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Environmental Impact in Perspective

By Walter C Patterson

'Environment' is a remarkably elastic concept. That has been obvious since it first came into popular currency in the late 1960s. It can carry connotations of wilderness, urban surroundings, domestic surroundings, occupational surroundings, economic and social relationships - the list can be extended indefinitely. 'Environmental impact' is similarly open-ended. Nor does it mean the same to all who use the concept: witness the range of topics we have already considered here today. This is not surprising. Every human activity is intended to have some sort of impact on some sort of environment: that is what we mean by activity. We act to reorganize some aspect of the world for our benefit. Every individual activity has its 'environmental impact'; and every human activity is the collective effect of individuai activities. Each of us acts in a way believed by definition to be beneficial: but according to the familiar environmental dictum, it is impossible to do only one thing. So we are concerned with the 'side effects' of our activities, and whether they are detrimental and if so, how. Even for a simple individual decision whether or not to do something, or whether to do one thing rather than another, it is far from easy to assess the total 'environmental impact'. We have incomplete information, both about the activity itself, and about the circumstances within which it is to be undertaken. This problem is multiplied many-fold when we consider the much larger scale activities we pursue in groups. Such activities involve many people directly and indirectly, large quantities of material, large amounts of physical space, and long time-scales. We must spell out much more carefully what we understand by 'environmental impact' of such an undertaking: what 'environment': how it will be affected - including the limits of our knowledge; and how the decision is to be reached.

Let us look from this point of view at the example we have been considering today: the environmental impact of nuclear generating stations. The conventional approach is to pose the question in this form: 'shall we or shall we not build a nuclear power station of a certain type at a certain place and time?'. In almost every respect this approach takes for granted all the purported positive reasons for building the station; the 'environmental impact' of the station is thought of primarily, if not entirely, as the 'side effect' of building the station: side effects with some sort of negative implication. Among these 'side effects' are impact on land use, amenity, and water supplies, both short and long-term; impact on local and national employment - an impact hitherto considered positive, but now by no means so clearly beneficial; and impact on the nature and extent of possible hazards in and around the installation. All of these environmental impacts, in the case of a nuclear power station, have been touched upon already today. The approach taken is generally to assume that the negative impacts must be contained below certain levels variously imposed: the side effects - agreed to be negative - must be minimized. If they can be satisfactorily minimized, there is no further 'environmental' objection to the undertaking:

you may build your nuclear station. I should note in passing that we have not today considered certain side effects of the proposed nuclear power station which would be generally agreed to be negative, and which present genuine and serious environmental impact, whatever your definition: I refer to the mining and milling of uranium, and the final disposal of high-level radioactive waste.

All these various environmental impacts of a nuclear power station need to be addressed and considered; to do so presents, as we have already heard, a variety of problems. But I am concerned with an additional level of problem: whose exclusion from the agenda may well be the reason for the growing difficulty of resolving the narrower questions already considered. The US led the way in laying down formal procedures for assessing environmental impact, with the National Environment Policy Act of 1969. NEPA laid down the requirement that the proposers of a new project must prepare an Environmental Impact Statement; and in this EIS they must discuss alternative ways of accomplishing the same purpose, and show that the project proposed has a lower environmental impact than the alternatives. The practical significance of this legal requirement has unfortunately been lost in the legal morass of US environmental litigation. But the principle stands, and needs to be restored to its central position in the debate.

Today, for example, we have been discussing the environmental impact of the nuclear power station, against an assortment of more-or-less absolute criteria, as if it were a question which could only be answered 'yes' or 'no': do we build the station or do we not build it. In reality the policy issue is much more interesting: do you build the nuclear power station, or do something else instead, with the skills, resources, money and time? From this point of view, environmental impact is not a question merely of side effect of an activity which is itself taken for granted to be desirable. Environmental impact becomes itself a question of comparisons - many of them assuredly complex and uncertain. Consider the constituencies interested even in this issue of building a nuclear power station or doing something else. The electricity suppliers may regard the alternative as building a coal-fired power station, with its various environmental impacts; they may also regard as alternatives the possibility of other supply technologies. Industrial electricity users, however, might regard the alternative as building their own generating plant, possibly for combined heat and power and with a two-way connection to the grid. Domestic users of electric heating might regard the alternative as substantially increased insulation of their homes, to make the planned power station superfluous. Each of these alternatives poses genuine and specific questions of environmental impact - comparative environmental impact on a great variety of environments, and over potentially very long time-scales.

At the moment, however, the decision-making processes available do not offer a practical avenue or public forum for such comparative assessments. Participants at the Windscale inquiry were invited to address such comparisons if they wished; but when the official report to the government came to be written, contributions on these comparisons.were simply ignored as irrelevant. I see no reason to expect that the forthcoming Sizewell B inquiry will demonstrate any advance on the Windscale process. Yet I believe strongly that much present public dissatisfaction with existing procedures for planning energy

development arises precisely because the public recognises instinctively the present narrowness and inadequacy of the comparative assessment of environmental impact as between various options. The public senses inequities and distortions of many kinds in official assessments. There exists a massive centralized bureaucracy charged with making provisions for supplies of fuel and electricity, for carrying out research and development in supply technologies, and for ensuring that governmental financial support is available for multibillion pound investments such as that represented by even one nuclear power station. But there is no comparable institutional advocacy for decentralized measures which would accomplish most of the same ultimate ends more equitably, more rapidly, more reliably and even economically: in sum, with a more beneficial environmental impact. A narrow preoccupation with environmental impact narrowly construed, and measured against absolute criteria which may or may not meet the case, is no substitute for a social mechanism which is able to make detailed and equitable comparisons of different alternative policies and projects, in order to ensure that the impact on the environment, broadly construed, is as favourable as possible.

From this point of view, environmental impact assessment and its implications shade imperceptibly into the general political process by which we as a society live together and act together. No narrower approach to environmental impact will suffice.