

leading. Usually their remarks are directed toward the presumption that all benefits can be known, measured, and quantified equally. It is true that water and related land resources projects provide many benefits of a commodity or goods and services nature, more or less readily evaluated in private market terms. But in many instances the projects provide much more than goods and services. They provide also, in increasing instances, for the protection and preservation of the quality of the environment. Note the emphasis on water quality control for instance with its intangible as well as tangible benefits. Note also the enhancement of fish and wildlife, the contributions to aesthetics and the amenities, and the many recreational opportunities created by water and related land projects and programs. These benefits have generally been underestimated, partly because of the lack of explicit private market prices or values to represent them and partly because the projects have been justified on other grounds, with these latter benefits given only incidental accounting. The significance of these kinds of benefits may well outweigh the more traditional benefits in the future.

Furthermore, water resource projects are being accorded a renewed positive role in regional economic development. In this regard, because of the need for population shifts and changing attitudes and values to manifest themselves, tangible benefits may be long deferred and consideration must be given to interim uses which, hopefully, will yield to more compelling uses in the future. One can no longer look solely at projected goods and services based upon past trends as the basis for planning in areas of unemployed or underemployed human and other resources. The ecological and environmental effects and contributions must be evaluated, and the social goals as well as the economic implications, must be appraised.

Scholars are already referring to the "new economics of resources" to describe the situation. Dr. Nathaniel Wollman of the University of New Mexico uses this term as the title of an article in the fall 1967 issue of *Daedalus*, the Journal of the American Academy of Arts and Sciences. The entire issue is entitled "America's Changing Environment" and it presents a series of searching articles. Professor Wollman says, in regard to the "new economics" that it applies to "bridging the esthetic gap—by developing new methods of analysis that will show us how to incorporate into a measured system the direct sensual responses that up to now have figured solely as intuitively valued side conditions. For what is now measurable, the old economics is good enough."

Furthermore, he says that "if we accept the solutions offered by existing market forces we shall probably waste and misuse part of our resources. This conclusion rests upon the probability that there is a bias in the 'old economics' in favor of underestimation rather than overestimation of needs met by nonmarketed goods and services."

So here we have the disinterested scholar expressing his analytical insight and concern with the benefit-cost analysis situation when based only upon tangible values. The view that benefit estimation has been understated has been expressed also by the congressional committees concerned with water resources development. This subcommittee, in fact, at the January hearings on the interest rate survey of the Comptroller General, heard such views expressed. Mr. Chairman, I believe you commented to that effect during the discussions at that time.