fied because they were lost in a move.

EPA officials, including former administrator William D. Ruckelshaus, make it plain that the HEI is meant to bring order out of chaos in carbon monoxide research. This is HEI's first and most important task. The EPA seems less concerned about the nature of the results than determined to get data it can trust. Meanwhile, the auto company sponsors hope that HEI will find that the angina danger has been overblown. If HEI's work does not help relax EPA standards, the companies hope it will at least discourage the EPA from tightening them.

HEI unavoidably will be pressured to cut its science to fit a pattern. But the problems are likely to arise less in the context of a particular topic than in the overall plan of research. Some tensions of this sort appeared at the annual meeting. Both EPA and auto company officials spoke about the need to shift the research plan in new directions, in each case to satisfy some immediate needs.

The companies are worried about a move to require "on-board" devices that would prevent vapors from escaping from the gas tank during fueling. And the EPA is eager to get information on formaldehyde, a problem chemical that has raised its head in other parts of the agency. Neither the government nor the companies seemed particularly eager to follow through on the diesel research that was so urgently requested a couple of years ago. General Motors has bowed out of the diesel market, and, contrary to forecasts only a few years old, there will be no diesel boom. Yet the research begun earlier is now beginning to produce results.

Several members of HEI's research committee spoke out, making it clear they were not willing to follow anyone's bandwagon. Faddishness and inconstancy, after all, are exactly the problems that bedevil government-sponsored programs. And HEI's leaders say they will not be deflected from their deliberate plans for carrying out research which they think is important, although they do poll sponsors to adjust their priorities.

Auto executives and EPA officials who were asked about HEI's value agreed that it has already shown itself capable of recruiting excellent researchers and setting very high standards. The EPA has pledged funding through 1988, and the auto companies are likely to keep up their side of the game at least that long. So the real test of the institute will come in the next year or two, as results come out and as regulators and manufacturers will have to act on them or ignore them.—**ELIOT MARSHALL**

OTA Says African Aid Focuses on Wrong People

A congressional research office, arguing that the food problems in sub-Saharan Africa will almost certainly worsen in the next few years, has advocated a shift in the focus of agricultural policies in the region toward helping small-scale, subsistence-level farmers and herders. Such producers have largely been ignored by both national governments and foreign assistance programs, according to a report by the Office of Technology Assessment (OTA).*

The study notes that Africa is the only major region of the world where per capita food production has declined over the past two decades, a consequence of high population growth rates and stagnant food production. These underlying trends will continue to cause food shortfalls in the region well after the current drought-induced crisis ends.

Focusing assistance on many low-income small farmers is a far more difficult task than concentrating on raising the productivity of a few larger producers, however. In particular, it requires better developed research and extension programs both to develop the appropriate technologies and to transfer them to the field.

The OTA study notes that these services are generally a very weak link in the chain of technological change in African agriculture. Similarly, the directors of international agricultural research centers who met in Washington in late January identified the generally underdeveloped state of national agricultural research and extension services as a major barrier to the transfer of new technologies from the centers to farmers (*Science*, 8 February, p. 616).

Consequently, OTA recommends that the United States increase its support to indigenous African universities and research centers and encourage programs in which farmers, herders, extension agents, and agricultural research workers are involved.

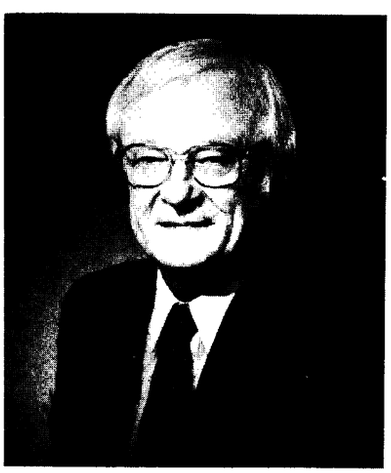
In general, the OTA study also argues that U.S. assistance to sub-Saharan Africa has been too crisis-oriented and has lacked clear and consistent goals. It emphasizes that long-term, consistent support, which is not buffeted around by shifting political winds in Washington, will be needed to make any inroads into Africa's food production problems.—**COLIN NORMAN**

**Africa Tomorrow: Issues in Technology, Agriculture and Foreign Aid* (Office of Technology Assessment, Washington, D.C. 20510).

National Science Board Seeks New Role

The National Science Board, the top policy-making body of the National Science Foundation (NSF), is attempting to shed some of its detailed responsibilities in order to involve itself more deeply in NSF and national science policy. It also intends to pay more attention to science education and human resource issues.

The board, whose statutory responsibilities include overseeing NSF programs and providing an independent source of advice on science policy, has never been a major player in Washington politics. This stems in part from a legal requirement that it must approve every NSF grant larger than $500,000 a year or which totals more than $2 million, a responsibility that takes up a large amount of the board's time. Equally important, by the time a project reaches the board for approval, it is generally too late for the board to exercise much influence on its substance.



Roland Schmitt

Consequently, at its meeting last month, the board agreed to ask Congress to give it the power to delegate