



Tropical Rain Forests

Author(s): Lester L. Short, Ernest P. Imle, Stephen S. Tillett, A. Gómez-Pompa, C. Vázquez-Yanes and S. Guevara

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Letters

Committee on Science and Public Policy

A new AAAS Committee on Science and Public Policy (CSPP) (1) has been formed and is charged by the AAAS board of directors with examining questions of public policy affecting the advancement, dissemination, and utilization of scientific knowledge, and with stimulating the study of such questions.

A substantial portion of the CSPP's efforts are expected to be directed toward the professional needs of those working on science policy studies and of those interested in the results of such studies. Within its charge, it could also have responsibility for analyzing and reporting on government programs that affect the allocation of resources for the advancement of science (for example, manpower programs, the establishment of federal laboratories, and government appropriations for research and development) and the government's utilization of scientific and technical knowledge in the formation of public policy (for example, how government utilizes social science advice and how outside expertise can aid Congress and the Executive). These matters would be considered in both a domestic and an international context.

The CSPP has embarked on a short-term plan to give careful consideration to the role and functions of the committee, in all its dimensions, within the AAAS, and to present by the end of 1973 a detailed plan for implementing the goals that the committee recommends. Since, in my view, as chairman, the committee is regarded as an interim group, some changes in membership, including possibly a different chairman, might become desirable in the light of whatever goals are eventually recommended.

We encourage suggestions regarding matters which should occupy the committee's attention and ways that it can best serve the needs of those interested in science and public policy. We welcome the suggestions of those members and friends of AAAS who would like

to assist us in articulating a set of goals and developing a program. All responses should be in writing and directed to Richard Scribner, director of the Office of Science and Society Programs and staff representative to the AAAS Committee on Science and Public Policy, AAAS, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005, so that copies can be distributed to the members of the committee.

RAYMOND BOWERS

AAAS Committee on Science and Public Policy and Program on Science, Technology, and Society, Cornell University, Ithaca, New York 14850

Notes

1. Other members of the committee are Brewster Denny, William Drayton, Jr., Don E. Kash (vice-chairman), Mack Lipkin, Jr., Derek de Solla Price, Don K. Price, Eugene B. Skolnikoff, Victor Rabinowitch, Jurgen Schmandt, Christopher Wright, Eugene S. Uyeki, and William Bevan (board representative of AAAS); guests at recent meetings have included Albert Fritsch, John Holmfeld, Howard Lewis, Claire Nader, and Harvey Sapolsky.

Tropical Rain Forests

I can say "amen" to the urgent plea for preservation of tropical rain forests embodied in the excellent article "The tropical rain forest: A nonrenewable resource" (1 Sept. 1972, p. 762) by Gómez-Pompa, Vázquez-Yanes, and

Guevara. Recent avifaunal studies I have conducted in Cameroun, Peru, and Malaya, and other travels on the three continents where tropical rain forests are located, convince me that, as seemingly vast as some remnants may be, rain forests and their faunas are diminishing rapidly, and we stand to lose many potentially valuable and biologically interesting and important species of plants and animals.

Perhaps no rain forest area is suffering more than that of Southeast Asia, where destruction of lowland forests in Borneo, Sumatra, and Malaya is wholesale. Government attitudes in these areas need changing rapidly. For example, the accompanying photograph shows the highway entrance to the International Biological Program's Malayan Rain Forest Study Site at Pasoh, Negeri Sembilan, Malaya. This area of 5 square kilometers was, when established in 1967, within a large tract of virgin forest. Since then, cutting to the very edges of the tract has proceeded at a great pace and threatens the various ongoing projects, as well as the entire future of the site. After the forest is cut, rains begin to wash away the soil; this process is enhanced with burning. The influx of personnel in adjoining areas results in poaching within the study site. At present, the pall of smoke fills the air; one hears chain saws biting at fallen logs and sees frequent evidence of poaching while working in the site. This is not an isolated example; wildlife refuges and preserves of various kinds in Malaya face the same fate (for example, there has been cutting to the borders of the 702-square-kilometer game reserve at Kaula Lompat in Pahang, and the famous Ulu Gombak Reserve of the University of Malaya, about to be



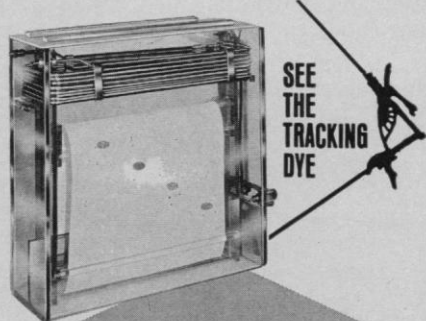
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abandoned, has been bisected by a power line clearing and faces another bisecting by a highway). Friends in Malaya have stated that, within a decade, the lowland rain forests in Malaya will have disappeared, with the exception of a few sites (hill forests are in less imminent danger).

It is a tragedy for mankind that such potentially valuable areas of forest are being destroyed before we have the knowledge to manage them effectively and economically. For a mere pittance, a few, usually foreign, businessmen (representing industries in so-called "advanced" countries) and several local government employees accumulate wealth, a few local people have temporary jobs, and the land is ravaged. And this in a region where population pressure is not severe.

LESTER L. SHORT
*American Museum of Natural History,
New York 10024*

The article by Gómez-Pompa, Vázquez-Yanes, and Guevara has aroused much interest. For well over 20 years, tropical botanists and scientists in other disciplines from a number of countries have been sounding the alarm over the increasingly rapid rate of destruction of one of man's great but little studied heritages—the tropical rain forests. The Association for Tropical Biology, with an international membership and a broad outlook, has done a good job of developing and spreading information on this subject, but no means are at hand nor foreseen to slow down or stop the ever-increasing rate of destruction or to guarantee the preservation and availability of any appreciable areas for future research.

It seems safe to predict that unless present policies and population pressures can be changed soon, few tropical American rain forests of any size will escape the wasteful treatment that has already been accorded many hundreds of thousands of square kilometers in the last three decades. Governments apparently see no value in these forests and, in fact, follow policies which actively promote their destruction.

One way to reserve some areas for future study might be for botanists to join forces with other interests. If a strip 25 kilometers wide (or preferably wider) of untouched forest extending completely across the Isthmus of Panama could be reserved now and protected against agricultural activity, it could serve as a barrier to the north-

ward movement of certain plant and animal diseases (for example, foot-and-mouth disease in livestock and *Monilia* pod rot in cacao). Costs of reserving and maintaining the barrier might logically be borne by benefiting nations.

Here may be an opportunity for livestock interests, quarantine officers, botanists, and others to join forces. If this barrier is to be established, no time should be lost in employing the necessary scientific statesmanship needed to delineate, fence, and guard the strip before it is invaded by the cut-and-burn farmers and squatters with their livestock, if indeed they are not already in the area.

Once reserved, the strip could serve researchers for years to come. It would give man a better chance to discover some of the valuable information which these highly evolved, biologically efficient, beautiful rain forest communities are believed to contain.

ERNEST P. IMLE
*10802 Boredale Drive,
Adelphi, Maryland 20783*

My first impulse on reading "The tropical rain forest: A nonrenewable resource" was to request a translation in Spanish from the authors for distribution here. But on second thought it seems completely futile: the resource is not only nonrenewable, it is within a few years of being nonexistent. Conservation is an occupation of a well-educated society, conscious of its heritage and the errors it has already committed. What can one hope to achieve in the face of a majority of professional foresters, politicians, and lumbermen whose only interest is to obtain the greatest gain in the shortest possible time from the resource and then embark on costly projects of reforestation with exotic species? The conscience should come from the general public, but in the developing countries the common man is poorly educated, and his response is all too frequently not only a complete lack of understanding, but a frank "Para qué?"; he is dependent on the rapid destruction of the forest for his only income, either for the lumber or for new land for crops to feed an undernourished, exploding population.

In my opinion the only hope lay in a massive educational program in the primary schools, where one can create the necessary conscience and long-term economic vision; but by the time the present generation becomes adult it will be too late. Meanwhile the taxonomic

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botanist attempts to preserve a meager portion of the rain forest as a record for posterity, but on a budget which is also almost nonexistent.

STEPHEN S. TILLET
*Herbario, Universidad de los Andes,
 Merida, Venezuela*

We do not know what should be done in order to prevent the destruction of the rain forests of the world, but we are convinced that they do not regenerate under present land-use practices. The solution of this problem (if any) lies in the fields of social science, especially economics and, unfortunately, also politics (both national and international). It is obvious that a change in present policies and in population growth (as Imle suggests) could solve the problem. But, unless some profound social changes can be made, there is no chance for preservation. It is sad to think that the preservation of rain forests has aroused more interest in the scientific community than the poverty, ignorance, and hunger that is commonplace in the same areas. The overexploitation of the tropics by a few individuals is one of the causes of the problem. We agree fully with Tillett's suggestion that massive educational programs in the primary schools may be one solution. But one ugly question is always in our minds—Why has this problem been left until now? Also, education is a word of many meanings. What kind of education will solve the socioeconomic problems of these areas?

We cannot solve a problem as complex and general as this one by simple actions. It is not a matter of chance that the problem is worldwide, and for this reason we think that it requires a worldwide approach (perhaps a United Nations program). We cannot cure a headache produced by cancer by prescribing aspirin. We cannot preserve the rain forests by protecting them from people who need the land for survival.

A worldwide revolution in land-use planning should be undertaken, taking into account the people living in the area, environmental deterioration, development, conservation of culture, exploitation, imperialism, population growth, improvement of living conditions, and education. New ways of planning the use of the world for all mankind are now in order.

A. GÓMEZ-POMPA
 C. VÁZQUEZ-YANES, S. GUEVARA
*Institute of Biology, National University
 of Mexico, Mexico 20, D.F.*

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