

Miscellaneous Publication 8-1981  
Minnesota Agricultural Experiment Station  
University of Minnesota

# **Evaluation of Agricultural Research**

**Proceedings of a Workshop Sponsored by NC-148  
Minneapolis, Minnesota May 12-13, 1980**

LESSONS ON EVALUATION OF RURAL DEVELOPMENT RESEARCH-EXTENSION  
PROGRAMS BASED ON THE TITLE V EXPERIENCE

J. Patrick Madden\*

Introduction

The organizers of this symposium invited me to address the topic of evaluation as related to rural development and/or small farms. I will discuss evaluation of a small but important aspect of the former and disregard the latter. Specifically, I will not discuss the area of small farms. Rather, I will simply refer to a forthcoming report which evaluates the state of past research on small farms and proposes an agenda for future research (Madden, et al, 1980). I will however, discuss the evaluation of a specific type of rural development research-extension program conducted by the land-grant university system, namely, Title V of the Rural Development Act of 1972. Beyond the scope of this paper is the recent USDA evaluation of cooperative research, including community resource development and other kinds of rural development extension efforts (USDA, 1980). Also beyond the range of this essay are evaluations of other kinds of rural development programs, such as capital funding programs to provide water and sewerage systems, roads, etc.

stagnation, or deterioration of the local economy, services, or environment). Development then, is a normative term implying the attainment of levels and trends desired by people themselves.

Economic Development means "improving" the level, distribution, and stability of earnings and employment. This can be done in a number of ways, such as increasing the productivity and/or efficiency of existing firms and resources. It can also be done by expansion--enlargement of existing firms or entry of new industries. Expansion is not feasible in all rural areas, nor is it everywhere desired or appropriate. In areas experiencing very rapid growth, for example, local residents might feel that an "improved" trend is a reduction in the rate of economic expansion. Therefore, economic development is a goal of a comprehensive rural strategy, but only one of many goals and a goal which must be shaped to local desires. (Cornman and Madden, 1977).

What is Rural Development?

For purposes of the present paper, "Rural Development" will be defined as follows:

Rural Development encompasses the many dimensions or conditions which determine the quality of life: access to public services and facilities; economic development; protection or enhancement of natural and environmental resources; and the capacity of rural people, communities, and institutions to interact effectively in identifying and attaining goals. Each of these dimensions can be viewed in terms of its present level or state (e.g., availability of health services, median income or employment) and in terms of its trends (e.g., improvement,

Thus, we see that rural development, broadly conceived, is multidimensional. And we see that the economic dimensions are important but not exclusively important. Unfortunately, many of those in USDA and elsewhere who control budgets for rural development programs tend to view rural development objectives and outcomes rather narrowly in economic dimensions--increases in aggregate income or value added, more equitable distribution of income (reduced incidence of poverty, for example), increased employment, etc. Practitioners at the local and state level, however, often encounter rural community objectives that transcend the economic dimensions--improved roads, housing, water, sewerage, health, and other services; increased competence of local government; protection and improvement of environmental resources, etc. This incongruence between the perceptions of grass-roots people versus federal bureaucrats is a major threat to the continued funding of certain types of rural development activity, and an awesome impediment to realistic and effective evaluation of rural development programs.

\*Professor of Agricultural Economics, The Pennsylvania State University, State College, PA. The views expressed here are those of the author and not necessarily those of the university.

## What is Title V?

Title V of the Rural Development Act of 1972 calls on the nation's land-grant universities to help rural people attain their development goals by establishing linkages among research, extension, government agencies, and rural people. Specifically, the Title V program within each state (and Puerto Rico) is expected to accomplish the following purposes:

\*provide information and assist in the interpretation and application of information needed by various public and private agencies and decision-makers involved with achieving the various development objectives or end products--particularly those related to improving public services, employment opportunities and income;

\*provide research and investigations useful to those planning, carrying out, managing, or investing in facilities, services, businesses, or other enterprises (both public and private) that may contribute to rural development; and

\*enhance the capabilities of various colleges and universities in each state to perform vital public service roles of research and practical application of knowledge in support of rural development.

(Madden et al, 1977)

It was the declared intent of Congress that the land-grant universities should be given three years to operate Title V as a pilot program, with the understanding that if the program appeared successful at the end of that three-year period, it would be expanded substantially with additional funding and would be given more permanent authorization. The national evaluation of Title V was quite positive regarding the contributions and the potential of this program (Madden et al, 1977). In spite of these findings, however, the administration has not supported Title V and each year the Congress has appropriated only minimal funding--\$3 million dollars in each of the first three years and \$4 million dollars in each of the succeeding years; the currently proposed budget requests no money for Title V. Consequently, Title V has languished.

## Evaluation and Policymaking

As a student of public policy for many years, I have observed a fairly consistent pattern, a kind of policymaking treadmill that goes something like this:

### The Stages of Liberal Policymaking

Stage I Recognition of the Great Problem in some fashionable area such as poverty, small farms, or rural development.

Stage II Creation of the New Program to solve the Great Problem--such as Title V to solve the problems of rural development. Great fanfare for the brilliance of the program and the policymakers who conjured it up.

Stage III Program Operation--usually with adequate funding, over too short a time span, and with no plan for useful and credible evaluation.

Stage IV Growing disenchantment with the Program. Through lack of funds, inadequate time to fully develop the Program and/or because there is no credible evaluation data, the Program lacks evidence of success in solving The Great Problem. It has now been long enough since the fanfare stage that it is fashionable to ignore or to oppose the Program.

Stage V Program declared a failure.

Stage II (again) Start again at Stage II and create another New Program to solve The Great Problem, while heaping abuse upon those responsible for carrying out the original Program.

Stage I (again) Eventually, the Great Problem may go away or sink into oblivion because of declining public visibility and political support. When this happens, the liberal policymaker returns to Stage I, defines a new and currently fashionable Great Problem, and conjures up a New Program to solve it. Thus, the policymaker never runs out of work to do, and he always gives the impression that he is indispensable--for he is constantly contributing greatly (he contends) to solution of society's Great Problems.

One of the best recent examples of this seemingly endless process is the impending demise of Title V of the Rural Development Act of 1972. In spite of strong evidence that the program could succeed (Madden et al, 1977) it has never enjoyed the support of any administration (Nixon, Ford, or Carter), and it now seems destined to die from lack of funding. Eventually it may reincarnate as a fashionable "new" approach--perhaps as the rural circuit riding manager, cited favorably in the President's recent policy statement on rural development (Carter, 1979). Given the current state of inflation and national economic decline, and of austere federal budgets, it seems highly unlikely

that this or any other new program will be backed up with adequate and sustained funding. However, even with substantial budgets, social programs such as Title V seem destined to fall short of their potential contribution unless constructive and scientifically credible evaluation becomes a standard part of program operation. The type of evaluation needed stands in sharp contrast to the grateful testimonials and post-hoc reviews that currently pass as evaluations.

It seems self evident that evaluation is indispensable to policymaking at all levels--from the level of the legislative committee's action in deciding appropriations and concocting new or revised programs, through executive policymaking in creation of regulations and initiating budget proposals, through local decisionmaking regarding ways to implement existing programs. Obviously, programs that enjoy immense popular and political support can survive and prosper despite a lack of evidence of effectiveness or cost-effectiveness, e.g., food stamps. Other programs may languish in spite of compelling evidence both of need and of performance. Thus, program evaluation is neither necessary nor sufficient for a program's prospering.

Compounding this lack of responsiveness, however, is the fact that many evaluations are so poorly done that they provide no solid basis for policymaking, either of the summative type (program survival) or the formative type (self improvement of the program through feedback of evaluation findings).

Often it seems bureaucrats tend to embrace evaluation studies which reinforce their preconceived notions of the program. Likewise, they tend to ignore or discredit those studies whose findings run contrary to expectations and preconceptions. Thus, one can with some justification assume the cynical view that evaluation of social programs is a waste of time and money.

Apart from such cases of bureaucratic prejudice, however, a more constructive view is that good evaluation can become indispensable by proving its capacity to (1) suggest improvements in the way programs are administered, (2) document the program's performance with credible and truthful evidence, (3) enhance the scientific basis for predicting program outcomes under diverse conditions and alternative policy provisos. Herein lies the challenge of evaluative research. It is my belief that ultimately the goals of rural development will be best attained and the public interest best served if all rural development programs are subjected to a systematic and scientific evaluation. Before discussing the anatomy of such an evaluation, we will review the way in which the 1977 evaluation of Title V was conducted, as a basis for comparison

with an ideal evaluation.

### The 1977 Evaluation of Title V

Virtually every program evaluation could be improved upon in retrospect. With the knowledge gained during and after the evaluation study, the evaluator can easily see ways in which all aspects of the study could have been more improved--from the initial conceptualization of the program and its objective through the measurement of program performance, analysis, and reporting of the findings. The Title V evaluation (Madden et al , 1977) is a prime example. The following is an excerpt from the final report:

At the end of the three-year pilot stage, which included fiscal years 1974 to 1976, the U.S. Department of Agriculture authorized and funded the present evaluation of Title V. Given that the expectations of Congress with regard to Title V were predicted on five times greater funding than the states actually received, state program outcomes cannot be unequivocally matched against those expectations. Nonetheless, this evaluation addresses the issue of whether the land grant institutions administering Title V programs in each of the 50 states and Puerto Rico have contributed significantly, given their funding levels, to the process of rural development through their research and extension programs. The study also inquires whether the programs were carried out in conjunction with other institutions of higher learning, in cooperation with the various federal, state, and local governmental agencies and private groups and businesses attempting to effect rural development.

### Conceptualizing the Evaluation

There are three levels on which the program may be evaluated: (1) the federal level, (2) the state program level as developed by the land grant institution, and (3) the individual project level within the state program. Additionally, three types of evaluation can be done: (1) impact analysis of rural development end products or outcomes (such as increased employment or improved services), (2) analysis of the rural development processes or procedures initiated and utilized by Title V in attainment of rural development end products, and (3) formative evaluation or feedback consisting of ways to reformulate or redirect rural development activities.

For each of the three program levels, this evaluation focuses primarily on the process and feedback types of analysis, as consistent with the intent of Title V.

Little attention is directed toward the evaluation of impacts, or the attainment of the end products of the rural development process, the direct intent of the first four titles of the act. However, this study does include state programs' outcomes, as reported by the program leadership personnel. The reason for this choice is as follows.

Even in cases where the state Title V programs are reported to have contributed significantly to the attainment of some rural development end product (such as new jobs, expanded health facilities, improved quality of streams) it is impossible to ascertain whether the improvement is due entirely to Title V, or to some event or activity external to Title V. Before an evaluation can make causal inferences regarding program impact, rigorous evaluation design standards must be met. Such an evaluation utilizes applied social science research methodology to guide the evaluation process. For example, pre- and post-program data are collected from groups which participated in the program (or some variant of the program) and a group which did not participate. This approach permits (under ideal conditions) causal inferences concerning program outcomes. As one moves along the continuum from informal evaluation (lacking systematic data collection and analysis procedures) toward the more scientifically rigorous evaluation research (based upon experimental methodology, statistical inference, etc.), more confidence may be attributed to the causal inference that the program under scrutiny is in fact responsible for the post-program outcomes. This preferred experimental/quasi-experimental approach to impact evaluation permits researchers and policymakers to make the strongest argument that observed outcomes have been a function of the program under study.

That traditional type of impact evaluation, however, is not feasible in this evaluation study, due to the fact we do not have a controlled experiment for the 51 diverse programs. Rather, the Title V pilot period is viewed as a "naturalistic experiment," 1/ in which 51 land grant universities received a specific allocation mandated by the Act and proceeded to develop highly individualized programs within the guidelines and regulations established by USDA. Due to the lack of experimental control, and the survey methodology utilized (which will be discussed below), Title V outcomes reported by the states cannot be causally attributed entirely to reported Title V activities.

Such inferences would have to be based upon the traditional experiment or quasi-experiment, which is clearly impossible in a program of this type.

Therefore, across program levels, rigorous analysis of the Title V impact has not been possible. Nonetheless, the wealth of information reported by state programs can provide tentative and indirect indications of Title V project outcomes and impact. Examples of specific projects and outcomes appear in Part III of this report. Information on every active and completed Title V project is presented in the Directory of State Title V Rural Development Programs.

Other types of evaluation are much more feasible with the available data. Process evaluation focuses on the extent to which a program's operation is consonant with the program as originally designed (in this case, by Congress in the Act and USDA in the regulations). At the national level, for example, this study examines the extent to which Title V stimulated the states to create the kinds of administrative and advisory structures required by the law. Also, at the state level, an extensive analysis of process and procedures utilized by state programs in relation to Congressional expectations has been completed, examining the manner in which the land grant universities created organizational structures and procedures for designing and implementing their Title V programs.

Finally, this study is a formative or feedback evaluation; that is, it provides feedback of results to numerous rural development professionals (including individual state program staff) and policymakers. For example, the evaluation reports desired changes in the legislation and regulations pertaining to Title V. State program level information available for feedback is also abundant. For example, one product of the evaluation is a detailed directory of all 51 programs, with an alphabetical index of types of projects implemented by the states and Puerto Rico. That directory will permit a flow of information between states that is not now possible. For example, when the rural development personnel in one state wish to initiate a rural housing project, they will be able to contact other states which have already implemented this kind of project, and obtain information from that state's project personnel on ways to proceed and problems to avoid.

## Evaluation Design and Methodology

Since the Department of Agriculture preferred that the evaluation be conducted externally, a cooperative agreement was made between USDA and the National Rural Center. NRC in turn obtained from the Pennsylvania State University the services of a project director and principal investigator to design and conduct the evaluation under the general direction of NRC. The principal investigator found that the information on file with USDA (Annual Plans of Work and Progress Reports) was largely ideosyncratic, and did not provide systematic information that would be comparable across states. Therefore it was decided, in consultation with USDA, that a survey would be conducted to collect data from all the states and Puerto Rico. Separate, self-administered questionnaires, with some degree of overlap, were developed for state coordinators and program leadership and the analysis was based on the total population of 51 land grant institutions receiving Title V funds. The survey instruments attempted to look at a wide range of variables concerning both program development and program outcomes. As the survey was not conducted until the close of the three year pilot period, the evaluators were unable to collect information prior to and during program development. In addition to questionnaire responses, the evaluation includes analysis of Plans of Work, Progress Reports, and 11 state site visit reports.

The majority of the analysis entailed content coding of open-ended responses and tabulation of closed-ended responses to ascertain national or regional trends. Although the categorization of question responses did not follow systematic content coding procedures (with emphasis on mutually exclusive coding categories, high inter-rater reliability, etc.), the entire analysis has been subject to quality control reviews within the evaluation staff. In some cases (notably the case studies and the data on agency involvement) preliminary drafts were sent to the states for review. This was not done with all the report, because of time limitations.

Ideally, the analysis should have been based on data collected by personal interviews and/or telephone interviews with program personnel in each state. However, because of the limited time and resources available, face-to-face interviews were not feasible; telephone interviews would not have provided an opportunity to solicit the diversity and detail of information

needed. Thus, the decision was made to use self-administered questionnaires. To clarify the purpose of the questionnaires and intent of individual questions, respondents also received a User's Guide.

### Steps in the Evaluation

As discussed, this evaluation is based upon a naturalistic experiment rather than a more traditional research design. As such, evaluation activities undertaken differ from traditional research activities. This list of steps followed in evaluating Title V should clarify the conduct of this study:

1. Starting in September 1976, Plans of Work and Progress Reports submitted by the states were reviewed.
2. Selected literature on rural development, Title V, and program evaluation was reviewed.
3. A working model of Title V and a series of critical research questions were developed to guide the evaluation.
4. Questionnaires were developed, to be completed by key persons in the Title V operation of each state -- the State Coordinator of Title V (usually the Dean or Vice President of Agriculture) and the program leadership (person(s) in charge of daily Title V operations). This process included a pre-test in which six states (Delaware, Idaho, North Dakota, Pennsylvania, Tennessee, and Texas) participated.
5. Meetings were held in Washington, D.C., with key policymakers from Office of Management and Budget, Congressional Committee staff members and others, to determine whether the evaluation design was omitting any significant issues.
6. A User's Guide, to explain and illustrate questionnaire items, was prepared to accompany the questionnaires mailed to respondents January 15, 1977.
7. In February 1977, meetings were held in the Southern, Northeastern and Western Regions to discuss and explain the questionnaires and evaluation to state personnel involved in Title V. Following the second of these meetings, a questionnaire addendum -- reformulating some of the items -- was prepared and sent to all respondents. (The questionnaires and addendum are included in Appendix C.)

8. Site visits were conducted to as many state Title V programs as possible. The 11 states which received site visits were California, Iowa, Missouri, Wisconsin, Ohio, North Carolina, New Hampshire, Rhode Island, Connecticut, Michigan, and Puerto Rico. The purpose was to discuss the organizational changes made by the institutions of higher learning in meeting the demands of their Title V operations, and to get first-hand information on the various projects within each state's Title V program.

9. By May 1977 nearly all the questionnaires had been returned. Data from the questionnaires, plans of work, progress reports, site visit reports, and various telephone discussions with state Title V personnel were analyzed.

10. A review draft of the evaluation report was prepared on June 15, 1977. This draft was reviewed by the National Rural Center, the director of each of the four regional rural development centers, and other rural development professionals.

11. A second review draft was completed on September 3, 1977.

12. Guided by review comments from previous drafts, additional analysis was done, and the final report was completed.  
(Madden, *et al*, 1977, Ch. 2)

### Perceived Deficiencies in the Evaluation

As with most self-administered survey instruments, a number of problems arose. Three main problems are evident:

1. In virtually all states, two or more individuals (often representing different rural development perspectives), assisted in responding to the questionnaires. Persons in charge of program leadership usually had substantial input into the state coordinator questionnaire, and other Title V staff usually contributed to the program leader questionnaire. However, there are occasional examples of conflicting data within and between the two questionnaires.

2. Project data forms (such as question 9.4 in the program leader questionnaire--see Appendix C), solicited specific information on state's projects. More specifically, data were sought on (a) description of the project and target area, (b) duration

of the project, (c) involvement of other colleges and universities, local persons, and agencies or organizations, (d) involvement of research and extension personnel, (e) organizational changes and tangible outcomes brought about by the project, (f) project beneficiaries, and (g) unique contributions of Title V, despite the diversity of the closed and open-ended questions, it was difficult for the respondents to fully present the complexities and richness of individual projects on the data forms. Site visits have confirmed respondents' observations that the essence of a project frequently is not accurately portrayed by responses to the questionnaire or in other written information.

For example, upon reading the Program Leadership questionnaire from Puerto Rico, the principal investigator formed the impression that the importance and impact of the program has been over-stated. This impression was abruptly reversed during the site visit. After speaking with area residents and seeing the major improvements in running water, housing, sanitation, roads, bridges, and other aspects of life in the area, the analyst realized that the questionnaire data significantly (though unintentionally) understated program outcomes. Discrepancies in the opposite direction probably occurred as well.

3. Although both questionnaires were pre-tested and filled out by knowledgeable individuals, they appear to have been too complex for self-administration. The User's Guides for the State Coordinator and Program Leader questionnaires greatly clarified the intent of individual questions, but response ambiguity and incompleteness still suggest that the questionnaires were overly complex for self-administration. The data analysis demonstrates that respondents interpreted questions differently and to a large degree, did not follow general or specific question instructions. These problems have implications regarding the validity and coverage of the data.

Because there is no method currently available to check the intended meaning and accuracy of the responses, the evaluation staff exercised caution in drawing conclusions. Of course, the external evaluation has utilized additional documentation when available, but state questionnaires cannot be validated against

other state data. Site visit data are useful for validation purposes, but too few site visits were possible, and their original purpose was to learn more about the organization of programs and projects, not to validate questionnaire responses. Anecdotal information obtained from personal contacts with respondents has led to the impression that the data are, in the vast majority of cases, candid and accurate reflections of the Title V programs as perceived by the key personnel who responded to the questionnaires.

Another deficiency of the evaluation design is that it was ostensibly an "in-house" evaluation. The principal investigator (Madden) is an employee of one of the land-grant institutions (Penn State University). Even though none of his salary has come from Title V and despite the fact that his initial orientation toward the program was highly skeptical, the positive findings of the evaluations have been interpreted by some as "biased" because of his institutional affiliation.

In summary, the 1977 evaluation of Title V was a post hoc evaluation of the process and content of each state's program, with no attempt to evaluate objectively the impact of specific projects. Data for the evaluation were obtained through self-administered instruments, supplemented by selected site visits. The evaluation study was intended as a formative exercise in that the reports contained many suggestions for further improvement of rural development activities.

A unique feature of this evaluation study was the contractual provision for creation of a post-evaluation policy statement, plus debriefing meetings with the intended audience at the federal level--various officials in the legislative and executive branches of government having power over the funding and future of Title V.

#### Contrast With an Ideal Evaluation

##### What Is an Ideal Evaluation?

Evaluation, like other kinds of publicly supported activity, should be cost effective. That is, the expected gains from the evaluation should exceed the cost of conducting the evaluation.

An ideal evaluation should be, among other things, realistic in relation to the nature and scope of the program being evaluated. For example, one does not realistically call for a \$5

million evaluation of a \$3 million program--particularly if the program's future is seriously in question. It would have been absurd, for example, to require each state to conduct an objective, scientific evaluation of each of the program's several projects. To do so would have negated the true intent of the pilot program, which was to determine whether the land-grant institutions could tool up, as required by the act, and proceed with educational resources of various state institutions of higher learning available to rural communities, citizens, and agencies, thereby helping with the identification and attainment of locally perceived rural development goals. Given the miniscule level of funding most states received (median state allocation \$46,672 per year during the first three years) and the realistic uncertainty of year-to-year continuation of the program, imposition of rigorous evaluation procedures for various projects would have been ludicrous.

If and only if the level of funding for Title V is substantially increased (beyond the current \$4 million per year), and if the authorization and funding levels are made more permanent, it would make sense to create an evaluation process. Some of the desirable features of such an evaluation process would include documentation of (1) program performance, (2) contextual conditions, (3) program inputs, and (4) processes used in implementing the program. The ideal evaluation research study is, first of all, excellent-quality research. And, finally, the ideal evaluation should end with a policy assessment, including suggestions for improving the program, its regulations and its implementation.

We turn now to a discussion of specific features of an ideal evaluation, as compared with the 1977 Title V evaluation.

##### Document the Performance of the Program

An obvious role of evaluation is to ascertain how the program performed in the specific context and point in time in which it has been operating. This aspect of evaluation requires, as a minimum, documentation of outcomes with regard to the program's stated objectives. The Title V evaluation did not attempt to verify the outcomes reported by the various state program administrators nor was there any effort to ascertain the impacts of the hundreds of individual projects. This would have required massive resources, plus a concurrent evaluation design rather than the post hoc procedure to which this evaluation was constrained. That is, impact evaluation requires an on-going evaluation study, including collection of appropriate data at various stages



--before, during, and after operation of the projects. Given that the evaluation was initiated at the end of the three year pilot phase of the program, nothing more than a post hoc evaluation was feasible. Records and progress reports submitted annually by the program administrators were available to the evaluators, but these documents were of little value to the study because of the insufficiency of the information they contained. The questionnaires used to collect data for the evaluation were, by their nature, retrospective instruments asking for post hoc recall of details of the state's Title V program design and its various component projects. The only exception was Missouri, where the program administrator (Hobbs) hired a person to conduct an on-going evaluation of the Title V activities. (Madden et al., 1977, pp. 245-262)

In retrospect, the Title V evaluation should have included more in-depth site visits, such as those conducted in Missouri, Puerto Rico, and California. Furthermore, the site visits should be repeated at two or more points in time (Hagood, 1979, Appendix C). Such a longitudinal design was unfeasible given the short span of time allowed for the evaluation. However, subsequent revisits have revealed much valuable information that would have significantly increased the realism and specificity of the evaluation findings.

#### Document the Contextual Conditions and Inputs

A proper evaluation should include thorough documentation of the various factors that contributed to (or impaired) the performance of the program and its component projects. These factors include the levels and qualities of various inputs (program staff, funding, operational resources provided by participating institutions). Also essential is documentation of the "relevant" contextual features, such as demographic, economic, topographic, and other characteristics of the locations in which projects were conducted. What is "relevant" information in evaluating a specific project depends on the theoretical model of causation underlying the evaluator's conceptualization of each project--how does it operate, what are the necessary ingredients, what barriers must be surmounted, what factors influence the project's performance? Similar causal modeling underlies evaluation of an overall state program.

#### Document the Processes Used in Implementing the Program

Organizational and administrative features, such as research-extension cooperation and interdisciplinary linkages, are fundamental to success of Title V programs. Likewise, the level of institutional in-kind support for the program is a critical variable that should be documented.

During the post-evaluation briefings with officials of Office of Management and Budget, it became clear that the evaluation had failed to obtain some essential data--the level of in-kind support by the land-grant universities. Upon careful examination of state budgets and plans of work, it became abundantly clear that those documents did not contain the basis for estimating the value of in-kind contributions--overhead, fringe benefits, salaries of key professional personnel, and other essential data were typically not reported. Understandably, the inability to estimate the value of state in-kind contributions to Title V was considered by some OMB officials to be a serious defect in the evaluation. In retrospect, the criticism is, of course, well taken. Unfortunately, none of the intended audience or other reviewers raised the question of in-kind contributions during the early stages of the study. Consequently, this factor was omitted from the evaluation data, an oversight for which I take full responsibility.

In view of the importance of organizational and administrative features, the evaluation questionnaires were designed to determine all the "relevant" aspects. Again, the underlying theoretical model dictated what features were "relevant." In retrospect, more attention should have been given to identifying and documenting aspects of the rewards system which influence faculty members' decisions whether or not to participate in rural development research and/or extension activities. Even more important, it seems now, are faculty perceptions of the reward systems--their beliefs regarding the impact their Title V roles may have on their tenure, promotion, or pay increases. The weak and uncertain funding for Title V undoubtedly plays an important role in many states in shaping faculty perceptions of the professional rewards (or penalties) they might ultimately receive via Title V program activity. Since a professionally rewarding research program typically requires several years to develop, the likelihood of premature termination of Title V fundings has undoubtedly discouraged many researchers.

Another very important deterrent is the belief expressed by several faculty members that Title V research does not lead as readily as other types of research to reports or articles acceptable to professionally refereed journals. And since a researcher's tenure, promotion, and sometimes salary increments are determined, at least in part, on the basis of his/her rate of publication in refereed journals, this perception may act as a strong deterrent to research involvement in Title V activity. About one-third of the states reported that the university rewards system was, to some degree, incompatible

with the research needs of their Title V programs. Long-term research, publications in scholarly journals, and classroom teaching were perceived as more professionally rewarding than the developmental research keyed to solution of immediate practical problems, often requiring quick completion using procedures thought to be routine and unattractive to professional research journals (Madden *et al.*, 1977, p. 75).

#### Evaluation as Research

Evaluation, in the ideal sense, should be impeccable research. It should start with theory, in the sense that the conceptualization of the study, measurement of variables, and analysis plans should be based on the current state of theory underlying the program or project being evaluated. It should end with theory, in that the findings of the evaluation should be integrated into the body of knowledge, providing an improved basis for predicting program performance, under an expanded range of conditions and program options.

The 1977 Title V evaluation falls far short of the ideal in regard to forming linkages with existing theory and modification of theoretical paradigms. The evaluation was essentially descriptive in nature. As such, it provided valuable base-line data for possible future evaluation studies, but it did little to advance the science of rural development.

#### Creation of a Post-Evaluation Policy Statement

A unique feature of the 1977 Title V evaluation was that, by design, it included the development of a policy statement following completion of the formal evaluation report. This statement (Cornman and Madden, 1977) examined the major provisions of the act, and suggested ways to modify the legislation so as to ensure greater effectiveness in the future. While some have been critical of certain recommendations (for example, opening the program leadership to universities other than the land-grant institutions), the concept of calling for the creation of a policy statement as part of the evaluation contract seems to have considerable merit and should, in my opinion, become standard procedure for major evaluation studies.

#### The Bottom Line

Several lessons occurred during and after the 1977 evaluation of Title V, lessons that hopefully will be useful to those conducting future studies of a similar nature:

1. Avoid post hoc evaluations. While this lesson is not unique to the Title V evaluation, nor was it new to this evaluator, it was once again reaffirmed with such force during this study that it bears repeating here.
2. Conduct as many in-depth site visits as possible. The example of Puerto Rico, cited previously, illustrates the need for site visits to

lend substance and a sense of reality to the evaluation data. The risk of site visits, however, is that the evaluator begins seeing more in the data than other analysts (without the benefit of the same site visits) can see. Hence, the scientific requirement of repeatability tends to become impractical. Furthermore, the written word or data cannot adequately portray the essential qualities often observed during site visits. And while this may increase the frustration level of the evaluator at times, it is an essential part of a good evaluation.

3. Beware of changes in expectations of the target audience. It makes sense to ask responsible persons among the intended audience to react to the evaluation design and to suggest changes during the early stages of the evaluation--while there is still time to add, modify, or delete items from the data collection procedure. And while this commendable attribute was built into the design of the Title V evaluation, subsequent changes in federal personnel seriously undermined these efforts, for the new bureaucrats had different expectations and views of Title V than did their predecessors. One key official recently stated flatly the hope that Title V would soon expire. Upon probing, this official revealed (1) expectations for Title V which are clearly contrary to both the law and its legislative history, and (2) a total lack of sympathy for the purposes for which Title V was intended. Under these circumstances, the design and content of an evaluation are sure to be considered inappropriate--unless the findings support the prejudices of the official.

4. Don't become discouraged by biased perceptions of the study's findings. Maintain high standards of intellectual integrity and, to the extent possible, scientific objectivity while pursuing the art and science of program evaluation. False and naive expectations regarding the objectivity of key officials controlling the program's future can lead only to despair. Be not dependent upon a favorable reception of the study by public officials as your primary source of motivation. Rather, enjoy the study for its own sake, as a craftsman enjoys a job well done.

#### Footnotes

1/The distinction between a naturalistic experiment and the more widely known "controlled" experiment is as follows. In a controlled experiment, rigorously defined treatments are systematically applied to predetermined subjects or groups with a control group receiving no treatment at all. In a naturalistic experiment, the subjects are permitted to determine their own course of behavior, within broad guidelines established by the nature of the program, and no control group is used. In analyzing the outcomes of a naturalistic experiment, attention is directed not only toward the results achieved, but also toward the processes and methods of organization selected by the participating subjects.

## References

- {1} Carter, Jimmy. "The Carter Administration Small Community and Rural Development Policy." Dec. 20, 1979.
- {2} Cornman, John M. and J. Patrick Madden. "The Essential Process for a Successful Rural Strategy." Washington, D.C. The National Rural Center. Dec. 7, 1977.
- {3} Hagood, Richard A. "Partnership for Rural Improvement: An Emerging Rural Planning and Development Model." Pullman, Washington: Washington State University, July, 1979.
- {4} Madden, J. Patrick, et al., Rural Development and the Land-Grant University--An Evaluation of Title V of the Rural Development Act of 1972. Washington, D.C.: The National Rural Center, October 1977.
- {5} Madden, J. Patrick, Heather Tischbein and Jerry G. West. An Agenda for Small Farms Research. Washington, D.C.: The National Rural Center, NRC Monograph, Small Farms Policy Series 1. 1980 (forthcoming).
- {6} Madden, J. Patrick. "The Adequacy of Land-Grant University Response to Rural Development Challenges--The Special Case of Title V." Paper prepared for symposium at Resources for the Future, Washington, D.C., April 24, 1980 (mimeo).
- {7} U.S. Department of Agriculture. Evaluation of Economic and Social Consequences of Cooperative Extension. Washington, D.C.: U.S. Government Printing Office. Science and Education Administration-Extension, January 1980.