COMMUNITY ATTITUDES TOWARDS ENVIRONMENTAL RESOURCES

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One of Fraser Darling's (Darling 1951) many amusing anecdotes is that of the cows and the supergrass. The story goes that some scientists got together to produce a strain of grass that was more nutritious than existing grasses. After several years of research the big day eventually came and a number of cows were led into a paddock in which the 'supergrass' was growing luxuriantly. But to everybody's consternation the cows took one bite of the grass and headed straight for the ordinary grass growing in neigbouring paddocks.

Of the many lessons that can be drawn from this story I only want to point out two. The most obvious is that we should attempt to find out what flavours are delectable to the bovine palate before embarking on the production of a supergrass: the other lesson is that instead of changing the grass, we could alter the cow to produce a supercow that finds the supergrass tasty.

In many ways we can extend these two morals into the human context. If we are to plan human and natural environments (the bio-social environment) in the future, should the professional environmental manager consciously attempt to discover people's preferences for different landscapes, urban densities, or outdoor recreational facilities, etc., or should he 'manipulate' people's judgments and values in such a way that what the professionals decide is a 'desirable' bio-social environment is what the people are persuaded to want?

One of the recent resolutions by the Physical Environment Conference proposes that the National Development Council consider the concept of optimum population and optimum distribution of economic activity and social services for the future New Zealand (National Development Council 1971). In effect this resolution requests that certain professional experts produce a blueprint for an optimum bio-social environment. How are they to set about doing this? Whose opinions will be asked? How broad a cross-section of the public will be involved? Upon what bases will alternative courses of action be weighed? Economic? Social or ecological?

THE ROLE OF THE PROFESSIONAL RESOURCE MANAGER IN ENVIRONMENTAL DECISIONS

The environment in which we live has been moulded and re-created in accordance with human motivations, faith and preferences. It is the product of countless millions of judgments taken at various levels as to what is desirable or undesirable, economically efficient or wasteful, beautiful or ugly. However, in the case of major environmental decisions, society has entrusted a relatively elite group of politicians and professional experts with the resolution of such judgments. It is generally believed that they, like all of us, hold three main kinds of beliefs regarding environmental resources, namely those attitudes which they themselves hold, their opinions as to what others prefer, and their opinions as to what others should prefer (White 1966). Rarely does anybody attempt to find out what others actually *do* prefer.

Generally speaking, the process of planning the bio-social environment involves judgments made on the basis of rather flimsy evidence as to what the community really wants. This can lead to major errors. In the 1950s the City of New York went to enormous legal and financial trouble to divert water for its future public water supply from the headwaters of the Delaware River. This decision not only involved an expensive aqueduct but affected the multi-purpose use of the Delaware River system downstream. Yet right on the City's doorstep is the Hudson River with more than enough water to meet future requirements. The trouble was that the Hudson was badly polluted, and New York water supply officials did not believe that the public would like to drink treated

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sewage. So without public consultation they searched for a pure river source, and presented the voters with a 'take it or leave it' choice. The residents of St. Louis drink treated water from a source that, in its original state, is far more polluted than the Hudson, and it appears that, provided tap water is palatable, most people do not worry very much about the original quality of the source water (McIver 1970).

A second example relates to a proposal by the Canadian Province of Manitoba to dam and divert the Nelson River southward to help provide power and sufficient fresh water to flush pollutants down the Red River which flows through the city of Winnipeg. The proposal meant flooding an existing lake, the shores of which were inhabited by an Indian Band whose ancestors had settled in the area many hundreds of years before. No one had apparently consulted the public as to whether they considered the price of dispossessing the Indians was worth the gains of cheaper power and a cleaner river, until a local conservation group advocated the Indians' rights. The matter developed into a major political issue, and, with a change in government, the project was stopped in favour of preserving the Indians' heritage.

These examples are not unique, yet it is not easy to stop this kind of situation from occurring. We do not have adequate techniques to determine public opinion in such matters and, in the absence of this knowledge, tend to leave the decisions to qualified experts. Unfortunately the environmental ramifications of many such decisions are so wide that no single group of experts can reasonably be expected to predict all the consequences. In addition, until recently at least, such decisions have been made hastily, often under considerable political pressure to resolve a crisis, with the result that there has not been time to seek alternatives to well tested and politically acceptable technological solutions.

COMMUNITY ATTITUDES TOWARDS NATURE

One of the interesting aspects of the current environmental 'revolution' is that it is causing the ordinary man in the street to explore more carefully his attitude towards nature. But man has always had some attitude towards nature; it's just that only a few people have ever really analysed these communal attitudes (White 1967). A number of scholars have explored the man-nature theme by studying how landscapes were formed and perceived through the philosophy, art and literature of human cultures (Glacken, 1965, 1967; Huth, 1957; Tuan, 1967). The import of their studies has been to show that 'landscapes are formed by landscape tastes': in other words landscapes evoke images and register symbols in the minds and hearts of men according to their desires and imaginations, their hopes and fears, and generally in accord with the cultural setting in which they act.

Glacken (1965), for example, has traced out the important theological connotations associated with the man-nature theme. "One of the most important and deep-seated ideas in Western thought," he notes, "is that the earth and the arrangements of living nature observable on it are the products of divine effort and design" (*ibid*, p. 158). The question of "design" and "meaning" attributed to nature is significant, for it underlines the important teleological belief that though man is but a temporary occupant in an uncertain and sometimes hostile world, there is a greater and more purposeful "grand design" in the processes of nature within which he can identify his transient role. White (1967) extends Glacken's conclusions and notes that Christianity brought to Western philosophy not only a divine interpretation of nature, and hence the belief that through studying and worshipping nature man was in fact communicating with God, but also an anthropocentric attitude that God made nature to serve man, and that man as steward of his earthly domain could and should "improve" on His divine handiwork where it "failed" to meet man's needs. Thus, deforestation, drainage, irrigation, dam construction, river diversion and other anthropocentric manipulations of the earth's ecology were considered not only useful actions but desirable alterations of an imperfect nature. With the merging of science and technology in the nineteenth century, this philosophy was extended to the well known 'man dominant' and 'technological fix' approaches to environmental solutions that have held sway in Western culture for over a hundred years.

Another interesting attitude orientation towards nature is that curious dichotomy which is exhibited by many people where nature untouched by man's hand is seen as harmonious, while the results of man's activities are usually considered ugly and shortsighted. Man the destroyer, nature the healer.

Lowenthal (1960) contests this argument and points out that moral judgments concerning the roles of man and nature are made on the basis of flimsy and often inaccurate evidence. "Judgments about the way things ought to look," he writes, "are conditioned by how things have come into being, how old they are, what they are used for and how well they fit into their surroundings" (*ibid*, p. 24). For example, in the United States, the wilderness is now cherished and protected (largely by the upper socio-economic elite) partly because of its symbolic associations with the nation's heritage, partly for its scientific interest and partly for its aesthetic qualities. But this is a twentieth century attitude. In nineteenth century America a wilderness was feared for its wolves and its Indians, and presented a challenge to land settlement that had to be conquered. There was little love of the wilderness in those days, and certainly no wish to protect it.

But in addition to the cultural interpretation of nature, man derives biological and emotional satisfaction from the natural environment. Deep in our subconscious we all hold a feeling that nature is good, and worthwhile, no matter how much we exploit it for our short term selfish interests. Why do we seek solitude and beauty in natural landscapes and require time for peace and reflection? Though we don't really know the answer, we do know that in order to remain responsive and creative, man needs to interact with the non-human environment for stimulation and recreation. Despite the advances of modern technology which have provided us with increasingly homogeneous artificial living environments, man cannot shake off his primeval links with the earth (Dubos 1968).

PROBLEMS IN THE ASSESSMENT OF COMMUNITY ATTITUDES

1. *The lack of consensus*

However, to sound out community attitudes to environmental resources more precisely will not be easy, even though in the long run it will probably be rewarding. Part of the problem is that it is quite difficult to achieve any consensus of opinion, because each of us reacts differently to apparently similar things. For example, three people may stand on the edge of a lake. One may consider the water grossly polluted and refuse to swim in it; another may think that the water is polluted but is prepared to swim in it for lack of other swimming facilities nearby; and the third may feel that the water is not polluted and will happily plunge in. Unless the manifestation of pollution is clearly identifiable by sight or smell, public reaction seems to be inconsistent and unpredictable; and even if the pollution is obvious there is never any complete community consensus as to the severity of the problem or the appropriate remedies. Thus two people may see the same lake water and be of the same opinion as to its deteriorated condition; but one may resign himself to the fact saying that this is the price we pay for progress, while the other may protest to the local council or join a local environmental action group. Because of varying social, cultural, educational and economic backgrounds we all judge environmental resources differently, and because our motivation, desires and cognitions shift over time, so our reactions will not remain consistent. Incicentally, this factor has implications for planning optimum bio-social environments, since what may be considered desirable or undesirable today may not be judged in the same way by future generations.

2. *"Environmental Schizophrenia"*

A second problem in assessing community attitudes is that, in the past, people have usually found it difficult to visualise the environment as a linked system of complex biological processes and thus have often failed both to relate cause and effect, and to understand completely the wider ecological repercussions of their desires. Thus it has been difficult to persuade some members of the public that there is a relationship between laundry detergent and eutrophication, (and hence that the desire for 'whiter than white' leads to algae infested lakes), or between their wish for worm-free apples and the deaths of scores of seagulls from pesticides.

This tendency for 'environmental schizophrenia' seems to be partly founded on inadequate knowledge, and partly upon the degree of personal (especially financial) commitments perceived necessary to achieve preferred environments. Thus many urban dwellers may be willing to protest vigorously in favour of the preservation of part of a National Park, or for the protection of a particular wildlife species where such commitment involves little personal loss (though such an action may have considerable social and economic impact

in the area in question). Meanwhile, these same people may be willing to put up with excessive noise, fumes, smog and billboards (the reduction of all or any of which might mean an increase in taxes) in their own day-to-day living environments. Conservation issues appear to be more important the greater the distance from urban centres and the lesser the number of people directly affected. This is implied in the statement: "Preserving ecological habitats is fine 'out there' but let's get on with the business of economic development here!"

Thanks largely to ecologists, this attitude appears to be changing. Many people now seem to be more aware of the concept of 'eco-system' and of the more obvious interrelationships involved, and an increasing number of urban dwellers are expressing concern over the quality of their living environments. But the process of public education takes time, and the educational impact of ecologists has by no means penetrated all sectors of society.

3. *Indifference Over Environmental Change*

Few people are very articulate about their appreciation of, or their disgust with, environmental phenomena. Unless environmental matters are entering into their consciousness frequently, people tend to be preoccupied with more pressing personal or community problems and rarely stop to think about the nature of their bio-social environments. Thus they generally express only mild preferences for or against environmental quality, especially where the issues are complex and difficult to visualise. However, come a specific crisis — say a dense urban smog, a severe flood, or a threat to a national park by some proposed development — and attitudes often suddenly harden and focus sharply. It would appear that there is nothing like a major conservation issue to crystallise public concern and clarify an evaluative stance.

4. *Evaluation of Environmental Quality*

A fourth difficulty is that of weighing up the relative merits of longer term intangible gains against the more obvious advantages of immediate tangible (usually economic) benefits. Take, for example, a recent Canadian case — a proposal by a mining company to remove copper from a small part of a national park and to dump the mine tailings into a lake which was used as a public water supply source. The company was willing to pay half a million dollars in taxes for this privilege and promised to provide employment for many in the local population for a minimum of ten years. How does the average citizen weigh this proposal against the effects on scenery, and upon the drinking water supply, against the ethics of exploiting a national park or against the pleasures derived from visiting the park or simply knowing that it is there in its pristine state?

When confronted with such a situation many people appear to prefer the guarantee of short-term economic gains in the hope that the longer term, potentially deleterious effects won't harm them, or that science and technology will find an answer before it is too late. Thus people tend to be unwilling to take anticipatory action or to support a far-sighted proposal, especially when it means short-term economic loss, when the future reputed gains are difficult to measure and uncertain in their occurrence. Not infrequently this attitude creates a conflict when conservation groups are so successful in seeking to protect landscapes that potential economic progress is retarded. In the State of New York, for example, conservation groups have blocked a proposal to construct a hydro-electric generating station at Storm King Mountain on the Hudson River. Meanwhile the City of New York was operating on 93% power during a recent heatwave because of the extra power requirements of air-conditioning units. The preservation of this historical and scenic river site may not seem so desirable in the sweltering humidity of a Manhattan apartment.

Many people are caught in the horns of a moral dilemma over such questions since the various components of an individual's sense of values are inconsistent. For example, in order to reduce environmental pollution, there must inevitably be a conflict between the values of profit-making, individualism and the right of air, land and water, and those of health, community spirit and environmental quality. There is a fine line here separating the means of resource use with the duties of social obligation, the desire for selfish economic gain and the broader responsibility for the environment, but its location is obviously extremely difficult to determine.

5. *Adaptability to Environmental Change*

The human being appears to be equipped with remarkable adaptive powers which enable him to

adjust to changing environments as long as these changes are not too sudden or extreme. This process is somewhat analogous to the biological concepts of adaptation and to the physiological notion of homeostasis, though in addition to morphological, physiological and behavioural factors humans have also developed social and psychological processes of adaptation. Thus, while the body may adjust physiologically to increasing (but sub-lethal) levels of air pollution (for example by inflammatory reaction of lung tissues), the human being as a social animal can play down his concern over air pollution by stating "it's not as bad as in place X", or "the city may be polluted but my neighbourhood is clean"; or he may search for confirmation that the air pollution problem is really not all that bad, e.g. by eagerly accepting a mollifying statement by a respected public official or industrial representative as to what is being done.

Reactions like this, which involve psychological and sociological processes that are not as yet fully understood, seem to play a vital role in helping the individual to cope with the many thousands of environmental stimuli he receives every day. For they somehow guide him into patterning and evaluating these events, help him to maintain a satisfactory self image, assist him in dealing with complex and ambiguous situations and permit him to relate his own beliefs and actions to those of his friends and society in general.

So the individual and the community seem to be capable of tolerating increasing environmental stress when the stress is of a low order. The longer term effects of this process are not known but may be serious especially if the environmental stress effects are cumulative and synergistic in impact. Rene Dubos (1967, 1968), an eminent microbiologist and humanist, is deeply concerned that not only do these adaptive mechanisms provide a false sense of security (so that when violent environmental change occurs we are ill-suited to cope with them effectively), but also that society may become more tolerant of lower orders of environmental stimulation and diversity so that the basic reactions to peace, solitude, beauty, variety and pollution will become dulled, with deleterious consequences to the dignity of man's spirit and the quality of human values.

REASONS FOR INCORPORATING PUBLIC ATTITUDES

So why should managers bother to sound out public attitudes towards environmental decisions? Apart from the obvious democratic principles involved — the right for the public to be informed about and to participate in environmental management decisions — there appear to be two major reasons why the public pulse should be taken. The first is that in most if not all environmental decisions value judgments of amenity must be made. The measurement of such values cannot be made satisfactorily in monetary terms, as the market place is unable to resolve such issues. Furthermore, the incidence (in both space and time) of environmental side effects is not uniform, so certain groups of people are made better off at the expense of the values of others. Thus in our imperfect society, it appears that the only means we have adopted to cope with the differential incidence of values is through the political forum, the proper workings of which require a broad expression of public preferences.

A second reason for ascertaining public wants is simply that many decisions as to the desirable levels of environmental quality are made by experts who are working on the basis of imperfect scientific knowledge and largely on the assumption of public preferences, or at least what they think public preferences ought to be.

It is interesting to note in this connection that many present day conservationists believe that the only salvation for the world is to inject a new set of values into society. This takes us back to the second lesson of the cow and the supergrass story, namely the design of a supercow. The implied aim in the 'new' conservation is to create a new breed of man — a super-race of environmentally conscious citizens living in harmony with nature in a recycling economy (Caldwell 1970). In this connection we must distinguish between environmental health and environmental amenity. The former is valued by all society, the latter predominantly by the middle class. To say that everybody should be in favour of environmental amenity is to impose middle class values on all, an action that would only be justifiable if the conversation movement were linked to the goals of income redistribution and greater social equality.

We should seek to devise means whereby the public is able to make more conscious and deliberate choices over environmental issues, where the probable effects in the widest possible sense are estimated for the largest possible number of different courses of action. In this way the total

costs and gains and their spatial and temporarl implications could be more adequately judged before final decisions are made. This would require a new form of participatory democracy. While the Commission of Inquiry or public hearing are fairly effective devices, they are cumbersome and expensive procedures and thus can only be used to resolve major public issues. In any case the testimony of experts and advocate groups does not necessarily represent wider community attitudes which remain largely unsounded.

Somehow I think we shall have to develop better linkages between the public and the decision makers (politicians, planners, consultants, etc.) to try and create a continuous two-way flow communication. One flow would be 'inward', emanating from the environmental managers, informing the public of the wider issues and of alternative courses of action. The other flow would form 'outwards' from the community via representative groups, opinion surveys, teach-ins and the like where reactions to such proposals could be expressed. Coupled with this there would need to be a broader environmental education programme in the schools, colleges and universities where the background to environmental problems would be more fully discussed. Thus public participation would be as much an educational device as a new experiment in democracy. These proposals may perhaps sound a bit fantastic, but we already have communications techniques (television, computerised simulation models, computerised voting) which have an enormous potential in this field.

However, despite these innovations in communications and institutional decision making, it would be naive and unrealistic to envisage mass public participation. Apart from electoral voting (when rarely more than 70% are involved) fewer than 2% of the population is politically active. But *representative* public groups would become more more responsive in such a situation, and, in the subsequent dialogue with the decision makers, would voice the preferences of their constituents. There is, of course, a paradox here in that while citizen participation is undoubtedly desirable, public opinion is difficult to guage accurately for the reasons already described, and any proposal, no matter how carefully considered, will have its opponents. But if there is wider and more accurate information concerning the issues, plus improved means of allocating compensatory payments, decisions regarding the planning of the bio-social environment would probably take no longer than they do now and hopefully would be less contentious.

The present period of heightened environmental consciousness is not merely a fad; but it is not yet established on firm ground. For successful environmental decisions to be made in the future both the public and the experts will have to make sacrifices. The public will have to recognise that to protect environmental resources means higher taxes and increased prices plus greater effort in understanding the issues involved and being politically response when the situation demands it. The expert will have to accept that his special training does not provide the answers, only the guidelines for public choice. Too often there is confrontation between segments of the public and the expert: too rarely is there a recognition that the two groups are really part of the same team. As yet the public hasn't really been given a chance to respond. The fact that there is already so much concern over man's use of his environmental resources, despite the various impediments countering the expression of such concern, is all the more reason to break new ground.

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