs--an extended PERT chart program (French et al., 1984) and a specially designed consumer-tracking system. It takes more than conceptual expertise and knowledge of the literature to manage a 3-year, \$5-million evaluation project.

Communication Skills. Sociology students are trained to make professional presentations to knowledgeable and critical peers. In applied work, the audience is diverse and often skeptical of jargon. In many cases, the usefulness of research results is inversely proportional to the sophistication of the analysis. For instance, logit analyses need to be communicated as percentages if some audiences are to be reached. In some circles, it can be called the KISS principle (Keep It Simple, Stupid). Communication skills are sometimes the most difficult to master. Communication is the art of allowing someone else to understand what you have to say. Yet, most of us are sheltered because we discuss our field of expertise only with our peers. This luxury is not available on the applied side. Jargon must be translated to understandable concepts, body language must become part of the message, and audience responses must be read and instantly used to direct emphases and clarification.

Communication skills were essential to the Hood River project. The idea of the community assessment had to be sold to skeptical management. Flynn had to convey personal competence and expertise without unsettling her audience with jargon ("more social-psychological slush"). The importance of attitudinal research had to be simplified--"people take their attitudes with them when they move, not their insulation." Because the project had to be sold to the community, a sound-on-slide show was developed for presentation to community organizations. It was based on the community values identified in the community assessment. Two other slide shows were developed to explain the research aspects of the project--one for those with professional interest and one for community leaders. Even after the project was accepted in the community, communication skills were required for radio interviews, columns in the weekly newspaper, a newsletter for those who allowed their homes to be monitored for three years, and for handling complaints. The sociologists contributed something, but they learned even more. Marketing is communication, and PP&L was experienced and professional in their approach. The project logo, identifying the project with the community and its values, was put on balloons, billboards, t-shirts, and uniforms. In some academic settings, such as our session at the meeting of the Rural Sociological Society, these props may have been considered tacky, but in applied research they form an important element of communication.

CONCLUSION

The Hood River project involves applied sociologists to a surprising degree. It includes 16 well-designed, appropriately funded research projects whose results will add substantially to our knowledge of human behavior. It is also an excellent example of many of the points made by Freeman and Rossi (1984). There are special skills--ignored in our education--that are central to work in an applied setting. We hope this example will prompt our colleagues to consider the skills involved, the importance of applied work, and their potential future contributions.

NOTE

¹This paper is the outgrowth of a special session on the Hood River Conservation Project at the 1984 annual meeting of the Rural Sociological Society in College Station (TX).

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