

Social Research Strategies in Action Programs*

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In so many areas of contemporary life, it is easy to feel that "time is running out". We cannot wait for history to teach us, and we have learned that the facts do not just speak for themselves. Though quite generally true for modern man, this urgency is heightened for those nations, comprising about two-thirds of the contemporary world, who must somehow compress the last years of man's industrial development into a generation or two. Special institutional bridges are called for to speed the transport of society from the immediate past into the desired future. Planning, both public and private, is one such bridge. "Action programs", constitute another such bridge. Both bridges will be risky and inefficient to the extent that they are not built upon piers of reliable and timely information. Scientific methods of data collection and analysis are the

most promising source of such information.¹

What is an Action Program?

Any program that gets beyond the committee stage is, in one sense, an action program. But the term has acquired a more specific meaning in recent times, as reflected in some illustrations. In agriculture, extension services have been established in many places to introduce new crops, breeds, farm methods or to improve farm income. In public health, X-ray screening programs, immunization projects and health education programs are illustrations. Private and national programs to encourage the reduction of fertility rates through family planning represent a novel type of action program. Numerous inter-

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¹ This statement is not meant to be unappreciative of the role of "insight", "verstehen", and "shrewd observation", but these are further sporadic and unpredictable qualities that cannot be marshalled at will. In the final analysis, to convey the results of these methods to those of use not so endowed, it is necessary to verify them in some more systematic way. And to resolve disputes between competing insights, we must eventually rally round the common standards of scientific inquiry.

national technical assistance programs fall into this category. In the Philippines, the entire community development program is a massive action project, while the PRRM is another at the private level.

From such illustrations, one can observe certain characteristic features of action programs. In the first place, they are designed to induce change in the attitudes, behavior, practices or organization of people in some target population. The objective or objectives of the action tend to be specific and are presumed to be in response to some problem or need of the recipient population. More fundamentally, however, action programs have a national or nationalistic goal to be served. Action programs involve the direct face-to-face encounter of the experts and the public. The experts are generally "outsiders" in one or more important respects, such as occupationally, educationally or residentially. Of particular moment, they are "outsiders" with respect to the goals or purposes which induce them to "serve". The modes of action are education, demonstration, persuasion and direct assistance of varying sorts. Reliance on the police power or executive compulsion is at a minimum, though the government may sponsor the project and the police power may be implied.

From the point of view of the present discussion, the most important characteristic of action programs to-date is their considerable degree of uncertainty. We are a long way from predicting the success or outcomes of action programs. We still find ourselves asking, what "relevant sociological breakthroughs can (social scientists) share with our policy makers and change agents?"²

Actually, significant progress has been made. The planners have come a long way from the view that directed social change is simply a matter of introducing modern technology. The social scientists can take the lion's share of the credit for this. It is a contribution of no small importance to have observed and documented the general proposition that directed change cannot be effected in one area without consideration of collateral resistances and changes in other areas of the existing social and cultural context. In relation to action programs in the Philippines, this general proposition has been articulated with respect to value-systems, work patterns, political structure and other areas of the on-going social order. A substantial body of analytical reports already exists: one thinks of the work done by Dr. Castillo and her colleagues at Los Baños, the writings of Mrs. Hollnsteiner and the impressive series of reports published by the Community Development Research Council.

Important as these observations have been, there is admittedly a long row to hoe; more aptly, a large field of long rows. The problem of induced or directed change is actually one of finding the methods required to speed up the rate of change as compared with earlier and largely unplanned transactions. The social sciences have demonstrated that this effort calls for simultaneous or co-ordinated change at the technological, institutional and ideological levels. It remains to discover the compatible "system" of changes in these areas, consistent with national goals, and the developmental steps to bring them about with maximum speed and minimum social tension and disorder. The proportions of this task are not underestimated. The studies just mentioned, for instance, have been far from smug about their results; rather they have spelled-out a number of "next steps" or problems

² Castillo, G. T., "The Problems of a Developing World: A Challenge to the Sociologist," *Philippine Sociological Review*, Vol. XIII, No. 4, October, 1965, pp. 193-199.

for research alongside their recommendations.

Action and Research

The purpose of the present remarks is to consider the strategies of research in action programs rather than particular lines of action or the subject-matter for research in such programs. Much less attention has been directed to the question of research strategies. I use the word "strategies" deliberately to suggest not only methodology but the more general problems of the relations between the research process and action. Beyond the choice of methods for observing and collecting data, action research, more than any other, needs to consider the social and cultural context in which it takes place, as these affect the research process itself.

Action programs have an essentially experimental character insofar as their success or effectiveness remains largely uncertain and unassured before hand. This is not to say that they should be regarded as primarily experiments from the policy-makers' or administrators' point of view. But more often their experimental character is ignored or unperceived, much less exploited.

Precisely because of the uncertainty element, and because both time and funds are limited, adequate research should be built into action programs for purposes of both evaluation and more fundamental study. Impressionistic post-mortems, even when clothed in professional jargon, are no substitute for built-in evaluation.

The linkage of scientific research techniques and action programs is an efficient use of research resources, on one hand, and implies economies in action programs on the other. A current flow of evaluation data permits the quick abandonment or revision of inferior projects and the expansion of superior ones.

Relation of Action and Research

Action implies *valuation*; research implies *evaluation*. An action orientation is concerned with "getting the job done" — with commitment to a desired goal. Research is focused on observation and analysis of how the job is done — on the technology of means in relation to ends — whether or not the researcher personally values the ends. The distinction is crucial, but it has given rise to certain confusions that have tended to limit the effectiveness of both.

In the first place, research and experimentation tend to be viewed as separate from action in time and place. Research as a basis of planning is likely to be considered anterior to action. It tends to consist of reviewing and borrowing from studies and reports on previous programs. Research, as a basis of evaluation, tends to be viewed as following action — principally when something has gone wrong or a program has been less effective than hoped for. But such uses of research are quite limited. The results of other programs are often not transferable at least not without major adjustments. Evaluative studies after the fact must be based on memory and upon the impressions of key informants for the most part.

The maximum benefit from research in action programs is obtained when the two proceed together. The action itself is the primary basis of observation on which evaluation and fundamental research must be based.

The ideal research situation is that in which the conditions for experimental design prevail. Wherever an action program is planned, with reasonably unambiguous goals and clearly defined procedures of action, the possibility of measuring success or effectiveness — the possibility of experimental design exists.

But the distinction between action and research has tended to obscure the experimental character of action programs. On one hand, the idea of experimentation is too often identified with laboratory conditions, removed from the vagaries of everyday life. On the other hand, the suggestion of experimentation in the context of everyday life is often considered an unwarranted intrusion of scientific values into valued human affairs; that is, there is the fear of placing the requirements of observation before the requirements of achieving program goals. Moreover, there is the vague fear that people will be treated as mere guinea pigs, to be manipulated by the researcher but outside his concern or interest.

The error in these views is in the identification of experimental method with controlled or wholly manipulated conditions. The hallmark of experimentation is controlled observations, in which strictly controlled conditions are a desirable and efficient, but not wholly necessary tool. Moreover, to the extent that controls are introduced into action programs, they operate upon the change agents and their activities rather than upon the recipient population; that is, control in the laboratory sense is applied to the stimulus and not to the response. This sort of control may be illustrated in the designation of different field methods or "treatments" applied to different sub-samples or communities in the recipient population.³

³ Admittedly, even this sort of control can run into difficulties which affect the outcome. If the selection of different segments for different "treatments" were somehow to appear as favoritism of one segment over another, or to become enmeshed in the on-going rivalries or violate the status structure of the recipient population, one might well expect reaction from that population which would materially effect the outcome and leave the findings in some doubt. Appropriate sampling procedures should minimize these possible difficulties.

An interesting recent illustration of this procedure is reported by Berelson and Freedman in "A Study of Fertility Control," *Scientific American*, May, 1964.

Equally important, the social scientist can obtain a high, and eminently practical, degree of controlled observation by contemporary methods of sampling and statistical analysis.

Still another confusion has arisen from the almost hallowed precept "thou shalt not make value judgments". The injunction seems to have led more than a few social scientists to the erroneous view that they should eschew involvement in practical, especially controversial, affairs. Inasmuch as research is a human activity involving choices, it implies values. But the value propositions behind the choice of a research problem — which are not necessarily those imputed by critics — are extrinsic to the research process itself. The allocation of funds to research tasks is a process heavily involved with value choices; a process which is having the salutary effect of guiding research into areas that are more relevant to the immediate problems of the human condition. The social scientists in this sense, need not be apologetic for involving themselves in action research.

But the problem of value judgments is no mere bogey. There is always the danger of value judgments intruding into the research process itself — of becoming intrinsic. Refusing to examine alternative hypotheses that might explain the same observed relationships; refusing to consider alternative solutions to the same problem; wittingly or unwittingly selecting from among observations those that favor a preferred conclusion; insinuating non-empirical propositions into the structure of hypotheses and then claiming to have "proved" them; resorting to expressive adjectives to exaggerate or minimize the significance of a finding. All of these are illustrations of value bias in the research process which we are familiar with, if not always guarded against.

The Role of the Researcher in Action Program

The distinction between action and research has important implications for the role of the researcher in action programs. If it is erroneous — even ridiculous — to expect the scientist as a person to abnegate that peculiarly human capacity for valuing and choosing, it is equally erroneous to sanctify all his pronouncements and opinions as scientific and value free, or to accord him greater wisdom in selecting the right values. By the same token, the scientist who so views himself runs the risk of value-loaded research.

Three propositions distinguishing the role of the researcher in action programs seem important. First, the researcher should stay out of administration; the research function should be located in an administratively separate agency. Where the researcher is responsible for administration, or where the research agency is administratively subordinate to the action program, the research operation becomes one of self evaluation. It is the rare person or agency that can evaluate itself with stark honesty if honesty leads to the conclusion of ineffectiveness or failure in a program; the pressures for budget justification, let alone the all too human failure of self-righteousness, place the research results in jeopardy.

Second, the researcher should serve the policy-making function only in a consultant capacity. In this capacity, it is not his job to be an advocate or special pleader for a particular program. Rather it is the consultant's role to present various alternatives and the weaknesses or strengths of each, leaving the decisions where they should be with the policy-makers and administrators.

Third, the researcher will be most valuable if he possesses a sense of the rele-

vant. Unfortunately this appears more a character trait than a learned skill. But possibly a little sensitivity to the requirements of the decision-making process can be acquired by all. The qualified researcher may be expected to perceive the possible relevance of many more variables than the administrator because it is central to the nature of his work. But if his role calls for the jaundiced eye of the skeptic, it is well to keep his skepticism in check. There is too often a tendency to convert skepticism to certainty, and to present hypotheses as facts. Rather the task is to incorporate such skepticism, and the hypotheses flowing from it, into the research process and obtain verified observations.

The Phases of Action

Since action is the focus of research, the planning of the action program is logically prior to that of research. Action programs are perhaps best viewed as organic or evolving processes, rather than programmed packages with a clear beginning, middle and end. Such a perspective acknowledges the uncertainty element to begin with, places a premium on flexibility and imaginative management, and lessens bureaucratic concern for instant success. But of equal importance, this organic perspective focuses attention on the factor of growth from a "pilot project" to implementation across the board.

At all stages of growth, action programs constitute continuing decision-making processes with logically distinguishable, though inter-related phases. For present purposes, I would distinguish six phases which have their counterparts in the design and execution of the associated research plan.

1. *Defining the problem*: The statement of an action problem is not a simple matter of generalities or aspirations, such

as "promoting the general welfare"; "developing citizenship responsibility," or "improving agricultural production". In each instance, there needs to be further and explicit definition of exactly what action will be taken to meet or promote such goals. In the matter of improving agricultural production, for example, there might be one or more of a series of possible specific actions, from the introduction of new hybrids, new crops, fertilizers, irrigation, and new technology, to revisions in the ownership and organization of land or a new system of cooperation among farmers. In each such case an objective measure of success or failure can be established.

2. *Assessing alternative solutions:* This step involves some degree of information gathering with a particular eye to anticipating the obstacles to success. A few questions will illustrate some of the more familiar obstacles encountered in most action programs. To what extent does the recipient population itself feel the need for the specific change? To what extent are the purposes for the change as seen by the experts (usually some national goal, such as improving agricultural output) identical with the purposes or motivations for accepting the change as seen by the recipient population? To what extent can the expert guarantee that the benefits of the program will be retained by the recipient population or the cooperating segment of it? What collateral changes in the patterns of living in the recipient population will be required to effectively incorporate the specific change? If the social scientists have done nothing else, they have provided a long list of such crucial questions for the planner to consider before he ever selects a barrio or devises a plan for action.

What these and related questions amount to is a detailed checklist in proposing, and selecting among, alternative

courses of action. The checklist might systematically be grouped into categories or components of action. As a beginning one might suggest the following, drawn rather unsystematically from the literature of action programs in the Philippines: Problems relating to the acceptance and role of the experts vis-a-vis the recipient population; problems relating to the development of local counterparts of the experts in effecting the action; problems relating to the transfer of the project to local personnel on a self-sustaining basis; problems relating to the dissemination of information and stimulating motivation in the recipient population; the identification of unanticipated consequences for other areas of personal, family or community life arising from (a) the intrusion of the experts and (b) the adoption of the specific change, and problems relating to the provision and distribution of direct assistance with respect to initiating the project and with respect to the ultimate withdrawal of the outside assistance.⁴

It may prove to be the case that the introduction of a single, highly specific change will involve a number of subsidiary changes. For instance, the introduction of hand tractors into a given farm community may actually raise problems of under-employment, by virtue of cutting down work hours to produce the same or a larger crop. In consequence, it may prove necessary to stimulate alternative productive activities such as the production of additional crops or employment in local industries. To put such a program on a self-sustaining basis may require development of producer co-ops or a credit union plan. The use of tractors may interfere with traditional communal-modes of plant-

⁴ Castillo, G. T. *et al.*, "A Development Program in Action: A Progress Report on a Philippine Case," *Asian Studies*, Vol. II, No. 1, April 1964. This article raises a number of similar questions and more, based on a particular pilot project.

ing and their associated patterns of conversation, play or work-breaks. While such problems may well be insoluble in a single program, they must be considered in planning the scope of a program and its chances of lasting success.

3. *Selecting a course of action:* The courses of action available depend on such mundane factors as required and available personnel and upon budgetary limitations. It may well be that certain ancillary changes that would increase the probabilities of success cannot be undertaken for lack of funds or other logistical reasons, or because the changes would require a long period of time preliminary to instituting the major object of the program.

Beyond these limitations, selecting a course of action will depend upon the foreseeable ramifications in other areas of living in the recipient population. The more limited the ramifications of change in a given action goal, or the more limited they appear to be, the more direct and simple the action approach will be. The greater the perceived ramifications, the greater is the range of likely alternative approaches. Similarly, the greater the number of intended changes to be aimed at, as in a multiple-action team approach, the greater the range of likely treatments procedures. It is precisely in this range of possible field approaches or treatments that the experimental element arises most explicitly.

4. *Implementing the Action:* It is the course of wisdom to recognize the limitations of existing knowledge and expertise by introducing action programs through "pilot projects" in one or a limited number of areas. On the other hand, one should also be prepared to undertake several such projects with a view to testing different procedures and to accumulating viable experience and information. In each such pilot project, the line of action to be tested

should be pursued consistently up to the point of at least a first evaluation. Sudden changes in procedure, however, reasonable, confound the results.

But despite modest beginnings, it must be remembered that the object of the action is eventually a general social change (i.e. inclusion of the entire population subject to the change). The experimental character of the action may diminish with accumulated knowledge but it remains experimental nonetheless up to the general or national level, simply because we do not know beforehand how applicable is the experience and information gained in one or a limited number of areas.

5. *Evaluating action in relation to goals and methods:* This is the research operation itself.

6. *Redefining the problem:* This is the final phase of one cycle and the first phase of the next. Yet it is the phase, I suspect, which is least consciously planned for. Evaluation is perhaps more often thought of as the end of a project after which it should be self-sustaining or considered a failure. Rather, this is the phase where the project should be assessed for possible expansion to other test areas or for revision in a new pilot program. Recognizing the importance of this phase at the outset can minimize anxieties about success and criticism, and can enhance the administrators' acceptance of careful evaluation.

Research Design

Research results are an integral part of at least four of the preceding phases of action programs. In fact, the planning of the research operation itself can be divided into three broad phases: (1) what information is needed for evaluation or what are the research objectives; (2) what research methods are available and most

appropriate to the requirements of the various phases of the action program and (3) what is the possible impact of the research itself on the action and upon the research results?

1. *Research objectives*: It is useful to consider research objectives in at least four categories. First there is the bread-and-butter task of measuring the effectiveness or success of the program objectives. Second, and of equal importance is evaluating the comparative effectiveness of different action procedures or "treatments". Thirdly, there is what we may call the long term gains of fundamental research. Finally, there is the possible concern for assessing the internal organization and efficiency of the action personnel as an organization.

Measurement of the effectiveness or success of action goals is one of the principal reasons for insisting on clearly and empirically defined objectives. In some instances, the goal may be highly specific and objective while in others it will be highly complex and partly subjective. In the former case, such as in family planning programs, direct objective measures may be easy to come by, such as the trend in the birth rate, frequency of pregnancy, frequency of acceptance of various family planning methods, use-effectiveness measures of the various methods. In the more complex and somewhat subjective case, such as a program to increase citizenship responsibility, it will be necessary to develop objective indices rather than direct measures. Illustrations in this case might be frequency of attendance at community meetings, acceptance of duties in community functions, partisan and voting participation, and so on. Measurements of changing attitudes and opinions may also be used in some instances, but it is far more difficult to measure mental dispositions reliably, to be assured of their stabi-

lity over time, to be assured of comparability of meaning to different respondents, or to determine their implications for social change.

The objective measures of effectiveness or success of an action program, whether direct or indirect, constitute the major dependent variables in evaluation.⁵

Where alternative methods or "treatments" are used to introduce a change, evaluation will call for comparative study of the alternative methods. It is in this aspect of action programs that research places the greatest constraint on action; but it is a constraint that is no greater than should be expected for sound evaluation in any case. Evaluation of alternative procedures calls for clear discrimination of the population according to type of procedure applied. Ideally this would be a process of randomization in the assignment of people, families or other units of study to receive the different treatments. Where randomization is not practical, the use of different but approximately homogenous communities is desirable. In any case, each treatment or combination of procedures should be applied independently and consistently until an evaluation can be made. The treatment procedures cannot be altered without risking the validity of evaluation data, for each change becomes itself a part of the treatment and will be practically impossible to evaluate separately.

One possible difficulty that may arise where the test populations are in a position to inter-stimulate each other with respect to a given change, is that of radiation or diffusion. For instance, where two communities are selected as recipients of an action program to introduce a new type

⁵ Hauser, P. M., "On Design for Experiment and Research in Fertility Control," in Kiser, C. V., *Research in Family Planning*, Princeton University Press, Princeton, New Jersey, 1962, pp. 463-474.

of rice, it may be that, despite different procedures used to introduce the innovation, the degree of success or failure will be due to competitive interests between the communities. This may be heightened if the communities feel they are getting differential treatment. Similarly, where individuals are the object of attention, there may be transmission of information and changing values across treatment groups which will tend to reinforce the action procedures. This is not necessarily a bad thing from the action point of view, and may in fact be highly valuable. The processes of diffusion as enhancers or inhibitors of the rate and spread of change are an important area of research in social change which have been largely neglected. On the other hand, such diffusion can interfere with the validity of the research results if it is not taken into account. In a survey operation this can be done by direct inquiry into the sources of information about the program which people have encountered. The important problem is to obtain some measure of the intensity of the diffusion effect rather than to bemoan it.

The comparative efficiency of different treatment methods is measured by the relative success of the action in comparable periods of time. The different treatments or procedures therefore are not themselves dependent variables but are, as Hauser observes, the experimental independent variables.⁶

Clearly, the simple measurement of success or effectiveness of an action program, even when classified by type of treatment or field procedure, has only the simplest administrative value. It does little more than take the temperature of the program. Important as this may be for day-to-day planning of say logistic needs, it offers little or no understanding of how

the program is working. Perhaps it could be even more successful or rapid; perhaps, in fact, all treatments are equally successful but variations nonetheless appear due to variations in "other things" which are not equal.

A third set of variables mentioned by Hauser, and familiar to all in survey work, are what he calls the control independent variables. These too can be fairly well generalized for all action programs, though they may vary in importance as causal factors from one program to another. Most familiar in survey work are the demographic and socio-economic characteristics of the population, such as age, sex, marital status, ethnicity, religion, occupation, income, education and so on. Equally common in contemporary surveys are various social-psychological variables, though the dimensions on which attitudes and opinions are measured vary as greatly as the subject-matter of surveys.

Hauser has emphasized the need to consider more cultural and social organization factors among the control independent variables. He has discussed these in two broad categories: characteristic of the entire social milieu and sub-cultural characteristics. He has proposed classifying the social milieu, such as communities, into three classes—traditional, transitional and advanced—according to their position on a composite scale of five items: economic development, community action, environmental development, educational facilities and medical services.⁷ The sub-cultural characteristics are familiar to us in such categorizations as race, religion and ethnicity. But these traditional categories are not as applicable or useful in all places. The usual rural-urban differences are not likely to be as meaningful in the economically less developed areas, where a further differentiation of rural

⁶ *Ibid.*

⁷ *Ibid.* pp. 468-469.

communities, say by frequency of contacts with and distance from a major urban center, would be more useful. Similarly, "style of life" may be expected to vary quite considerably between different rural communities but in ways quite different from contemporary Western experience. Castillo has generalized the importance of community variations for all community development research in observing that "we need analysis at the macro level in order to take into account the interaction and interdependence between the large society and the particular village or villages one is looking at. Would the concept of a dual or multiple society be more heuristic?"⁸

The control independent variables constitute the heart of the analysis, in relation to which variability in the success of the program is identified and explained. On one hand, the imaginative use of control variable will locate those segments of the population most and least susceptible to the innovation. On the other hand, they indicate the associated characteristic or conditions under which the rate of acceptance of change is greatest or lowest within the various segments.

Important as the control independent variables are for administrative and policy purposes, they are also central to the analysis of fundamental problems of change. For instance, in family planning programs, there is need for a reliable study of the rhythm method for limiting family size; there is need to examine more closely the proposition that large families are not only actively desired by peasant populations but are explicitly valued as old-age insurance; there is need to examine the proposition that family planning—or certain methods—are destructive of family life and values, or more destructive than

the absence of planning altogether. Reference was made earlier to the research problems that have been identified in the literature of community development programs in the Philippines.

The control independent variables also have important uses apart from the study of variations in the success of a particular action program. For one thing, they provide valuable descriptive information on the population which may be used to evaluate other types of data. For instance, assuming an appropriate sample, surveys associated with action programs may be used to assess the reliability of census data or intercensal estimates about population, and to assess the completeness of birth and death registration.⁹ There are numerous other evaluative uses of such data as with respect to education and health. In addition, under appropriate circumstances, the control independent variables may be examined among themselves—that is, using selected ones as dependent variables in relation to others. Valuable information on migration patterns, changing patterns in the labor force, or family organization can be carried out. It is precisely in these uses that action surveys may provide valuable cumulative information from study to study, greatly strengthening the nations' body of social and economic information. Such cumulative use of surveys, of course, implies a deliberate effort to bring such data together, to work out the problems of comparability and to prepare composite analyses. This might be a useful "action" program in itself.

The final set of research objectives that was mentioned concerned the assess-

⁸ Castillo, G. T., "The Problems of a Developing World," *Op. Cit.*; p. 193.

⁹ Concepcion, M. B., "Under-Registration and Estimation of Births and Deaths in a Philippine Municipality," *Philippine Sociological Review*, Vol. XIII, No. 4, Oct. 1965, pp. 227-231. While not part of an action research plan, this study demonstrates the value of survey techniques in evaluating vital registration.

ment of internal efficiency of the program; the evaluation of personnel and the manner of organization. This type of research focus is illustrated in pilot program in Laguna Province to test the feasibility of integrating the services of three agencies concerned with rural development into cooperative teams.¹⁰

Evaluation of personnel has two aspects: one with respect to hiring, firing, promoting and guiding specific personnel, and one with respect to evaluating the abstracted roles and organization of personnel in relation to action objectives. The distinction is very much the same as that between action and research; the former is valuative in the sense of whether or not given persons are doing an acceptable job, while the latter is evaluative in the sense of whether or not given roles effectively contribute to the action. As the researcher should remain outside administration and policy-making, so he should remain outside supervision which is but a part of administration. Unless this line can be sharply and persuasively drawn, the researcher may well appear as an interloper and a personal threat to the action personnel at many levels.

Since evaluation of the roles and organization of personnel in the action program has a different focus, it may well be that this research objective will call for an entirely separate research design, and should probably be undertaken by a separate research agency or at least a different group of investigators.

The two areas of research do come together where the dependent variable used for evaluating a worker's contribution is the same as that for testing a given field method—where the worker may be viewed as a "treatment" variable.

Similarly, where a team approach is used in a multiple action program aimed at implementing several action goals simultaneously, this could be considered one type of treatment. It would require comparative data on the achievement of the separate action goals without the team approach. Perhaps some comparative data, although not experimentally obtained, can be developed in relation to the Laguna team study, for surely it is an important question in action programs whether or not the separate change activities in a coordinated program are mutually supporting.

2. *Research methods:* The discussion so far has been directed toward the use of an experimental design. This has been the case because, on one hand, action programs involve the deliberate or planned introduction of some change stimulus that is intended (that is, hypothesized) to produce a given type of change, and on the other hand, the experimental design is the most efficient and economical scientific procedure.

But this is not to argue that other procedures are of no value or relevance. In fact, other procedures are more often available to the social scientist. It is important then to recognize the usefulness of other procedures in action programs.

Jahoda, Deutsch and Cook, in their discussion of research design used a three-fold distinction with respect to types of sociological studies: formulative or exploratory studies, descriptive and diagnostic studies, and experimental studies.¹¹ The formulative or exploratory study is of primary importance in areas of research and planning where experience is limited and where "problems" are not clearly defined. As such it is important in the planning

¹⁰ Castillo, G. T., "The Researcher in a Program of Planned Change," *The U.P. Research Digest*, Vol. III, No. 4, Oct. 1964, pp. 25-31, and Vol. IV, No. 1, Jan. 1965, pp. 26-30.

¹¹ Jahoda, M., Deutsch, M. and Cook, S. W., *Research Methods in Social Relations*, Dryden Press, New York, 1954, Part 1 Chapter 3.

stages of action programs. It may consist of what has been termed "library research" or the gathering of relevant reports and research findings based on experience elsewhere. It may also consist of interviewing experienced persons in areas related to the problem of study or in intensive case studies of persons or communities who are strategically situated to throw light on the problem. The hallmark of such research is flexibility, the quest for relevant variables, and the formulation of working hypotheses. Such studies are preliminary to the scientific task of accurate description and testing of hypotheses. An astute observer of people and society, such as Alexis de Tonqueville, can provide significant "insights" for formulating hypotheses. By the same token, the contemporary journalist who is removed from any concern with the rigors of data gathering, hypothesis testing and problems of evidence, may well "assume a more influential role in defining sociological problems than any single sociologist. . ."¹² But this remains a quite different sort of problem defining than the sociologist, or social scientists in general, must face when contemplating concrete research proposals.

The descriptive and diagnostic studies are far less flexible, moving toward the problems of measurement and hypothesis-testing. Probably the great majority of sociological studies still reside in this category. Census and survey reports are quite frequently pure descriptive of a given situation. This is not to suggest that they are inferior, but that they do not test hypotheses. A sound descriptive of the ethnic composition of different occupations or communities may be a reasonable basis for inferring discrimination or differences in community tensions; a sound description of the educational achievement in a community may give some idea of its capa-

city to accept a given type of change; crime statistics are relevant to reflections on the stability of a community. Diagnostic studies proceed beyond the description or tabulation of characteristics to an analysis of variations in one characteristic in relation to others; they may equally well consist of analyses of changes in characteristics over time. In this latter respect, diagnostic studies shade into experimental studies.

Descriptive and diagnostic studies, where feasible, are a powerful tool in planning action programs. In fact, such studies may provide the benchmark data in a full-scale experimental design.

The experimental study has, as minimum requirements, the observation of effects from one or more specific stimuli, and the selection of control and experimental populations or communities. There are various degrees of sophistication in experimental design with increasing rigor of controlled observation. One very common type, and the least distinguishable from a diagnostic study, is the "after-only" or ex post facto study. This type is illustrated by the situation where an action program has been presented and, at some later date, the researcher is called upon to make an evaluation. In this design it is presumed that the control and the experimental groups were similar or broadly matched in their initial characteristics. This is seldom the case. In addition, initial characteristics of both groups cannot be inferred from the "after-only" survey, for there may well have been changes in correlated characteristics over the period of the "experiment" or action which may be ascribable to the action also.

What I would call the full-scale experimental design involves one or more experimental groups (depending on the number of treatments to be tested) and at least one control group receiving no treatment.

¹² Castillo, G. T., *The Problems of a Developing World, Op. Cit.*, p. 199.

While these groups should be more or less matched or similar on relevant characteristics, this often cannot be achieved in practice. Sampling procedures and analytical techniques may be combined, however, to approximate this condition for practical purposes. In some instances, as in small pilot studies, it may be necessary to employ different communities which may differ significantly in crucial respects. Here too, analytical techniques can help materially to reduce problems of comparability, where no form of random assignments can be employed. In any case, an accurate baseline census or description of the population is an important first step in study design.

Following such a census, a benchmark survey of the several treatment groups is the next step, to obtain basic information on the attitudes and practices of the population (or a sample) with respect to the proposed change or changes to be introduced. It should include data on all the independent variables. This survey, conducted prior to the introduction of the action program, may be used as a valuable tool in generating specific hypotheses, on one hand, and in planning alternative procedures on the other. It is, in effect, a diagnostic study in itself.

In the course of the action program, there is need for continued data gathering of various types where possible. For instance, in a family planning program, it would be important to assure accurate vital records as far as possible; clinical records on those responding to the campaign and requesting family planning information should be established and consistently maintained. In a community development program, records of attendance at educational and demonstration programs, and records of those accepting the changes along with relevant actions taken by each respondent, should be maintained.

Finally, for those persons, families or other units exposed to the action who initially accept the program, there should be some means for special follow-up studies to closely measure success or subsequent rejection of the program.

Finally, at one or more designated points in time, after the action program has been initiated, subsequent surveys of the population, parallel to the benchmark survey, should be made to assess overall change with respect to the goals of the program. The "before" and the "after" surveys should be closely tied to each other with respect to the variables examined. The "after" survey would include information on the effects of the experimental independent variables. The "after" survey would also contain questions on sources of influence to accept or reject the change arising from outside the specific action treatment. This sort of data is crucial to the study of diffusion of treatments from one group to another, and the study of intervening events during the program.

Whether on the questionnaires or by other methods, community characteristics should be classified and included in the analysis. This is perhaps particularly crucial where different treatments have been assigned on the basis of whole communities.

3. *Impact of the research operation on the action and the research findings:* The primary distinction between research in the physical sciences and in the social sciences is that the latter is itself a social relationship. Mention has already been made, in a very general way, of the possible sources of bias arising from the researcher's inner disposition and his professional context. The physical scientist is no less subject to these sorts of bias, although the much longer history of the physical sciences and their higher development pret-

ty much assures quick detection of bias in actual research results.

Bias in observations arising from the subject—from what is observed—however, seems almost peculiarly a problem of the social sciences. The respondent, whether a community or a person, may well be affected by the very process of being observed. The changes in behavior under testing situations demonstrate this possibility. The Roethlisberger and Dixon studies provided a classic illustration of how production increased, not wholly as a result of the experimental treatments, but markedly as a result of the special social context created by the experiments themselves. Communities anticipating aid might well be more receptive to a survey than others. Hollnsteiner and others have taken note of a tendency among Philippine respondents to give "courtesy responses" to interviewers; that is to respond with what it is thought the interviewer wants to hear.¹³ Similar to the "courtesy response" is the problem of disentangling various dimensions in responses; some will answer relative to an ideal or moral notion, others with respect to personal desires or expectations and others with respect to how they think the neighbors might view a problem.

Still another source of bias may be in the educational function of the survey. It may be that respondents have had little prior knowledge about, or given little thought to, a particular subject. On one hand, the initial survey may dispose to greater acceptance of the change than would otherwise have been the case. On the other hand, being exposed to the subject for the first time may give rise to serious errors in response which will bias

the measures of change; this we may expect would be particularly true about data on attitudes. Nonetheless, from the point of the action program, any educational value of the survey may be all to the good. In this case, a useful addition to the study would be a treatment group which was exposed to a survey only after the action program.

Numerous other sources of possible bias arise from the interview situation. The sex, age, dress, education, manners and so on of the interviewer may have distinct positive or negative effects on the interview results. These effects can be controlled statistically to some degree, if it is thought they actually reduce total responses or those willing to be interviewed at all. Similarly, the interview situation has been known to cause variation; whether the husband, the wife or both are interviewed, and whether they are interviewed jointly or separately, can influence response. The administration of interviews to children away from their homes may cause repercussions with the parents, and so on. These possible sources of bias can doubtless be minimized by prior study of community customs and attitudes toward strangers, toward age and sex status rankings and similar conditions of the interview situation.

Summary

Action programs, or the attempt to induce technological and social change through rational designs, promise to be a major institutional bridge between the rather tradition-bound present and the desired future.

By the very uncertainty as to their outcomes, action programs have a distinctly experimental character. While this does not imply that the administrator should approach his task simply as a scientific experiment, this experimental character should

¹³ Hollnsteiner, M., *The Dynamics of Power in a Philippine Municipality*, Community Development Research Council, University of the Philippines, Manila, 1963, pp. 198-202.

be exploited in a sound program of evaluative research.

The distinction between action and research indicates the need for a clear division of labor between the administrators and policy-makers, on one hand, and the scientists, on the other. Specifically, the researcher should serve the policy-maker in a purely consultative capacity and should neither accept nor have thrust upon him the responsibility for action decisions. The researcher should also avoid administrative responsibility for action. By a similar argument, the research agency ought to be different from the administrative agency. Mixing the roles of research and administration constitutes self-evaluation and invites more or less seriously biased results.

Since action is the focus of research, the planning of the action program is logically prior to that of research. Action programs constitute continuing decision-making processes, however, with logically distinguishable phases. Six such stages were identified for present purposes: definition of the problem, assessing alternative solutions, selecting a course of action, implementing the action, evaluation of the action and re-definition of the problem. The phases are cyclical in a pattern of growth from the preliminary pilot project to full-scale implementation.

Research plays an integral part in at least four of the phases of action. The design of the research may also be thought of in distinguishable phases: what are the research objectives, what are the available and preferable methods, what is the possible impact of the research process on the action and the research?

Because of the opportunity for experimental design in action programs, the research objectives were specified in terms of such a design. Four objectives were

mentioned. First, the bread-and-butter task of measuring the effectiveness of the action, requires clearly and empirically defined goals and objective measurements, such as rates of acceptance, and frequency of characteristics which are indicators of acceptance. Second, evaluation of the comparative effectiveness of different action procedures or treatments by which the action is to be achieved. These constitute the experimental independent variables. With respect to both the dependent variables (measurements of action success or effectiveness) and the experimental independent variables, it is of prime importance to introduce a series of control independent variables by which various hypotheses concerning the extent or rate of change in different groups may be tested. Third among the research objectives were the long term gains to fundamental research. Such findings require longer and more detailed analysis which, while it may often be highly relevant to the action, may not be completed in time to be particularly meaningful in a given field trial. On the other hand, it was noted that such research uses of data from action programs may throw important light on the dynamics of change, may offer important and cumulative data for the evaluation of other statistical systems, and may also yield important subsidiary relationships of great value to researchers and administrators in other areas of social planning and action. Fourthly, mention was made of research into the internal organization and operation of the action staff. While conceivably of great importance, it was suggested that this objective might best be carried out by a different research staff or agency.

Although the research operation is logically distinguishable from, and contingent upon, the action planning, research actually participates in important ways in most phases of the action. It was noted that, while the experimental design was the

primary consideration with respect to studying the particular action, other research methods might be quite as crucial, particularly in the initial and planning phases.

Emphasis was placed upon the "full-scale" experimental design as the most valuable wherever feasible. This included the use of experimental and control groups in both "before" and "after" surveys. The importance of obtaining experimental and control groups that were nearly homogeneous on initial characteristics was stressed.

Attention was directed primarily to the situation at the outset of an action program. In consequence, the discussion was focused on the pilot study phase of the program. It should be added here, that pilot studies very often are limited in their applicability to other segments of a national population, as they are limited in application to other countries. The experimental characteristic of a given action program remains through the period of initial implementation at a nationwide level. In consequence, just as one may expect to profit from an organic or growth perspective with respect to action, the same perspective applies to the research side. One should aim eventually at a nationwide experimental design in which the cumulative experience and information of

pilot studies would be of primary importance.

Finally, some consideration was given to the now well-known, but not thoroughly studied, problems of the impact of research operations on the action results and the research findings. It was noted that such interaction, while it should be made as explicit as possible, is not necessarily harmful from the point of view of the action program. For instance, while the primary aim of an initial survey is not to educate the recipient population, it may well have this salutary effect. It would be worthwhile documenting this effect, if any, which could be done through the use of an additional control group surveyed only "after" the action program has ended or been well advanced.

Action programs provide the greatest opportunity for the social scientist to contribute to major practical problems of our day, while enjoying a close to ideal experimental conditions as can be hoped for. Moreover, such research promises important rewards for the advancement of the social sciences to mature status. Under these conditions, it is not unreasonable to expect that the social scientist would not only offer his services but would actively engage in selling their importance to administrators and policy-makers.

The Filipino Mental Make-up and Science

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The problem of the Filipino mental make-up and science suggests itself in any consideration of such broad subjects as progress and industrialization, or in

a narrower and more specific subject as man-power development and economic growth. The term "mental make-up" suggests several elements of the Filipino sensibility or the thinking behavior of the average Filipino. The phrase may

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