

## **MINUTES OF 7<sup>TH</sup> MEETING OF COASTAL PROTECTION & DEVELOPMENT ADVISORY COMMITTEE (CPDAC)**

The 7<sup>th</sup> Meeting of the Coastal Protection & Development Advisory Committee (CPDAC) was held at Surat on 19<sup>th</sup> October 2004, under the Chairmanship of Shri M.K. Sharma, Member (River Management), CWC and ex-officio Additional Secretary to the Govt. of India.

The meeting was preceded by inaugural function and lighting of traditional lamp. Shri A.N. Mistry, Chief Engineer & Addl. Secretary, NWRWS & Kalpasar Deptt, Gujarat, welcomed all the participants on behalf of Shri M.S. Patel, Secretary, NWR&WS Deptt, Govt. of Gujarat, who could not attend the meeting due to some other pressing engagement. After the welcome address, Committee was addressed by the Member-Secretary, CPDAC and Chairman, CPDAC, Shri M.K. Sharma in his speech gave brief idea about CPDAC. Chairman, CPDAC, thanked KRIBHCO management for assisting in organizing the meeting at KRIBHCO conference hall. Shri T. R. Chaudhry, Operations Director, KRIBHCO welcomed all the participants on behalf of KRIBHCO to the 7<sup>th</sup> meeting of CPDAC. He made a presentation giving details about the KRIBHCO Plant situated at Hazira, Surat and activities of KRIBHCO.

After this, Sh. S.C. Awasthy, Member-Secretary, CPDAC, took up the agenda items for detailed discussions in the meeting.

List of participants is placed at Annexure-I.

### **7.1 CONFIRMATION OF THE MINUTES OF THE 6<sup>th</sup> MEETING**

The minutes of the 6<sup>th</sup> CPDAC meeting, held at Pondicherry on 7<sup>th</sup> April 2004, were confirmed.

### **7.2 TO SORT OUT INCONSISTENCIES IN COASTAL LENGTHS FROM VARIOUS SOURCES.**

Shri D.H. Patel, S.E., CDO, Gandhinagar, Gujarat informed that due to some other pressing engagements, they could not approach NHO, Dehradun, as per decision taken in the 6<sup>th</sup> CPDAC meeting. However, he assured that they would approach NHO to sort out the issue of variation in coastal length of Gujarat at the earliest. Representative from Tamil Nadu informed that Tamilnadu State has already approached NHO and adopted the coastline of 906.90 km as indicated by NHO. Chairman, CPDAC, also asked representative of Maharashtra to sort out their coastal length with the NHO, for which he assured to do as soon as possible. Since West Bengal State was not represented, Chairman asked the CPDAC Secretariat to take up the matter with the West Bengal Govt.

**(Action: Gujarat, West Bengal, Maharashtra States, CPDAC Secretariat)**

### **7.3 TO ORGANISE A COORDINATED PROGRAMME OF COLLECTION, COMPILATION, EVALUATION AND PUBLICATION OF DATA RELATING TO VARIOUS NATURAL PHENOMENON AND COASTAL PROCESSES, WHICH AFFECT THE COASTLINE.**

Chief Research Officer, CW&PRS, Pune, informed that format for collection of data has already been circulated to all the States. He informed that a National Coastal Data Centre is under establishment at CWPRS, Pune. He informed that the compilation of coastal data has not yet started, but this work would be taken up soon. He also added that CW&PRS do not have much data available with them. The work of data collection has to be taken up by the States. He further added that the training familiarisation courses for data collection have been conducted in the past for benefit of Maritime States.

Deputy Director, Institute of Hydraulics & Hydrology (IHH), Poondi, Tamil Nadu, informed the committee that some advanced and costly scientific instruments would be required for data collection. He expressed the need to simplify the format for data collection. He also requested CW&PRS to write a letter to their department to send the data available with the Tamil Nadu Govt.

Engineer-in-Chief (WR), Orissa, and Gujarat representative informed that collection of coastal data is under progress in their respective states. Kerala, Tamil Nadu and Karnataka Engineering Research Station (KERS) have sufficient coastal data. It has been decided that these States/departments would pass on the data to CWPRS, Pune for compilation.

Director (Beach Erosion), CWC and Chief Research Officer, CW&PRS, explained the utility of coastal data in finalizing the design of coastal protection works.

Chairman, CPDAC asked CW&PRS to again circulate format of data collection to States/UTs with a copy to Director, Beach Erosion Dte., CWC for follow up and co-ordinate with the States in this regard. Other States/UTs were also requested to start the work of collection of data and pass it on to CWPRS, Pune.

**[Action: Maritime States/UTs/CW&PRS/Director (Beach Erosion),CWC]**

### **7.4 TO ORGANISE GENERAL INVESTIGATION, STUDIES AND RESEARCH WITH THE HELP OF CENTRAL AND STATE ENGINEERING RESEARCH INSTITUTIONS.**

#### **7.4.1 RESEARCH PROPOSALS**

Representative of Tamil Nadu Govt. informed that they had sent a research proposal to INCH, which is pending. Gujarat representative informed that GERI has submitted a

proposal for funding. Coastal Engineer, PWD, Mumbai expressed the need of identification of area of research.

Member-Secretary, CPDAC, requested member States to intimate CPDAC regarding submission of their research proposals to funding agencies so that CPDAC Secretariat can pursue with those funding agencies.

Chairman, CPDAC, informed that the work of creation of separate portal for CPDAC in CWC website has been initiated and CPDAC website would be launched shortly.

**(Action: States/UTs/CPDAC Secretariat)**

#### **7.4.2 SATELLITE IMAGERIES TO MONITOR SHORELINE CHANGES.**

Engineer-in-Chief (WR), Orissa informed that the imageries of all days are available with NRSA, Hyderabad, and NRSA could be able to supply information for a particular time of a particular day. Chairman, CPDAC, said that this item will be taken care of under the Coastal Atlas and therefore, need not be pursued for the time being.

#### **7.4.3 COASTAL ATLAS**

As decided in the 6<sup>th</sup> meeting, the proposal, estimated to cost Rs. 2.23 crores, for preparation of Coastal Atlas by Space Application Centre (SAC), Ahmedabad, was discussed and finalized in the 3<sup>rd</sup> meeting of Sub-Committee on Coastal Atlas and forwarded to Ministry of Water Resources (MoWR) in July 2004. The observations of Ministry of Water Resources, New Delhi, on the proposal were sent to SAC, Ahmedabad.

Member-Secretary, CPDAC, asked SAC representative to give a firm commitment regarding expenditure to be borne by SAC. SAC representative informed that SAC is keen to do this work and they would provide the balance amount, but it may take some time. This matter is also cleared by the ISRO, Bangalore. Member-Secretary, CPDAC, requested SAC representative to give the break-up of the expenditure to be borne by CWC & SAC against specific activities/services. SAC representative informed that SAC would provide information about the break up in two parts – one pertaining to items to be funded by CWC for an estimated cost of 1.1 crores and another for the items to be funded by SAC, Ahmedabad. SAC representative also agreed to take up the case with their department regarding support/approval of the cost of project proposal on Coastal Atlas by Space Application Centre, Ahmedabad as per financial procedure.

In order to initiate works of collection of necessary data from the maritime States, it was decided that the nodal officers already appointed by maritime States for data collection will also be responsible for collecting the coastal data required for incorporation in the Coastal Atlas and furnish to CWC for onward transmission to SAC. Director, Beach Erosion Directorate, has been asked to co-ordinate the activity.

**(Action: SAC/Beach Erosion Dte/State/UTs)**

#### **7.4.4 STRENGTHENING THE FACILITIES FOR COASTAL ENGINEERING BY THE STATES.**

S.E., CDO, Gandhinagar, Gujarat raised the matter of salinity ingress and discussed the problems associated with stability of foundation of tidal regulator. Engineer-in-Chief (WR), Orissa, raised the matter of river mouth shifting and problems relating to saline embankment. Other members also shared their typical problems/solutions in their respective states.

#### **7.5 TO LAY DOWN PRINCIPLES IN CONSTRUCTION TECHNIQUES OF COASTAL PROTECTION MEASURES FOR THE GUIDANCE OF STATE AUTHORITIES.**

As decided in the last meeting of CPDAC, a sub-committee for bringing out a manual for execution of coastal protection works has been constituted. The member-Secretary of Sub-committee informed CPDAC that the first meeting of the sub-committee for bringing out a manual for execution of coastal protection works was held at CW&PRS, Pune on 18-8-2004, wherein the contents and methodology to prepare a manual for execution of coastal protection works were discussed and finalized. Sub-committee decided to allot the work of preparation of Manual to some Consultant who can prepare the manual incorporating inputs from research agencies, construction agencies, user agencies and equipment manufacturers. It was decided to ask the various agencies/ consultants to submit Expression of Interest (EOI) for preparation of this Manual.

As a follow up action, notification was issued to various agencies to submit EOI for preparation of this Manual. Dy. Director, CED, CWC, informed that three departments, namely, IIT, Chennai, NIOT and CWPRS in collaboration with WAPCOS, have responded till date. The offer of IIT, Chennai, who has submitted EOI partly, cannot be considered. It was decided that NIOT and CWPRS in collaboration with WAPCOS may be asked to make presentation to assess their experience and capability to prepare the manual.

**(Action: CPDAC Secretariat / Director, BED, CWC)**

## **7.6 TO REVIEW THE PERFORMANCE OF THE WORKS CARRIED OUT BY THE STATES AND EVOLVE IMPROVED DESIGN TECHNIQUES BASED ON SUCH EXPERIENCE FROM TIME TO TIME.**

The sub-committee for performance evaluation of coastal protection works visited Ernakulam and Thrissur districts of Kerala State in July 12/13<sup>th</sup> July 2004 to carry out performance evaluation of coastal protection works. Chief Engineer (CS&R), CWC, Coimbatore, made a presentation on the findings & recommendation of sub-committee on site visit to Ernakulam and Thrissur districts of Kerala State. It was decided that the report of sub-committee on site visit to Ernakulam and Thrissur districts of Kerala State may be put on CPDAC website.

### **7.6.1 MODIFICATION IN THE DESIGN OF SEA WALL.**

Engineer-in-Chief (WR), Orissa, suggested that economic aspects should also be taken into consideration alongwith design aspects of sea walls. Rubble bound sea walls are most common in use in the design walls. Representative from CW&PRS informed that tetrapods were successfully used in Paradip port. The performance of tetrapods v/s big size boulders was discussed. Tetrapods are costlier than big size boulders and may be used when big size boulders are not easily available.

### **7.6.2 PREPARATION OF INDIAN SHORE PROTECTION MANUAL.**

CPDAC was apprised of the action taken in regard to the updating of the manual on "Protection and Control of Coastal Erosion in India". As decided in the last meeting, NIO, Goa was requested to update manual on "Protection and Control of Coastal Erosion in India". In reply, NIO, Goa sent a proposal, estimated to cost Rs. 9.47 lakhs, for updating and printing 100 copies of the manual. The committee was informed that the funds have been arranged by the CWC and the terms of reference for updating and printing 100 copies of the manual have been sent to NIO for acceptance.

Chairman, CPDAC, suggested NIO representative to write letters to the maritime States/UTs for obtaining the information required for updating the manual with a copy to CPDAC Secretariat for further follow-up.

**(Action: NIO/CPDAC Secretariat)**

## **7.7 NATIONAL COASTAL PROTECTION PROJECT (NCP) FOR SEEKING EXTERNAL ASSISTANCE.**

Chairman, CPDAC, informed the members that recently Union Ministry of Water Resources has decided to reformulate the National Coastal Protection Project including all the maritime States. The National Coastal Protection Project (NCP) covering all maritime States/UTs is under preparation.

The proposals of Kerala and Gujarat have been received and are under examination. States of Andhra Pradesh & Goa and UTs of Andaman & Nicobar Islands & Lakshadweep are requested to expedite finalization/submission of the NCP proposal so that NCP proposal of their State/UT can be included in the National Coastal Protection Project.

**(Action: A.P./Goa/A&N & Lakshadweep)**

## **7.8 TO INTERACT WITH NATIONAL/INTERNATIONAL AGENCIES ENGAGED IN THE WORK OF COASTAL PROTECTION AND TECHNOLOGY TRANSFER IN THE FIELD OF COASTAL PROTECTION.**

Sh. M.D. Kudale, Chief Research Officer, CW&PRS made presentation on “Recent techniques in coastal protection works” such as Bio-Rock coastal protection of Islands, which may be very environmentally friendly where corals can be used. In remote places, such as A&N & Lakshadweep Islands this technology may be very useful. Geotubes; Reef balls; Hydropave; Aqua Blocks; Flexible box gabions, Rubberised coir bags are the other techniques, which may be used as coastal protection works. Shri Dave, SE, Irrigation, Surat, informed that people’s participation is also very important in coastal protection. He gave example of Swaminarayan Temple where coastal protection measures were taken up with the help of temple trust, which saved the temple.

### **7.8.1 TRAINING**

Engineer-in-Chief (WR), Orissa informed the committee that their officers are getting training from IIT, Chennai. CW&PRS informed that they have made provision for training the officers of maritime States/UTs. They have conducted training for Maharashtra and Karnataka officers. A&N & Lakshadweep officers would be provided training shortly. Engineer-in-Chief (WR), Orissa, asked CWPRS to arrange training courses for their officers.

**(Action: maritime State/UTs/CWPRS)**

## **7.9 NEW ACTIVITIES ASSIGNED TO THE CPDAC**

As decided in the last meeting, a sub-committee to work out short-term and long-term plans (Master Plan) for coastal protection has been constituted. Maritime States/UTs were requested to submit master plan of their State/UT for coastal protection for review by the sub-committee.

Shri D.H. Patel, SE, CDO, Gandhinagar informed that they have sent a proposal for South Gujarat. Member-Secretary, CPDAC, informed that this proposal could not be considered as Master Plan comprising only 360 km of coastline which is only a part of total coastline of Gujarat, therefore, NCPP proposal of Gujarat cannot be considered as master plan. Gujarat representative was requested to prepare and submit a master plan for coastal protection all along the coastline of Gujarat State for review by the sub-committee. Shri Patel informed that it would take more time to prepare the Master Plan of Gujarat. Gujarat representative was suggested to prepare integrated master plan. Shri Dave, SE, Surat, informed that for the integrated master plan may involve many other departments, like fisheries, environment, forests, etc., and it may be very difficult task to interact with all the departments. Chairman, CPDAC, suggested that they can interact with the department in the States who are looking after the works of environment, etc. It is also possible that such departments might have prepared some plans. Other States/UTs were also requested to submit master plan of their States/UTs. The master plans are required to be prepared in order of integrated, phased and focused development of coastal areas, optimization of resources and elimination of duplicity in the works/activities among the different departments.

**(Action: maritime State/UTs)**

#### **7.10 COMPOSITION OF CPDAC**

The committee was informed that names of three persons, short-listed out of the panel for selecting non-official members, have been recommended to the MoWR for inclusion in CPDAC as non-official members. Approval of Ministry of Water Resources is awaited. CPDAC Secretariat may ask MOWR to expedite to approve and include the above persons as non-official members of CPDAC.

**(Action: CPDAC Secretariat)**

#### **7.11 STATUS OF COASTAL PROTECTION WORKS IN MARITIME STATES**

The committee was informed that the latest status of coastal protection works has not been received from some of the States/UTs. They are requested to furnish the same.

**(Action: Maritime States/UTs)**

## **7.12 SCOPE FOR MANGROVE PLANTATION**

The committee was informed that the information on “Mangroves in India” received from CWPRS, Pune would be inserted in the proposed CPDAC website, as soon as it comes into existence.

**(Action: CPDAC Secretariat)**

## **7.13 CREATION OF SEPARATE COASTAL ENGINEERING DIVISION**

Maritime States/UTs were requested to create separate circle/engineering division in their States/UTs so as to develop expertise in the field of coastal engineering. The representative of Maharashtra, Orissa, Gujarat, Karnataka, informed that they have separate division to take up coastal protection works.

**(Action: Remaining maritime States/UTs)**

## **7.14 REVIEW OF PROGRESS OF CENTRALLY SPONSORED SCHEME (CSS)**

The progress of implementation of the Centrally Sponsored Scheme was reviewed during the meeting. Member-Secretary, CPDAC, informed that CPDAC that the first instalment of Rs. 50 lakhs was released to Karnataka, Kerala and Orissa States during the financial year 2003-2004. However, utilization certificates are awaited from these States. The representatives of Karnataka and Orissa States indicated that the work is under tendering process and will be taken up soon, and the utilization certification would be submitted thereafter.

The matter of vetting of design of the coastal protection works was discussed in the meeting. It was decided that the design may be vetted by either CW&PRS, Pune or the State Engineering Research Institutions or the design wing of the State Water Resources department/Irrigation department.

**(Action: Kerala, Karnataka & Orissa)**

## **7.15 DEVELOPMENTAL ASPECTS IN COASTAL AREAS**

The CPDAC has got mandate for identification and development of the various resource potential available behind protected coastal areas. There is a need to identify the developmental aspects and their extent to be covered by the CPDAC. The same was deliberated upon by the members. The developmental activities should be regulated depending upon severity of erosion, type of protection measures, etc.



## **7.16 NATIONAL CYCLONE MITIGATION PROJECT**

The committee was informed that a meeting on National Cyclone Mitigation Project was held on 4<sup>th</sup> October 2004, in Central Water Commission, New Delhi, which was attended by the senior officers of CWC, World Bank Mission and representative of Ministry of Home Affairs. During the meeting, it was decided to invite concerned officers of Ministry of Home Affairs in the 7<sup>th</sup> meeting of CPDAC to discuss the National Cyclone Mitigation Project. Due to ill health, concerned officer of Ministry of Home Affairs could not attend the meeting.

## **7.17 ANY OTHER ITEM WITH THE PERMISSION OF CHAIR**

No other new point was raised in the meeting.

## **7.18 VENUE OF THE NEXT MEETING**

Shri R.C. Acharya, Engineer-in-Chief (Water Resources), Orissa, agreed to host the next meeting in Orissa. Chairman, CPDAC, thanked Shri Acharya for agreeing to host the next meeting. CPDAC Secretariat may fix a date and venue of the 8<sup>th</sup> CPDAC meeting in consultation with him.

**(Action: CPDAC Secretariat/Orissa)**

## **PRESENTATION**

Shri M. Venkatraman, General Manager, Geosynthetics Division, Garware–Wall Ropes Ltd., gave a presentation during the meeting on the use of geosynthetics products, geotextiles, flexible gabions, geotextile tubes in coastal protection works. He informed that these products have successfully been used at Moti-danti site (Gujarat), Alibaug (Maharashtra) and Haldia Port (West Bengal) and Tamil Nadu. Chairman, CPDAC, suggested Garware–Wall Ropes Limited to take up pilot project at their own cost to prove utility of their products as an alternate to the seawall generally adopted in India. G.M., Garware-Wall Ropes Ltd., informed that they can provide only the material for such type of a pilot project, but construction costs will have to borne by the State Agencies.

The meeting ended with a vote of thanks to the Chair.

## **SITE VISIT**

As a part of the 7<sup>th</sup> CPDAC meeting, participants visited site of Swaminarayan Temple, Distt. Valsad, Gujarat on 20<sup>th</sup> October 2004. Protection works have been carried out near Tithal beach to protect the Swaminarayan Temple complex. For design of anti-erosion bund, CW&PRS, Pune suggested use of flexible gabions of various sizes, which are filled with stones of varying size. On visit, it was found that gabions are working satisfactorily. Tithal has become picnic spot for tourists.

**Participants of 7<sup>th</sup> CPDAC Meeting**

Sl. No.	Name and designation
1.	Sh. M.K. Sharma, Chairman, CPDAC & Member (RM), CWC & ex-officio Addl. Secretary to Govt. of India, Sewa Bhawan, R.K. Puram, New Delhi-110 066
2.	Sh. S.C. Awasthy, Member-Secretary, CPDAC & Chief Engineer (P&D), CWC, Sewa Bhavan, R.K. Puram, New Delhi-110 066
3.	Dr. T.G. Antony Balan, Chief Engineer (C&SR), CWC, Coimbatore (Tamil Nadu)
5.	Sh. A.K. Kharya, Director (CED), CWC, Room No. 823(N), Sewa Bhavan, R.K. Puram, New Delhi-110 066
6.	Sh. J. Chandrashekhar Iyer, Director (Beach Erosion), CWC, Cochin (Kerala)
7.	Sh. Bhupesh Kumar, Deputy Director (CED), CWC, Room No. 806(N), Sewa Bhavan, R.K. Puram, New Delhi-110 066
9.	Sh. A.R. Rao, Advisor (Ports), Ministry of Shipping, Road Transport & Highways, Govt. of India, Transport Bhavan, New Delhi-110 001
11.	Sh. A.N. Mistry, C.E. & Addl. Secy, NWRWS & Kalpasar Deptt, Sachivalaya, Gandhi Nagar (Gujarat).
12.	Sh. D.H. Patel, S.E., CDO, Gandhinagar, Gujarat.
13.	Sh. K.L. Dave, S.E., Surat Irr. Circle, Surat, Gujarat
14.	Shri R.C. Acharya, Engineer-in-Chief (Water Resources), Bhubaneswar, Orissa.
15.	Capt. R. Mohan, Director of Ports & Inland Water Transport, Uttara Kannada, Baithkol, Karwar, (Karnataka)
17.	Sh. R. Sampath, Deputy Director, Institute of Hydraulics & Hydrology, Poondi – 602 023 (Tamil Nadu).
18.	Sh. G. Nagaraj, Asstt Director, IHH, Poondi, Tamil Nadu
19.	Shri M. Viswanath, Dy. Chief Engineer, Major Irr., Irr & CAD Deptt, Andhra Pradesh.

20.	Sh. M. Senthappan, Director, GSI, Marine Wing, IV/175-A, Kureekal Building, Edapally, Kochi-628 024
21.	Cdr. G.S. Inda, Ministry of Defence (Navy), Directorate of Hydrography, West Block IV, Wing – 5, R. K. Puram, New Delhi-110 066.
23.	Sh. A.S. Rajawat, Scientist SF, Earth Sciences & Hydrology Division, Marine & Water Resources Group, Space Application Centre, Ahmedabad-380 053 (Gujarat)
24.	Sh. M.D. Kudale, Chief Research Officer, CW&PRS, Pune
25.	Dr. V. Sanil Kumar, Head, Ocean Engg. Division, NIO, Goa
26.	Sh. P.S. Mandpe, Coastal Engineer, PWD, New Admn Building, III Floor, Bandra West, Near Chetna College, Mumbai.