GOVERNMENT AGENCY EFFORTS IN QUALITY OF LIFE IMPACTS

By

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Proponents of water resource development programs must and do justify their existence, if not always their projects, by their impact on the quality of life. This justification may begin with that sense that most true water people have of the ubiquitous, life giving role of two little atoms of hydrogen linked to one of oxygen. That justification certainly does not end with the morale building exhortations of agency leaders about the need that society has for the services of water and thus the services of their agencies. But this is a very different thing from including impacts of quality of life in that strength of bureaucracy, the systematic procedures for evaluation and planning.

Water agencies can be said to have used a proxy for quality of life in their procedures in that they have developed the application of benefit-cost analysis to a level of sophistication that few other branches of government have reached. While commonly said to be tied to concepts of economic efficiency and materialistic gross national product, they usually have gone beyond the limits of those concepts both in the development of the analysis and certainly in their formal and informal justifications of their projects and programs. But this conference would not have been called if the water agencies, and their evaluation procedures, were not under new forms of attack. We need to understand the nature of this turn of political events both to understand what the agencies have done with the analysis of quality of life impacts and where future research should be directed. Several other papers at this conference are directed to this end, also; but to make some of my conclusions clear, I feel the necessity to present some of my own notions of how we got where we are. Hopefully, this will complement and build upon these other efforts.

1/ This paper was prepared for presentation to a conference on "Social Well Being - Quality of Life Dimension in Water Resources Planning and Development," held at Utah State University, Logan, Utah, July 10-12, 1973. Thanks are due to Helen Ingram, Harold Capener and Peter Gore for various constructive comments.

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Economics has been a major source of social analytics used by the water agencies and will continue to be for some very practical reasons. But there are also very viable reasons for the more behavioral social sciences to be adopted by agencies. Nonetheless, the outlook for new analytics suggests that this paper should review some of the recent experiments by the agencies and others emphasizing income redistribution.

The Political Context for Agency Planning[3/]

Federal agencies have dominated the water game for years. Until quite recently the accepted role for federal intervention was by investment in public works. The wider grants economy for local governments and serious federal participation in the regulation of private and other public activities are part of a newer federal system and are related to the changing rules of the game for the project oriented, construction agencies.

Water problems are local problems. The current structure of decision making in federal programs is built on this perception. In public works investments the local identity of the project is not often lost in the decision-making process. While this is more obvious in some programs than others; for example, the Corps of Engineers or the Bureau of Reclamation as compared to the Soil Conservation Service or the Environmental Protection Agency; this essential characteristic is observed in the behavior of the agency and other participants.

Initiation of the project proposals is focused on the locality. Local supporters have to show their interest before the agencies commit significant resources to detailed planning. Comprehensive planning on an inter-agency, river basin basis, has had little effect on the initiation process. Proposals move through quite decentralized agency structures for ratification that is either finalized in the Congress or managed by the agencies in ways that are materially different than the way they would be handled by the Congress if it did it itself. Attitudes of non-interference and mutual accommodation have tended to prevail. Competition for federal investment is between local communities and is regulated by various devices but is dominated by the sense of fair share politics. The agencies are the most obvious participants in this process and are notable for the role which professionalism plays. In large part, these are engineering agencies.

3/ This section draws heavily from David Allee and Helen Ingram, Authorization and Appropriation Processes in Water Resources. Report to the National Water Commission, 1972, NTIS, Springfield, Virginia.

Tests to Limit Competition

The problem of reducing the number of contending localities to manageable proportions has led to a number of tests, applied to the individual project. Participants have honored these tests as a means of preventing conflict and the consequent overloading of the decision making system. Until recent years almost all participants had a stake in the smooth operation of the system.

The first test is technical feasibility. The agencies are respected for their engineering competence and draw upon a wide variety of criteria for the technical test. As long as they can continue to draw support from the wider professional group; their judgment, because it is their professional judgment, usually carries the day. There is evidence to suggest that most projects are rejected or accepted because they are "good" by engineering criteria. The agencies take pains to maintain their competence. On the other hand, good practice in social and economic analysis may be violated with less internal censure and stress. Engineers and engineering have dominated the reward structure. All the agencies have taken some steps to improve the status of other professional points of view in recent years.

Benefit-cost analysis provides an important test. Its use provides a flexible but not completely flexible screen, probably more to eliminate projects than to justify them. In practice the size of the ratio is not particularly important in giving a priority to a project as long as it is over 1.0. Indeed, there may be good reason to keep the ratio around 1.2 to 1.8. Below that range a project is subject to reformulation if some part of the analysis is under attack or if the interest rates to be used for all projects are raised. Ratios over that range attract attention of reviewers who would otherwise give only cursory attention, an important consideration when many share in decisions.

It is hard to sustain the argument that national efficiency has ever been an overriding objective. It certainly has been a major focus for evaluation but as an objective of agency behavior it has certainly held a second place to other objectives. True there are a few policy pronouncements and many statements by economists that it is a primary objective of both analysis and of program. But the benefit-cost ratio has been more like a constraint than an objective. Within that constraint the agencies have sought to maximize a mix that includes the concepts of good engineering practice, the local interest in construction employment, and the redistribution of income to the receiving region from direct and indirect benefits, and of course, local support for the program of the agency. Water projects have been a way for regions to get their share of the federal pie and benefit-cost analysis has set a limit to the extent of such redistribution.

The next test is the evidence of sustained local support. But to date the government has not required the agencies to demonstrate this in a systematic way except in the acceptance of local cost sharing. Indeed under some of our conventional wisdom concepts, it is not considered

proper for agencies to become too intimately involved in developing expressions of support or too overt in the accommodation of conflict. Agencies are supposed to be staffed with technicians, not political activists. Rather local supporters have to be willing to make a case why their needs are worthy.

Changes in the Rules of the Game

The above can be looked upon as some of the rules of the game as the game has been played up to the most recent years. Today there are new elements which have entered into the picture. An important change is that environmentalists have increased their access at the national level, which was always fairly strong, and have now become a significant, often legitimate force in many local situations. This has struck the local support base for water projects in a most fundamental way. Local supporters now may think otherwise about supporting projects that lead into local conflicts. The improvement of access of environmentalists at the local level means that any local fight over environmental problems always poses some threat to be elevated to the national level. The result is that accommodation with the environmentalists on terms that other participants will support is increasingly attractive to both the supporters of traditional projects and the agencies themselves. Another important factor in changing local support is the greater number of alternative federal distributive programs that are available to local leadership. Thus, the water game is not the only game in town.

The net result of these kinds of changes has been an erosion or dilution of the local support base for traditional water programs. I suspect that symptomatic of this is the fact that in recent years the biannual Rivers and Harbors Act, traditionally the cornerstone of the program of the Corps of Engineers, has often been taken up after the election rather than before. While still considered a program where constituent interests must be given careful attention, Congressmen are at least as concerned over the negative vote affecting potential of conflict as they are over the vote getting effect of a project.

There is a new bureaucratic, competitive environment in which water planners must participate. Local power structures have become less unitary and more diffused. Other agencies are offering very similar kinds of awards for local participants. The planner today can rarely be successful only adopting the mantle of the technologist. More and more the planner must become a mobilizer of support for his plans and a broker between the interests that are affected by these plans. This is not a familiar role to many of the professionals in the water agencies. However, there seems to be some evidence that more and more of them are recognizing that the new rules of the game require new behavior on their part.

Multiple objective evaluation holds out the possibility that old established procedures (and ways of handling information) may be loosened up to facilitate adaptation to the new environment for water resource development.

What is it -- Officially?

A previous paper has presented some of the history of the development of proposals by the Water Resources Council for multiple objective procedures in evaluation and planning. A social well-being objective was proposed in the 1970 draft principles and the list of project effects under this heading included the following: (1) income redistribution, (2) population and employment dispersal (also included in the regional development objective), (3) economic stability (also in the national economic development objective), (4) security of life and health, (5) educational, cultural, recreational, and community services (also included in regional development and environmental quality objectives), (6) national security. This first report, referred to as The Blue Book, was limited to statements of principles and did not present procedures and standards for how these principles should be implemented. Procedures were to be written up after some experimentation and "testing" of feasibility in the field. A substantial effort was mounted to test the applicability of multiple objective planning based on this original set of principles. Some 15 teams (six from universities) devised ways to apply the principles in 19 tests on previously planned projects. In response to this type of testing, reaction from the public hearings, professionals, the agencies, Congressional staff and most significantly of all -- the Office of Management and Budget; a new document was prepared. The Office of Management and Budget, it must be noted, plays a key role in project and policy review being essentially the only staff unit with water program expertise in the Executive Office. And OMB approval was necessary for promulgation by the President of new procedures proposed by the Council.

Evaluation is Not the Same as Formulation

In December, 1971 a new version of multiple objective evaluation was published in the Federal Register and represented a substantial change from the original proposal.

In the original proposal social well being, as it was then known, was visualized as an appropriate objective against which to formulate projects, representing a different mix of social values and goals than the other three objective categories. Somewhat different functions of water would be stressed, and certainly different scales and mixes of project features in response to recognized problems would be forthcoming. I cannot stress enough the importance of the formulation process in conditioning how program features are in fact going to be used. The greatest opportunities for response to new needs is in the formulation stage of planning. The requirement laid down by the Office of Management and Budget to not use social well being as a basis for formulation was an important loss to those few proponents of this objective. For one thing, it essentially ended hope for elements under social well being considered as a new basis for cost sharing.

Factors uniquely identified as social well being are to be used for evaluation only. Those who have observed the use of benefit-cost analysis in the water development area might be tempted to say that means that formulation will be done on some other basis and evaluation of social well being factors may approach something like window dressing after the basic decisions have been made on some other basis. However, that may be too cynical an observation. Obviously there is an interaction between evaluation and formulation.

With the downgrading of social well being from a project and plan objective to merely an evaluation account, the factors included were reduced to four: (1) income redistribution, (2) life, health, and safety, (3) emergency preparedness, and (4) other relevant social effects. All of the construction agencies have continued in the development of methodology, but perhaps the most ambitious effort was carried out by the Bureau of Reclamation as part of its west wide study. Preliminary guidelines for implementation of multiple objective planning were issued in July 1971. One project in each of the seven Reclamation Regions was chosen as a test case and based upon this experience new draft guidelines were issued in December 1972.4/ The Soil Conservation Service likewise issued a draft guide in August 1971 and conducted further implementation tests. The Corps of Engineers developed experience in a number of its districts but particularly in the Missouri River Division. The Corps' Institute for Water Resources issued several studies which will be reviewed below, particularly with respect to income redistribution. Facilitated by the staff of the Water Resources Council, there has been considerable sharing and cooperation between the agencies in the above efforts.

It should be noted that "usually reliable sources" have indicated that recent talks between the Office of Management and Budget and water agency officials have resulted in a new tentative understanding. Social well being is to be joined by regional development as a proposed objective relegated to the status of an evaluation account. Only national economic development and environmental quality remain in the running as objectives against which projects and plans will be formulated. The one is traditional; the other is almost made a requirement by the National Environmental Policy Act of 1969 and its "102" statememt requirement. And, not so incidentally, environmental quality may still pose an opportunity for some new policy with respect to cost sharing. Some skeptics are predicting that most recommended alternative plans will now bear the EQ label. Other points at issue include the basis for the discount rate -- cost of government borrowing or citizen opportunity cost of money -- and the result undoubtedly will be a figure higher than that used at

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4/ Bureau of Reclamation, U.S. Department of the Interior, Guidelines for Implementing Principles and Standards for Multiobjective Planning of Water Resources, Review Draft, Washington, D.C., December 1972.

present. It is also expected that projects not yet funded for construction and final design will have to be restudied under the new rules. But agreements between OMB and the agencies must still take into account the interest of the Congress. In Section 206 of the Rivers and Harbors Act of 1972 it was declared to be the policy of the Nation that all four accounts were to be treated as objectives by the Corps of Engineers.

Thus, the outlook is for a period of methodology development, perhaps without the rigorous requirement of methodology that will support formulation. Just evaluation will challenge the state-of-the-arts, and may be beyond it.

Now, why the cutback from objective to account? Was it, as some have suggested, that the Office of Management and Budget mistrusted the agencies? Was it because that unlike the efficiency criteria of the national economic development objective there was no demonstrated criteria to decide when to stop making investments in the name of social well being. That, by the way, is a characteristic shared also by the regional development and the environmental quality. Or was it because there was a relatively weak and undeveloped clientele for the social well being objective?

Why Multiple Objectives at This Time?

It is instructive to reflect on how multiple objective planning and evaluation may have come to be seriously proposed at this time. A frequent but simplistic explanation was that the agreement to propose multiple objectives was a quid pro quo for the acceptance of a higher discount rate in the evaluation of projects. The promulgation of a new basis for a discount rate closer to the cost of government borrowing preceded the proposed principles for multiple objective evaluation and these, along with cost sharing, were seen as related issues by many of the participants. The discount rate is, of course, critical to the economic justification of projects that have large near term capital investments and returns spread over a long period of time. A slight rise in the discount rate reduces quite dramatically the number of projects that can qualify without reformulation. The interest rates faced by the American public have been on the rise for some time and there was substantial pressure to increase the discount rate being utilized by the water agencies. The too simple explanation for "why multiple objective evaluation at this time" was simply to provide an opportunity for the development of "new benefits" to correct for the discount rate change and allow essentially the same old projects to be built in the same old way. What was overlooked was that the application of the new principles could be very differential in effect toward different projects. Those which were amenable to the new approaches to evaluation would get through the new screening. And the prospects for a different mix of project features -- even if it was not clear what that mix might be -- were very much a part of the less obvious reasons for support of multiple objective evaluation and planning.

Creating the opportunity to review and adjust cost sharing arrangements was in the minds of many participants in the review of multiple objective evaluation. Although there was, and continues to be, no well accepted scenario for what cost sharing arrangements should look like, there has been for some time a wide acceptance of the notion that our present arrangements are not very rational. Cost sharing has developed like most policy areas, incrementally and with little overall policy analysis. There are substantial pressures for change. Part of this comes from those who like to see neater and tidier arrangements in government. But the rising influence of the environmental groups is putting pressures on the agencies of several kinds. Many see the present subsidies as creating incentives for development of the wrong kind and/or in the wrong places. Supporters of traditional projects are concerned by the effect of environmental accommodations on project costs. If environmental quality were to be accepted as an objective, perhaps it would be accepted as a basis for federal cost sharing much like the fish and wildlife function has been in the past.

Regional development presents many similar kinds of concerns with respect to cost sharing. Appalachia had organized its regional development commission which allowed the federal underwriting of rather massive public works. These highly favorable cost sharing arrangements were justified on the basis of regional development. The Economic Development Administration, the successor to the Area Redevelopment Administration, had had some success in the mounting of its program of local development for the pockets of poverty which exist in the United States. This seemed to be a legitimate place for those interested in the water programs to press for a new basis of cost sharing.

Program justification has been under attack from many directions. The Bureau of Reclamation is told that the West had been won. The Corps of Engineers has repeatedly heard that dams were not the answer for flood control. Even the Soil Conservation Service has come under attack for the impact of channelization on habitat values. One reaction seems to have been to take more of those concepts which are used for program justification and attempt to apply them in the project analysis phase. The hope would be that those poor projects -- "the dogs" -- would be eliminated because the kinds of things that were used to justify the programs in each of these agencies when applied in the analysis would sort out the "bad apples." It should be recognized that multiple objective evaluation has always existed at the program level, as programs have been redescribed to fit changing expectations. Certainly this move to take some of the dogma that have been used to justify programs and turn it into analytics to be used at the project level has produced some intra-agency unrest. Such a step provides opponents with information and new points of attack. This is not always overcome by the natural advantages of the agency in analytical resources over most opponents. Nonetheless, many proponents of multiple objective planning were convinced that standard benefit-cost analysis had left out too many of the real beneficial effects of these public works projects, and that the alleged environmental effects were overstated. Systematic, competent analysis was seen as the rational response.

Certainly many of those who supported multiple objective planning within the various agencies saw this as a procedural change to facilitate several kinds of adaptations that seemed to be necessary. The first was how to reduce the level of conflict that was now being increasingly associated with water projects. In particular, conflict accommodation earlier in the process was seen as a very necessary objective. By making it necessary to formulate against varied objectives, these procedures might provide the opportunity for more cooptation and bargaining with potential opponents who now appeared too late in the process to be accommodated. Failing in the achievement of conflict reduction through early accommodation multiple objective planning was seen by some as a way to legitimize the later exclusion of objecting groups, a kind of due process argument. After all, they had had their chance to become a part of the decision making process, had been offered reasonable accommodation and had chosen to stay out.

A related concern held by some of the participants was that it was necessary for the agencies to evolve new missions and new clientele. Procedural changes such as multiple objective planning were seen as a way to loosen up the system and make it easier for new missions and clientele to be accommodated, for innovation to be practiced at the planning level.

Agency Experience With Social Well Being Analysis

With the issuance of the principles document by the Water Resources Council -- known as the Blue Book -- serious consideration began on how one actually might go about both planning toward and evaluating social well being factors. Agency experience with such analysis has grown largely out of the testing and development operations that have followed from this action by the Water Resources Council.

It should not be surprising that agency experience has been quite limited. Several things might have happened sooner to require more development of techniques and methodology. For example, no precedent setting projects yet exist. The existence of several projects approved by either the Office of Management and Budget or by the Congress where the "margin of victory" was due to a social well being analysis, would serve to encourage such analysis. Such a precedent would galvanize many of these relatively decentralized agencies to develop more procedures to emulate those who had obviously been successful.

Likewise, had there been a requirement such as that for an environmental impact statement in the National and Environmental Policy Act, it would have been clear that project paper work would not have been processed without the required analysis. No such general requirement has yet been laid down and enforced. Until it is we will not have very much agency experience to analyze.

Dominance of Economic Framework

Several observations are in order of the activities that have followed from the Water Resources Council proposal. First, is an apparent dominance of the analytical frameworks drawn from economics to the extent that an applied analytic framework is used to produce evaluation results. With the exception of a few lawyers, the social scientists active in these agencies are virtually all economists. Their best linkages to academia are with other economists. Economists like to divide the world into efficiency (the economist's preserve) and equity (everything else). Economists have a great deal to say about efficiency but not too much to say about questions of equity.5/ The point of view of at least some agency economists and some academics is revealed in the following quotation. "Investment decisions based on efficiency criteria are generally accepted as rational and little moral connotation is attached to them. But, the problem of determining the proper distribution effect of an activity is essentially an ethical one. While the clergy may be more appropriate for the task, the economist as a social scientist is usually the one charged with evaluating income distributional effects of government activities. In this capacity, the economist can at least describe the redistributional consequences of alternative actions for decision makers who must attempt to comply with the people's desires." 6/

There is a decision model implicit in the above quotation where the economist is viewed as a technician and decision makers are somebody else for whom the economist provides technical inputs for his decisions. There is little hint of interest groups or regions or communities or social classes or anything else as being important in the decision making process. The decision maker is the one who must attempt to comply with people's desires. By implication, how those desires get expressed is not the concern of the technician.

The division of problems into equity and efficiency plus the fiction of a class of decision makers distinct from the agency technician makes it more difficult to face up to some of the practical problems that are involved. These are often seen as intellectual simplifying devices

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5/ For a recent attempt to break with this pattern, see the 1972 Presidential Address to the American Agricultural Economics Association by Emery N. Castle, "Economics and the Quality of Life," American Journal of Agricultural Economics, Volume 54, No. 5 (Dec. 1972), pp. 723-735.

6/ Krouse, Michael R., Quality of Life and Income Redistribution: Objectives for Water Resources Planning. Corps of Engineers, Institute for Water Resources, Washington, D. C. July 1972, P.I.O. IWR Report 72-4.

necessary so that some kind of analytical framework can be developed. But nonetheless, the framework that results is highly affected by such presumptions. A continuum can be visualized. At one end is the view somewhat like that expressed in the paragraph above. The decision maker is who specifies for the technician, goals and values to be addressed. What is to be done, and indeed in general terms how to get it done, are not an issue. What is an issue is simply the design and general evaluation of, the alternative specific ways of getting it done. The second step along the continuum of positions taken with respect to the role of the social scientist is to show conventional benefits and costs of all major alternatives and let the decision maker choose. The next modification is to show all effects of all alternatives but still expect the decision maker to choose. These positions have all been debated prior to the Water Resources Council proposed principles. What is significant about the debate that followed after was that a number of economists suggested that the next step along the continuum be considered. That was namely to show effects as a plan is formulated to facilitate intergroup bargaining.

A Corps of Engineers study charts the above continuum, linking each position with the economists who have presented it. Then it develops a tool for multiple objective planning that tries to implement the participatory feature suggested by the more recent debates. A Public Participation Matrix is proposed which lists the impacts of an alternative plan or project formulation and then indicates how these are distributed between groups. "User groups are given an opportunity to express their interests in connection with proposed alternatives, and based on these expressions, alternative(s) and/or the range of alternatives may be modified. Implicit in any design or locational modification in response to these expressions is the relative value which the public places upon various aspects of the modified alternative(s)."7/

Program Outputs are Not Enough

Another observation that can be made from the activities of the agencies is that old program elements tend to constrain the development of methodology in evaluation. This is suggested when one looks at the results of the first testing series that was completed around May 1972. Of the 19 tests an interagency team led by the Water Resources Council conducted five of these. Six of the test teams were from various universities around the country. It is interesting to note that only one team attempted to formulate a new plan or project against the social well being objective. This was the Corps of Engineers test team on the Poteau River Watershed originally studied by the Soil Conservation Service. In that case the definition used to differentiate the social well being

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7/ Evans, James D., An Information System for Improving the Evaluation of Non-Marketed Outputs. IWR Report 71-5. U.S. Army Engineer Institute for Water Resources, FTIS, Springfield, Va., July 1971, p. 13.

objective was a plan which produced the least opportunities foregone from conventional water development.

Several things should be recognized. First none had the time or money to collect any further basic data than what was easily available in the files of the agencies whose project was being reviewed. A few, including Cornell University test team, worked up some secondary data to show redistribution of income by income class. In fact, the Cornell team produced net as well as gross income redistribution estimates for the project they reviewed.8/

Another point to keep in mind is that the test teams had very little guidance from the Water Resources Council Principles document.

The following characterizations of the results from the social well being evaluations that were made by the test teams show that frequently the functional program output was seen as justification for the project. But if the direct outputs are all that you need to measure to reflect the social well being objective, what is there unique about this objective? Beneficial effects identified were:

1. Providing an acceptable level of flood protection to urban and rural areas.
2. Meeting water supply requirements for a specified period of time.
3. Meeting water quality standards for a specified period of time.
4. Providing recreation and fish and wildlife opportunities.
5. Providing opportunities for new or expanded employment.
6. Distributing personal income.
7. Improving living conditions, community stability and income distribution from land treatment measures (erosion control).
8. Employment and income distribution from recreation expenditures.
9. Creation of new family size farm operations.
10. Population dispersion from crowded metropolitan areas to smaller cities, thereby benefiting both areas through economies and diseconomies of scale.
11. Improving community facilities.

8/ Kalter, Robert J., et. al. Federal Evaluation of Resource Investments: A Case Study. Cornell University Water Resources and Marine Sciences Center, Technical Report No. 24, February 1970.

Very few adverse effects of project measures on the well being of people were identified. The following is a list of them.

1. Disruption of rural tranquility through influx of import recreationists.

2. Loss of employment income from disruption of agriculture and associated agricultural enterprises.

3. Loss of dwelling units, farm units, churches, schools, commercial establishments, etc., due to project land acquisition.

4. Increase in travel to comparable stream when stream is inundated.

5. Relocation of families. 9/

Most of the above effects were measured in physical terms but income distribution effects were measured in monetary terms.

Needs Beyond the Economic

Much was learned from the first round of tests and the conclusion was that something in the way of feasible methodology could be produced if it was necessary to evaluate social well being effects. The Bureau of Reclamation's second round of tests under the Westwide Study produced guidelines that clearly represent significant further development of concepts. A good indication is given of the kinds of things that the agencies came to see as the intent of the Water Resources Council proposals. More to the point, the limitations of what was perceived as available methodology and conceptual framework can be noted.

The Chapter entitled "Evaluation of Social Factors" of the Bureau of Reclamation 1972 review draft begins with a discussion of a behavioral basis for evaluation and lays out Maslow's hierarchy of needs. The elements in this hierarchy of needs are more or less as follows:

1. Physiological, eg., food and shelter

2. Security, eg., assurance of employment

3. Social, eg., belonging to a group

4. Ego, eg., respect and recognition

5. Self-realization, eg., new challenges

9/ Water Resources Council. Report on Tests of Proposed Evaluation Procedures on Selected Water Resources Projects. Washington, D. C. May 1970.

The point is made that needs provide motivation and several implications of this are then drawn. First, as level of living rises, the motivations at work shift down the above list. This implies that the demand for amenities, cultural, aesthetic and environmental needs become more fully articulated and expressed. The second implication is that it is "more important than ever before to provide for the identification of users of projects who have failed to share in rising economic standards." These groups are seen as being interested in physiological and security needs. The implication from that is that water projects are more likely to fit motivations at that end of the Maslow hierarchy.

The Bureau of Reclamation guidelines provide definitions and discussion of a social factors account. A checklist of data that might be collected is provided. For example, under "education" the items go from "a. Grades completed by sex, age and race," to "f. dropout data and rates." However, no guidelines as to how to get from project effects to changes in the data are given. In other words, the traditional evaluative posture of presenting the with and without effects is not addressed methodologically. This would seem to be a key orientation for future research. Indeed a problem seen by many in most of the discussion on social well being evaluation is that it fails to give a sense of the "hard" or "go - no go", i.e. "what do we get for our money" type of analysis. Benefit-cost analysis, with its ratio, gives this kind of screening service which decision makers seem to find a useful service from the technician.

Income Redistribution Has the Advantage of Benefit-Cost Analysis

Those who have participated in the experimentation that followed from the Water Resources Council proposals have come up with some analytical approaches that do have some of these attributes, namely income redistribution. This at present is the most likely set of analytics to be adopted by the agencies in their effort to carry out social well being evaluation. The availability of a number of economists in the agency structure means that there will be those who will understand the methodology and be able to implement it. It has many of the other advantages of benefit-cost analysis.

Technical Complexity Builds Agency Role

Estimates of income redistribution can draw upon the normative theory of welfare economics and the estimation techniques developed by economists for a variety of purposes. The complexities of economic logic and statistical manipulations lend themselves to the professional practitioner and the agencies have these. Thus, the approach lends itself to giving the agency an advantage in its dealings with elected officials and the less well endowed interest groups who participate.

Welfare economics suggests that a socially desirable change is one that helps someone without hurting anyone else. Many times efficiency tests are justified because the maximization of net returns provides the maximum possibility of such a result. But the argument can go further,

first by noting that a winner might be able to bribe a loser with only part of his winnings, and second by arguing that a given amount of income in the hands of a rich man has less chance of providing him with as much satisfaction as a poor man. If such explicit welfare arguments are not acceptable, there is always the rationale that decision makers will indicate the prefereed redistribution from group to group. Certainly, it is well recognized that through progressive income tax rates and many aid formulae, the redistribution of income is well established in practice, just as it is well recognized that benefits should exceed costs.

Obviously simply because a person is provided more money income, it is not assured that happiness is increased. The same project that may have slightly raised income opportunities could easily have raised expectations even further.10/ The resulting disappointment could leave those affected feeling much the worse off for the change. But conventional benefit-cost analysis is only a partial analysis and no more is, nor should be, expected here.

Tullock is quoted by one agency analysis as providing a relevant rationale for evaluating income redistribution.11/ Two types of externalities are involved. The first is the satisfaction that the rest of us get when a poor person is helped by a benefactor. The second is where two benefactors combine their gifts to the individual, causing the same gain at less cost to each of them. The rationale for redistribution being not the satisfaction given to those helped but rather to those who wish to help them. This certainly lends itself to using demonstrated patterns of assistance as a basis for social well being evaluation rather than direct estimates of changes in satisfaction or dissatisfaction.

Estimation procedures can become fairly complex but are easily kept very quantitative. The first step is to identify benefit incidence by affected groups and then by income class within those groups. The second step is a like determination of cost incidence by income class. Benefit estimation requires a detailed understanding of project effects. Cost incidence should be a blend of negative project effects and tax and payment distribution. Net income redistribution by income class can then be derived.

10/ For an example, see Smith, Courtland L., et. al. "Economic Development: Panacea or Perplexity for Rural Areas?" Rural Sociology. Vol. 36, No. 2 (June 1971), pp. 173-185.

11/ Krause, op.cit. p.12. From Gordon Tullock, Private Wants, Public Means: An Economic Analysis of the Desirable Scope of Government. New York, 1970, pp. 247-257.

For further review of the literature and presentation of other case studies, see Stevens, Thomas H. Equity and Water Resources Development. Technical Report 39, Cornell University Water Resources and Marine Sciences Center, Ithaca, New York, March 1972.

The final step is the determination of the value of the redistribution. A simple test would be simply whether or not there was a net progressive effect of the project. In other words, was there a net transfer -- into lower income groups? Note that this would mean that the effects of the project over and above the federal cost share could be almost as regressive as the tax system is progressive and the test would be satisfied.

A Flexible Yet Standardized Tool

In the estimation procedures there is considerable room for various assumptions to be made which can have the net effect of shifting the results up or down. Different circumstances of different projects can be taken into account including the need to give a strongly supported project, or one strongly justified on other grounds, the benefit of the doubt. Groups can be more or less explicitly identified as their importance in the project varies. Simply reporting by income class may be all that is required in one case. While if necessary identification by ethnic, geographic, or any other relevant indicator can be utilized.

As mentioned, the agencies already have the staff that is capable of carrying out such an analysis. But equally important it is a test that lends itself to accomplishment under a wide variety of budget support levels. Data can be gathered in highly structured interview surveys which would allow greater detail and precision -- also greater education of potentially affected groups. But low budget efforts such as in the Cornell University study cited above can produce a less precise and detailed but still comparable result. The same measure can be generated for a simple single function low budget project study as for a large well financed basin plan. Like benefit-cost analysis it can be made to fit any situation and thus lends itself to becoming a familiar, quickly understood part of the evaluation process.

Final Comments -- Choosing the Choosers

Developing analytics for the planner will and should proceed. We certainly can suggest some measures of project and plan effects that provide something beyond income changes. The agency analyst is an important client and needs to build his competence. Our commitment to rational analysis is strong and tools for the tool kit will proceed. But preparing this paper has reminded me again that as social scientists we have the opportunity to consider the interactions between analytic procedure and the many other aspects of decision making.

Ingram, above, suggests that the production and use of information depend upon individual calculations of benefit and cost. Information for decisions cannot be looked upon as simply the input needed for some calculus to be carried out by a stakeless analyst. Access to the decision making process is influenced by the information requirements of the process, and the requirements are influenced by who has access. Support

is affected by what it is to be supported and vice versa. Thus, it is difficult to provide new procedures for the process unless you are a part of it and interact with other parts of the system.

This is not just another appeal to "get involved." Rather it is a request to not be satisfied with analytics that try to tell what "the people" would choose if they could choose for themselves. This seems to be the basis of most evaluation and planning analysis, and will continue to be attractive because it lends itself to neat, tidy analysis. The trick is to make our research also tell us who would the people want to choose for them if they could choose the choosers, and how to relate this to evaluation procedures.12/

12/ For a more complete statement of this problem see Shabman, Leonard A., et.al. The Political Economy of a Corps of Engineers Project Report: The Delmarva Waterway. Technical Report No. 43, Cornell University Water Resources and Marine Sciences Center, Ithaca, New York, June 1972. Also by Shabman, Decision Making in Water Resource Investment and the Potential of Multi-Objective Planning: The Case of the Army Corps of Engineers. Technical Report No. 42, Cornell University Water Resources and Marine Sciences Center, Ithaca, New York, July 1972.