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LAND ALONE ENDURES. Land use and the role of research. *Discussion Paper No. 3*, Dept of Scientific and Industrial Research, Wellington, 1980.

This "paper" (it is 286 pages long) has been written partly as a contribution to the efforts of the Land Use Advisory Council to derive a national land-use policy, and partly to express the concern of scientists who feel that their research findings are not properly used in the land-use planning process.

It has a composite authorship drawn from different branches of the DSIR, and the names in the list of contributors will be familiar to most foresters. Information on different land uses is presented dispassionately and clearly, with many excellent photographs and tables, and conclusions are clearly drawn. On these counts alone, it will survive and be used, but whether it will resolve the question inherent in the title is less certain. Land use is not just a technical problem, as the authors make clear, and any study that concentrates on one side alone will inevitably appear lopsided. *Land Alone Endures* concentrates on the physical facts of land use, points out the information that is available, and wonders why this information is not used. The question it does not ask is the self-critical one — Why is this so?

Most land-use planners do not ignore research results — they simply cannot find them, or, if they do, they cannot translate them into any kind of understandable language. So they must proceed (the world goes on) as best they can, empirically and by hunch, using whatever tools are available and trying to guide things in an innocuous direction.

Against this are ranged a national land-use ethic that believes most strongly that the productivity of land is a reflection of technology rather than any intrinsic worth of the natural phenomena of soil and climate (see "Country Calendar" any Sunday night) and a scientist's ethic that appears to place freedom in the pursuit of interest ahead of community well-being, so it is not surprising that mistakes are made. And they will continue to be made until we get better resource surveys rather than isolated pockets of often irrelevant facts.

There is a plea for this in *Land Alone Endures*, and it also emerged, for slightly different reasons, at the Land Use Advisory Council seminar on Preservation and Recreation held earlier this year, in the form of a request for a national biological resources survey. But this can only be regarded as Utopian when most scientific disciplines appear unable to do the same for their own narrower field. Basic resource information has so far been produced for soils and geology, but others have failed completely, the greatest gap being botany, though fauna have had little attention either. In a country claimed as the home of an almost completely endemic flora and fauna, we have almost no distribution maps or scales of sensitivity and value to guide land-use planning and practice.

The authors present McHarg* and the King Country study† as object lessons in positive land-use planning, but in doing so they overlook one or two basic problems. Planning is essentially a negative exercise, since essentially it sets out to describe the consequences of one course of action compared with another, from the ecological rather than the economist's viewpoint. So we are concerned with risks and losses. McHarg uses this philosophy in a positive way but he can only do this when he is given a specific problem to solve. Without that problem, his type case being the location of a motorway, the exercise runs the risk of degeneration into the accumulation of data on the assumption that, if enough are collected, something must drop out the bottom, a belief in the sanctity of figures engrained in our technological puritan background. Thus in the absence of "facts" — and we can never collect enough to answer every question - we end up with regulatory and retributive planning which freezes the status auo. (If change is evolution toward a better state, opposition to it frustrates a natural process: opponents must assume the mantle of guardians of public welfare and morality to justify their opposition, and planning inevitably becomes a combination of negativism (this hurts me more than it hurts you) plus fear of change.)

In the end this is the paper's most telling omission — the resolution of land-use problems by any other means than science. It is perhaps our belief in data as the answer to all problems that leads us into trouble, particularly when we cannot find them when we think we need them and have no alternative tools. And yet, to be fair, the authors are scientists, and they have set out to describe the problem from their point of view. They have done this well and the mere fact that they have done it reflects their concern

^{*}McHarg, I. L., 1969. *Design with Nature*. Doubleday/Natural History Press, New York. 198 pp.

[†]Lands and Survey Dept, 1978. King Country Land Use: Final Report, July 1978. 120 pp.

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that all is not as it should be. A problem recognised is half solved. All that we need now is a local Chairman Mao to winkle people out from their well-padded corners of complacent assumptions, to make them toil for a while in different fields, to see the view from the other side of the fence. But this, of course, applies to everyone, not just scientists.

Land Alone Endures is well worth reading if you can find it (it seems to have been out of print for a while), and it is a basic reference book for the library of anyone interested in land use. It does not answer all the questions that it asks, nor does it ask them all in the right places, but they are at least asked, and thinking out the answers will do the reader more good than reading someone else's opinion. Also, and refreshingly to a forester, it treats forestry as a land use as rational as any other, and sets the responsibility for forest diminution firmly on agriculture. However, it is curious to see Japan's 67% under forest turn up again. About a third of this (or proportionately six million hectares of New Zealand) is in plantations, a figure which, if derived in other ways as a target, would surely not be accepted without some argument.

J. R. PUREY-CUST

FLORA OF NEW ZEALAND, Volume III, by A. J. Healy and E. Edgar, xlii + 220 pp. Government Printer, Wellington, 1980 (\$18.50).

Ready access to a reliable means of identification is fundamental to the work of both botanist and forester alike. In this, Volume III of the *Flora* continues to set a high standard. The initial reaction, however, is one of disappointment at the continuing trend of restricting the area covered. Termed on the dust jacket a "weed flora" and the first comprehensive account of these plants since 1940, it is on closer inspection confined to the adventive monocots, excluding the grasses. Yet perhaps this merely highlights the magnitude of the task undertaken by the late Dr H. H. Allan with Volume I (all the indigenous vascular plants except the monocots) and Drs L. B. Moore and E. Edgar with Volume II (indigenous monocots minus the grasses). It is to be hoped that the interval between volumes (*ca.* 10 years) can be reduced, as the current text on the grasses is Cheeseman (1925).

Volume III continues a number of helpful features established in Volumes I and II. Keith West, Gabrielle van Bree and Robyn