

## EDITORIAL

The development of water resources of the country to meet growing demands of rising population is a challenging task. Hydrological investigations and analysis form an essential component for investigations, planning, design construction, and operation of water resources projects. The development of systems approach, electronic instrumentation and advent of high speed digital computers have led to significant development in modelling and simulation of complex hydrologic processes. Electronic computers of different sizes and configurations with their capabilities for rapid processing and objective analysis of data, have made it possible to develop data collection, communication and processing systems not only for short terms and long term hydrological forecasting but also real time forecasting.

The introduction of personal computers in recent years has almost revolutionised every aspect of present day life and particularly led to rise of an information age with possibility of improving management of water resources through automatic data collection devices, use of simulation and optimization for planning, and use of real time forecasting techniques for operation of projects. The use of personal computers distributed all over the country even in field offices, would make it possible to systematically handle vast amounts of hydrologic data. It would also be possible to develop standard/general programs for use by field agencies on personal computers for hydrological problems and studies. The personal computers thus have a very important role in hydrology for any country, particularly for India.

Personal Computers and micro-processors have an important role not only in analysis of hydrological data, but also for collection of data through automatic recording devices and compilation of data in computer compatible form after proper processing. There has been considerable progress in the introduction of computers in the country, however there is no corresponding pace of development in software for use with different computers for the purpose of hydrological analysis and simulation. For most of the situations in India, the amount of hydrological data is rather limited and some time quite inadequate. Moreover, the data collected is also of not desired quality. This alongwith different conditions of climate and physiography of the country require rapid development of modern versatile instrumentation, appropriate data base, analysis techniques and software. Such developments have to be indigeneous wherever needed and could also be through adoption of technologies developed elsewhere. The role of personal computers in hydrology is unlimited. However, considerable care is to be given to ensure that proliferation of these sophisticated device does not lead to chaos due to lack of availability of standardised formats for data base and software for hydrological analysis and design. The development of generalised software packages for use of

personal computers at the field level would ensure narrowing down the gap between complexity of hydrological processes and technical capability to handle them for optimal development and management of water resources of the country.

It is hoped that ideas expressed and information provided by different authors in their papers in this issue would lead to increased and efficient use of personal computers for dealing with various hydrological problems in the country.

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