

With respect to Panama the panel regarded the program and facilities of the Smithsonian Tropical Research Institute, and the sites available to it, as adequate in meeting requirements for entomological studies in depth in the lowland humid tropics of Central America. A concentration of effort should be placed where data can be accumulated in an orderly fashion over long periods of time, such as Barro Colorado Island, and where short-range mission-oriented projects can be introduced as opportunities present themselves.

There is a manpower potential in almost every country in the tropics, and any effort to develop studies in the tropics should be coordinated with local people and local institutions.

Currently, the Smithsonian Institution is cooperating with the U.S. Army in a project on mosquitos in Southeast Asia. Systematists working in Washington are directly coordinated with a series of biological laboratories in Southeast Asia where ecological studies on mosquitos and other insects are underway. Similar cooperative arrangements could be established in other tropical areas of the world.

*Anthropology (moderated by R. B. Woodbury)*

Since anthropology is the study of patterned human behavior both in its widest variations and in its central tendencies, and since the living groups of mankind are anthropology's laboratory, therefore every human group is of potential scientific importance as showing particular cultural adaptations to a specific physical and biotic environment.

From the fact of man's worldwide present-day ecological dominance, it follows that the study of tropical biology must take human activities into consideration. This is especially true where man is manipulating the environment by means of major engineering projects. Such projects present to the scientific community great opportunities and heavy responsibilities. Because these projects so greatly accelerate rates of change, they give the opportunity to make extensive baseline studies followed immediately by analysis of subsequent drastic modifications on a scale previously rarely available. Such studies will make fundamental contributions to knowledge, and therefore deserve the application of our best intellectual resources. Observation and analysis of changes, however, are insufficient without accepting the responsibility to apply scientific insights to the task of selecting among alternative courses of action in view of their expectable total impact on the environment in which we live.

Anthropology's role within such interdisciplinary studies is not only to record and analyze the changes that occur, but to assist the responsible agencies in formulating, executing, and evaluating programs for the human occupants of the areas affected. These programs often involve relocation of large numbers of people and their adaptation to new habitats and new socioeconomic patterns. For example, in Africa the Kariba Dam project required the relocation of 50,000 people, the Aswan High Dam project of over 100,000 people, and the Volta scheme of some 75,000. In such projects the potential contributions of social science and indeed of all the sciences to the immense human problems created have not always been used to full advantage.

In eastern Panama there now exists an opportunity to greatly improve the effective application of anthropological techniques to situations of enforced drastic change. Three engineering programs have been initiated which will drastically alter the lives of nearly 30,000 people of the region. These are first the Pan-American Highway, second the Bayano Dam, and third the examination of possible routes for a sea-level canal. Rates of cultural change among the local population are increased as soon as surveys for engineering studies begin, and long before actual construction. This area contains two quite separate Indian groups, a large and rapidly growing Negro or mestizo group, and a smaller number of recent white settlers. All of these ethnic segments live in small and widely dispersed communities. Anthropological studies have already been successfully begun as reported at this Conference by Reina Torres de Arauz. The study of the four cultural groups in this area should serve as a model for such investigations everywhere, thus it should include the collection during baseline and subsequent studies of the following topics for each cultural group and in each major geographic subdivision of the area.

1. Demography and demographic trends.

2. Systems or resource exploitation, both current and past. This would include archeological surveys and studies, nutritional and medical studies, and also the usual land-use analyses.