Quibbles. Given their interest in building firmer links between theory and application, it is surprising that Burton, Schoepfle, and Miller found so little to say about irrigation as an aspect of natural resource management. Irrigation is a classic concern in anthropological theory, it is a topic where the same set of empirical phenomena are frequently of both policy and theoretical interest (cf. Fleuret 1985), and it is a field of application where debate is conceptually rigorous. Moreover, the contributions of anthropologists are well-accepted. Two examples come immediately to mind: an anthropologist manages the research program at the International Irrigation Management Institute in Sri Lanka, and a small network of anthropologists collaborated recently to prepare a policy statement on irrigation development in Africa for the U.S. Agency for International Development (USAID 1985).

Conclusions. These remarks expand on, but do not challenge, the basic framework of ideas and problems laid out by Burton, Schoepfle, and Miller. Their framework is sound, but it takes more than clear thinking to make a difference in application. What is needed as well is a sense of purpose that incorporates the ideas of performance, service, achievement, and improvement. So long as neophyte anthropologists emerge from their years of training facing backwards instead of forwards it will be difficult to build a genuine applied science of anthropology.

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Authors' Response to Fleuret

by Marc L. Miller, Michael L. Burton, and G. Mark Schoepfle

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Fleuret is right to emphasize the importance of irrigation as a successful and complex resource management system. There has been much social science study of irrigation systems both in the U.S. and abroad (cf. Miller et al. 1987), and irrigation agriculture often involves a happy combination of local management, relative ecological stability, and high food yields. The main concern of Fleuret's commentary is with the "backward-looking" nature of anthropology, with its emphasis on preserving existing systems rather than designing better systems. We agree that this is a problem with much of anthropology, and we did not intend our choice of examples to lend support to a conservative bias. Our intent in discussing difficult social problems in the five arenas was not to say that change always makes things worse, but only that ecological problems often occur with change, and that there are many natural resource management problems that anthropologists are especially well-qualified to help with.

Fleuret is concerned with the applied objectives of performance, service, and improvement. We assumed a concern for these kinds of objectives in writing our article, indeed, we think it would be absurd to engage in applied work with no concern for the outcome of the work. In fact, we see the demand for performance on the part of applied anthropologists as having a salutary effect upon the entire discipline, since the demand for performance will require anthropologists to improve their research methodologies so as to be better able to evaluate performance. Service and improvement are more difficult concepts, since they are bound up with the goals of the organization that hires the applied anthropologist. We have emphasized the variety of organizations in the natural resource management arena, including profit-seeking industries, private voluntary organizations, and governments. Anthropologists may work for any of these. In some cases the organizational goals (increasing food production, combating desertification, etc.) are so obvious, and so widely shared by anthropologists, that there is little likelihood of value conflicts. However, most industries or public agencies hire anthropologists not as moral advocates or policymakers, but as applied scientists. For the anthropologist, then, the notion of what is best comes into play not with the analysis, but with the original design of an employment contract. The rub is that to do research for one group is often not to do it for another, and not all groups, or anthropologists, share the same goals.

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