

Third World Environment: A Background Study for Policy Analysis

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The Concept of Environment

THE term "Environment" evokes the idea of a problem that is confronting Third World countries. In this connection, the Third World countries are being told that cultural, psychological, and environmental factors are decisive in the pursuit of social and economic betterment for the peoples of the Third World. Although this is true, simply blaming the environment for the various problems besetting developing countries clouds the critical issues to be tackled. The specific arena in which the substantive developmental issues must be posited, must be identified.

There are ways of positively conceptualizing environment. This conceptualization serves an integrative function. Environment as a concept may be used in the nature of "map-making," may be regarded as a surveillance device in the definition of the various dimensions of environmental tasks. Since the integrative and comprehensive way of thinking about environment does not neatly coincide with the nature of management tasks, complementary and supplementary analytical tools of management are needed.

The important aspects of the environmental debate may be expressed

as a (a) problem of translation: how to formulate a matrix of policy out of the available scientific and technical data upon which social choices can be made; and as an (b) intellectual mobilization problem: how to establish a rhetoric of "common-cause," which may be based on one's chosen criteria, as well as action.

The first problem addresses itself to the question of making a social issue out of the environmental question; the second, to the social or public decisions needed for the resolution of the environmental question.

When dealing with the two research tasks above, the following propositions can be presented as guidelines:

1) The difficulties of issue formulation are basically perceptual. Issue formulation becomes even more difficult due to the structural content of the term "environmental" which is substantively technical and scientific.

2) When dealing with the environmental issue, two types of information are needed: (a) scientific facts about the environment, and (b) information on "political reality." The first can be provided by studies brought about by the science of ecology and by developments in bio-technology. The second can be provided by researches in

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policy sciences. A new ethical postulate in policy is called for, namely, that "man should now ask science the right question." Here, I assume "politics" and "policy" to have "truth-seeking" and image-making or ideology-building tasks. Plans may be found which are mere justifications of some powerful men's biases.

3) The spectrum between truth and power is wide and calls for a need to develop operational concepts, indicators, diagnostic tools, and interaction studies that will serve as intermediaries between abstract scientific and ecological knowledge on the one hand and political action on the other. The comprehensiveness and integrativeness of an environmental issue does not make it a political issue.

4) If man is the object and subject of environmental policy, it follows that the research task shall bear the "environmental adaptation" focus. Hence, the information to be gathered and used for analysis should be locally-oriented.

5) The whole environmental movement may revolutionize public management concepts and practices. It would be worthwhile to note whether public policies based on science and derived from an understanding of man-environment relationship would diminish the role of politicians and increase the role of scientists, engineers, and planners.

Content and Measure of Environmental Issue: the Third World

The fact that a given event such as the emergence of the "crisis" of the en-

vironment" may be used either as an end or a means gives the analyst some choice. If he wishes to spell out values in great detail, he will be widening the realm of ethical postulates and putting forward a normative position. As a result, he will be broadening the realm where emotion, faith, fervor, and fanaticism operate. The kind of management orientation which may be established to effect this kind of policy is one in which management is seen as "value-laden."

The current environmental policy issue in developing societies is expressed in the form of ethical postulates, often in support of anti-colonialism. As a reaction to the current bombardment of literature on environmental control from highly industrialized nations, radicals of developing areas assert that since environmental disruption is associated with the level of industrial development, developing nations need not be concerned with this issue. These radicals contend that the pressure of immediate economic problems is so overwhelming that all long-term considerations must be postponed.

Both views are erroneous for various reasons. Firstly, the lack of a long-term strategy developed after systematic thinking makes more difficult, if not impossible, the formulation of a reasonable solution to medium-range planning (short-range planning being predetermined by the existing configuration). The less developed a country is, the more it should look for short cuts towards development, and therefore cannot afford costly mistakes.

Cases of project abandonment are evidences of lack of foresight.

Secondly, highly industrialized pockets and overpopulated towns exist in almost all developing countries and pollution often appears in these places. In Manila, for example, Rizal Park which is supposedly a clean and open space, registers air pollution at 230 mm/ cubic meter or just 70 milligrams short of the toleration level. River systems in Greater Manila are all highly polluted. Thirty-four industries contribute 50 per cent of the pollution; the other 50 per cent comes largely from residential affluents.¹

While adequate means of preventing and controlling environmental disruption exist, they are not applied in sufficient scale either because of failure to identify the problems which, in turn, may be traced to weaknesses in economic and planning theory, or to the incapacity of institutions to deal with them.

To date, the problem rests more on the latter. In the developing world, the term "development" has subsumed the more traditional and specialized aspects of environmental policy. The concept has, therefore, served an integrative function, linking the various national activities relating to the handling of natural resources. "Development" has become a linguistic vehicle to mean "betterment;" to some social

development scholars it means a "civilizing process." Even considering all these terms, the concept "development" still focuses more attention on the real rather than the operational aspects of the environmental problem. Having clarified the goals and objectives and having established resolutions or strategies, the Third World needs to set matrices falling into the categories of "means," that is, to think of "environment" in terms of economic engineering and social engineering or as tactics.

*The Role and Fit of Policy Science
within the Spectrum of the Task*

Planning suggests a systematic attempt to shape the future. When planning becomes a prelude to action, it is policy-making. In this sense, the conceptualization process or bridging the "is" and the "ought" falls under the policy-making task. Assuming that we have a comprehensive systematic view of environment, how do we establish a policy?

Policy is commonly used to designate the important choices in life. Policy is supposed to be free from the undesirable connotations clustered around the word "political," one being partisanship.

What is policy science? When the improved methods for the study of human relations (often called social dynamics or "science of society") are used, its tools for decisions are referred to as "policy science." Concepts and methods in the policy science are of two kinds: one seeks to accent the "science" em-

¹ See Philippines (Republic) Congress, Senate, *Joint Resolution Establishing Basic Policies Which Shall Guide the Country in its Efforts to Bring About Social and Economic Development Through Environmental Planning*, S. Jt. Res. No. 1, 7th Cong., 1st sess., 1970.

phasizing on quantitative methods; the other, emphasizes exploratory concepts and the historical context, and uses quantification only sparingly as one of its several tools. Policy science is essential in the formulation and application of policy at every stage.

The first stage at which policy science can contribute to policy-making is one in which the policy-making process is especially vulnerable: the clarification of objectives. Policy science can serve this need for clarification. It offers techniques for making assumptions explicit and for testing their validity in terms of both the basic values which policy seeks to realize and the *actualities of human relations to which policy must be applied*. By converting general principles into specific indices of action, policy science provides criteria by which to test the applicability of general principles in specific situations. Hence, policy science provides the link between conceptualization and action.

It is probably in the accurate and comprehensive estimate of factors bearing upon decisions that policy science makes its greatest contribution. Systematic exposure of the societal factors that underlie political circumstance provides a new dimension and perspective for the estimate of the situation. For example, when formulating an environmental policy, one can proceed more intelligently when he knows the aspirations and habits of the people, i.e., the value they attach to the environment. This kind of

studies has been called "interaction studies" in policy science.²

In building a factual bridge, a policy scientist may therefore ask the extent to which people agree on the values they postulate. The greater the agreement through time and space, the more impressive the claim that the values provide a desirable, if not a necessary basis, for social life. The determinants of public policy are popular demands. The focus of management is on responsiveness and responsibility, the thesis being that, how administrators rise to the occasion will determine much of the degree to which citizens are truly free.

This type of public management relies heavily on extensive opinion research and surveys. On the surface, this appears useful to societies that can afford extensive fact-finding operations.

What other strategy options are there for Third World environmental planning? If the comprehensive planning tasks prove expensive, the Third World can assign to its educated workers or elite the role of "problem starters" who will put forward shared, simple and persuasive ideas. The supporting theoretical options are: 1) identifying opinion leaders and asking them to support the environmental "cause," and 2) creating an atmosphere of "crisis." The Third World will have to invent a sym-

² See Ernest Hilgard and Daniel Lerner, "The Policy," in Daniel Lerner and Harold Lasswell (eds.), *The Policy Sciences* (Stanford: Stanford University Press, 1951), p. 24.

bol equivalent to the United States' "Spaceship-Earth" paradigm.

Considering the task of planning for environmental development, what developments in research are unusually important to the understanding of human choice? What policy approaches currently being developed are appropriate tools for environmental planning analysis geared towards building a factual bridge between the "is" and the "ought"?

Techniques in Policy Science

Except in the most abstract terms, one cannot embrace all human society in an attempt to generalize on matters concerning the managing of physical environment. Considering the diversity of human values, attitudes, and institutions, to extrapolate the condition of any single society of human society in general is not feasible. Nevertheless, there are aspects of man-environment relationships that are substantially the same for all mankind.

Scaling and Mapping

Organizing for environmental planning is conditioned by conceptions of environmental decision-makers, planners, leaders as well as citizens. Kenneth Craik devised a scale whereby differences in perceptions and interpretations may be measured through content (semantic) analysis.³ Conceivably a mapping sentence can be devised to

³ Kenneth A. Craik, "The Environmental Dispositions of Environmental Decision-makers," *The Annals*, (May 1970), pp. 87-94.

bring the concept of "problem" explicitly into practice. Likewise, the term "environmental" can be incorporated into this concept of problem in order to distinguish such type of observation from other observations of social behavior. Behavioral science research may be a useful tool in devising a promotional strategy about an environmental issue, as well as in ascertaining the problem-defining attitudes of a given population, specifically about environment-related matters.

Goals and Policy Objectives Constructs

One can define "environmental development goal" by constructing a model of the way social-structural forms and cultural myth define materials, i.e., taking environment as a resource. William Burch devised a prediction model using metaphoric coordinates such as materials, language and social structure. He also examined these tendencies towards stability or change. He noted, for example, that the emergence of Western industrialism was dependent upon the surplus energy of a frontier: with the closing of that frontier, the associated social structures and mythologies become ill-adapted to the new environmental limits.⁴ This type of descriptive work is useful in policy analysis. However, it is only a first-order approximation of the type of knowledge one seeks, i.e., the "rules" (covert or overt) relating men to one another with respect to nature. The next

⁴ William R. Burch, Jr., "Resources and Social Structure: Some Conditions of Stability and Change," *The Annals*, (May 1970), pp. 27-34.

step would be to analyze some useful correlates. For example, the extent to which the increased exploitation of land and irrational land titling system is a function of migration rather than of rapid population increase.

System of Indicators

In thinking of environment in development terms, one needs a system of socio-economic indicators. What we must know is not only the external physical changes that may be made in the conditions of life of the citizen but also the way to affect his own outlook and feeling.

Monitoring Techniques and Systems

Monitoring is best conceived as a systematic observation of parameters related to a specific problem, designed to provide information on the characteristics of the problem and their changes over time.⁵ There are monitoring techniques which are relevant and of practical use to the management needs and development problem content of Third World countries. A tool is *satellite monitoring*. Satellite-type sensors designed for land-use studies are being perfected and are being scheduled

⁵ For parameters which concern the global environment, particularly with air, water, soil pollution, and related monitoring techniques, and technologies available for monitoring purposes, see "Man's Impact on the Global Environment," Report of the Study of Critical Environmental Problems (SCEP) (Mass.: M.I.T. Press, 1970), pp. 166-174. The types of monitoring techniques mentioned in the study are, however, best utilized by advanced industrial societies, since in the foreseeable future, "It is the advanced industrial society that will have to carry the load of remedial action against the pollution problems." (*Ibid.*, p. 252).

for flight during the next few years. This type of monitoring tool can be afforded only by rich nations at present; poor nations may avail themselves of the technique through some form of inter-national scientific cooperative agreement.

To what particular considerations in the policy-making process can all this information be utilized? In the light of the nature of the environmental task for the Third World, emphasis can be placed on the following uses: a) to ascertain parameters of the state of the system, b) to serve as scoreboard, and c) to analyze a system structure.⁶ Planners and policy-makers tend to be aware of their need for data in the first category for facts that they can use for projecting trends and designing actions. Statistical information can be used as scoreboard and for directing attention. Information derived from behavioral research is used for analyzing a system structure. Monitoring studies are used to ascertain parameters.

Information on the state of ecology belongs to the category of "scoreboard" use. More than this, the scoreboard tells how "well" a nation is doing. It requires a self-reliant assessment of one's own developmental capability together with a clear inventory of existing resources through the use of monitoring techniques.

The third use category, the analysis of societal structure, refers to informa-

⁶ See Herbert Simon, "Research for Choice," in William R. Ewald, Jr. (ed.), *Environment and Policy* (Bloomington: Indiana University Press, 1968).

tion on systems dynamics of a given socio-political system, for the purpose of making subsequent intervention in the system more intelligent.

For the action-oriented policy-maker, we can add another class of information use: to serve as an aid for symbolizing a "crisis." We need this kind of symbolic information for the purpose of assaulting lethargic colonized minds into some purposeful action.

Indeed, a "master" social information system is needed — one that will be useful for behavior and social research aimed at broadening our understanding of societal structures and processes. The view that the process of economic modernization involves mutual interactions among economic and non-economic influences has another implication for the study of economic development. The determination of the kind of societal changes to be made to meet the requirements of economic growth indicates the need for a systems approach.

Agenda for Social Research

For the social control of technology, minimizing environmental disruption shall be the main policy issue. Development as a process, industrialization as a means, environmental perspective as a unifying monitoring principle — these must presume some purpose. What lies behind the development being sought? If the objective is not just a temporary and illusory betterment of present living conditions but a push towards continuing improvement, then the qualitative content of a rising na-

tional standard of living cannot take the form of consumption goods exclusively; something must be allocated to more investments for future production. If investment goals and a policy of sustained growth are coupled with the control of technology, a policy of balanced "conservation" and "exploitation" can be pursued.

In the light of these, the following research areas are suggested:

1. Problem area delimitation

In what problem areas do cultural and behavioral factors become critical issues when choosing, inventing, or innovating current technologies? Is it in birth control pills, cheap proteins, logistics of long-run production, culturally harmonious housing products, or factory designs?

2. The danger of "systems-thinking" in studying technological change.

The current trends in international political analysis, such as the international perspective of the technology transfer issue, impart to political theory a certain deterministic flavor: the notion of a mechanism or an organism operating out of control of the human beings who in the ultimate sense comprise the system. There is a current intellectual tendency, in a system-oriented model, to move away from notions implying much rational autonomy and independence of choice toward a more deterministic orientation.⁷ An example

⁷ J. D. Singer, "The Level of Analysis Problem in International Relations," *World Politics*, Vol. XIV, No. 1 (Oct. 1961), pp. 77-92.

of this tendency is seen in modeling studies which project a strongly deterministic role of military technology in current international affairs. Such models reject the relevance of the sciences of human behavior in the analysis of international political systems. What can be gained by viewing the state, the international system, or any other social system as a self-regulating set of patterns is debatable. At the very least, those who explicitly or implicitly attribute autonomic properties to social systems should state precisely in what sense the operation of the system is determined by forces beyond the control of its human components. Is the technology diffusion/transfer process conceived as 100 per cent predictable or as an exercise in statistical probability?

3. Social and political dimension of the environmental disruption issue

While the technological aspects of environmental control are being over-emphasized, at least in the United States, not enough analytical attention is being given to the social and political dimensions of the problem. Studies on aggression against the ecological system are not being conceptually linked to social disruption.⁸ Will the concern for a balanced environmental conservation/exploitation program suc-

ceed? To answer the question, we need to know the proportions in which coming generations will choose among the three major options — private retreat from the organized modern world, purposeful revolution, or step-by-step incremental improvement. Research along these lines is needed. We need to assess how the increasing claims of the people of the Third World for public resources can be met with rational resource management and husbandry, through the use and control of technology.

4. Technological innovation: transfer and invention

The need to understand the dynamics and flow of technological innovation results in a classification of innovations into those which a) bring about productivity gains; b) represent new contributions to existing products, processes or industries; and c) express themselves in the spectacular creation of completely new industries. It would be worthwhile to note which of these types is most politically sensitive and has the most environmentally disruptive attributes.

The agenda for action is, however, only the starting point in the policy-making process. There are several factors that influence policy: (1) nature of jurisdiction economy; (2) political culture, (3) popular demands, and (4) traits of the institutions and participants in the policy-making process. Agenda or standards are only state-

⁸ Most studies on ecology and social disruption have been dealing largely with studies on violence. See G. Carstairs, *Violence in America: Historical and Comparative Perspective* (New York: Praeger, 1969).

ments on how we may proceed to agree on the courses of action after we know the scientific aspect of an issue.

Conclusion

A monumental task of pioneering in policy research faces the Third World social scientist.

A discussion of the socially significant environmental issues of the Third World reveals that the process of policy analysis called forth in this paper may lead us to think about public policy decisions in ways that are grounded on data, thus revolutionizing the practice of politics so that man may now ask science the *right* questions. Descriptive theory or contextual analysis is

seen as a valuable contribution to successful prescription.⁹

The dynamics of policy-making requires another form of insight and understanding. However, to look at the dynamics of conflict, consensus, bargaining, and other processes of policy resolutions is beyond the task of this paper. The paper only aims to clarify what actually happens if an analyst wishes to bridge the spectrum from "science," or the scientific researches on environment, to "power" or the final implementation of a policy resolution. This paper is offered to serve as a background for further studies on various perspectives in public environment management.

⁹ Ira Sharkansky, *Policy Analysis in Political Science* (Wisconsin: Markham Publishing, 1970), p. 10.