



The Model Behind NEPA

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This paper will discuss some of the issues surrounding the Environmental Impact Statement (EIS) required by the National Environmental Policy Act of 1969 (NEPA). The issues that will be dealt with here are those which arise when viewing the EIS process as an attempt at social reporting and measurement of a social phenomenon. Emphasis will be on the evolution of the conceptual model which spawned NEPA. Although there is no single or rigid paradigm which attaches to NEPA and the EIS process as in the case of some social indicators, it is nonetheless an increasingly important measurement process exhibiting many of the problems typical to any attempt to grasp and represent social phenomena.

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NEPA created a broad mandate, the purpose of which was to "declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality." NEPA is not primarily known for the statement of lofty ideals of its purpose. Rather, its impact has been mainly as a result of inclusion of an action forcing clause which requires that any federal agency making a recommendation or report or proposal for legislation and other major Federal Actions significantly affecting the environment to produce an environmental impact statement. Each statement is supposed to include the following:

- (i) The environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term productivity, and
- (v) any irreversable and irretrievable commitments of resources which would be involved in the proposal action should it be implemented.

One of the major goals of NEPA is to insert into the public decision making process consideration of environmental issues and to force Federal agencies to publicly explicate the factors they considered in making their decisions on government projects and legislation. The Act stops short of bestowing powers of

sanction to CEQA or any other agency to halt or allow an action to proceed. It would seem that Congress in formulating the parameters of the mandate has exhibited faith in both the federal agencies' rationality and the power and efficacy of citizen participation.

In attempting to examine critically and to understand any social indicator or measure it is helpful to review the process by which it was created. Most measures evolve through an attempt to define a problem. In defining a problem a conceptual model becomes accepted and agreed upon as an abstraction of reality. Once a problem is defined and a model chosen measurement becomes academic. Problem definition in the area of the environment is in its infancy in terms of adequate knowledge to foresee comprehensively and absolutely the consequences of a given action. I would submit, however, that aside from the paucity of knowledge in the field, another reason for the vagueness and generality of the EIS as a measure has to do with the process from which NEPA evolved, and the values and choices underlying this process.

Let us briefly examine the process from which NEPA evolved. Conservationists for decades have been eschewing the seemingly uncontrolled and ill-planned manner in which development and expansion of our highly industrialized socio-economic system has taken place. The indiscriminate devastation of whole forests, the dumping of sewage and industrial waste into rivers and lakes, and the fouling of our air with the burning of what once was considered an ever abundant supply of fossil fuels were

pointed to as steps in digging a grave for ourselves and our planet. The conservation or ecology movement was initially carried forward by a handful of academics and scientists who were often tagged doomsayers. The model around which they based their claims is one which views the world as an ecosystem having a natural state of equilibrium. The model incorporates the concept of the food chain in which each member becomes or provides food for another in a natural process of recycling matter and energy and regenerating life. Their argument states that any intrusion into this equilibrium which destroys any one member or component of the system will have consequences for the other members. This model, applied in its purest form, would advocate prohibition against *any* expansion or change in society which would exploit or destroy the natural elements of the environment. Few, if any, would subscribe to such a position because of the certainty of being excused as completely irrational.

The model used by the opposition to the conservationists goes something like this. Nature is very adaptable. There are many natural disruptions which upset the ecosystem such as forest fires, floods, etc. That, in fact, nature itself is a process of constant change. It is man's destiny to conquer nature and use it to his advantage. We can rely on nature to adjust and adapt to our actions. And, as for those who fear we are depleting natural resources to dangerous levels, they fail to realize the power of technology to develop new sources of energy, etc.

Here we have two extreme models and two extreme sets of values. They are in conflict with one another. I would venture that the majority of the American public subscribes to neither of these models. Rather, it is more likely that there are nearly as many models relating to problem definition with respect to the effect of man's actions on the environment as there are people who have had exposure to the subject or have done some thinking about it. Many of these models and the values underlying them are likely to be in conflict with one another. Moreover, as Gunner Myrdal points out in his book *Value in Social Theory*:

d.) We cannot assume that the conflicts of valuation are raging only *between* individuals and *between* groups. It is too significant to overlook that these conflicts are also housed *within* single individuals. This makes both the observation of valuations a most delicate problem.

e.) Partly because a single individual may hold several logically incompatible valuations, a set of valuations is seldom systematized and made self-consistent.

The last twenty years has seen air and water pollution, urban sprawl, etc. evolve as distasteful realities which can hardly be overlooked. The public has, with the intervention of the media and politicians, begun to view these realities as manifestations of a problem. The public relies to a great extent on the media for information on which to base their beliefs and opinions. The media, applying its own model in determining what stories are newsworthy, presents the public with stories as extreme or atypical occurrences which hint

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at impending doom if we don't change our ways.

Here is where the politician steps in. The politician is the personification of the political system through which society can take collective action to solve a problem. The public looks to the politician to clarify the definition of the problem and to propose a solution everyone can agree upon for two main reasons. First, the public feel incompetent and lacking the knowledge and information to adequately define the problem and develop a solution(s). The politician has access to experts in the field and his job is, after all, to collect the relevant information concerning a given problem and to make informed judgements and decisions. Second, while the public feels something must be done about the problem there is a conflict of valuations within each individual. On the one hand he wishes to protect the environment for his future benefit and the benefit of his children and to avoid any threat to his health. On the other hand he senses that if severe restrictions were placed on development he might be unemployed as a result, or lose the opportunity to own that vacation home in the mountains.

The politicians in the case of NEPA have produced a definition of the problem of the effect of man's actions on the environment. The definition which is offered is one which responds to the dilemma of conflicts in valuations held by the various interested groups and individuals. The problem as defined in the model inherent in NEPA is not so much that development of society necessarily results in detrimental effects of a given action on the environment. NEPA does not,

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as a number of people would no doubt have wished, establish substantive criteria for deciding whether an action should be undertaken. Instead, it reflects the conflicts of valuations surrounding the issues in setting forth self-conflicting goals and procedures. For example, the Act states, "In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to...(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences." This goal in itself could be seen as obviously self-conflicting. Furthermore, the goals which accompany it in this section of the Act conflict with one another and could be viewed as mutually exclusive.

The procedural aspect of allowing the agency which is proposing a given action to compile an Environmental Impact Statement on that action seems to me to be a less than ideal if not self-defeating approach. An agency that wishes to undertake a given project is not likely to want to expose the full and true nature of the detrimental effects of that action. To do so might doom the project as a result of public outrage.

One need not accuse Congress of risking compromise or degradation of the integrity of the environment in drafting NEPA the way it has. One could reasonably argue that it was a rational step in arriving at an acceptable process for social reporting or measurement of social phenomena. O.D. Duncan, in his book, *Toward Social Reporting*, submits that there are two basic approaches that can be taken to measurement of social

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phenomena.

The "theorist" says, 'Let us think long and hard about what we want to measure and why. Then we will feel confident about what ought to be done by way of making observations.' The "inductivist" responds, 'Let us see if we can measure something, for whatever reason, and standardize our measurements so that we achieve an acceptable level of reliability. Then let us study how the quantity being measured behaves. If we can figure that out, we will have come to understand why we made the measurement in the first place!'

It would seem that Congress has chosen the inductivist approach. NEPA makes a beginning at trying to measure the impact of various actions on environmental quality. There is much uncertainty and many unknown quantities in this area. But many, including myself, would argue that initiating some kind of measurement and relying on an argumentative process involving the courts, the federal agencies and the public to refine the measure(s) is preferable to waiting until all the facts are in.