China's proposed Three Gorges dam on the Yangtze River is going to displace about one million people, cost US$10 billion, and cover one of China's most visited scenic attractions under 39.3 billion cubic metres of water. The result will be the world's biggest hydro-electric project, generating more than 80 billion kilowatt hours a year.

Building mega-projects like the Three Gorges dam, Brazil's Tucurui dam, or India's Narmada dams is difficult and controversial. Many important issues have to be considered if such projects are to avoid being called monolithic symbols of environmental degradation or examples of planning disasters.

Some of these issues relate to population. In many instances, resettlement costs are not weighed when a dam is being planned. Factors such as moving large numbers of people, reestablishing communities and economic activities, and providing new facilities (schools, hospitals, etc.) cannot be overlooked. When these issues go unaddressed, the completed dams do not meet expectations.

To make such development initiatives successful, planners, municipal and provincial authorities, statisticians, researchers, and economists need better access to the wealth of population information generated by censuses and surveys. Until recently, this need was not being met adequately in the South.

REDATAM-Plus is a new software package designed to eliminate, in the planning stages, many of the problems that are generally perceived only after a project is finished. (REDATAM stands for REtrieval of DATa for small Areas by Microcomputer. Plus indicates this is the latest and most powerful version of REDATAM).

The software was created by the United Nations Latin American Demographic Centre (CELADE) in Chile and funded by IDRC and the United Nations. Its goal is to provide national statistical offices and independent researchers with a simple means to store and access large amounts of census (population and housing) and other data on a personal computer.

**USER FRIENDLY**

By compressing the data down to about 25% of its original size, the program makes it possible for the computer to store microdata on millions of individual households and persons from one or more entire censuses and surveys. From this mass of data, the interactive and user-friendly program produces statistics rapidly and efficiently for development planning. The software normally tabulates variables for any small geographical area in

Among its many uses, REDATAM-Plus software allows researchers to more easily analyze large amounts of census data to facilitate planning for urban and rural communities.
seconds or minutes, depending on the number of cases to be processed and the computer's speed.

REDATAM-Plus allows the user to operate a multidisciplinary database, interface with Geographic Information System (GIS) software, operate the software in a Local Area Network, and produce camera-ready tabulations for publications.

CELADE's final technical report on REDATAM-Plus states the software is being used to detect pockets of poverty in Chile. The faculty of Environmental Studies at the University of Waterloo in Canada collaborated with CELADE on this project. The two institutions are again working together to combine REDATAM-Plus with GIS and visual aids to create tools that will facilitate decentralized decision-making in Chile.

The use of REDATAM-Plus has spread throughout Latin America and the Caribbean. The software is now a tool for researchers and development planners in national statistical offices (NSOs), planning ministries, and other public and private agencies in more than 50 countries in the region. It will help planners assess the spatial distribution of health services in Ecuador, analyze the constraints placed on agricultural land by the encroachment of urban areas in Costa Rica, and determine the effect of tourism on land use, the environment, and population distribution in the Caribbean. It is also being used extensively for censuses in Chile, Costa Rica, Ecuador, Honduras, Panama, Paraguay, Uruguay, and Venezuela.

Serge Poulard, CELADE's Caribbean regional census advisor, says, "On a 3½-inch disk, I can put a single Caribbean country's census data. It is unique because it allows you to pick and choose selected data in fields that you define from a large quantity of information. This is incredible." Once the data is on the disk, any researcher can work with it and it is easy to transport.

SPECIALIZED DATA

Prior to REDATAM-Plus, researchers and development planners had to rely on the work of NSOs for processed data. NSOs usually use mainframe computers that store microdata on lengthy reels of magnetic tape. NSO demographers create as many tables and graphs with the microdata as they can, but they only describe trends at the national and regional levels and do not provide enough information about cities, towns, villages, or city blocks. REDATAM-Plus provides access to this data.

IDRC's computer and information systems specialist Peter Browne says the problem is often that each researcher and development planner needs specific microdata pertaining to small areas, not general, country-wide data. Before REDATAM-Plus, census microdata was essentially lost because few, if any researchers, had access to mainframe computers. In addition, NSOs were often unwilling or unable to produce specialized outputs. REDATAM-Plus lets users obtain tabulations to their own specifications rapidly, cheaply, and without the assistance of a programmer.

The REDATAM-Plus software, documentation and a demonstration database are available in English or Spanish for US$75 to public and non-profit institutions in Latin America and the Caribbean (and for US$90 to similar institutions in other developing regions). A demonstration disk in English and Spanish will be sent free on request to any public or private institution.

The system can be used on any IBM compatible PC with 640K RAM, DOS 3.0 or higher operating system and a hard disk with around five megabytes for the program. REDATAM-Plus normally compresses around a million cases of population census into 20 megabytes.

"REDATAM is more than a program. It is a way to store information efficiently over a long period of time. Bringing it to the personal computer platform is not only democratization of access to information, but also a better guarantee that the access will be transferred over the years," says Poulard.

Peter Newton in Ottawa

Arthur Conning
CELADE
Edificio Naciones Unidas
Avenida Dag Hammarskjold
Casilla 91
Santiago, Chile
Tel: (56-2) 208-5051
Fax: (56-2) 208-0252

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