

FOOD INFORMATION SYSTEMS

WEDNESDAY, FEBRUARY 4, 1976

CONGRESS OF THE UNITED STATES,
TECHNOLOGY ASSESSMENT BOARD,
OFFICE OF TECHNOLOGY ASSESSMENT,
Washington, D.C.

The Technology Assessment Board met at 3 p.m., pursuant to notice, in room 457, Russell Senate office Building, Hon. Hubert H. Humphrey (member, Technology Assessment Board) presiding.

Present: Senator Humphrey, Senator Kennedy, Congressman Brown.

Staff present: Mr. Emilio Q. Daddario, director; Mr. Daniel V. De Simone, deputy director; Mr. J. B. Cordaro, food program manager; Dr. Walter W. Wilcox, consultant; Ms. Ellen Terpstra, research associate; Ms. Ann Woodbridge, administrative assistant.

Mr. BROWN. The meeting will come to order.

Senator Humphrey has been slightly delayed and has asked that I insert his opening statement in the record at this time.

STATEMENT OF HON. HUBERT H. HUMPHREY, A U.S. SENATOR FROM THE STATE OF MINNESOTA

Chairman HUMPHREY. This hearing marks the conclusion of a series of hearings held by the Office of Technology Assessment on the adequacy and timeliness of food, agriculture, and nutrition information systems. The OTA food assessment group began work on this subject at my request early in 1974. In preparation for the 1974 World Food Conference, the initial results of this study were instrumental in the U.S. delegation's preparation of a proposal of a global early warning and food information system. This initiative was endorsed by the Conference, and work is progressing to implement this system.

Last September, the first hearing was held on the adequacy and timeliness of food information systems. At that time, we heard testimony on improvements needed in U.S. Department of Agriculture agencies and on the progress made recently in obtaining reliable data from the Soviet Union, the People's Republic of China, and the Third World nations, and the progress made by FAO in creating their early warning system.

At the second in the series of hearings, witnesses discussed the information requirements of alternatives for a U.S. food policy. This hearing explored proposals for a more pragmatic and a more consciously planned approach to developing and implementing U.S. food policy. The two most significant elements brought out in that session were: (1) The need for the United States to improve its resource management activities and policies from input requirements to farm production; and (2) the need for the United States to be equally concerned with the postproduction elements of the food system, especially those which affect nutritional status and health of consumers.

Today's hearings will deal with two topics: The potential uses of advanced technologies in agricultural information systems and the recommendations from the OTA Food Advisory Committee for improving the quality of agricultural and nutritional information made available to congressional decisionmakers.

Over the last 5 years, many refinements and improvements have been made in remote sensing technology. Remote sensing is a process of photographing measurements of light reflected off the Earth's surface and analyzing this data with computer systems. By combining this analysis with meteorological, climatological and historical data, it is becoming possible to more accurately monitor and forecast crop production. Additional information can be gained, for example, on soil moisture levels, the spread of plant disease, and water resources on a global basis. By supplementing computer models and digitized information from aerial and ground holographs with remotely sensed data, a more accurate estimate of the world's resources can be made.

The first Earth resources technology satellite (ERTS), now called Landsat I, was launched in 1972. Landsat II was launched a year ago.

In the first application of this technology in the agricultural area, NASA, with the assistance of the Earth Resource Observation Systems (EROS) program, the U.S. Geological Survey of the Department of the Interior, and the National Oceanic and Atmospheric Administration of the Department of Commerce, is cooperating with the Department of Agriculture in the large area crop inventory experiment (LACIE).

In the first phase of the experiment, which has just been completed, USDA used Landsat capabilities to monitor the production of wheat in the United States to see if the current reporting and forecasting systems could be made more accurate and timely.

Our first panel of witnesses today includes representatives of the Federal agencies involved in this project. They will discuss the progress made in applying remote sensing and other related technologies. Their review will help us understand both the potential benefits as well as the Policy and technical obstacles to utilizing these technologies.

As Dr. Fletcher, Administrator of the National Aeronautics and Space Administration, notes in a paper prepared for this hearings

A world agricultural information system is a fairly revolutionary undertaking in that it requires the rapid acquisition, processing, and analysis of objective crop information data gathered on a global basis. Such a system is possible if current and developing remote sensing satellite techniques are used together with traditional systems and techniques.

Dr. Archibald Park of Earth Satellite Corp. has been working with FAO in implementing Resolution 16 of the World Food Conference.

In a paper prepared for this hearing, Dr. Park discussed the technical imitations and developments and the policy problems of gathering and utilizing data collected on other nations. He says:

There is a very real concern on the part of many countries about the legal and institutional issues raised by an international food information system. Even if national sovereignty were not an issue, the protection of the data would still need to be considered because of the opportunity for unscrupulous speculation in the marketplace.

If we are to successfully implement a global system, we must deal quickly and effectively with these concerns.

To conclude this series of hearings, Dr. Martin Abel, professor of agricultural and applied economics, University of Minnesota, and a member of the OTA Food Advisory Committee, will summarize their report entitled, "Food, Agriculture, and Nutrition Information Systems: Assessment and Recommendations" and additional points made during the previous hearings.

I want to take this opportunity to express my appreciation for the fine report which this committee has prepared and which triggered these hearings. It will be printed in the hearing record. This report makes 12 recommendations for the improvement of food, agriculture, and nutrition information systems. The committee asks Congress to consider the following alternatives to improve their information system by:

(a) Increasing Congress analytical capabilities; (b) eliminating obsolescence and improving the timeliness and reliability of food and agricultural data; (c) improving information on key agricultural inputs such as fertilizer; and, (d) improving nutrition information systems.

Many of these require congressional committee action for their implementation. Others could be implemented by the Administration but oversight on the part of Congress would be appropriate and useful.

I intend to ask Congressman Olin Teague, chairman of the Technology Assessment Board, to transmit these recommendations to the appropriate committees and urge that they be given their prompt attention.

Mr. BROWN. Our procedure will be to recognize the panel for statements from each of the members, followed by Dr. Park. Then we will have such interchanges as seem desirable in order to get the most from the presentation made by the previous speakers.

The order of the panel that I have, subject to correction from any of you gentlemen, is Mr. Mathews, Dr. DeNoyer, Dr. Hill, and Dr. White.

Is that right?

Dr. HILL. I think I was last.

Mr. BROWN. Dr. Hill should be last?

Dr. HILL. Yes.

Mr. BROWN. Whatever is satisfactory to you is satisfactory to us.

You may proceed, Mr. Mathews. We are very pleased to see you here and have you outline the contribution which NASA is making in this area of food, agriculture, and nutrition information systems.