

PARLIAMENT OF INDIA
RAJYA SABHA

181

**DEPARTMENT - RELATED PARLIAMENTARY STANDING
COMMITTEE ON SCIENCE AND TECHNOLOGY,
ENVIRONMENT AND FORESTS**

ONE HUNDRED EIGHTY-FIRST REPORT

ON

**ACTION TAKEN BY THE GOVERNMENT ON THE
RECOMMENDATIONS CONTAINED IN THE ONE HUNDRED
SEVENTY-THIRD REPORT OF THE DEPARTMENT-RELATED
PARLIAMENTARY STANDING COMMITTEE ON
SCIENCE AND TECHNOLOGY, ENVIRONMENT AND FORESTS ON
THE DEMANDS FOR GRANTS (2007-2008) OF THE
MINISTRY OF EARTH SCIENCES**

**(PRESENTED TO THE RAJYA SABHA ON 27TH NOVEMBER, 2007)
(LAID ON THE TABLE OF THE LOK SABHA ON 27TH NOVEMBER, 2007)**

**RAJYA SABHA SECRETARIAT
NEW DELHI**

NOVEMBER, 2007/AGRAHAYANA, 1929 (SAKA)

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COMMITTEE ON SCIENCE AND TECHNOLOGY,
ENVIRONMENT AND FORESTS

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COMPOSITION OF THE DEPARTMENT-RELATED PARLIAMENTARY
STANDING COMMITTEE ON SCIENCE AND TECHNOLOGY,
ENVIRONMENT AND FORESTS (2007-08)

1. Dr. V. Maitreyan — *Chairman*

RAJYA SABHA

2. Dr. Prabha Thakur
3. Shri Suryakantbhai Acharya
4. Shri Bhagirathi Majhi
5. Shri Kamal Akhtar
6. Shri Saman Pathak
7. Shri Jabir Husain
8. Shri Ravula Chandra Sekar Reddy
9. Dr. Barun Mukherjee
- *10. Shri D. Raja

LOK SABHA

11. Shri Jasubhai Dhanabhai Barad
12. Dr. Sujan Chakraborty
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17. Shri A. Venkatesh Naik
18. Shri Brahmananda Panda
19. Shrimati Neeta Pateriya
20. Shri Jaysingrao Gaikwad Patil
21. Shri Pratik Prakashbapu Patil
22. Shri Bachhi Singh 'Bachda' Rawat
23. Shri K. C. Singh "Baba"
24. Shri Kirti Vardhan Singh
25. Shri Rakesh Singh
26. Shri Rampal Singh
27. Shrimati Jayaben B. Thakkar
28. Shri Aruna Kumar Vundavalli
29. Shri Akhilesh Yadav
30. Shri Mitrasen Yadav
31. Shri Sita Ram Yadav

SECRETARIAT

Shrimati Agnes Momin George, Joint Secretary

Shri S. Jason, Joint Director

Shri V.S.P. Singh, Deputy Director

Shri S. Rangarajan, Assistant Director

INTRODUCTION

I, the Chairman of the Department-related Parliamentary Standing Committee on Science & Technology, Environment & Forests, having been authorised by the Committee to present the Report on its behalf, present this One Hundred Eighty-first Report on the Action Taken by the Ministry of Earth Sciences on the recommendations contained in One Hundred Seventy-third Report of the Committee on Demands for Grants (2007-08) of the Ministry of Earth Sciences.

2. The Report of the Committee deals with the Action Taken by the Ministry of Earth Sciences on the recommendations contained in the One Hundred Seventy-third Report of the Department-related Parliamentary Standing Committee on Science & Technology, Environment & Forests on the Demands for Grants (2007-08) of the Ministry of Earth Sciences which was presented to the Rajya Sabha on 26th April, 2007.

3. There were twenty-three recommendations contained in the One Hundred Seventy-third Report of the Committee. Action Taken Notes on the recommendations of the Committee were received from the Ministry on 27th August, 2007.

4. In the meeting held on 15th November, 2007 the Committee considered the draft Action Taken Report and adopted the same.

NEW DELHI ;
November 15, 2007

DR. V. MAITREYAN
Chairman,
Department-related Parliamentary Standing Committee
on Science and Technology, Environment and Forests.

REPORT

The Report of the Committee deals with the Action Taken by the Ministry of Earth Sciences on the recommendations contained in the One Hundred Seventy third Report of the Department Related Parliamentary Standing Committee on Science & Technology, Environment & Forests on the Demands for Grants (2007-2008) of the Ministry of Earth Sciences, which was presented to both the houses of Parliament on 26th April, 2007, There were twenty-three recommendations in the One Hundred Seventy third Report of the Committee. Action Taken notes on the recommendations of the Committee were received from the Ministry on 27th August, 2007.

The Committee's recommendations, action taken thereon and comments of the Committee on the Action Taken by the Ministry of Earth Sciences are set out in the succeeding paragraphs:-

1. Recommendation

While agreeing with the reasons furnished by the Ministry in respect of less expenditure during the first quarter, the Committee feels that Ministry must plan its programmes in such a manner that it may utilize maximum percentage of allocated budget in the financial year itself so that there should be minimum carry forward of the unspent balance to the next financial year, Therefore, the committee recommends that there should be regular infusion of funds in various schemes / projects in all the quarters of the financial year and it should also evolve a suitable mechanism in this regard to avoid such situation in the Eleventh Five year plan.

(Para 6.5)

Action Taken by Government

The bulk of activities of ocean developmental programmes are primarily concentrated during period of November to March owing to availability of fair weather window during this time period of the year and this determines the release of funds in general while the Ministry tries to segregate allocation of funds all around the year as far as possible. Regarding unspent funds, it is clarified that MOF does not allow the Ministry to carry forward the funds allocated for a particular Financial Year.

Comments

The Committee notes the reply and reiterates that only minimum funds should be surrendered at the end of the financial year.

2. Recommendation

The Committee expresses its dissatisfaction on the Ministry's replies in providing same old excuse like delay in acquiring clearances, procurement and installation of technological systems, non-availability of research vessel and other such procedural delays for disproportionate variations in the utilization of allocated funds under various programmes. This reflects the serious instances of bad planning and management on the part of Ministry. The Committee is of the view that Ministry should strategically plan all its activities to avoid such administrative delays in future as far as possible and should also aspire for timely implementation of all the major schemes/projects.

(Para 7.3)

Action Taken by Government

Considering the past experience, the Ministry reviewed the Tenth plan programmes extensively and formulated Eleventh Plan programmes carefully with a view to avoid delays to the extent possible.

Comments

The Committee notes the reply and desires that allocated funds would henceforth be utilized in right earnest.

3. Recommendation

The Committee has observed that allocation of funds under the “Manpower Training” is negligible, in spite of the fact that imparting training to its manpower especially scientists! technologist should be one of the major objective of the Ministry as unskilled or under-skilled manpower could not result in the high quality performance, A lot of strength in terms of manpower and the areas of strength are being solely eroded. Moreover, in most of the institution, substitutions in terms of manpower requirements are not there. The Committee observes that there is a need to look at this aspect more so in the context of the maintaining the classical strength of the sciences. The Committee, therefore, recommends the Ministry to evolve a well-planned mechanism in this regard and make sure that funds allocation must be made as per its requirements.

(Para 8.7)

Action Taken by Government

The Ministry of Earth Sciences supports basic and applied research in ocean and atmospheric science & technology in universities through establishment of Ocean and Atmospheric Science and Technology Cell (OASTCs) for promotion of front-ranking research in specialized fields. Following nine OASTCs are functioning in various universities viz. Marine Microbiology at Goa University, Marine Geology & Geophysics at Mangalore University, Coastal Marine Culture Systems at Andhra University, Marine Coastal Ecology of West Coast at Bandager University, Marine Coastal Ecology of East Coast at Bandager University, Marine Coastal Ecology of East Coast at Berhampur University, Beach Placers at Tamil University, Marine Biology at Annamalai University, Marine benthos at Cochin University of S & T and Ocean engineering & Underwater Robotics at IIT, Kharagpur. So far 46 projects have been funded to various OASTCs. The OASTCs regularly organize advanced training programmes and workshops to generate skilled manpower in the identified areas of ocean sciences. Ministry also supports projects, seminars/symposiums on the areas related to Earth science and associated subjects outside the Ocean science and Technology Cells. More than 100 seminars/symposiums were sponsored by the Ministry during Tenth plan period. More thrust will be laid during the Eleventh plan period with increased outlay earmarked for the programme.

Comments

The Committee is of the view that more investment is required in human resource to improve research base. More funds should be allocated to “Manpower Training” in the next plan period.

4. Recommendation

The Committee during its interaction with the Secretary, Ministry of Earth Sciences had observed that there is stagnation in the scientific fields and there is lack of promotional avenues. The Committee strongly

advocates the Ministry to initiate a comprehensive programme, which would have a positive impact on scientific fraternity and will keep them motivated for higher achievements. (Para 8.8)

Action Taken by Government

At present the promotion of Scientists in the Ministry is governed by the flexible complementing Schemes (FCS). The Scheme is being coordinated by DST on behalf of all the Scientific Ministry.

Comments

The Committee notes the reply. It hopes that the scheme will not only hold back scientists from leaving for greener pastures but also in attracting fresh talent.

5. Recommendation

The Committee appreciates the research work carried out by the Ministry in the Antarctica. The Committee feels that given the extremity of the prevailing situation in this continent, the Ministry has taken the initiative for the scientific exploration in such extreme cold conditions. The Committee desires that Ministry should undertake every possible institutional and logistic activity in respect of establishment of the third permanent Indian Base in the Larsemann Ranges and it may also aspire for yielding positive results; as a substantial amount of fund has been- approved towards National Centre for Antarctic and Ocean Research (NCAOR) for such activities. However, notwithstanding different surveys involved, some target date should be fixed for completing the task undertaken, as in the absence of any time frame, the project may loose the importance and urgency that is called for. (Para 9.5)

Action Taken by Government

The target dates have been fixed for completing the various tasks related to establishment of the third permanent Indian base in the Larsemann ranges during the Eleventh Plan period. These are as follows:

As required under the Environmental Protocol of the Antarctic Treaty, a draft Comprehensive Environmental Evaluation (CEE) report based on a conceptual design of new research base of India at Larsemann Hills, East Antarctica, prepared by a German Firm and selected through a global design competition, was prepared and submitted to the X Committee for Environmental Protection (CEP) to the treaty in Nov 2006. The Draft Indian CEE was discussed in the XXX Antarctic Treaty Consultative Meeting (ATCM) held at New Delhi from 30th April to 11th May 2007. CEP after discussion and incorporating certain comments, endorsed to the ATCM that the CEE is as per the Protocol and that the new Station proposal is also not inconsistent with the proposed Antarctic Specially Protected Area (ASMA) in the Larsemann Hill. The ATCM accepted the CEPs endorsement in its final report. This has now paved way for India to finalise the detailed design of the Station and to obtain necessary administrative and financial approvals.

- By September - October 2007, the final CEE will be prepared based on the detailed design of the Station and proposed -infrastructure.
- A project 'Establishment of a new permanent Indian Base in Antarctica' has been proposed in the Eleventh plan and detailed project document is' being prepared at an estimated cost for obtaining approval of the EFC/Commission . The various time lines for this project are –

- Finalization of station design and calling global tenders for construction : 2007-08.
- Development of site for station and landing of stores etc. Polar summer of 2007-08.
- Establishment of field camps: 2007-08 and 2009 .
- Construction of station: Polar summer season of 2008-09 and 2009-10.
- Commissioning of the Station-Summer of 2010-11 and wintering in 2011-12.

Comments

The Committee notes the reply and desires that the Ministry strictly adhere to the target.

6. Recommendation

Environmental change and variability are part of the natural pattern on Earth, However, environmental changes currently witnessed in the polar region are in many ways more pronounced than changes observed in the mid - latitudes or tropical regions. Some ice shelves in Antarctica are retreating and thinning, glaciers are shrinking and in turn it is bearing effect on ecosystems. The Committee would like the Ministry to carry out research and studies regarding impact of such climatic changes on human race. The Committee would also like to know the Ministry's plans about participation in International Polar Year (IPY) 2007-2008 as nations around the world are making plans to participate in it. (Para 9.6)

Action Taken by Government

- Global climate change studies remain one of the thrust areas of Indian scientific research in Antarctica. Establishment of a state of the art Ice Core laboratory at NCAOR , Goa , the first of its kind in India, is a major step taken in that direction during the Tenth Plan. The studies being carried out by the Indian Scientist in Antarctica pertaining to global climate change research comprise the following elements: –
 1. Routine and systemic measurements of various greenhouse gases, ozone, UV- radiation etc. using state-of-the-art instrumentation such as Laser Heterodyne, Acousto-Optic spectrometer, microtop II - Ozonometer, GC systems etc;
 2. Characterization of the thickness and extent of sea ice in Antarctica using satellite data and select field checks:
 3. Monitoring of the fluctuations of continental ice margin;
 4. Studies of ablation-accumulation patterns of the ice shelf near the Indian bay area of East Antarctica;
 5. Paleoclimatic studies using proxy indicators from ice cores and lake sediments from Antarctica and sediment Cores from the Southern Ocean.

B. Ministry's Plans For Participation in International Polar Year (IPY) 2007-08:-

NCAOR has been playing a lead role in all activities related to IPY right from the beginning. The Indian IPY programme was formally launched on the 1st March 2007 by the Ministry and WWF - India, at a formal function at the Jawaharlal Nehru University, New Delhi. Simultaneously, a special function was also organized

at NCAOR, Goa to mark the occasion. A year-long mass- awareness programme is being initiated by NCAOR in ,collaboration with Worldwide Fund for Nature (WWF) - India. This will include series of public lectures by eminent Indian and International Polar Scientists; Exhibitions, screening of special films, national level competitions for school children and other related programmes. Major themes will be global climate change, melting of polar ice caps and sea level rise and how to reduce human impact. This campaign will not only be aimed to educate but also to motivate next generation of scientist, engineers and leaders.

NCAOR also plans to launch the first Indian expedition to the Arctic realm coinciding with the IPY. Project will undertake studies on Arctic sea ice and effect of global warming; studies on glaciers and sea level change; Paleoclimatic studies from Ice Cores from Arctic and comparing them with Antarctic Ice Cores data and studies to test reported tele-connections between the Arctic climate and the Indian monsoon. A detailed project document is prepared for obtaining necessary clearances for the project during the first year of the Eleventh Plan.

Three Indian research proposals have been included in the list of research projects to be taken up as a part of the IPY activities:

- Monitoring of the upper ocean circulation, transport and water masses between Africa and Antarctica.
- To study the short-term Holocene climate variabilities in Antarctica and the Southern. latitudes utilizing sediments cores from the Indian Ocean Sector of the Southern Ocean, the cores from the pre - glacial lakes and the shallow ice-cores from Antarctica.
- Land based anthropogenic impact of coarse particles on Antarctic shelf.

Comments

The Committee notes the reply and desires that it be apprised of the progress made.

7. Recommendation

The Committee recommends that two new schemes, *viz.* Expedition to Arctic and Ice-class Research Vessel, which have been proposed in the Eleventh Five Year Plan, should be pursued in a well-planned and strategic manner. (Para 9.7)

Action Taken by Government

India was one of the original signatories of the Svalbard Treaty of February, 1920, whereby it gets right to use the Arctic Island of Svalbard (Under the sovereignty of Norway) to carry out various scientific activities using the facilities at Spitbergen Island research station. This Ministry has initiated action by sending a scientific team during the summer (August - September, 2007) and in winter (February-March). National Centre for Antarctic and Ocean research (NCAOR), Goa, an autonomous institute under this Ministry will be implementing the project.

With a view to expand Indian scientific endeavors to the Arctic region/northern hemisphere, it is felt that it is the time for India to have her own ice class polar research vessel which will (a) serve as a medium for transportation of men and material to Antarctica (b) serve as a platform for the Indian scientists to undertake oceanographic studies in the sub Arctic and sub Antarctic regions and (c)serve the needs of the Indian

scientific community year-round in the tropical waters as well as in the sea — ice conditions of the polar regions. The basic design of the proposed vessel is being worked out by National Centre for Antarctic and Ocean Research (NCAOR), Goa, who will be implementing the project, as per the functional requirement.

Comments

The Committee takes note of the reply.

8. Recommendation

The reason furnished by the Ministry for reduction of allocation during the year 2006-2007 in R.E. stage is mainly due to non-availability of research vessel for demonstration of shallow bed mining system and teething problems at commissioning of Ferrow-Silico Manganese pilot plant at National Metallurgical Laboratory, Jamshedpur. In the last year's report on demands for grants the Committee had recommended the Ministry to avoid such procedural delays which result in non - utilization of budget in fruitful manner. Consequently, in its action taken notes on the above- mentioned report, the Ministry had stated that such delays would be avoided in future. However, the same reasons have been furnished this year also. This reflects the lackadaisical attitude adopted by the Ministry about fulfilling its commitment. The Committee once again reiterates that Ministry must approach its projects in result - oriented method and should not rely on such excuses for non-performance and giving stereotype reply every year on one issue or the other.

(Para 10.5)

Action Taken by Government

Noted.

Comments

The Committee takes note of the issue and desires that its recommendation be implemented.

9. Recommendation

The Committee commends the activities of the Ministry in creating the requisite infrastructure for carrying out technology development in the ice-land for the benefit of ice-land community, monitoring the health of seas and initiation of programme such as mud crab farming, open sea cage culture of lobsters and usage of fish aggregation devices which resulted in the overall economic development of island and coastal community. It desires that Ministry should strive for developing technologies to facilitate the dissemination of data /data products to user communities.

(Para 11.6)

Action Taken by Government

National Institute of Ocean Technology (NIOT) is continuing its efforts towards for developing technologies to facilitate the dissemination of data/data products to user communities.

Comments

The Committee notes the reply.

10. Recommendation

The Committee observes that developing technology for mining of manganese nodules from Central Indian Ocean Basin (CIOB) from depth of 6000m and development and test of the underwater mining system for long-term operation by using Dynamic Positioning System are potential objectives for the Ministry under the National Institute of Ocean Technology programme. The Committee is of the view that the long-term

planning and effective implementation methods may be devised by the Ministry in this direction and it must see that this should be one of the prioritized areas of the Ministry. (Para 11.7)

Action Taken by Government

Noted. The development of the mining system upto a water depth of 6 km has been planned by the Ministry in phases and would be the priority area of the Ministry.

Comments

The Committee notes the reply. It is of the opinion that the Ministry should do all it can to develop underwater mining as it holds a lot of potential for the future.

11. Recommendation

The Committee also desires that the 10 MLD barge mounted Desalination Plant off Chennai/Ennore should be commissioned and operationalised at the earliest for which a budgetary allocation of Rs.10 crores has been made in the year 2007-08. The Committee also recommends that the Ministry must work hard to make such plant cost effective so that more and more such plants could be installed, since in the long run , it will be major sources of providing safe drinking water to the communities living around the coastal areas.

(Para 11.8)

Action Taken by Government

Noted.

Comments

The Committee desires to know the progress made in the commissioning of 10 MLD barge mounted desalination plant for which budgetary allocation of Rs. 10 crores has been made in the year 2007-08. The Committee reiterates its earlier recommendations that it should be commissioned and operationalised at the earliest. The Committee further reiterates that such plants should cost effective, so that more such plants could be installed in future.

12. Recommendation

The Committee feels that the Ministry did not put enough efforts to procure the High Performance Computing System as per schedule and its procurement has been postponed. The Committee also feels that Ministry should have planned its actions well in advance so as to avoid this non-utilisation of funds and it must also be aware of the fact that delay in procurement of system could lead to cost escalation and project could fall prey to cost overrun.

(Para 12.3)

Action Taken by Government

The Ministry appreciates the suggestions of the Committee towards the procurement of High Performance computing system. The Ministry had initiated actions to seek the necessary approvals for procurement of the same as this was a new item during Tenth Five Year Plan, for which the clearance came in the month of June 2007. With the anticipation of receiving the approvals before March, 2007, a token budget provision had been earmarked for the year 2006-07. In the mean time, technical specification for procurement has been finalized and a tender is being floated for the same. Since the procurement relates to computer item, the Ministry has explored the possibility of obtaining a better performance system with competitive price.

Generally the price of computers appear to decrease with time, thus there would not be any escalation in the cost.

Comments

The Committee notes the reply and expects to Ministry to expedite the procurement process.

13. Recommendation

The Committee has been informed by the Ministry that a substantial amount of Rs. 35 crores have been earmarked for the Indian National Centre for Ocean Information Services (INCOIS). The Committee recommends that services from INCOIS may be optimally used to provide ocean information and advisory services to society, industry, government agencies and scientific community through sustained ocean observations, information management, modeling and constant improvements through systematic and focused research. (Para 12.4)

Action Taken by Government

The Ministry takes a note of the recommendations on the optimal utilization of funds allocated for INCOIS during 2007-08. The major portion the funds of Rs. 35 crores in 2007-08 would be for procurement of high Performance Computing-System. Efforts will be made for optimal utilization of funds of INCOIS to provide the wide range of services through sustained observations, modeling and constant focused research.

Comments

The Committee notes the reply and would like to be apprised of the progress made.

14. Recommendation

The Committee would like the Ministry to put every possible efforts to see that the National Early Warning System for tsunami and storm surge should be installed at Indian National Centre for Ocean Information Services (INCOIS), in Hyderabad at per its schedule *i.e.* September, 2007, since there is enough time to achieve the stipulated target and Ministry would be able to make use of this system to disseminate data to the concerned authorities as early as possible. (Para 13.5)

Action Taken by Government

The Ministry is on course for setting up of the Early Warning System for tsunami and storm surges by September end 2007.

Comments

The Committee notes the reply, however, it desires to know the progress made in this regard.

15. Recommendation

The committee is of the view that gas hydrates have the potential, of providing total energy security to our Nation. The Ministry in association with Centre for Scientific and Industrial Research and other laboratories, should focus on scientific research with special emphasis on resources evaluation and environmental impacts and development of technology for detection and qualification of gas hydrates in sediments. (Para 14.5)

Action Taken by Government

Noted. The Ministry would continue its efforts in pursuing the R&D endeavour on resource evaluation and environmental impacts and development of technology for detection of gas hydrates in sediments with participation of National Institutes like NIO, Goa, NGRI, Hyderabad, NIOT, Chennai.

Comments

The Committee notes the reply and would like the details of the progress made in research of gas hydrates as an alternative fuel.

16. Recommendation

The Committee has been given to understand that the total fund requirement for acquisition of new research vessel has remained same as last year's and the reasons furnished for the reduction in R.E. stage has been attributed to rescheduling of payment for acquisition of research vessel in accordance with the finalized contract. In view of the above, the committee would like the Ministry to state reason for allocation of enhanced amount of Rs. 30 crores in place of Rs. 15 crores. The Committee would like the Ministry to provide details in this regard. The committee recommends that Ministry may work hard to launch the new research vessel in its stipulated time schedule *i.e.* by the end September 2007 to avoid project cost overrun.

(Para 15.2)

Action Taken by Government

Noted. The actual expenditure during the year 2005-06 and 2006-07 were Rs. 30.00 crores and Rs. 53.50 crores respectively. The BE for the year 2007-08 is Rs. 100.00 crores. The project is running as per schedule and is expected to be completed by September, 2007.

Comments

The Committee notes the reply and would like the details of revised enhanced allocations.

17. Recommendation

The Committee notes with satisfaction that Fishery Oceanographic Research Vessel (FORV) Sagar Sampada had been extensively used last year to meet the requirement of the Marine Living Resources programme and under took fourteen cruises and collected data from a large number of station. The Committee, however, feels that scientific facilities on board FORV Sagar Sampada may be upgraded to international standards and must also be used to promote mass awareness of ocean related activities.

(Para 16.10)

Action Taken by Government

FORV Sagar Sampada is under lay-up/dry-dock repairs since 20/06/07. During the lay-up/dry-dock repairs the following facilities will be provided to the vessels, which will upgrade the vessel to international standards.

- (i) Pulling power of the vessel (for effective trawl operations in deep- sea) will be restored by replacing 2 auxiliary engines.
- (ii) All scientific winches will be over hauled/replaced to ensure efficient operations.
- (iii) Hydraulic system onboard will be overhauled and made to international standards.

- (iv) Auto trawl system will be replaced.
- (v) Fish finding SONAR will be installed.
- (vi) Awareness programme will be conducted for researches/academicians /college and school children and general public at all ports of call of the vessel. Facilities for permanent exhibitions on-board will be provided. These activities will be taken up after the ongoing lay - up/dry-dock repair of the vessel.

Comments

The Committee notes the reply and would like to be apprised on the progress made.

18. Recommendation

The Committee observes that the Ministry in accordance with the Ocean Policy statement enunciated by the Government of India during 1982, must lay emphasis on training of skilled manpower in the ocean sector for creating self - reliant technological base and encouraging participation of scientists/technologists and engineers in the programmes of ocean development. It also feels that Ministry should keep promoting basic and applied research in the area of ocean science and technology, in academic institutions as well as national research institutes/ organizations. (Para 16.11)

Action Taken by Government

The Marine Living Resources (MLR) programme is designed to promote basic and applied research in the ocean sector. It has multi-institutional participation.

Comments

The Committee would like that more institutions/Universities be integrated in the programme so that skilled manpower in the Ocean Sector is easily available.

19. Recommendation

The Committee feels that on one side the occurrence of cyclones is very frequent in coastal regions of India and on the other monsoon is not regular. Besides, monsoon droughts over the Indian subcontinent produced calamitous impacts on agriculture and industry that cut across all sectors of society. This requires setting up of a network of Doppler Weather Radars and upgradation of computer system along the coasts for accurate weather rainfall prediction. The Committee would appreciate if this is taken up on priority and is linked with the tsunami prediction mechanism, which is likely to be put in place in the near future. This would prove to be an effective solution to problems faced due to erratic weather phenomena. (Para 18.6)

Action Taken by Government

Modernization of IMD weather services

Under modernization programme, IMD plans to install a total of 55 Doppler Weather Radars all over the country, which include the replacement of remaining 35 old and obsolete radars in IMD's weather radar network. Four Doppler Weather Radar at Kolkata, Chennai, Machilipatnam and Visakhapatnam on the East coast have already replaced the old and obsolete conventional Radars. One more DWR developed indigenously by ISRO is operational at Sriharikota, Andhra Pradesh. To strengthen radar network in the coastal region at Goa , Mumbai, Bhuj and Kochi on the west coast and Paradip and Karaikal on the east coast are proposed to be

replaced with state of art Doppler Weather Radars. Under Eleventh five year plan 14 Doppler Weather Radar are likely to be installed at selected location in a manner that this will cover the entire coastal region of the country. These 14 radars will also cater the need of Agriculture, Industry in the areas affected by monsoon drought and flood.

Progress on the establishment of High Power Computer System for Weather Forecast Services in IMD

Ministry of Earth Sciences constituted a task and Technical Evaluation Committee (TEC) to assess the future high Performance Computer (HPC) requirements of its constituent units including IMD on 28th November, 2006. The Technical Evaluation Committee (TEC) meeting was held on 16th February, 2007 at IISC, Bangalore and approved the Request for Proposal (RFP) and tender documents, submitted to MoES for financial and administrative concurrence in March, 2007. Tendering is in process.

Comments

The Committee notes the reply. It strongly recommends that the remaining thirty-five old radars should be replaced with modern Doppler Weather Radars on a priority basis. The Committee also feels that progress on the establishment of High Power Computer System for Weather forecast services should be expedited so as to help meteorologists predict weather in advance. This would be of immense help to farmers who directly pay for the vagaries of nature.

20. Recommendation

The Committee desires that the assurances made by the Ministry of Earth Sciences, during interaction with the Committee regarding bringing India Meteorological Department (IMD) at par with world-class weather forecasting network in next two-three years should be realized and not just remain an assurance.

(Para 18.7)

Action Taken by Government

The point is noted for compliance.

Comments

The Committee is not satisfied with the reply as it feels that Ministry should have come out with some details of the Action Taken so far to bring Indian Meteorological Department (IMD) at par with world class forecasting network.

21. Recommendation

The Committee observes that prediction of duration of Indian summer monsoon breaks is highly desirable. It is required by farming communities to plan water resource management, sowing and harvesting activities. It recommends that Indian Institute of Tropical Meteorology (IITM) has to widen its objectives and scope of research activities to meet the critical challenges and the national needs for providing information relating to various aspects of atmosphere and the increasing concern among the Government and general public about a variety of environmental issues.

(Para 19.4)

Action Taken by Government

The Indian Institute of Tropical Meteorology (IITM) appreciates the recommendations of the Committee. The IITM has accordingly widened its objectives and scope of research activities under the Eleventh Five Year Plan to meet the critical challenges and national needs by providing the desired information relating to atmosphere and its various aspects, including prediction of Indian summer monsoon breaks.

Comments

The Committee notes the reply and would like to be apprised on the progress made.

22. Recommendation

The Committee feels that thrust of weather forecasting should be on its accuracy and there is a need to ensure higher degree of precision in our weather forecasting system. The Ministry should consider enhancing the accuracy of the forecast by constantly upgrading the technique and models of prediction with the use of available, reliable and accurate satellite data and techniques. (Para 20.3)

Action Taken by Government

- In order to address all the above issues, the Ministry of Earth Sciences has already taken major initiatives for improving the national forecasting services, which are vital to the country's economic development. Among the initiative already taken are the implementations of the recommendations by six committees set up by the Ministry. These include (i) a Committee chaired by Prof. Narasimha for redefinition of the mandates of MoES Units with a new organizational structure. (ii) & (iii) S.K. Das Committees on administrative restructuring and improved methods of governance as well as manpower requirements (iv) Sikka Committee for modernization of the observing system for the country in short, medium and long term. (v) Rathore committee for providing Agromet services with enhanced outreach. (vi) Jayanthi committee for Aviation Met Services for Aviation. All these recommendations are in the various stages of implementation.
- Higher resolution global numerical models have started running on experimental basis.
- A few automatic surface observatories are in place. The data from these have resulted in better forecast generation in a limited manner. The modernizations of about 7 airports are on. A comprehensive modernization plan is however under process that includes commissioning of major observational platforms including Doppler Weather Radars, high performance computing, communication and networking infrastructure etc. Once approved, the initial requirements for delivering forecasts having better accuracy would be fulfilled.
- MOUs are being processed with academic institutions for special courses and trainings for specialized manpower for the future.
- MOUs are also been processed with International bodies as equal partners for joint research and developmental activities in the fields of weather and climate related forecasting.

Comments

The Committee notes the reply.

23. Recommendation

After considering the demands for Grants of the Ministry of Earth Sciences and assessing the progress of various important programmes and projects administered by it, the Committee recommends that the budgetary allocation of Rs. 887 crores , as sought by the Ministry for the year 2007-08, under Demand No.29, may be approved. (Para 21)

Action Taken by Government

Noted.

Comments

The Committee notes the reply.

MINUTES

V
FIFTH MEETING

The Committee met at 11.30 A.M. on Tuesday, the 6th November, 2007 in Committee Room 'A', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

1. Dr. V. Maitreya — *Chairman*

RAJYA SABHA

2. Shri Suryakantbhai Acharya
3. Shri Bhagirathi Majhi
4. Shri Kamal Akhtar
5. Shri Saman Pathak
6. Dr. Barun Mukherjee

LOK SABHA

7. Shri Jashubhai Dhanabhai Barad
8. Dr. Sujan Chakraborty
9. Shri Francis Fanthome
10. Shri Brahmananda Panda
11. Shrimati Neeta Pateriya
12. Shri Jaysingrao Gaikwad Patil
13. Shri Bachi Singh Rawat
14. Shrimati Jayben B. Thakkar
15. Shri Mitrasen Yadav
16. Shri Sita Ram Yadav
17. Shri Rampal Singh

SECRETARIAT

Shrimati Agnes Momin George, Joint Secretary

Shri S. Jason, Joint Director

Shri V.S.P. Singh, Deputy Director

Shri S. Rangarajan, Assistant Director

2. The Committee took-up for consideration its draft *** , *** , *** , *** , 181st , *** , *** Reports pertaining to the action taken by the Government on the recommendations contained in the *** , *** , *** , *** , 173rd , *** , *** Reports of the Committee on Demands for Grants (2007-08) of the Ministries/ Departments of *** , *** , *** , Earth Sciences, *** , ***. After some discussion, the Committee decided to further consider the aforesaid draft Action Taken Reports in its next meeting. The Chairman requested the Members to furnish their suggestions/comments, if any, on the aforesaid reports to the Secretariat latest by 12th November, 2007 so as to incorporate the same in the reports.

3. The Committee, thereafter, decided to meet at 3.00 P.M. on the 15th November, 2007.
4. The Committee then adjourned at 12.35 P.M.

VI SIXTH MEETING

The Committee met at 3.00 P.M. on Thursday, the 15th November, 2007 in Committee Room 'C', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

1. Dr. V. Maitreyan — *Chairman*

RAJYA SABHA

2. Shri Bhagirathi Majhi
3. Shri Kamal Akhtar
4. Shri Saman Pathak
5. Shri Jabir Husain
6. Dr. Barun Mukherjee
7. Shri D. Raja

LOK SABHA

8. Dr. Sujan Chakraborty
9. Shri Thupstan Chhewang
10. Shri Francis Fanthome
11. Shri Aruna Kumar Vundavalli
12. Shri Mitrasen Yadav

SECRETARIAT

Shrimati Agnes Momin George, Joint Secretary

Shri S. Jason, Joint Director

Shri V.S.P. Singh, Deputy Director

Shri S. Rangarajan, Assistant Director

2. The Committee took-up for further consideration its draft ***, ***, ***, ***, 181st, ***, ***, Reports pertaining to the action taken by the Government on the recommendations contained in the ***, ***, ***, ***, 173rd, ***, ***, Reports of the Committee on Demands for Grants (2007-08) of the Ministries/Departments of ***, ***, ***, Earth Sciences, ***. The Committee adopted all the reports with minor changes as suggested by some Members.

3. The Committee decided to present all the seven reports *i.e.* 177th to 183rd on the 27th November, 2007. The Committee authorized its Chairman and in his absence Dr. Barun Mukherjee to present the reports in Rajya Sabha and Shri Francis Fanthome and in his absence Dr. Sujan Chakraborty to lay the copies of the reports on the table of Lok Sabha.

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| 4. | * | * | * |
| 5. | * | * | * |

6. The Committee then adjourned at 3.40 P.M.