

**GOVERNMENT OF INDIA  
WATER RESOURCES  
LOK SABHA**

UNSTARRED QUESTION NO:3402  
ANSWERED ON:29.07.2009  
HYDROLOGY PROJECTS  
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**Will the Minister of WATER RESOURCES be pleased to state:**

- (a) whether the Union Government has undertaken Hydrology projects in the country;
- (b) if so, the details of the programmes/ schemes undertaken by the Union Government, State-wise;
- (c) the status of these projects; and
- (d) the steps taken by the Government to complete the projects on time?

**Answer**

MINISTER OF THE STATE IN THE MINISTRY OF WATER RESOURCES (SHRI VINCENT H. PALA)

(a) Yes, Madam.

(b)&(c) The Union Government has undertaken the Hydrology Project in the country in two phases namely Hydrology Project - I (HP-I) and Hydrology Project - II (HP-II). The details of programmes / schemes undertaken in Hydrology Project - I and Hydrology Project - II and their status is given below:

Hydrology Project - I

The Project was launched in December 1995 and completed in December 2003 with International Development Association (World Bank) assistance of Special Drawing Right (SDR) 90.1 million which was later reduced to 75.1 million SDR. The Government of Netherlands provided a grant-in-aid of Euro 14.84 million in the form of technical Assistance (TA) under a bilateral Indo-Dutch agreement, towards Consultancy services and overseas trainings. The Hydrology Project - I (HP-I) was implemented in nine states and six central agencies. The States are (1) Andhra Pradesh, (2) Tamil Nadu, (3) Kerala, (4) Maharashtra, (5) Gujarat, (6) Madhya Pradesh, (7) Chhattisgarh, (8) Orissa, and (9) Karnataka while the central agencies are (1) Central Water Commission (CWC), (2) National Institute of Hydrology, (NIH) (3), Central Ground Water Board (CGWB), (4) India Meteorological Department (IMD), (5) Central Water and Power Research Station (CWPRS), and (6) Project Coordination Secretariat (PCS) in Ministry of Water Resources.

The main activities taken up in all the states and central implementing agencies were

# Upgrading and establishment of appropriate River Flow Observation network for hydro-meteorological observation and data collection and improvement/establishment of surface water laboratory facilities.

# Upgrading and establishment of appropriate Ground Water Observation Network for data collection and improvement in ground water Laboratory facilities.

# Upgrading Data Management Facilities involving data processing, storage and transfer/communication facilities/network.

# Strengthening institutional arrangement through additional manpower and capacity building to enable operation and management of the infrastructure built through the project.

# Organizing required formal training and on the job training.

# Other related activities e.g. R&D activities, procurement of equipments etc.

During HP-I, an Integrated Hydrological Information System (HIS) providing reliable, comprehensive and timely hydrological and meteorological data was established. This consist of 916 river gauge stations, 7889 observation wells, 258 water quality laboratories and 436 hydro meteorological stations for collecting data on qualitative and quantitative aspects for both surface water and ground water. Further 390 data centres and 28 data storage centres equipped with specialized hardware and software were established for data processing, storage and reliable data communication. The manpower was trained for HIS operations and user support. The project was able to achieve its envisaged development objectives.

## Hydrology Project - II

The Hydrology Project - II (HP-II) has been taken up from April, 2006 as a follow up of Hydrology Project -I. It is being implemented in 13 states and 8 central agencies with the assistance of International Bank for Reconstruction and Development (IBRD). The project is to be implemented over a period of 6 years ending June, 2012. The total cost of the project is estimated as Rs.631.83 crore which includes IBRD Loan of US\$ 104.98 million. All the agencies involved in HP-I are continuing under HP-II. Besides the old HP-I agencies four new states i.e. Punjab, Goa, Pondicherry and Himachal Pradesh and two new central agencies namely, Bhakra Beas Management Board (BBMB) and Central Pollution Control Board (CPCB) have joined the project. The project is divided into three components viz. (I) Institutional Strengthening, (II) Vertical extension and (III) Horizontal expansion. The details of the activities under these components and their present status is given in the following paragraphs:

I. Institutional Strengthening - This component is being implemented in all the agencies of the project except BBMB. This component has the following sub components;

- I.A. Consolidation of HP-I activities in the existing state.
- I.B. Awareness raising, dissemination and knowledge sharing.
- I.C. Implementation support.

Institutional strengthening component of the project envisages support to the implementing agencies for consolidation of the work already done during phase I of the project and raising awareness regarding the use of hydrometeorological data. This includes supplementary trainings, upgrading of hardware / software and hydrometric equipments and creation of websites for mass awareness.

The implementing agencies are training their personnel, conducting workshops, upgrading the computers and other equipment besides creating and modernizing their websites under this component of the project.

II. Vertical Extension - This component is being implemented in all the agencies of HP-I as well as two new agencies i.e. CPCB and BBMB. This component has the following sub components;

- II.A. Development of hydrological design aids
- II.B. Development of Decision Support System (Planning & Real time)
- II.C. Implementation of purpose driven studies.

This component of the project envisages those activities which would enhance the use of hydrological information system created in 9 HP-I states and 6 central agencies. These activities includes development of hydrological design aids, and decision support system to make the process of designs and decision taking more scientific. Besides this, specific studies (purpose driven studies) are proposed to tackle the local and specific problems of public concern related to water.

Central Water Commission is in the process of hiring international consultants for the development of hydrological design aids using well established, international acceptable methodologies. These design aids would not only facilitate hydrological design but would also usher in a uniformity of approach among states and also between state and central agencies.

National Institute of Hydrology has appointed international consultants for development of decision support system (planning) in November, 2008. This system shall be useful to support decision making in water resources planning and operational policies. The nine HP-I states have identified their respective river basins where the decision support system shall be implemented with the help of consultants.

Bhakra Beas Management Board has appointed international consultants for development of decision support system (real-time) in November, 2008. This shall be useful for real-time forecasting and management including optimum operation of reservoirs.

Thirty three number of Purpose Driven Studies have been taken up by different state and central agencies in collaboration with technical institutes and universities to tackle the water related problems of public concern in different parts of the country.

III. Horizontal Expansion - This component is being implemented in all the new state agencies of Punjab, Goa, Himachal Pradesh, Pondicherry and also in CGWB. This component has the following sub components

- III.A. Upgrading of data collection network.
- III.B. Upgrading of data processing and management systems
- III.C. Purpose-driven studies
- III.D. Training

The project under this component will assist the 4 new states to upgrade their data collection networks. The activities to be financed under the sub-component are:

# New and renovated river gauging stations and appropriate equipments

# New and upgraded ground water and aquifer monitoring systems (including piezometers, automatic and digital water level recorders, exploratory / observation boreholes)

# New and upgraded meteorological stations

# New water quality laboratories

# All civil work and equipments in setting up data collection centres will be supported

# Incremental staff costs and operation and maintenance costs.

The work of construction for state data centre building is under progress in the states of Himachal Pradesh, Goa, Punjab and Pondicherry. The networks for collection of surface water, ground water and meteorological data have been finalized and the agencies are in the process of installation of equipment at different sites. The staff in the new implementing agencies is being trained in the processes of data collection, validation, storage and dissemination. The agencies have started computerization of their historical data using the specialized software developed under the phase I of the project. The agencies are also carrying out purpose driven studies in collaboration with research institutes and universities.

An expenditure of Rs. 59.6 crores has been incurred till March, 2009 under Hydrology Project Phase - II. The break-up of the expenditure for each of the central and state agencies is given at annexure.

(d) A Project Coordination Secretariat has been created in the Ministry of Water Resources for effective coordination with implementing agencies. Project Coordination Secretariat has appointed, in February, 2009, technical and management consultants based on International Competitive Bidding to provide technical support to the implementing agencies and monitoring the project implementation. The Government has constituted a National Level steering Committee Headed by Secretary, Ministry of Water Resources at center. At state level steering committees in each state have been established to monitor and guide the implementation of project.