

Regional Director, International Development Research Centre South Asia Regional Office, 208 Jor Bagh, New Delhi-110003.

(b) Rs. 6,67,340 accrued to AHEAD for the period 1994—98. An amount of Rs. 2,66,936 was received by NISCOM in one instalment. Detail of amount paid by AHEAD to other organisations is not available with NISCOM.

### **Operations for Meteorology**

3561. SHRI RAMACHANDRA KHUNTIA: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the details of operational services provided by the Ministry in the field of Meteorology and surveys through the IMD, SOI and NATMO;

(b) the steps taken or proposed to be taken to report and forecast weather conditions of each district, especially coastal districts, through the electronic media of each State and the State Governments; and

(c) the manner in which the services referred to in parts (a) and (b) above have been modernised and how do they compare with similar services in other developed countries?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT): (a) India Meteorological Department (IMD) is the principal Government Agency in all matters related to meteorology and allied fields in the country. IMD's operational responsibilities are:

- \* To operate and maintain a network of meteorological observatories.
- \* To operate and maintain a telecommunication network for collection and dissemination of meteorological data within and outside the country.
- \* To issue weather forecasts for the public and users in specific sectors such as agriculture, aviation, shipping, fisheries, off-shore oil exploration, etc.
- \* To issue warnings against natural disasters like Tropical Cyclones and to assist other Disaster Management Agencies including Flood Forecasting.
- \* To archive climate data and supply past data to users.

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Survey of India (SOI) is the principal mapping agency of this country and it is responsible for ensuring that the country's domain is explored and mapped suitably to provide base maps for expeditious and integrated development. SOI provides the following services:—

- \* To produce all purpose topographical maps required for defence, general administration, internal security, developmental needs, irrigation and different types of engineering projects.
- \* To produce other maps viz. District Planning Map Series, Tourist Maps, Trekking Maps and small scale geographical maps.
- \* To carry out project surveys on larger scales according to the specifications of the development projects.
- \* To provide an accurate positional framework for all significant points on earth's surface, especially in and around India.
- \* To make use of low altitude remotely sense imageries for topographical interpretation and mapping.

In addition SOI provides the following services in the field of meteorology:—

- \* Tidal data on East and West coast, Andaman and Nicobar Islands and Lakshadweep Islands is being collected through a network of tidal observatories for prediction of tides about one year in advance for the purpose of navigational activities and study of variation in mean sea-level.
- \* The mapping on 1:25,000 scale with half metre contour interval under Coastal Mapping Programme on the East Coast (Nellore to Bangladesh Border) in order to study the effect of submergence due to rise in sea-level and other natural phenomena i.e. Storm surges, cyclones etc. has been completed.

The National Atlas and Thematic Mapping Organization (NATMO) provides the following services:—

- \* To compile the National Atlas of India in English and Hindi.
- \* To prepare National Atlas Maps in regional languages.
- \* To prepare Thematic Maps based on research studies on

environmental and associated aspects and their impact on social and economic development.

NATMO does not provide any operational services in the field of Meteorology. However, in the District Planning Maps, there is an inset depicting the climatic conditions of the concerned district.

In addition to the above, the National Centre for Medium Range Weather Forecasting (NCMRWF), New Delhi is providing medium range weather forecast (3—4 days in advance) based Agrometeorological Advisory Service (AAS) to the farmers through 81 AAS units located all over the country.

(b) A proven and reliable system for dissemination of district-wise weather information and cyclone warnings is already in operation in coastal districts. Under the INSAT based Cyclone Warning Dissemination System (CWDS), a total of 250 receiver sets have been installed in various coastal districts. The information is disseminated to State and Central Government Agencies and to the public through All India Radio and Doordarshan, in addition to use of fax/telephone, high priority telegrams, teleprinter and telex messages, police wireless and Newspapers. Farmers' Weather Bulletins are issued daily and broadcast from AIR Stations. These bulletins contain district wise weather forecasts for next 48 hours with outlook for subsequent two days. IMD issues bi-weekly agrometeorological advisories from 17 centres located in state capitals. These include district-wise information and are broadcast from AIR stations and also telecast from Doordarshan Kendras. In addition there are special programmes arranged on AIR and Doordarshan for promoting use of weather information in various agricultural practices.

(c) State-of-art technology such as Satellite, Radar and Computer Systems is being used for weather observation, data exchange, data processing and weather forecasting. The INSAT system has been fully exploited for meteorological analysis and weather forecasting. A system of 10 S-band conventional radars covers both east and west coasts of the country and provides powerful surveillance for detection of tropical cyclones. Regional Telecommunicational Hub (RTH) under World Meteorological Organization has been upgraded to enhance the speed and quantum of data reception and exchange. IMD has launched its own internet website (<http://www.imd.ernet.in>) for dissemination of weather information, weather charts and satellite images. Regional Websites have also been set up by IMD at Calcutta, Chennai and Mumbai. The forecasts at NCMRWF are prepared using a high speed Super

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Computer and disseminated through satellite based communication (VSAT) and Fax/ telephone to AAS Units on real time mode. The services provided by IMD, SOI, NATMO and NCMRWF are quite comparable with those in the developed countries of the world.

### **Promotion of basic science**

3562. SHRI ABANI ROY: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) what steps have been taken by Government to promote basic science in the country;

(b) whether there is any proposal under Government's consideration for enhancement in the amount of Junior/Senior Research Fellowship being awarded by the CSIR; and

(c) if so, the details thereof and what other steps Government propose to take to encourage the future scientists?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT): (a) The Government is continuing to promote basic science in the Universities/Academic institutions/National Laboratories through various R & D programmes, namely, funding of R & D projects, establishment of centres/national facilities, Projects and fellowships for young scientists, etc.

(b) No Sir.

(c) The Government has initiated a number of new schemes recently to encourage young scientists and science students towards basic research. These schemes include Kishore Vaigyanic Protsahan Yojana, Swarna Jayanti Fellowships. Further, the Government has also recently set up a Fund for Improvement of S & T Infrastructure in Universities and other Higher Educational Institutions (FIST) to use infrastructural improvements as a means of attracting and retaining talent.

### **Grants for Sports Schemes**

3563. SHRI LALITBHAI MEHTA: Will the Minister of YOUTH AFFAIRS AND SPORTS be pleased to state: