**Section** IV

# PLANNING AND EXPLORATORY ACTIVITIES

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## Planning

The legislation which established OTA stipulates that a vital part of OTA's mission is to identify potential future technological issues. Thus OTA works to alert Congress to both potentially undesirable and beneficial consequences emanating from new, technology-related national problems and issues, or evolving current issues.

Through long-range planning, OTA not only identifies future issues, when appropriate, for the attention of Congress, but also probes those issues to define congressional interests and establish an internal agendum for the scheduling of OTA activities. Planning or preliminary analysis projects constitute a part of this process. While many activities typically lead to full-scale assessments, a number of OTA exploratory efforts yield reports which serve current congressional needs. Seven such activities are described below.

1977 saw the completion of three such projects and the issue of their reports. One involved the status and role of technology assessment as a tool for policy planning in Government, business, and academic organizations. Another evaluated demographic factors such as birth, marriage, and death rates and assessed how they might influence elementary and secondary education in the United States. A third examined civil liberty, privacy, and due process issues related to a new computer system proposed by the Internal Revenue Service.

Three other exploratory projects commenced in 1977. One scrutinizes issues and problems related to telecommunications, computers, and information policies. Its findings will help determine whether OTA should establish a formal program to deal with such issues. Complementing this effort, another project, similar to the analysis of the Internal Revenue Service (IRS) computer system, investigates issues related to proposed changes in the national crime computer operated by the Federal Bureau of Investigation (FBI). The third planning project assesses the implications of Federal programs dealing with the aftermath of natural hazards such as earthquakes, storms, and floods.

Work continued in 1977 on a Board-initiated "early warning" planning study examining larger, long-term issues and alternative approaches to important technological developments and needs. This effort endeavors to identify new and emerging technologies that may present significant issues at some future time.

## Exploratory Activities

OTA's exploratory enterprise evaluates assessment requests and proposals which do not fall into other program areas. OTA analyzes the technological, economic, social, and legal matters involved with such requests, as well as the scope, parties at interest, and policy issues. These exploratory studies help the OTA Board decide whether major assessments are warranted. As noted above, OTA has found that many of the preliminary exploratory analyses, such as the one on the IRS Tax Administration System and the study of effects of demographic shifts on elementary and secondary schools, themselves offer substantial value to Congress.

*Technology Assessment Activities in Government, Business, and Academia*

This two-volume report examines the development and use of technology assessment as a policy planning technique in Government, business and academic organizations. The first volume records 4 days of hearings held by the OTA Board in June 1976. The second volume summarizes and analyzes the testimony presented in those hearings as well as the results of OTA staff work. (Excerpts from this report may be found in section II. )

## The IRS Tax Administration System

This report examines civil liberty and due process issues related to a new computer system proposed by IRS. This Tax Administration System (TAS) would replace IRS's less efficient computer system which has been in operation since 1958. The preliminary analysis by OTA identifies issues and poses questions regarding congressional and administrative oversight of the system to help determine its possible consequences for due process, privacy, equity, confidentiality, and security. (Excerpts from this report may be found in section 11. )

Requested by the House Committee on Ways and Means and its Oversight Subcommittee, the report served as a reference to the Subcommittees on the Treasury, Postal Service, and General Government Appropriations of both the Senate and House Committees on Appropriations during 1977 hearings on the IRS request for TAS funds, and to other committees studying problems of privacy, information policy, and computer technology. At the request of the appropriations subcommittee and the suggestion of Members of Congress, IRS revised its TAS proposal to address issues and problems revealed in the OTA report. •

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"In early 1978, the Office of Management and Budget postponed the budget item for purchasing TAS components.

*Demographic Factors in Elementary and Secondary Education*

This report examines recent and projected population changes and assesses how they will influence the future of elementary and secondary education in the United States. Demographic factors included birth, death, and marriage rates; population mobility; school enrollment trends; the family; and women in the work force. (Excerpts from this report may be found in section II.)

The OTA report, prepared at the request of the Subcommittee on Elementary, Secondary, and Vocational Education of the House Committee on Education and Labor (and published by this unit as a committee print), served in conjunction with OTA staff testimony at hearings held by the subcommittee. Those hearings constituted an early exercise of the foresight provision of the rules of the House of Representatives (rule X, section 2(b) (l)). This provision directs each House committee to study future issues and developments that may affect matters under the committee's jurisdiction. The OTA report marked the first analysis published by the House as a direct result of the foresight provision.

*Telecommunications, Computers, and Information Policies*

In 1977, OTA initiated a planning effort to identify possible assessment issues involving telecommunications, computers, and information policies. OTA is evaluating such factors as new technologies and services, the interface between computers and communications, the use of the frequency spectrum, high-speed information systems, and trade and technology transfer opportunities as possible parts of such an assessment program.

The Office convened a workshop of representatives of the communications industry, Government, academia, and citizens groups to identify issues and problems in these areas. Those deliberations will help the OTA Board to decide whether to establish a new program area and to

select assessments dealing with telecommunications, computers, or information policies.

### National Crime Information Center

The Federal Bureau of Investigation operates a nationwide, computerized information system, the National Crime Information Center (NCIC), which provides State and local law enforcement agencies access to files on wanted and missing persons. and missing and stolen properties, In 1977, the FBI proposed updating its computer system and decentralizing its Computerized Criminal History file.

At the request of the House Committee on the Judiciary, late in 1977, OTA undertook a preliminary examination of issues stemming from operation and management of NCIC. A workshop of experts representing diverse views and fields of knowledge identified issues and helped define the nature and scope of a full assessment that would meet the committee's legislative and oversight needs. This project will examine civil liberty, privacy, and due process issues, among others, raised by the proposed NCIC changes,

### Natural Hazards

Earthquakes, hurricanes and tornadoes, droughts, floods, and other so-called natural disasters cause billions of dollars in property damage each year, leave thousands homeless, bring injury and death to hundreds of people. and create a multitude of social, economic, and financial problems for Government and private industry. The Federal Government has responded with programs offering flood insurance, low-cost loans for rebuilding damaged property, weather forecasting to give advance warning of approaching storms, and research to improve prediction of or actually prevent disasters such as earthquakes.

Some Federal programs. however, may actually increase the danger for people and property. Federal mortgage and insurance programs, for instance, may encourage housing and other construction on flood plains or earthquake faults. Moreover, no program has taken a holistic approach to the study of, or Government planning for, the mitigation, prevention, or control of natural hazards or their aftermaths.

At the request of the House Committee on Banking, Finance. and Urban Affairs, the Senate Committee on Banking, Housing, and Urban Affairs, and the Senate Committee on Appropriations, OTA initiated a planning study on natural hazards and their social, economic. environmental, and political consequences in late 1977, At year's end, OTA staff were structuring appropriate analyses and surveying the responsibility of various Government agencies. Workshops planned for 1978 will identify and clarify issues and determine if a full assessment is warranted,

## New and Emerging Technologies

OTA's Board-initiated "early warning" planning project. begun in the fall of 1976, is developing means of identifying and gauging the implications of new and emerging technologies. The Technology Assessment Advisory Council has substantially contributed to this effort. Noting that social values often determine technological choices, it has focused on the relationship between society and technology.

During 1977 the Emerging Technologies group, in cooperation with the Aspen Institute for Humanistic Studies, organized a 1-week workshop on Technology and Social Change in July 1977. The workshop determined that better information on the development of new technologies and on changing social values and attitudes could help Congress opportunely identify and assess issues and consequences of such emerging technologies.

In 1978, the Emerging Technologies group further plans to develop a data base considering the relationship between technology and society

by working with ongoing OTA assessments and conducting small, independent, pilot studies. The group will provide information on social change to all OTA program areas. The program areas, in turn, will supply the Emerging Technologies effort with information on the interrelationship between society and technology developed in the course of their assessments. In addition, the Emerging Technologies group will work closely with selected OTA assessments, investigating how changing attitudes and behavior affect the emergence of the particular technology under study.

Following a parallel, longer range approach, pilot studies will investigate less developed technologies and/or shifts in social attitudes and behavior found in small percentages of the general population. The results of these studies are expected to broaden the data base concerning the relationships between technology and society.