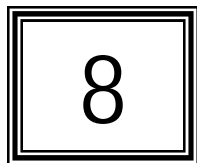


## STANDING COMMITTEE ON WATER RESOURCES

(2015-2016)



SIXTEENTH LOK SABHA

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA  
REJUVENATIONISSUES CONCERNING FLOOD MANAGEMENT, COMPENSATION AND STATUS OF  
OWNERSHIP OF SUBMERGED AND ERODED LAND IN THE COUNTRY, INCLUDING  
COMPENSATION TO FARMERS FOR LOSS OF THEIR CROPS DESTROYED BY FLOODS  
AND RIGHT TO DISPOSAL OF THE SAND LEFT IN THE FIELDS OF FARMERS{Action Taken by the Government on the Observations / Recommendations  
contained in the Fourth Report (Sixteenth Lok Sabha) of the  
Standing Committee on Water Resources}

EIGHTH REPORT



LOK SABHA SECRETARIAT

May, 2016/Vaisakha, 1938 (Saka)

# EIGHTH REPORT

## STANDING COMMITTEE ON WATER RESOURCES

(2015-2016)

(SIXTEENTH LOK SABHA)

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

ISSUES CONCERNING FLOOD MANAGEMENT, COMPENSATION AND STATUS OF OWNERSHIP OF SUBMERGED AND ERODED LAND IN THE COUNTRY, INCLUDING COMPENSATION TO FARMERS FOR LOSS OF THEIR CROPS DESTROYED BY FLOODS AND RIGHT TO DISPOSAL OF THE SAND LEFT IN THE FIELDS OF FARMERS

{Action Taken by the Government on the Observations / Recommendations contained in the Fourth Report (Sixteenth Lok Sabha) of the Standing Committee on Water Resources}

Presented to Lok Sabha on 02.05.2016

Laid in Rajya Sabha on 02.05.2016



LOK SABHA SECRETARIAT

NEW DELHI

May, 2016/Vaisakha, 1938 (Saka)

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## COMPOSITION OF THE STANDING COMMITTEE ON WATER RESOURCES

(2015-2016)

Shri Hukum Singh - Chairperson

### MEMBERS

#### LOK SABHA

2. Shri Radheshyam Biswas
3. Shri Devusinh Jesingbhai Chauhan
4. Shri Sukhbir Singh Jaunpuria
5. Shri Tariq Hameed Karra
6. Shri B. Vinod Kumar
7. Shri Maganti Murali Mohan
8. Shri Sidhant Mohapatra
9. Shri Abhijit Mukherjee
10. Shri Rodmal Nagar
11. Shri Subhash Patel
12. Shri Sanjaykaka Ramchandra Patil
13. Shri Vijaysinh Mohite Patil
14. Smt. Aparupa Poddar
15. Shri Vishnu Dayal Ram
16. Shri S. P. Y. Reddy
17. Shri Ram Prasad Sarmah
18. Smt. V. Sathyabama
19. Shri Lallu Singh
20. Shri Liladharbhai Vaghela
21. Smt. Dimple Yadav

#### RAJYA SABHA

22. Shri Balwinder Singh Bhunder
23. Shri Anil Madhav Dave
24. Smt. Naznin Faruque
25. Mir Mohammad Fayaz
26. Shri Sanjiv Kumar
27. Prof. Mrinal Miri
28. Shri V. Hanumantha Rao
29. Shri Amar Shankar Sable
30. Shri A.V. Swamy
31. Shri Lal Sinh Vadodia

## SECRETARIAT

1.	Shri Shiv Kumar	-	Joint Secretary
2.	Smt. Rita Jaikhani	-	Director
3.	Shri Kushal Sarkar	-	Additional Director
4.	Shri Kamal Khurana	-	Committee Officer

## INTRODUCTION

I, the Chairperson, Standing Committee on Water Resources (2015-2016) having been authorised by the Committee to submit the Report on their behalf, present the Eighth Report on the Action Taken by Government on the observations / recommendations contained in the Fourth Report (Sixteenth Lok Sabha) of the Standing Committee on Water Resources (2014-2015) on "Issues concerning Flood Management, Compensation and Status of ownership of submerged and eroded land in the country, including compensation to farmers for loss of their crops destroyed by floods and right to disposal of the sand left in the fields of farmers".

2. The Fourth Report of the Committee was presented to Lok Sabha and laid in Rajya Sabha on 13 May, 2015. The replies of the Government to all the recommendations contained in the Report were received on 04 November, 2015.

3. The replies of the Government were examined and the Report was considered and adopted by the Committee at their sitting held on 18 January, 2016.

4. An analysis of the Action Taken by the Government on the observations / recommendations contained in the Fourth Report (Sixteenth Lok Sabha) of the Committee is given in Annexure - VI.

NEW DELHI;  
04 March, 2016  
14 Phalguna, 1937 (Saka)

HUKUM SINGH,  
Chairperson,  
Standing Committee on Water Resources

## CHAPTER I

### REPORT

This Report of the Standing Committee on Water Resources deals with the action taken by the Government on the observations/recommendations of the Committee contained in the Fourth Report of the Committee (Sixteenth Lok Sabha) on "Issues concerning Flood Management, Compensation and Status of Ownership of Submerged and Eroded Land in the Country including Compensation to Farmers for loss of their crops destroyed by Floods and Right to Disposal of the Sand left in the Fields of Farmers", which was presented to Parliament on 13 May, 2015.

2. Action taken notes, received from the Government in respect of all the twenty two observations/recommendations of the Committee, have been categorised as follows:-

(i) Recommendations/Observations which have been accepted by the Government:

Para nos. 2,3,4,5,6,10,13,16,20,21 and 22 (Total-11)

(ii) Recommendations/ Observations which the Committee do not desire to pursue in view of the Government's replies:

Para Nos. 8,14 and 18 (Total-3)

(iii) Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee:

Para Nos. 1,7,9,12 and 15 (Total-5)

(iv) Recommendation/Observation in respect of which final reply of the Government is still awaited:

Para Nos. 11,17 and 19 (Total-3)

3. The Committee will now deal with the action taken by the Government on some of the observations/ recommendations in the succeeding paragraphs.

A. Water under concurrent list of Constitution

Recommendation (Para No.1)

4. In their original recommendation, the Committee had observed that despite having more than 18% of world's population, India has only 4% of world's renewable water resources. The Committee also noted that the variability of rainfall in space and time is high in the country. The Committee also noted that the monsoon season accounts for nearly three-fourth of annual rainfall leading to natural calamities in the form of floods, erosion in flood plains of the rivers, besides drought.

The Committee further noted that though the subject of flood control does not find a mention in any of the three legislative lists included in the Constitution of India, drainage and embankments are specified in entry 17 of list II (State List). The Committee also noted that the subject of flood management falls within the purview of the States and the primary responsibility of management of water resources including floods, therefore, lies with the State Governments. Flood management schemes are planned, investigated and executed by the State Government concerned. The role of Union Government is technical, advisory, catalytic and promotional in nature. The Committee, however, felt that the role of the Union Government should extend beyond this as not all the flood-prone States were well-equipped to manage devastating floods with the limited resources they have in their possession. However, considering the limited role presently vested in the Union Government with regard to floods under the present constitutional set-up and the urgent necessity to take proactive steps to combat and control recurrent floods in the country, the Committee strongly recommended that the Central Government and State Governments should make necessary periodic reviews to facilitate enhanced role by the Union Government in flood related aspects so that better coordinated, pre-emptive measures are taken before there are indications of impending floods in their respective States. The Committee therefore, felt that mere hand holding by the Union Government was not sufficient and the Government must play a pro-active role which according to Committee could effectively be done if the subject "Water" is brought under Concurrent List of the Constitution of India. The Committee reiterated their earlier recommendation to bring "Water" as a subject under Concurrent List of the Constitution of India, made in the Sixteenth Report of the Committee (2012-13) during Fifteenth Lok Sabha.



5. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply have stated that as far as the matter relating to bringing water in the Concurrent list of the Constitution is concerned, demands have been raised by the professionals and civil society to bring 'water' in Concurrent list primarily to ensure national perspective on water management and to avoid inter-State disputes and the tendencies of the State Governments to use more water (in excess of justified needs through efficient use) only to claim more apportionment of water in inter State rivers. However, these have been opposed by most of the States.

The matter was also examined by the two Commissions on Centre State Relations chaired by Justice R.S. Sarkaria (1983-88) and Justice M.M. Punchhi (2007-10). The proposal to bring 'water' in the Union/ Concurrent list did not find favour with either of these two Commissions.

Further, Constitutional amendment for bringing 'water' in Concurrent list, would need to be passed in both the Houses by a majority of the total membership of that House and by a majority of not less than two thirds of the Members of that House present and voting. This would also require ratification by the Legislatures of at least one-half of the States. Thus, there is need to have wider consultation with all stakeholders to bring broader consensus in the matter.

6. The Committee note that the Ministry have simply stated the fact that the issue to bring 'Water' in the Union/Concurrent has been opposed by most of the States. Further the two Commissions on the Centre-State Relations chaired by Justice R. S. Sarkaria (1983-88) and Justice M. M. Punchhi (2007-10) also did not favour the proposal to bring "Water" in Union/Concurrent list. The Ministry has further apprised the Committee about the Constitutional amendment procedure for bringing 'Water' in Concurrent List. The Ministry has also stated that there is a need to have wider consultations with all stakeholders to bring broader consensus in the matter. The Committee do not accept this standoffish response given by the Ministry. The Committee, therefore, reiterate their recommendation and desire the Ministry to continue persuasive efforts with all stake holders in this regard so as to evolve a

consensus on this issue.

## B. Flood Scenario in the Country

### Recommendation (Para No.4)

7. The Committee observed that the XII Plan Working Group on Flood Management and Regional Specific Issues in December, 2011 had compiled the sum of maximum flood affected area state-wise for the entire country during the period 1953 to 2010 which was 49.815 mha. The Committee, however, expressed their concern on the data furnished by the Ministry, as it did not reflect any information with regard to the maximum area affected (mha) by the Tsunami floods in the States of Kerala and Andaman & Nicobar Islands etc in the year 2004. The Committee, therefore, liked to know from the Ministry the precise reasons for not incorporating the information related to Tsunami floods in the information furnished by the Ministry specially when the Working Group had compiled the data for the entire country during the period 1953 to 2010. The Committee desired that the Ministry should come back to the Committee with a comprehensive information in this regard. The Committee also noted that the Report by the XII Plan Working Group on Flood Management and Regional Specific Issues had been submitted to the Planning Commission in 2011. The Committee liked to be apprised of the action taken on the Report.

The Committee were also displeased to note that the Ministry had furnished information related to human lives lost / cattle loss during the period from 1953 to 2012 only and had stated that information pertaining to the year 2013 was still under verification / assessment by States. Observing the gravity of losses due to floods, the Committee deplored the lackadaisical attitude adopted by the Ministry in furnishing half baked information both in respect of areas affected by Tsunami floods and losses to lives in 2013. The Committee therefore, liked the Ministry to expedite the furnishing of updated information in these regard within three months of the presentation of the report.

8. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in its Action Taken Reply, have stated that the flood damage data is primarily collected from the State Governments on annual basis. XII Plan Working Group on Flood Management and Regional Specific Issues had compiled the State-wise data based on the information provided by the State Governments. Despite persuasion, some of the States did not provide the data and hence the national data remained tentative. No separate information for flood

affected area due to 2004 Tsunami floods and lives lost was made available by the State Governments. Therefore, only such information as made available by State Governments had been presented to the Standing Committee. The tentative flood damage data as compiled for 2013 and 2014 by Central Water Commission (CWC) based on the information received from various State Governments are given in Annexures – 3 and 4.

9. While appreciating the steps taken by the Ministry in collecting the flood damage data from some State Governments on annual basis relating to flood damage, the Committee are displeased to note that some of the States have not provided the data and hence, the national data on the same remains tentative. Further, the Committee find that the Ministry has also not furnished any information on the steps, if any, taken by them in pursuing the remaining State Governments in providing information on flood damage. The Committee, therefore, reiterate their recommendation and desire that updated information including the one related to the extent of flood affected areas and lives lost due to 2004 Tsunami floods should be made available to the Committee without any further delay. The Committee would also like to be apprised of the specific action taken in this direction.

C. Strengthening of Brahmaputra Board

#### Recommendation (Para No.7)

10. In their original recommendation, the Committee had noted with dismay that the vacancies in Brahmaputra Board had not been filled up, despite having pointed out by the Committee in its First Report of Sixteenth Lok Sabha (2014-15) on examination of Demand for Grants for the year 2014-15. The Committee felt that the Brahmaputra Board which is required to play a vital role in the preparation of master plan for river basin, etc. could ill-afford vacancies in its Board. The Committee, therefore, reiterated their earlier recommendation and requested the Ministry to take necessary steps in this regard expeditiously and apprise the Committee of the action taken.

11. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in its Action Taken Reply, have stated that the Ministry had filled up the post of Chairman of Brahmaputra Board and a proposal for the setting up of North East Brahmaputra and Barak River Authority was under consultation with concerned States.

12. The Committee appreciate the efforts of the Ministry to fill up the post of the Chairman of Brahmaputra Board. However, the Committee are dismayed over the fact that there are still a large number of vacancies in the Brahmaputra Board. Instead of furnishing information on the steps taken or proposed to be taken to fill up the vacant posts, the Ministry has, however, conveniently chosen to remain silent on the issue. The Committee have, however, noted that the proposal for the setting up of North East Brahmaputra and Barak River Authority was under consultation with the States concerned. The Committee would, therefore, like to know the timeframe by which the setting up of North East Brahmaputra and Barak River Authority would be finalised and made functional, so that the preparation of Master Plan for river basin, etc. could be initiated and completed in time. Accordingly the Committee, reiterate their recommendation for filling up the vacancies in the Brahmaputra Board. The Committee desire to be apprised of the concrete progress made in the matter and furnish the reasons so far not for filling up the vacancies as it seriously hampers the functioning of the Brahmaputra Board.

D. Relief and Rehabilitation for Flood affected Families

Recommendation (Para No.9)

13. In their original recommendation, the Committee had noted that the Government had issued a revised National Resettlement and Rehabilitation Policy, 2007, which among others included a provision that Social Impact Assessment (SIA) study would be carried out in proposed affected areas wherein voluntary displacement is of 400 families in the plain areas and 200 families in the hilly areas or more or in blocks / areas mentioned in Schedule V or Schedule VI of the Constitution. It was further stipulated that while undertaking SIA, the appropriate Government shall consider the impact, the project will have on public and community properties, assets and infrastructure particularly roads, public transport, drinking water, drainage, sanitation, health care, places of worship, places of burial / cremation along with grazing land for cattle. The Committee recommended the Government to ensure that necessary effective steps to implement the provisions of the revised National Resettlement and Rehabilitation Policy, 2007 are taken by concerned project / State and Central authorities while executing water resources projects in the country, so that stake holders, i.e. farmers,

landless labourers, tribals, depressed sections of the community etc., are not put to disadvantage. They also desired the Ministry to formulate a mandatory guideline within this year (2015) to enjoin that the concerned project / State and Central authorities while implementing the projects, duly pay compensation to the project-affected families (PAFs) which was adequate to enable them to adopt an alternative occupation in case of loss of agricultural lands and to settle in alternate lands in case of loss of houses/ dwellings. The Committee liked to be apprised of action taken by the Ministry in this regard.

The Committee further noted that the XII Plan Working Group on Flood Management and Regional Specific issues had recommended providing of Central assistance by the Ministry of Home Affairs to the States under State Disaster Response Fund (SDRF) and National Disaster Relief Fund (NDRF) to facilitate immediate relief in calamities of severe nature including floods. It was also recommended that a provision be made in the SDRF/ NDRF guidelines for assistance to States to meet expenditure on restoration of critical flood management structures. The Committee were pained to note that the aforesaid recommendation had not yet been implemented by the Ministry of Home Affairs and further no time schedule had been specified for the implementation of the same. Taking note of the dire necessity of tackling the recurrent devastations caused by floods year after year and to alleviate human miseries and also to reduce the ultimate colossal damage to sand, houses and public utilities, the Committee recommended that the Ministry, should in consultation with all the flood-prone States, chalk out a time-bound implementable programme of action in this regard.

14. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, has stated that regarding Resettlement and Rehabilitation (R&R) policy, Ministry of Environment , Forest and Climate Change (MoEF & CC) had informed that :

- (i) The National Resettlement & Rehabilitation (R&R) Policy is administered by the Department of Land Resources, Ministry of Rural Development. However, MoEF & CC looks into the issues of R&R and Social Impact Assessment (SIA) as part of the Environmental Impact Assessment (EIA).
- (ii) Although MoEF & CC intends to prepare Guidelines and Notification on River

Regulation Zone (RRZ), the same are only at a draft stage.

Regarding relief during natural calamities, the Ministry of Home Affairs had informed that the Central Government had constituted State Disaster Response Fund (SDRF) in each State for meeting the expenses for providing immediate relief to the victims of notified natural disasters. In case of 'severe' disaster, the Central Government provides additional financial assistance to the State from National Disaster Response Fund (NDRF), provided there was no adequate balance in SDRF. The norms of SDRF/ NDRF were based on the recommendations of the successive Finance Commissions. The norms and guidelines of SDRF/NDRF permits only immediate repair works for damaged infrastructure. The medium and long term repair/ reconstruction work were not permitted under SDRF/NDRF.

The norms of SDRF/NDRF had been recently revised on 8th April, 2015. The norms permit following repair works under SDRF/NDRF:

- (i) Immediate repair of damaged canal structures and earthen/masonry works of tanks and small reservoirs with the use of cement, sand bags and stones.
- (ii) Repair of weak areas such as piping or rat holes in dam walls/ embankments.
- (iii) Removal of vegetative material/building material/ debris from canal and drainage system.
- (iv) Repair of embankments of minor, medium and major irrigation projects.
- (v) Any expenditure beyond the norms of SDRF/NDRF was required to be met from State's own resources. However, support of the Central Government might be sought under appropriate Central Plan or Centrally sponsored schemes.

Regarding R&R policy, the Ministry of Mines had informed that the policy requires the concerned State Governments to undertake a Social Impact Assessment (SIA) study of the projects which involved involuntary displacement of four hundred or more families en masse in plain areas, or two hundred or more families en-masse in tribal or hilly areas, DDP blocks or areas mentioned in the Schedule V or Schedule VI to the Constitution. The said Policy also contains details of the Resettlement and Rehabilitation plans to be undertaken for the project affected areas and families. Ministry of Mines had also clarified that it is for the concerned state governments to give effect to the provisions of the said

Policy.

15. The Committee note with dismay that the Guidelines and Notifications on the River Regulation Zone to be issued by the Ministry of Environment, Forests and Climate Change (MoEF&CC) are only at a draft stage. The Committee, therefore, reiterate their recommendation and desire that the Ministry should continue their persuasive efforts with the MoEF&CC in this regard so as to ensure early finalization of the said Guidelines and issuance of necessary Notifications. The Committee, however, appreciate that the Ministry of Home Affairs has revised the norms in regard to permitting repair works under the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF) on 8 April, 2015 as was desire by the Committee.

The Committee further note from the reply of the Ministry as forwarded by the Ministry of Mines that Resettlement and Rehabilitation Policy requires the State Governments concerned to undertake a Social Impact Assessment (SIA) study of the projects involving displacement of four hundred or more families en masse in the plain areas, or two hundred or more families en-masse in the tribal or hilly areas, DDP blocks or areas mentioned in the Schedule V or Schedule VI of the Constitution. The Committee further note that the said policy also contains details of the Resettlement and Rehabilitation plans to be undertaken for the project affected areas and families and that it is for the concerned State Governments to give effect to the provisions of the said Policy. The Committee, therefore, strongly recommend the Government to pursue this matter effectively with State Governments and keep the Committee apprised thereabout.

E. Integrated Basin Development

#### Recommendation (Para No.11)

16. In their original recommendation, the Committee had noted that the erstwhile Planning Commission had specifically directed the Ministry of Water Resources, River Development & Ganga Rejuvenation to expedite the setting up of River Basin Organisations by the States and Central Government in order to have integrated basin development including flood management in a holistic manner. The Ministry, to the dismay of the Committee, had yet to implement it. Moreover, no time schedule for this had been fixed. The Committee therefore, recommended that the Ministry should initiate measures to implement

the recommendations expeditiously and apprised the Committee accordingly.

17. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that they had proposed to establish two RBOs for river basins namely Mahanadi and Godavari during XI Plan under River Boards Act, 1956. As per River Board Act, 1956 the RBOs, were to be established in consultation with the interested States. Their establishment would depend upon consensus and co-operation of the Co-basin States. The Ministry had made efforts at various levels to get the concurrence/ comments of all the co-basin States of Mahanadi and Godavari basins for establishment of River Basin Organisations. However, all the co-basin States had not given consent for establishment of River Basin Organisation of Mahanadi and Godavari River Basins. MoWR, RD & GR has set up a Committee under the Chairmanship of Justice T.S. Doabia, former Judge, MP and J&K High Courts to study the activities for optimal development of a river basin and changes required in the existing River Boards Act, 1956 for the achievement of the same. The report of the Committee had been placed before National Forum of Minister of Water Resources/ Irrigation of the States and on the website MoWR, RD & GR. Report had also been circulated to all States / UTs and concerned Central Ministries.

Further, a major initiative had been taken by the Ministry for integrated water resources management in Brahmani - Baitarni river for :

- (a) Understanding water availability and the multiple demands for the basin's water resources.
- (b) Define objectives and measures for developing and protecting the water resources of the basin.
- (c) Scenario planning to improve integrated water resources management. It was now proposed to take 12 more basins for:
  - (i) Building on the understanding of the water resource to develop evidence based approach to maximize social and economic outcomes and promoting sustainability of the ecosystems within the basin.
  - (ii) Continued focus on capacity building to design, implement and evaluate water resources assessments for basin planning.

This exercise would be a pre-requisite for better understanding of the basin for the setting up of the River Basin Authorities.



18. The Committee are not satisfied with the casual reply of the Ministry on the issue of setting up of River Basin Organisations (RBOs) by the States and Central Government in order to have integrated basin development including the flood management in a holistic manner as recommended by the Committee. The Ministry has also not been able to furnish to the Committee any plausible reasons given by co-basin States for not giving their consent for establishment of river basin Organisations of the Mahanadi and Godavari River Basins, except for stating the fact that the Ministry had set up a committee under the Chairmanship of Justice Doabia, Former Judge, Madhya Pradesh and Jammu and Kashmir High Courts, to study the activities for optional development of river basins and amendments sought under the River Boards Act, 1956. The Committee further note that the Report of that committee had been placed before National Forum of Minister of Water Resources/ Irrigation of the States and on the website MoWR,RD&GR. Further the Report had also been circulated to all States / UTs and concerned Central Ministries. The Committee, however, appreciate that the Ministry has taken a major initiative for integrated water resources management in Brahmani - Baitarni river, which would be a pre-requisite for better understanding of the basin for the setting up of the River Basin Authorities. Taking note of the current pace of work for establishment of River Basin Organisations, the Committee are again constrained to observe that it may take decades to set up the river basin organisations, if expeditious measures in this direction are not taken up. While strongly disapproving this a quantum of delay in the matter, the Committee reiterate their recommendation that the work for the setting up of RBOs may be taken up in a time bound manner to ensure the early setting up of River Basin Organisations by the States.

F. Flood Cushion

Recommendation (Para No.12)

19. In their original recommendation, the Committee had noted that the erstwhile Planning Commission had also recommended that as a policy, minimum flood cushion of 10 % of the live storage capacity should be provided in all new dams and if affordable, with respect to other purposes, providing even a flood cushion upto 20% could be considered. A portion of the capital cost of the reservoir should be allocated to flood control and shared by

all beneficiary States. To the utter dismay of the Committee, neither the policy in this regard had been formed by the Ministry in consultation with beneficiary States, nor any time schedule for this had been fixed. With development and population growth, habitations were coming very close to the downstream of reservoirs and operation of such reservoirs needed to be done carefully. The Committee, therefore, recommended the Ministry should initiate steps to formulate the policy and also pursue the matter with all the States to achieve better results in this regard. The Committee liked to see expeditious steps taken by the Ministry in this regard.

20. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, has stated that National Water policy, 2012 (Para 10.5) stipulates that the operating procedures for reservoirs should be evolved and implemented in such a manner to have flood cushion and to reduce trapping of sediment during flood season. These procedures should be based on sound decision support system.

The XII Plan Working Group on Flood Management and Regional Specific Issues set up by the Planning Commission in 2011 recommended that the long term solution to problems of recurrent floods and droughts lies in construction of dams and reservoirs with adequate flood-cushion. Construction of dams and reservoirs with adequate flood cushion might be undertaken wherever feasible.

The policy needed wider consultation with project authorities. However, as an alternative, besides 28 reservoirs already under inflow forecast network, the Ministry had also proposed to include 64 more reservoirs under the Inflow Forecasting network of CWC in XII Plan, which would help the concerned project authorities in regulation of reservoirs more effectively and have flood moderation in these reservoirs.

21. The Committee note that the erstwhile Planning Commission had recommended that as a policy, a minimum flood cushion of 10% of the live storage capacity should be provided in all the new dams and if affordable, with respect to other purposes, providing even a flood cushion up to 20% could be considered. The Committee are not satisfied with the casual reply furnished by the Ministry with regard to formulation of the policy and steps taken by the Government to persuade the beneficiary States to allocate a certain percentage of the live storage capacity as a

flood cushion. The Committee also note that though the National Water Policy, 2012 (Para 10.5) stipulates the provision regarding flood cushion to reduce trapping of sediment during flood season, the Ministry has not furnished any information about the States/UTs which so far have complied with this provision of the National Water Policy, 2012 - in true letter and spirit. The Committee further find that the replies of the Ministry are also silent on the measures to be undertaken, if any, by the Government for construction of dams and reservoirs with an adequate flood cushion, as recommended by XII Plan Working Group on Flood Management and Regional Specific Issues - set up by the Planning Commission in 2011 so as to provide long term solution to recurrent floods and droughts in the country. The Committee deplore the casual reply of the Ministry to ensure implementation of one of the provisions of the National Water Policy, 2012. The Ministry has also not been able to furnish any reasons for not holding wider consultation with Project Authorities - with regard to the formulation of the policy except for stating the fact that the Government as an alternative had proposed to include 64 more reservoirs under the Inflow Forecasting Network of Central Water Commission (CWC) in the XII Plan-in addition to 28 reservoirs already under the network. The Committee, therefore, reiterate their earlier recommendation asking for expeditious measures to be taken in this regard. The Committee would also like to be apprised of the same.

#### G. Flood Forecast

##### Recommendation (Para No.14)

22. In their original recommendation, the Committee had noted the fact that Central Water Commission (CWC) had been making continuous endeavour for automation of processes of data collection, forecast and dissemination of information of floods since Ninth Plan onwards, the Committee felt that still timely warnings did not reach people and there had been no decline in the number of casualties occurring due to sudden onset of floods. The Ministry in their reply had admitted that in areas which do not experience frequent floods or where the flood generation time was very less, the flood forecasting network of CWC was not considered, and therefore, no warnings were formulated by CWC in event of unprecedented floods in such areas, The Committee felt that the present flood forecasting infrastructure needed to be modernised and broadened to include the entire stretch of the country so that

tangible improvements were visible even in non-flood-prone States. The Committee were also amazed to note that though CWC faced no bottlenecks in providing forecast to the local administration as well as uploading on the CWC website, still there was lack of coordination between the local administration and Central Water Commission in the matter of flood forecasting. The Committee therefore, strongly recommended the Ministry to take steps so that the present flood forecasting infrastructure of CWC was upgraded effectively to disseminate the news of Impending floods well in time so as to avert havoc caused by floods. The Committee further noted that around 219 stations of existing flood forecast networks were yet to be modernized by the Government. The Committee therefore, strongly recommended that all stations are modernized with telemetry system. The Committee also desired to be informed of the action taken in this regard.

23. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that out of the total 708 stations used to flood forecasting, automatic data acquisition and transmission systems had already been set up at 445 stations. The Ministry had proposed modernisation of remaining 219 existing stations and setting up 420 new stations equipped with state of the art data acquisition systems besides establishing three more Earth Receiving Stations and 6 new Modelling Centres. The XII Plan proposal on the Plan Scheme "Flood Forecasting" amounting to Rs. 281 crore had been cleared by the SFC in its meeting held on 4.8.2015 and the same was under the process of approval. The CWC had already started preparatory works of preparation of tender documents including specification of specialised equipment.

Modernization/ up gradation of forecasting system included automatic data collection & transmission, development of computer based models & dissemination of forecast using modern technology such as mobiles, web & media. In this regard, data collection through telemetry was already in place. Presently 445 sites had already been modernized with the telemetry system. Installations of telemetry system on other stations were planned during 12th Plan which would be taken up after the approval of Plan Scheme "Flood Forecasting". Station/ reach specific computer-based models' development is in progress. These models were being put in use after development. Using such models, the warning time had enhanced wherein observed rainfall from the CWC network as well as the IMD network and rainfall forecast of IMD were used as inputs in addition to the river water levels. Similarly for user friendly dissemination of forecast, CWC was putting its forecast on

its website ([www.india-water.gov.in/ffs](http://www.india-water.gov.in/ffs)) for public viewing. The information was also shared with the local media for greater awareness. Based on CWC forecast, State administration was supposed to generate warning for the affected population.

24. The Committee note with appreciation that under the XII Plan, a proposal on the Plan Scheme "Flood Forecasting" amounting to Rs. 281 crore had been cleared by the State Finance Committee (SFC) in its meeting held on 4.8.2015 and the same was under the process of approval. Further, the Central Water Commission (CWC) had also initiated preparatory work for the preparation of tender documents including specification of specialized equipment. The Committee would like to remind the Ministry to impress upon the Authorities concerned to expedite the process of approval of the Plan Scheme "Flood Forecasting" to achieve the objective of modernizing all the forecasting stations by installation of telemetry system. The Committee would like to be apprised about the steps taken by the Ministry in this regard.

H. Inadequate Drainage Facility

#### Recommendation (Para No.15)

25. In their original recommendation, the Committee had observed that inadequate drainage is one of the major causes of floods. The Committee were surprised to note that no corrective measures had been taken to facilitate drainage facilities and no separate allocation of funds under Flood Management Programme (FMP) had been made for works related to drainage measures. The Committee had been informed that the works for such measures were executed by concerned States and the physical and financial progress of works approved under FMP was monitored by the Central Water Commission, Ganga Flood Control Commission and Brahmaputra Board.

The Committee while acknowledging the limits to further possibilities of constructing large storages and embankments, felt that floods could be tackled by placing greater emphasis on rehabilitation of traditional, natural drainage systems. The Committee, however, recommended that the overall supervision should vest with one single nodal authority, i.e. the Ministry of Water Resources, River development & Ganga Rejuvenation which should obtain regular feedbacks & inputs from the concerned units and should accordingly frame a policy in this regard. The Committee recommended that separate

allocation for drainage works may be made under FMP. The Committee liked to be apprised of the action taken.

26. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that in the light of recommendations of 14<sup>th</sup> Finance Commission and devolution of the central taxes, the mechanisms of centrally sponsored schemes are under review in NITI Aayog / Finance Ministry. The allocations made under Flood Management Programme in the current financial year, 2015-16, were not sufficient to complete even approved and ongoing works. Thus, the States needed to allocate more funds from the available enhanced financial resources to complete the ongoing works.

However, the Ministry was working on the proposal to bring paradigm shift in supporting the States in undertaking critical measures of flood mitigation in an integrated manner addressing the issues of desilting of rivers wherever feasible, protection and construction of embankments using state of the art materials such as geo-textile, changes in funding pattern as per importance and criticality of flood management measures in tandem with appropriate non-structural measures like flood forecasting and flood plain zoning. If, the Government decided to continue FMP, the issue of providing separate outlay for drainage congestion removal works would be duly addressed in the modified proposal. Under "Flood Management Programme", the works related to river drainage development were included.

27. The Committee note with concern the oft-repeated stand taken by the Ministry that the funds allocated in the financial year 2015-16 under the Flood Management Programme are not sufficient to complete even the approved and ongoing works. The Committee are deeply anguished to note that the Ministry has not apprised the Committee of the steps taken/being taken, if any, to impress upon the Ministry of Finance for in-time disbursement and allocation of more funds to complete the ongoing works. Expressing serious concern over the issue, the Committee reiterate and recommend that the Ministry undertakes speedy and efficacious measures to make the funds available before the closure of the financial year 2015-16. They would also like to be apprised about the progress made in this regard.

The Committee are however, happy to note that the works related to river drainage development were included under 'Flood Management Programme'. The Committee, therefore, recommend the Ministry to undertake measures to incorporate

and address the issue of providing separate outlay for drainage congestion removal works in the modified proposal as stated by the Ministry. The Committee would also like to be apprised of the same.

#### I. River Zone Regulation

##### Recommendation (Para No.17)

28. In their original recommendation, the Committee had noted that many kinds of structures had been erected in the areas near sea banks upto the sea levels. The Ministry of Water Resources, River Development and Ganga Rejuvenation had taken initiatives for regulation of river zones for which a Committee had set up and a Report had since been submitted. The Committee therefore, liked to know the status of the implementation of the River Zone Regulation Report.

29. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that as informed by MoEF&CC, the guidelines regarding River Zone Regulation were at a draft stage.

30. The Committee note with dismay the reply of the Ministry as forwarded by Ministry of Environment, Forest and Climate Change (MoEF&CC) that guidelines regarding River Zone Regulation were at a draft stage. The Committee are least satisfied with the reply of the Ministry on such a crucial issue of taking initiatives for the regulation of river zones as recommended by the Committee. The Ministry has also not been able to furnish any plausible reasons for such an inordinate delay in getting the approval of the guidelines on the River Zone Regulation. While strongly disapproving such a quantum of delay, the Committee reiterate their recommendation for expediting the implementation of the River Zone Regulation Report. The Committee would like to be apprised of the conclusive action taken in this regard.

#### J. Mining of Sand

##### Recommendation (Para No.19)

31. In their original recommendation, the Committee had noted that as per Mines and Minerals (Development and Regulation) Act, 1957, sand had been notified as a minor

mineral. The Committee observed that a lot of damage had been caused to the environment by uncontrolled and unregulated mining of minor minerals. In this connection, the Committee were further informed that only twenty State Governments have framed rules under section 23C of Mines and Minerals (Development and Regulation) Act, 1957 to curb illegal mining, etc. of minor minerals viz. sand. Taking in view the vital role of agriculture in our economy, the Committee strongly recommended that the Ministry should make efforts to induce the remaining States/UTs to frame relevant Rules under the said Act. The Committee further desired that the necessary mechanism for implementation of the rules so framed by these States/UTs be worked out by the Government within a year. The Committee be apprised accordingly.

32. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that the Ministry of Mines had informed that the Ministry was in the process of issuing an advisory enjoining these states to frame rules u/s 23C.

33. The Committee observe from the reply of the Ministry that the Ministry of Mines is in the process of issuing an advisory enjoining the remaining States to frame rules under Section 23C of Mines and Minerals (Development and Regulation) Act, 1957. The Committee are, however, disappointed to note that the Ministry has chosen to remain silent over the steps, if any, being taken by the Ministry to induce the remaining States/UTs to frame relevant Rules under the said Act or develop necessary mechanism for implementation of the rules so framed by the States/UTs. The Ministry has also not been able to specify the time-frame for issuing such an advisory to the States. The Committee, therefore, recommend this advisory to be issued without any further delay to develop the necessary mechanism for implementation of the rules so as to ensure that all the States/UTs in the country are able to effectively curb the illegal-mining of minor minerals and damage being caused to environment.

#### Recommendation (Para No. 21)

34. In their original recommendation, the Committee had observed that "mining operations" means any operation undertaken for the purpose of winning any mineral. Accordingly, if desilting was undertaken per se with the objective of winning a mineral then



only it would be construed as a mining operation. Apparently, if the desilting was undertaken not for winning any mineral, it would not be construed as mining operation and therefore, the farmer could remove the sand from the land without requiring the requisite permit. However, the Committee strongly felt that the farmers be given the right to use and dispose of the sand accumulated over their land post flood, by incorporating the necessary provision in the Mines and Minerals (Development and Regulation) Act, 1957. The Committee desired to be apprised of the action taken.

35. The Ministry of Water Resources, River Development and Ganga Rejuvenation, in their Action Taken Reply, have stated that Ministry of Mines had informed that as per section 3(d) of the MMDR Act, 1957, "mining operations" meant any operations undertaken for the purpose of winning any mineral. In the context of this definition, if desilting is undertaken per se with the objective of winning a mineral, it would be construed as a mining operation for which a mineral concession is required to be obtained from the State Government apart from other statutory permits/clearances like environment clearance etc. As a corollary any operation that was not undertaken with the objective of winning a mineral, would not be a mining operation and would not, therefore, require the issue of a permit under the Act. State Governments were being advised to enable the farmers to undertake desilting of the sand accumulated in their agricultural lands after recession of floods without the requirement of obtaining permits, clearances etc.

36. The Committee note from the reply furnished by the Ministry that the Ministry of Mines had informed that as per Section 3(d) of the Mines and Minerals (Development and Regulation) Act, 1957, "mining operations" meant any operations undertaken for the purpose of winning any mineral. In the context of this definition, if desilting is undertaken per se with the objective of winning a mineral, it would be construed as a mining operation - for which a mineral concession is required to be

obtained from the State Government apart from other statutory permits/clearances like environment clearance, etc. Further as a corollary any operation that was not undertaken with the objective of winning a mineral, would not be a mining operation and would not, therefore, require the issue of a permit under the Act.

The Committee further note that the State Governments were being advised by the Ministry of Mines to enable the farmers to undertake desilting of the sand accumulated in their agricultural lands after recession of floods without the requirement of obtaining permits, clearances etc.

In this context, the Committee, however, strongly feel that merely issuing advice for enabling "the farmers to undertake desilting of the sand accumulated in their agricultural lands after recession of floods without the requirement of obtaining permits, clearances etc." would not suffice. In the considered opinion of the Committee, to settle the matter for all times to come, it would be better if necessary provision in the Mines and Minerals (Development and Regulation Act, 1957) is incorporated to ensure that the farmers are given the right to use and dispose of the sand accumulated over their land - post flood. The Committee, therefore, reiterate their earlier recommendations on the subject and would accordingly desire the Ministry of Water Resources, River Development and Ganga Rejuvenation to take up again the matter with the Ministry of Mines so as to make sure that the recommendation of the Committee is complied with.

## CHAPTER II

### OBSERVATIONS / RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

#### Recommendation (Para No. 2)

The Committee observe that the XII Plan Working Group on Flood Management and Regional Specific Issues has submitted its report to the erstwhile Planning Commission in December, 2011 and the response from the erstwhile Planning Commission on the report of the Working Group is awaited. The Committee note that the Ministry has, however, taken initiatives on urgent nature of recommendations. The Committee hope that the erstwhile Planning Commission extends its response expeditiously so that necessary follow up action in the matter is taken up immediately by the Government on all the recommendations of the Working Group. The Committee would like to be apprised of the status of the implementation of all the recommendations of the XII Working Group on Flood Management and Regional Specific issues.

#### Reply of the Government

The status of implementation of recommendations of "XII Plan Working Group on Flood Management and Region Specific Issues" is given in Annexure - I.

#### Recommendation (Para No. 3)

The Committee observe that Central assistance is being provided to the State Governments under Flood Management Programme for addressing flood problems in critical areas. The Committee were told that this programme was launched during Eleventh Plan to provide assistance to the States for taking up works related to flood management, etc. The Committee note that though 517 works at a total estimated cost of Rs. 12,242.82 crore were approved during XI and XII Plan (till 31st March, 2012), the number of works completed are only 252 and the funds released upto 31st March, 2012 only amount to Rs. 4,431.59 crore. The Committee are constrained to express their total dissatisfaction over the slow & tardy progress of approved programmes and recommend that urgent action would be taken to expedite completion of the remaining pending works. The Committee also urge upon the Ministry to re-prioritise the pending works and more emphasis should be given on the last mile projects to obviate any

further possibility of time and cost overruns. The Committee would like to be apprised of the action taken in this regard by the Ministry.

### Reply of the Government

The monitoring agencies under the Ministry have taken up the matter with the concerned State Governments and as a result 41 more projects have been completed raising the works completed to 293. The updated status of works approved, works completed and funds released till date under Flood Management Programme is given in Annexure - II.

MoWR, RD&GR has already constituted a Committee under the Chairmanship of Shri B. N. Navalawala, Chief Adviser, for restructuring and remodeling various Schemes including FMP.

Further, it is stated that in the light of recommendations of 14th Finance Commission and devolution of taxes, the mechanisms of centrally sponsored schemes are under review in NITI Aayog / Finance Ministry. In view of this only 201 crore have been allocated under Flood Management Programme in the current financial year, 2015-16. This amount is not sufficient to complete the approved and ongoing works. Thus, the States would need to allocate more funds from the available enhanced financial resources to complete the ongoing works. However, the Ministry is working on the proposal to bring paradigm shift in supporting the States in undertaking critical measures of flood mitigation in an integrated manner addressing the issues of desilting of rivers wherever feasible, protection and construction of embankments using state of the art material such as geo-textile, changes in funding pattern as per importance and criticality of flood management measures in tandem with appropriate non-structural measures like flood forecasting and flood plain zoning.

### Recommendation (Para No. 4)

The Committee note that the XII Plan Working Group on Flood Management and Regional Specific Issues in December, 2011 compiled the sum of maxima flood affected area state-wise for the entire country during the period 1953 to 2010 which was 49.815 mha. The Committee, however, express their concern on the data furnished by the Ministry, as it does not reflect any information with regard to the maximum area affected (mha) by the Tsunami floods in the States of Kerala and Andaman & Nicobar Islands etc in the year 2004. The Committee would, therefore, like to know from the Ministry the precise reasons for not

incorporating the information related to Tsunami floods in the information furnished by the Ministry specially when the Working Group compiled the data for the entire country during the period 1953 to 2010. The Committee desire that the Ministry should come back to the Committee with a comprehensive information in this regard. The Committee also note that the report by XII Plan Working Group on Flood Management and Regional Specific Issues has been submitted to the Planning Commission in 2011. The Committee would like to be apprised of the action taken on the Report.

The Committee are also displeased to note that the Ministry have furnished information related to human lives lost / cattle loss during the period from 1953 to 2012 only and have stated that information pertaining to the year 2013 is still under verification / assessment by States. Observing the gravity of losses due to floods, the Committee deplore the lackadaisical attitude adopted by the Ministry in furnishing half baked information both in respect of areas affected by Tsunami floods and losses to lives in 2013. The Committee would therefore, like the Ministry to expedite furnishing of updated information in these regard within three months of the presentation of this report.

#### Reply of the Government

The flood damage data is primarily collected from the State Governments on annual basis. XII Plan Working Group on Flood Management and Regional Specific Issues had compiled the State-wise data based on the information provided by the State Governments. Despite persuasion, some of the States do not provide the data and hence the national data remains tentative. No separate information for flood affected area due to 2004 Tsunami floods & lives lost was made available by the State Governments. Therefore, only such information as made available by State Governments had been presented to the Standing Committee. The tentative flood damage data as compiled for 2013 & 2014 by CWC based on the information received from various State Governments are given in Annexure – III & IV.

#### Comments of the Committee

(Please see Para No. 9 of Chapter-I of the Report)

### Recommendation (Para No. 5)

The Committee note the statement of the representative of the Ministry that the Central Water Commission has no forecasting network in Jammu & Kashmir. This fact reveals an appalling gap in the flood management efforts of the Government which was exposed to public glare during the unprecedented flood havoc in the State of Jammu & Kashmir in 2014. The Committee therefore, recommend that Central Water Commission should waste no further time but initiate urgent remedial steps to set up a centralized forecasting station in the State. They also desire the Ministry / Central Water Commission to work in dose coordination with the local / state administration so that works for flood control in that State do not proceed in an unplanned and haphazard manner as witnessed during the flood fury of 2014.

The Committee also note that an Expert Group under the Chairmanship of Central Water Commission, was constituted on 18 September, 2014 to conduct an in-depth study and analysis of the recent unprecedented floods in Jammu & Kashmir. The Committee note that the report of the Expert Group has been finalized and submitted to the Ministry of Water Resources, River Development and Ganga Rejuvenation on 31 October, 2014. The Group has analysed the problem and has suggested various immediate short-term and long-term measures to tackle the problem. The Committee, therefore, hope that the Government initiates necessary follow up action on recommendations / measures of the Expert Group so that there is no repeat of the flood havoc as witnessed in 2014. The Committee would like to be apprised of the outcome within three months of the presentation of this Report.

### Reply of the Government

During XII Plan, the Ministry has proposed to set up 3 flood forecasting stations of CWC in addition to the existing flood forecasting station of the State Government. The CWC would assist the Government of J&K by providing nearly real time flood forecasts at its 3 stations. Besides, data of 19 base stations of CWC, would also be available with the State Government and with this, the State would have enhanced capability to provide flood warning to the people in the related area more effectively. The Technical Committee headed by Chairman, CWC had recommended immediate taking up of flood protection structural measures on river Jhelum. The State Government had earlier formulated a comprehensive master plan for flood management in Jhelum basin, with an estimated cost of Rs. 2083 crore, which the State Government has decided to revise on the suggestions of CWC in order to have a techno-economically viable DPR. Meanwhile, the

State Government formulated a DPR for emergent measures in river Jhelum, which had been techno-economically cleared by the Ministry's Advisory Committee on 25.05.2015. However, the works on Jhelum river are now proposed to be funded by Finance Ministry under the special package to J&K for infrastructure reconstruction.

After the devastating floods of 2014 which resulted in colossal damage to human life and property and having felt an urgent need to address the problem of floods in the valley on long term basis, MoWR, RD &GR constituted a Group headed by Chairman, CWC on 18.09.2014, to conduct an in-depth study and analysis of the recent unprecedented floods in J&K so as to make suitable recommendations along with a detailed action plan to deal with such threat in future. The Group was also to review the status of project 'Flood Threat Management of river Jhelum' by Government of J&K.

Based on the analysis of the flood in J & K, the Group recommended following measures to manage floods in J & K depending upon the implementation time:

Immediate, Short term and Long term.

(A) Immediate Measures (to be implemented before next flood season):

- (i) Closing of breaches
- (ii) Development of Flood Forecasting and Warning Networks

(B) Short Term Measures (to be implemented within 2 to 3 years):

- (i) Raising/ strengthening of existing embankment
- (ii) Enhancement of carrying capacity of existing Flood Spill Channel (FSC)
- (iii) Dredging of Out Fall Channel (OFC) to increase its carrying capacity
- (iv) Setting up of rapid action dewatering facilities in urban areas
- (v) Establishment of adequate emergency response measures and rescue areas

(C) Long Term Measures ( to be implemented within 5 to 10 years):

- (i) Additional Supplementary Flood Spill Channel

- (ii) Creation of Storage
- (iii) Development and enhancing the capacity of Wullar Lake
- (iv) Flood Plain Zoning
- (v) Checking of sewage/solid waste from urban areas
- (vi) Afforestation and catchment area treatment along the hill slopes
- (vii) Improvement of the flood warning times

As a follow-up action on recommendation (No A2 & C7)., CWC has developed rainfall-runoff model based hydrological/hydrodynamic model for flood forecasting at Ram-Munshibagh (Srinagar) on Jhelum using hydrological data of CWC network, hourly rainfall data of IMD network & rainfall forecast of IMD. With the help of such model, flood forecast with sufficient warning time is generated & shared with the State Govt. with effect from 2015 monsoon season. With the help of flood forecasting, suitable and timely action will be taken state disaster management to minimize the losses to movable properties and lives. Further modernization & expansion of the network would be taken up after approval of the plan scheme "Flood Forecasting" for the XII Plan.

#### Recommendation (Para No. 6)

The Committee express their serious concern over the unabated loss of human lives and damage to properties due to recurring floods in river Brahmaputra. This also have an endangering effect on the animal life of the species, especially in Kaziranga National Park (Assam). The Committee note that dredging operation is a measure for channel improvement and is used for clearing river mouths or narrow constrictions subject to techno-economical justification. The Committee are however, amazed to note that dredging operations on river Brahmaputra which were undertaken in the early seventies on an experimental basis, were discontinued because of the costs involved in it and limited benefits. Having noted that States falling within Brahmaputra-Meghna, Ganga and Indus river basins are the most affected by floods, the Committee strongly recommend the Government to review the proposal seriously and also to explore newcost-effective technology so that dredging operations of the Brahmaputra could be resumed. The Committee would also like to know the current status of the initiatives taken by the



Government of Assam with the World Bank for a massive flood control project of river Brahmaputra for which the Ministry has already given its, in principal, clearance.

### Reply of the Government

In order to supplement the efforts of the Government of Assam, the Ministry is considering to set up an Expert Committee headed by Chairman, CWC and having experts from NIH, CWPRS, Brahmaputra Board, GFCC, Remote Sensing Agency and the State Governments to find out causes of erosion and silting in Ganga and Brahmaputra rivers and to recommend suitable remedial strategy.

Besides, the Ministry has also initiated consultation with Governments of Arunachal Pradesh and Assam on construction of a storage dam on river Siang, which on completion, would be able to moderate flood peaks in Siang river and thus, would mitigate impacts of floods in Assam.

The Government of Assam had submitted a project proposal titled "Assam Flood, Erosion and River Management Modernization Project" for an estimated cost of Rs.1500 crore. The project covering Brahmaputra-Barak aims at improved management of floods through better flood forecasting and warning systems, and to develop an integrated flood and erosion management framework for the State of Assam. The State Government submitted the modified concept note in July 2014.

The Ministry considered the proposal and conveyed in-principle approval to the M/o DoNER on 17.9.2014. Then, M/o DoNER sought the comments of erstwhile Planning Commission. NITI Aayog and M/o DoNER both had supported the proposal and separately informed the Department of Economic Affairs (DEA), Ministry of Finance in February 2015 for processing the proposal for World Bank funding. The proposal is under consideration in DEA.

### Recommendation (Para No. 10)

The Committee observe that erosion causes severe damage to soil fertility. Silt discharged due to erosion chokes lakes, reservoirs and canals; clogs up river beds; blocks navigation passes and aggravates flood and water logging. All these adversely affect the agriculture production in the country. The Committee, therefore, urge the Ministry to impress upon the State Governments the need to check erosion by taking necessary measures on priority basis

to plant trees, vegetation in inaccessible terrains and to take appropriate engineering measures, etc. They would like to be apprised of the achievements made in this regard.

### Reply of the Government

In order to supplement the efforts of State Governments in the field of flood management, the Ministry had launched a Flood Management Programme in XI Plan. In October, 2013, the Cabinet approved continuation of FMP in XII Plan expanding scope of the Programme to include catchment area treatment in selected / prioritised basins and with the objective of floods management. Out of the total outlay of Rs. 10,000 crore, an amount of Rs. 1000 crore was earmarked for catchment area treatment. However, due to reduction in central funding pattern, the response from States has not been encouraging in this area. Therefore, the scheme features like funding pattern and eligibility criteria for such measures require a rethinking.

Besides, the Ministry has been continuously impressing upon the States for undertaking measures of erosion control and these steps have been fruitful. For example, the total area of the land mass of Majuli Main Island was 502.21 sq km in the year 2004. Since the year 2004, with regular implementation of anti-erosion / bank protection measures by Brahmaputra Board, the total area of Majuli Island has increased to 520.26 sq km till the year 2011.

### Recommendation (Para No. 13)

The Committee note from the reply of the Ministry that the disastrous flood of Jammu and Kashmir was due to combination of several factors, the primary being the low carrying capacity of existing Flood Spill Channel (FSC). With passage of time the carrying capacity of existing FSC diminished from 481.45 cumec (17080 cusec) to nearly 100 cumec (3531 cusec). The Committee are pained to note that the work undertaken to enhance the capacity under scheme "Flood threat of river Jhelum - Urgent works" is yet to be completed to maintain the designed capacity of River Jhelum passing near Srinagar city. Similarly, the live storage capacity of Wularlake, which has been reduced due to siltation, etc., needs to be enhanced in order to reduce back water effect and absorb more flood water, thereby reducing the impact of flood in its upstream areas. The Committee feel that the floods in Jammu & Kashmir though unprecedented could have been managed in a more appropriate way had there been no delay in completing the pending works which have a direct bearing on management of floods in Jammu & Kashmir. The Committee are, therefore, of the view that all works including flood spill channels regarding flood management in

Jammu & Kashmir and other parts of the country should be given top priority and a time bound programme should be formulated in consultation with the State Government to complete the pending works expeditiously. The Committee would also like to have a status report on the work "Flood threat of river Jhelum-Urgent works".

### Reply of the Government

In 2009, the Government of J&K had formulated a master plan for flood management in Jhelum basin, with an estimated cost of Rs. 2083 crore. The plan envisaged managing 1 in 100 years flood of 3260 cumec (1,15,000 cusec) at Sangam. the floods effectively covering entire reach of about 150 km from upstream of Sangam to downstream of Baramulla. The phases of the proposed project were as under:

Phase-I (Completion time 2 years)	To manage floods of the order of 1700 cumec = 60000 cusec	At Padshahi Bag (50 km d/s of Sangam)	Through existing Channel and FSC	35000 cusec through city reaches of Main Jhelum and 25000 cusec through existing Flood spill channel
Phase-II	To manage floods of the order of 1560 cumec = 55059 cusec	At Sangam	Through construction of new 81 km long supplementary flood spill channel from Dogripora to Wullar Lake	Dogripora to Wullar lake or taking up flood storage projects on tributaries of Jhelum in upper reaches or combination of both.

After discussions with the Ministry, the State Government formulated a DPR amounting to Rs. 399.29 crore for emergent measures in river Jhelum, which envisages the following works :

- Re-Sectioning of Flood Spill Channel (FSC) from RD 38.068km to 39.860km at Naidkhai
- Re-Sectioning of FSC from RD 6.55km to 11.95km near Sherifabad
- Replacement of road cutting across the FSC by a Bridge at Shariefabad at RD 9.6km
- Increasing waterway at Naidkhai Bridge at RD 38.088km by providing additional bays.
- Improving drainage capability of Main Jhelum from RD 58 km to RD 80 km by channelization of river, removal of garbage dumps, providing retaining wall and toe protection at vulnerable spots.

- Improving drainage capability of Kutkhul from RD 0km to RD 1.15km and of Sunurikhul from RD 0km to RD1.63km by channelization of river, removal of garbage dumps, providing retaining wall and toe protection at vulnerable spots.
- Construction of retaining wall/toe protection wall & stone pitching on vulnerable spots in the city reach of main Jhelum from between RD 93.80 km 123.114 km Panzinara to Wullar.
- Dredging of (OFC) River Jhelum from Sopore to Ladoora RHL in about 4 km reach and shoal clearance at identified spots within Baramullah/ Khadinyar town in about 2.19km reach.
- Improvement of main channel, protection works at identified spots and strengthening around confluence points of streams in Anantnag and Pulwama districts.

The DPR for emergent works had been techno-economically cleared by the Ministry's Advisory Committee on 25.05.2015. However, these works are now proposed to be funded by Finance Ministry under the special package to J&K for infrastructure reconstruction.

#### Recommendation (Para No. 16)

The Committee note that the flood plain' zoning which is a non-structural measures aim at demarcating zones likely to be affected by floods of different magnitudes or frequencies of probability levels and specify the types of permissible development in these zones so that whenever the floods actually occur, the damage could be minimized. However, although a Model Draft Bill for Flood Plain Zoning was circulated by the Union Government to an the States/UTs for implementation of Flood Plain Zoning approach, only the States of Manipur, Rajasthan and Uttarakhand have enacted legislation about Flood Plain Zoning. The Committee therefore, recommend that the Ministry take vigorous steps for persuading the remaining States to enact the necessary legislation in this regard without delay. Further, The Committee would like the Ministry to coordinate with these State Governments to ensure that pending enactment of legislation in this regard, they take necessary administrative measures to prevent further encroachment of areas located in the flood plain zone. The Committee may be apprised of this action taken.

## Reply of the Government

The Central Water Commission prepared a Model Bill on Flood Plain Zoning and circulated it to all the States in 1975 for guidance of States for enactment of legislation in this regard. The Model Bill provides model clauses about flood zoning authorities, surveys and delineation of flood plain area, notification of limits of flood plains, prohibition or restriction of the use of the flood plains, compensation, power to remove obstruction after prohibition. The guidelines on flood plain regulations have also been appended in the Model Bill.

Manipur enacted flood plain zoning legislation in 1978, but the demarcation of flood zones is yet to be done. The State of Rajasthan also enacted legislation in the State; however, enforcement thereof is yet to be done. The State Govt. of Uttarakhand has also passed Flood Plain Zoning Act on 16 December, 2012 but the demarcation of flood zones is yet to be done. Some States like Bihar and UP have informed about difficulties in implementation of Bill due to large flood affected areas. Other States have yet not taken any action for enactment of legislation.

For effective implementation of FPZ, incentives to States who enact FPZ bill could be considered.

Further, it is stated that Rashtriya Barh Ayog(RBA) had made an assessment of the area liable to floods in the country as 40 million hectare (mha). An Expert Committee had been constituted in July, 2012 for "Scientific Assessment of Flood Prone Area". The committee is headed by Chairman, CWC and has representation from IMD, Survey of India, CWC, PC, GFCC, BB, NDMA, MoWR, NRSC, DoS, IITs. Further, Regional Committees in each State/UT having representatives of various Central/State Agencies is to be headed by Principal Secretary (Water Resources) of the respective State have been constituted for all the 35 States/UTs except for the State of Uttarakhand. The Committee will finalise flood prone area in the country. The information will be shared with the state & will also be utilized in flood plain zoning works.

### Recommendation (Para No. 20)

The Committee further observed that due to the floods, the agricultural land of farmer is destroyed and rendered infertile. Further, the farmer loses his livelihood as the

produce of his land is destroyed by flood and become unsaleable. The farmer is also deprived of the right of lifting sands from his land. He is therefore, left helpless and destitute and leave their land in search of job. The Committee also observe that to mitigate the plight of the farmers, neither Central nor State Governments are forthcoming with any assistance. To the utter dismay of the Committee, the Ministry of Agriculture has no information either on the status of ownership of fertile land or submerged piece of land in the aftermath of floods. Taking a humanitarian view of the plight of these farmers, the Committee therefore, strongly recommend that both State & Central Government should work out a solution to provide maximum possible assistance to the farmers in the post-flood scenario. The Committee would like to be apprised of the action taken in the matter and hope that the Government look into' the issue regarding legal status of ownership of submerged piece of land, etc. in the event of floods. The Committee further recommend that the immediate relief so disbursed to the farmers affected by floods in the post-flood scenario should be based on the type of standing crops in the fields and their value not necessarily be uniformly distributed to the affected farmers on the basis of acreage.

#### Reply of the Government

In this regard, Ministry of Mines has informed that as per section 3(d) of the MMDR Act, 1957, "mining operations" means any operations undertaken for the purpose of winning any mineral. In the context of this definition, if desilting is undertaken per se with the objective of winning a mineral, it will be construed as a mining operation for which a mineral concession is required to be obtained from the State Government apart from other statutory permits / clearances like environment clearance etc. As a corollary any operation that is not undertaken with the objective of winning a mineral, would not be a mining operation and would not, therefore, require the issue of a permit under the Act. State governments are being advised to enable the farmers to undertake desilting of the sand accumulated in their agricultural lands after recession of floods without the requirement of obtaining permits, clearances etc.

#### Recommendation (Para No. 21)

The Committee observe that "mining operations" means any operation undertaken for

the purpose of winning any mineral. Accordingly, if desilting is undertaken per se with the objective of winning a mineral then only it will be construed as a mining operation. Apparently, if the desilting is undertaken not for winning any mineral, it will not be construed as mining operation and therefore, the farmer can remove the sand from the land without requiring the requisite permit. However, the Committee strongly feel that the farmers be given the right to use and disposed off the sand accumulated over their land post flood, by incorporating the necessary provision in the Mines and Minerals (Development and Regulation) Act, 1957. The Committee would like to be apprised of the action taken.

Reply of the Government

(Replied under para above)

Comments of the Committee

(Please see Para No. 36 of Chapter-I of the Report)

Recommendation (Para No. 22)

The Committee note that the work for Digital Elevation Models (DEMs) in three States i.e., Uttar Pradesh, Bihar and West Bengal is initially proposed under NMCG for inundation forecast by CWC. The Committee would like to know the further progress made on these projects and also recommend the Government to cover more States with DEMs. The Committee also recommend that the Ministry should strive to evolve new updated technology suitable to compete with the contemporary requirements to effectively fight varied onslaughts of floods. The Committee would like to be apprised of the action taken in this regard by the Ministry within three months of the presentation of the Report.

Reply of the Government

Preparation of DEM for 2 lakh sq km of most flood prone areas in State of UP, Bihar and West Bengal was initially proposed in the XII Plan EFC for "Flood Forecasting" Scheme

at a cost of Rs. 400 crore. The EFC during its last meeting held on 3/3/2014, suggested to re-work out the cost of this component in view of the activity being a mandate of Survey of India which was to be implemented by them out of their own funds. As the issues remained unresolved, this component has been excluded from the plan scheme "Flood Forecasting" and proposed under "National Hydrology Project", which has been cleared by EFC in its meeting held on 16.10.2015.

The initiatives proposed / taken by CWC towards introduction of modern and updated technology in the field of flood forecasting can be summarized as below.

- (i) CWC has a total network of 708 remote stations which include 175 flood forecasting stations, whose data is being utilized for formulation of flood forecast by CWC. CWC has already modernized 445 of these remote stations by providing sensor based data collection technology and satellite telemetry based data transmission system so as to obtain real time data at its Modelling Centres. Remaining 219 stations (about 44 stations are test stations and are not required to be modernized) are proposed to be modernized during XII Plan Period. This data is also being displayed in real time domain on web based INDIA WRIS platform.
- (ii) CWC uses latest techniques viz., sms, emails, phone etc for dissemination of these forecasts to various stake holders including State governments authorities, project authorities, digital media etc whose a-priori data base is available.
- (iii) CWC utilizes high end numerical models for formulation of its flood forecasts and also proposes to enter into MoU with reputed global agencies who are active in the field of flood forecasting so as to operationalise modern techniques in formulation of forecasts.
- (iv) CWC has already initiated rainfall based flood forecasting using Quantitative Precipitation Forecasts of IMD so as to ensure increase in lead time of flood forecast of Himalayan basins by CWC. Accordingly, CWC has developed CWC Rainfall Runoff based mathematical models for preparing advisory flood forecast using Quantitative precipitation Forecast (QPF) of IMD for Alaknanda, Bhagirathi and Jhelum River. The advisory forecast is being issued for Srinagar, Tehri Dam, Rishikesh and Haridwar in Uttarakhand and Rammunshi Bagh in Srinagar (J&K).



- (v) As part of XII Plan Flood Forecasting Scheme, CWC has proposed to utilize high resolution DEMs for 30,000 sq km of flood prone areas in Brahmaputra, Mahanadi, Kosi and Sabri basins presently available with NRSC, for carrying out pilot flood inundation studies in these basins.

### CHAPER III

#### OBSERVATIONS / RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

##### Recommendation (Para No. 8)

The Committee note that in order to contain the flood havoc caused by rivers of international dimensions, the Twelfth Plan had recommended that steps be taken for installation of automatic data collection and transmission through satellite - based communication system. However, the Committee note that the same has been only partially Implemented, The Committee, therefore, recommend that the Ministry take necessary steps for implementing the recommendations of Twelfth Plan and keep them apprised in due course. In this connection, the Committee further note with satisfaction that the recommendation of the XII Plan Working Group for setting up of Pancheshwar Development Authority at Kathmandu, Nepal has been implemented. Besides, the recommendation to take steps by the Government to provide hourly hydrological data by China to India on rivers Brahmaputra and Sutlej for meaningful flood forecasting in India has also been implemented. The Committee desire to be apprised of the updated position in this regard.

##### Reply of the Government

Out of the total 708 stations used for flood forecasting, automatic data acquisition and transmission systems have already been set up at 445 stations. The Ministry has proposed modernisation of remaining 219 existing stations and setting up 410 new stations equipped with state of the art data acquisition systems besides establishing three more Earth Receiving Stations and 6 new Modelling Centres. The XII Plan proposal on the Plan Scheme "Flood Forecasting" amounting to Rs. 281 crore has been cleared by the SFC in its meeting held on 4.8.2015 and the same is under the process of approval. CWC has already started preparatory works of preparation of tender documents including specification of specialised equipment.

With the increased momentum given by the Hon'ble Prime Minister, the Pancheshwar Development Authority (PDA) had been set up in August, 2014 PDA has started formulating strategy for preparation of DPR, obtaining necessary clearances including environmental clearance.

As regards the issue of providing hourly hydrological data by China to India, it is stated that the issue of increasing the frequency of provision of hydrological information on rivers Brahmaputra and Sutlej is being pursued with People's Republic of China through diplomatic channel since 2nd Meeting of Expert Level Mechanism (ELM) between India and China on Trans-border Rivers held in April, 2008. However, Chinese side has conveyed non-feasibility of increasing frequency of observations in view of the harsh local conditions. Chinese side stated that water level of Yaluzangbo/ Brahmaputra river in flood season is featured as flat and smooth without sudden rise or fall, so there is no need to increase data provision frequency. Besides, the data measurement of Langquen Zangbo / Sutlej river is done manually and conditions are not available for increasing the measurement frequency.

The matter was also taken up recently during the 9<sup>th</sup> Meeting of ELM held in May, 2015 in which Indian side strived to get the data provision period enhanced to thrice a day "round the year" on both Brahmaputra and Sutlej Rivers, however the Chinese side expressed their inability to increase the frequency and duration of transmission of data.

#### Recommendation (Para No. 14)

Taking note of the fact that Central Water Commission (CWC) has been making continuous endeavour for automation of processes of data collection, forecast and dissemination of information of floods since Ninth Plan onwards, the Committee feel that still timely warnings do not reach people and there has been no decline in the number of casualties occurring due to sudden onset of floods. The Ministry in their reply have admitted that in areas which do not experience frequent floods or where the flood generation time is very less, the flood forecasting network of CWC is not considered, and therefore, no warnings are formulated by CWC in event of unprecedented floods in such areas, The Committee feel that the present flood forecasting infrastructure needs to be modernised and broadened to include the entire stretch off the country so that tangible improvements are visible even in non-flood-prone States. The Committee are also amazed to note that though CWC faces no bottlenecks in providing forecast to the local administration as well as uploading on the CWC website, still there is lack of coordination between the local administration and Central Water Commission in the matter of flood forecasting. The Committee therefore, strongly recommend. the Ministry to take steps so that the present flood forecasting infrastructure of

CWC is upgraded effectively to disseminate the news of Impending floods well in time so as to avert havoc caused by floods. The Committee further note that around 219 stations of existing flood forecast networks are yet to be modernized by the Government. The Committee therefore, strongly recommend that all stations are modernized with telemetry system. The Committee be also informed of the action taken in this regard.

### Reply of the Government

Out of the total 708 stations used to flood forecasting, automatic data acquisition and transmission systems have already been set up at 445 stations. The Ministry has proposed modernisation of remaining 219 existing stations and setting up 420 new stations equipped with state of the art data acquisition systems besides establishing three more Earth Receiving Stations and 6 new Modelling Centres. The XII Plan proposal on the Plan Scheme "Flood Forecasting" amounting to Rs. 281 crore has been cleared by the SFC in its meeting held on 4.8.2015 and the same is under the process of approval. CWC has already started preparatory works of preparation of tender documents including specification of specialised equipment.

Modernization/ up gradation of forecasting system includes automatic data collection & transmission, development of computer based models & dissemination of forecast using modern technology such as mobiles, web & media. In this regard, data collection through telemetry is already in place. Presently 445 sites have already been modernized with the telemetry system. Installations of telemetry system on other stations are planned during 12th Plan which will be taken up after the approval of Plan Scheme "Flood Forecasting". Station/ reach specific computer-based models' development is in progress. These models are being put in use after development. Using such models, the warning time has enhanced wherein observed rainfall from CWC network as well as IMD network & rainfall forecast of IMD are used as inputs in addition to the river water levels. Similarly for user friendly dissemination of forecast, CWC is putting its forecast on its website ([www.india-water.gov.in/ffs](http://www.india-water.gov.in/ffs)) for public viewing. The information is also shared with the local media for greater awareness. Based on CWC forecast, State administration is supposed to generate warning for the affected population.

## Comments of the Committee

(Please see Para No. 24 of Chapter-I of the Report)

### Recommendation (Para No. 18)

The Committee observe that pursuant to Hon'ble Supreme Court of India decision in "Deepak Kumar case" in April, 2012, regulations were framed by the Ministry of Mines to guide environmental clearance of minor minerals. However, The Committee are shocked to note from the reply of the Government that the Central Government does not maintain any information in this regard as all the powers of regulation of mines vest with State Government as per section 15 of the Mines and Minerals (Development and Regulation) Act, 1957. It was only the interference of the apex court that led the Ministry of Mines to take up the matter with the Ministry of Environment, Forests and Climate Change and that steps are now being taken to ensure environmental clearance of minor minerals even in areas less than 5 hectares. The Committee, therefore, desire the Ministry of Water Resources, River Development and Ganga Rejuvenation to work in close coordination with the Ministry of Mines and Environment, Forests and Climate Change to frame regulations/ guidelines in this regard expeditiously. The Committee would like to be apprised of the regulations/guidelines made in this regard within three months from the presentation of this Report.

### Reply of the Government

As informed by the Ministry of Environment, Forest & Climate Change, the draft "Sustainable Sand Mining Management Guidelines" have been prepared in Sept. 2015

In this Regard, Ministry of Mines has informed that & the best course of action would be for MoEF & CC to simplify the procedures in respect of obtaining EC for minor mineral projects. MoEF & CC can provide for a simpler procedure for grant of ECs for mining of minor minerals less than 5 ha by: (i) increasing the number of State Environmental Impact Assessment Authorities (SEIAAs) in each State; or (ii) by reviewing its stand by deciding to delegate powers of granting EC to authorities below the State level. As grant of Environment Clearance comes under the administrative jurisdiction of MoEF & CC, there is not much role for Ministry of Mines in this matter.

Further, the Ministry of Mines has informed that as far as the framing of regulations to guide environmental clearance of minor minerals is concerned, it is clarified that Ministry of Mines has not framed regulations to guide environmental clearance of minor minerals. Secondly, as per section 15 of the Act regulation of grant of mineral concessions only for minor minerals and purposes connected therewith are within the administrative and legislative jurisdiction of state governments; and regulation of mines for major minerals is not in the purview of state governments. Thirdly, in the Deepak Kumar case, the Supreme Court had ruled that leases of minor minerals for an area less than 5 hectares should be granted by the States/ Union Territories only after getting environmental clearance from the MoEF&CC; and thereafter in accordance with the apex court's ruling, steps were taken by MoEF&CC to ensure environmental clearance for minor minerals leases for an area less than 5 ha.

## CHAPTER – IV

### OBSERVATIONS / RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

#### Recommendation (Para No. 1)

The Committee observe that despite having more than 18% of world's population, India has only 4% of world's renewable water resources. The Committee also note that the variability of rainfall in space and time is high in the country. The monsoon season accounts for nearly three-fourth of annual rainfall leading to natural calamities in the form of floods, erosion in flood plains of the rivers, besides drought.

The Committee note that though the subject of flood control does not find a mention in any of the three legislative lists included in the Constitution of India, drainage and embankments are specified in entry 17 of list II (State List). The Committee also note that the subject of flood management falls within the purview of the States and the primary responsibility of management of water resources including floods, therefore, lies with the State Governments. Flood management schemes are planned, investigated and executed by the State Government concerned. The role of Union Government is technical, advisory, catalytic and promotional in nature. The Committee, however, feel that the role of the Union Government should extend beyond this as not all the flood-prone States are well-equipped to manage devastating floods with the limited resources they have in their possession. However, considering the limited role presently vested in the Union Government with regard to floods under the present constitutional set-up and the urgent necessity to take proactive steps to combat and control recurrent floods in the country, the Committee strongly recommend that the Central Government and State Governments should make necessary periodic reviews to facilitate enhanced role by the Union Government in flood related aspects so that better coordinated, pre-emptive measures are taken before there are indications of impending floods in their respective States. The Committee therefore, feel that mere hand holding by the Union Government is not suffice and the Government must play a pro-active role which according to Committee can effectively be done if the subject "Water" is brought under Concurrent List of the Constitution of India. The Committee would, therefore, like to reiterate their earlier recommendation to bring "Water" as a subject under Concurrent List of the Constitution of India, made in the Sixteenth Report of the Committee (2012-13) during

### Reply of the Government

As far as the matter relating to bringing water in the Concurrent list of the Constitution is concerned, it is stated that demands have been raised by the professionals and civil society to bring 'water' in Concurrent list primarily to ensure national perspective on water management and to avoid inter-State disputes and the tendencies of the State Governments to use more water (in excess of justified needs through efficient use) only to claim more apportionment of water in inter State rivers. However, these have been opposed by most of the States.

The matter was also examined by the two Commissions on Centre State Relations chaired by Justice R.S. Sarkaria (1983-88) and Justice M.M. Punchhi (2007-10). The proposal to bring 'water' in the Union/ Concurrent list did not find favour with either of these two Commissions.

Further, Constitutional amendment for bringing 'water' in Concurrent list, would need to be passed in both the Houses by a majority of the total membership of that House and by a majority of not less than two thirds of the Members of that House present and voting. This would also require ratification by the Legislatures of at least one-half of the States. Thus, there is need to have wider consultation with all stakeholders to bring broader consensus in the matter.

### Comments of the Committee

(Please see Para No. 6 of Chapter-I of the Report)

### Recommendation (Para No. 7)

The Committee further note with dismay that the vacancies in Brahmaputra Board have not been filled up, despite having pointed out by the Committee in its First Report of Sixteenth Lok Sabha (2014-15) on examination of Demand for Grants for the year 2014-15. The Committee feel that Brahmaputra Board which is required to play a vital role in the preparation of master plan for river basin, etc. can ill-afford vacancies in its board. The Committee, therefore, would like to reiterate its earlier recommendation and request the Ministry to take necessary steps in this regard expeditiously and apprise the Committee of



the action taken.

### Reply of the Government

The Ministry has filled up the post of Chairman of Brahmaputra Board and a proposal for setting up of North East Brahmaputra and Barak River Authority is under consultation with concerned States.

### Comments of the Committee

(Please see Para No. 12 of Chapter-I of the Report)

### Recommendation (Para No. 9)

The Committee note that the Government had issued a revised National Resettlement and Rehabilitation Policy, 2007, which among others include a provision that Social Impact Assessment (SIA) study is to be carried out in proposed affected areas wherein voluntary displacement is of 400 families in plain areas and 200 families in hilly areas or more or in blocks / areas mentioned in Schedule V or Schedule VI of the Constitution. It was further stipulated that while undertaking SIA, the appropriate Government shall consider the impact, the project will have on public and community properties, assets and infrastructure particularly roads, public transport, drinking water, drainage, sanitation, health care, places of worship, places of burial / cremation along with grazing land for cattle. The Committee recommend the Government to ensure that necessary effective steps to implement the provisions of the revised National Resettlement and Rehabilitation Policy, 2007 are taken by concerned project / State and Central authorities while executing water resources projects in the country, so that stake holders, i.e. farmers, landless labourers, tribals, depressed sections of the community etc., are not put to disadvantage. They also desire that the Ministry formulate a mandatory guideline within this year (2015) to enjoin that the concerned project / State and Central authorities while implementing the projects, duly pay compensation to the project-affected families (PAFs) which is adequate to enable them to adopt an alternative occupation in case of loss of agricultural lands and to settle in alternate lands in case of loss of houses/ dwellings. The Committee would like to be apprised of action taken by the Ministry in this regard.

The Committee further note that the XII Plan Working Group on Flood Management

and Regional Specific issues had recommended providing of Central assistance by the Ministry of Home Affairs to the States under State Disaster Response Fund (SDRF) and National Disaster Relief Fund (NDRF) to facilitate immediate relief in calamities of severe nature including floods. It was also recommended that a provision be made in the SDRF/ NDRF guidelines for assistance to States to meet expenditure on restoration of critical flood management structures. The Committee are pained to note that the aforesaid recommendation has not yet been implemented by the Ministry of Home Affairs and further no time schedule has been specified for the implementation of the same. Taking note of the dire necessity of tackling the recurrent devastations caused by floods year after year and to alleviate human miseries and also to reduce the ultimate colossal damage to sand, houses and public utilities, the Committee recommend that the Ministry, should in consultation with all the flood-prone States, chalk out a time-bound implementable programme of action in this regard.

#### Reply of the Government

Regarding R&R policy, Ministry of Environment, Forest and Climate Change (MoEF & CC) has informed that :

- (i) The National Resettlement & Rehabilitation (R&R) Policy is administered by the Department of Land Resources, Ministry of Rural Development. However, MoEF & CC looks into the issues of R&R and Social Impact Assessment (SIA) as part of the Environmental Impact Assessment (EIA).
- (ii) Although MoEF & CC intends to prepare Guidelines and Notification on River Regulation Zone (RRZ), the same are only at a draft stage.

Regarding relief during natural calamities, the Ministry of Home Affairs has informed that the Central Government had constituted State Disaster Response Fund (SDRF) in each State for meeting the expenses for providing immediate relief to the victims of notified natural disasters. In case of 'severe' disaster, the Central Government provides additional financial assistance to the State from National Disaster Response Fund (NDRF), provided there is no adequate balance in SDRF. The norms of SDRF/ NDRF are based on the recommendations of the successive Finance Commissions. The norms and guidelines of SDRF/NDRF permits only immediate repair works for damaged infrastructure. The medium and long term repair/ reconstruction work are not permitted under SDRF/NDRF.

The norms of SDRF/NDRF have been recently revised on 8th April, 2015. The norms permit following repair works under SDRF/NDRF:

- (i) Immediate repair of damaged canal structures and earthen/masonry works of tanks and small reservoirs with the use of cement, sand bags and stones.
- (ii) Repair of weak areas such as piping or rat holes in dam walls/ embankments.
- (iii) Removal of vegetative material/building material/ debris from canal and drainage system.
- (iv) Repair of embankments of minor, medium and major irrigation projects.
- (v) Any expenditure beyond the norms of SDRF/NDRF is required to be met from State's own resources. However, support of the Central Government may be sought under appropriate Central Plan or Centrally sponsored schemes.

Regarding R&R policy, the Ministry of Mines has informed that the policy requires the concerned State Governments to undertake a Social Impact Assessment (SIA) study of the projects which involve involuntary displacement of four hundred or more families en masse in plain areas, or two hundred or more families en-masse in tribal or hilly areas, DDP blocks or areas mentioned in the Schedule V or Schedule VI to the Constitution. The said Policy also contains details of the Resettlement and Rehabilitation plans to be undertaken for the project affected areas and families. Ministry of Mines has also clarified that it is for the concerned state governments to give effect to the provisions of the said Policy.

#### Comments of the Committee

(Please see Para No. 15 of Chapter-I of the Report)

#### Recommendation (Para No. 12)

The Committee note that the erstwhile Planning Commission had also recommended that as a policy, minimum flood cushion of 10 % of the live storage capacity

should be provided in all new dams and if affordable, with respect to other purposes, providing even a flood cushion upto 20% could be considered. A portion of the capital cost of the reservoir should be allocated to flood control and shared by all beneficiary States. To the utter dismay of the Committee, neither the policy in this regard has been formed by the Ministry in consultation with beneficiary States, nor any time schedule for this has been fixed. With development and population growth, habitations are coming very close to the downstream of reservoirs and operation of such reservoirs needs to be done carefully, The Committee, therefore, recommend the Ministry should initiate steps to formulate the policy and also pursue the matter with all the States to achieve better results in this regard. The Committee would like to see expeditious steps taken by the Ministry in this regard.

### Reply of the Government

National Water policy, 2012 (Para 10.5) stipulates that the operating procedures for reservoirs should be evolved and implemented in such a manner to have flood cushion and to reduce trapping of sediment during flood season. These procedures should be based on sound decision support system.

The XII Plan Working Group on Flood Management and Regional Specific Issues set up by the Planning Commission in 2011 recommended that the long term solution to problems of recurrent floods and droughts lies in construction of dams and reservoirs with adequate flood-cushion. Construction of dams and reservoirs with adequate flood cushion may be undertaken wherever feasible.

The policy needs wider consultation with project authorities. However, as an alternative, besides 28 reservoirs already under inflow forecast network, the Ministry has also proposed to include 64 more reservoirs under the Inflow Forecasting network of CWC in XII Plan, which would help the concerned project authorities in regulation of reservoirs more effectively and have flood moderation in these reservoirs.

### Comments of the Committee

(Please see Para No. 21 of Chapter-I of the Report)

### Recommendation (Para No. 15)

The Committee observe that inadequate drainage is one of the major causes of floods. The Committee are surprised to note that no corrective measures had been taken to facilitate drainage facilities and no separate allocation of funds under Flood Management Programme (FMP) has been made for works related to drainage measures. The Committee have been informed that the works for such measures are executed by concerned States and the physical and financial progress of works approved under FMP is monitored by Central Water Commission, Ganga Flood Control Commission and Brahmaputra Board.

The Committee while acknowledging the limits to further possibilities of constructing large storages and embankments, feel that floods can be tackled by placing greater emphasis on rehabilitation of traditional, natural drainage systems. The Committee, however, recommend that the overall supervision should vest with one single nodal authority, i.e. the Ministry of Water Resources, River development & Ganga Rejuvenation which should obtain regular feedbacks & inputs from the concerned units and should accordingly frame a policy in this regard. The Committee recommend that separate allocation for drainage works may be made under FMP. The Committee would like to be apprised of the action taken.

### Reply of the Government

In this regard, it is stated that in the light of recommendations of 14<sup>th</sup> Finance Commission and devolution of central taxes, the mechanisms of centrally sponsored schemes are under review in NITI Aayog / Finance Ministry. The allocations made under Flood Management Programme in the current financial year, 2015-16, are not sufficient to complete even approved and ongoing works. Thus, the States would need to allocate more funds from the available enhanced financial resources to complete the ongoing works.

However, the Ministry is working on the proposal to bring paradigm shift in supporting the States in undertaking critical measures of flood mitigation in an integrated manner addressing the issues of desilting of rivers wherever feasible, protection and construction of embankments using state of the art materials such as geo-textile, changes in funding pattern as per importance and criticality of flood management measures in tandem with appropriate non-structural measures like flood forecasting and flood plain zoning. If, the Government decides to continue FMP, the issue of providing separate outlay for drainage congestion removal works will be duly addressed in the modified proposal. Under "Flood

Management Programme", the works related to river drainage development are included.

#### Comments of the Committee

(Please see Para No. 27 of Chapter-I of the Report)

CHAPTER – V  
OBSERVATIONS / RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLY OF  
THE GOVERNMENT ARE STILL AWAITED

Recommendation (Para No. 11)

The Committee note that the erstwhile Planning Commission had specifically directed the Ministry of Water Resources, River Development & Ganga Rejuvenation to expedite setting up of River Basin Organisations by the States and Central Government in order to have integrated basin development including flood management in a holistic manner. The Ministry, to the dismay of the Committee, have yet to implement it. Moreover, no time schedule for this has been fixed. The Committee therefore, recommend that the Ministry should initiate measures to implement the recommendations expeditiously and apprise the Committee accordingly.

Reply of the Government

MoWR, RD & GR had proposed to establish two RBOs for river basins namely Mahanadi and Godavari during XI Plan under River Boards Act, 1956. As per River Board Act, 1956 the RBOs, are to be established in consultation with the interested States. Their establishment would depend upon consensus and co-operation of the Co-basin States. The Ministry has made efforts at various levels to get the concurrence/ comments of all the co-basin States of Mahanadi and Godavari basins for establishment of River Basin Organisations. However, all the co-basin States have not given consent for establishment of River Basin Organisation of Mahanadi and Godavari River Basins. MoWR, RD & GR has set up a Committee under the Chairmanship of Justice T.S. Doabia, former Judge, MP and J&K High Courts to study the activities for optimal development of a river basin and changes required in the existing River Boards Act, 1956 for the achievement of the same. The report of the Committee has been placed before National Forum of Minister of Water Resources/ Irrigation of the States and on the website MoWR, RD & GR. Report has also been circulated to all States / UTs and concerned Central Ministries.

Further, a major initiative has been taken by the Ministry for integrated water resources management in Brahmani - Baitarni river for :

- (d) Understanding water availability and the multiple demands for the basin's water resources.
- (e) Define objectives and measures for developing and protecting the water resources of the basin.
- (f) Scenario planning to improve integrated water resources management.

It is now proposed to take 12 more basins for:

- (iii) Building on the understanding of the water resource to develop evidence based approach to maximize social and economic outcomes and promoting sustainability of the ecosystems within the basin.
- (iv) Continued focus on capacity building to design, implement and evaluate water resources assessments for basin planning.

This exercise would be a pre-requisite for better understanding of the basin for setting up of the River Basin Authorities.

#### Comments of the Committee

(Please see Para No. 18 of Chapter-I of the Report)

#### Recommendation (Para No. 17)

The Committee note that many kinds of structures have been erected in the areas near sea banks upto the sea levels. The Ministry of Water Resources, River Development and Ganga Rejuvenation have taken initiatives for regulation of river zones for which a Committee was set up and a Report has since been submitted. The Committee therefore, would like to know the status of the implementation of the River Zone Regulation Report.

#### Reply of the Government

As informed by MoEF&CC, the guidelines regarding River Zone Regulation are at a draft stage.



## Comments of the Committee

(Please see Para No. 30 of Chapter-I of the Report)

## Recommendation (Para No. 19)

The Committee note that as per Mines and Minerals (Development and Regulation) Act, 1957, sand has been notified as a minor mineral. The Committee observe that a lot of damage had been caused to the environment by uncontrolled and unregulated mining of minor minerals. In this connection, the Committee were further informed that only twenty State Governments have framed rules under section 23C of Mines and Minerals (Development and Regulation) Act, 1957 to curb illegal mining, etc. of minor minerals viz. sand. Taking in view the vital role of agriculture in our economy, the Committee strongly recommend that the Ministry make efforts to induce the remaining States/UTs to frame relevant Rules under the said Act. They also further desire that the necessary mechanism for implementation of the rules so framed by these States/UTs be worked out by the Government within a year, and apprise the Committee accordingly.

## Reply of the Government

In this regard, Ministry of Mines has informed that the Ministry is in the process of issuing an advisory enjoining these states to frame rules u/s 23C.

## Comments of the Committee

(Please see Para No. 33 of Chapter-I of the Report)

NEW DELHI  
04 March, 2016  
14 Phalguna, 1937 (Saka)

HUKUM SINGH,  
Chairperson,  
Standing Committee on Water Resources

## ANNEXURE – I

### STATUS OF IMPLEMENTATION OF RECOMMENDATIONS OF XII PLAN WORKING GROUP ON FLOOD MANAGEMENT ISSUES

Para	Recommendation in Brief	St
7.0	The Planning Commission has prepared a draft Approach Paper for strategies and focused attention in preparing various components of the XII Plan ensuring development in the key areas in order to achieve the broad objectives, targets, associated challenges and implementation of policies by the Centre and the States. The sustainable management of natural resources including water has been given due emphasis inviting attention on maintenance of water bodies comprising of lakes, reservoirs and tanks so that these storages continue to give fruitful results for the requirements planned. The developmental plans of the country will not be able to achieve the objectives of an overall growth unless flood management sector is given due attention and priority. This is more so in view of the heavy flood damages caused by the floods in the past and the severe floods faced by many parts of the country recently in Bihar, UP, Assam, West Bengal, Orissa and Andhra Pradesh. Therefore, we need to plan our strategies to reduce the flood damages in the country in a best techno-economically viable manner and our efforts should also be oriented towards reduction of the agony brought by floods to the common man. In order to have effective programmes for addressing the problem of flood in the country, the following strategies are recommended to be effectively implemented during XII Plan.	General para
7.1	Integrated Basin Management Approach	
7.1.1	Integrated flood management calls for a paradigm shift from the traditional, fragmented and localized approach, and encourages the use of the resources of a river basin as a whole. Therefore, there is a need for an approach backed by latest technologies and implemented in a most effective manner.	MoWR, RD &GR h -2012 which lays ei approach.  Further, in the c management appr considering to prop River Rejuvenation  The Government of Australia had ann Partnership in 201

		<p>between the two co-ordinating officials of Central Government, it has been decided to have the Central Water Resources Management Board serve as a basis for IWMPs in Mahi, Narmada, Tapi and Purna. They have been selected for the purpose of having separate river conservation programmes and sub-programmes.</p> <p>Besides, the Ministry is also working on flood forecasting network using the latest technologies for better transmission.</p>
7.1.2	In order to have integrated basin development including flood management in a holistic manner, setting up of River Basin Organisations may be expedited by the States and the Central Government.	The issue is under consideration.
7.2	Construction of Dams and reservoirs with adequate Flood Cushion	
7.2.1	The long term solution to problems of recurrent floods and droughts lies in construction of dams and reservoirs with adequate flood-cushion and interlinking of water abundant and water scarce regions so that excess flood water is judiciously utilized and inherent agony of floods is turned to the benefit of people. However, due to geographical and political constraints, construction of large reservoirs in every region appears to be a tough task. There are other constraints that some reservoirs were initially constructed without any flood cushion but with the development and population growth, the inhabitations have come up very close to the downstream of these reservoirs and operation of such reservoirs needs to be done carefully. Under such situations, the use of latest knowledge based techniques of inflow forecasting could be employed. Also, an optimum combination of structural and non-structural measures may yield fruitful results.	<p>CWC presently issues flood forecasts. It has planned to interlink the Godavari network. The SFC has been set up and its modernisation is in progress. Under the modernisation, the data collection equipment, data analysis &amp; flood forecasting mathematical model are being proposed to develop Godavari basins with NRSC. This will help in flood forecasting giving better results.</p>
7.2.2	Construction of dams and reservoirs with adequate flood cushion may be undertaken wherever feasible. In the reservoirs initially constructed for power and other benefits and where flood cushion was not initially provided, inflow forecasting may be used for reservoir regulation to achieve flood moderation. The projects for interlinking of rivers for diversion of flood water to water scarce areas may be taken up in a time bound manner. Integrated reservoir operation	<p>The NWDA has undertaken the transfer of water from Godavari to Krishna.</p>

	should be adopted as a matter of rule and there should be a state of the art information system about releases from the reservoirs to enable timely operation of reservoirs located	This would have inc  The reservoirs unde have state of the art Project Authorities t an integrated mai downstream and als meet the non-mons
7.2.3	As a policy, a minimum flood cushion of 10% of the live storage capacity should be provided in all new dams and, if affordable with respect to other purposes, providing even a flood cushion upto 20% could be considered. A portion of the capital cost of the reservoir should be allocated to flood control and shared by all beneficiary States.	For new dams unde to keep minimum fc regard is yet to be fi
7.3	Emergency Action Plans and Operation Procedures	
7.3.1	Development of dam break models and preparation of Basin-wise Emergency Action Plans may be undertaken by the State Governments / Project Authorities.	CWC had prepared, Guidelines for prep; based on dam brea dams. Accordingly, prepared 327 nos o
7.3.2	Special emphasis may be given on formulation of operating procedures / manuals for operation of gates / structures in the water resources projects and the associated officers and staff be given specialized training to manage the distress situations in a professional manner.	Reservoir Operatio Authority and relat National Water Aca  The Ministry has a Improvement Prog reservoir operation dams in seven Sta Karnataka, Jharkha involves institutiona CWC.
7.4	Detention Basins – The States should identify suitable sites for creation of detention basins for their use to store flood water which would help in flood moderation besides availability of water during non-monsoon periods.	Action by States.
7.5	Operation and Maintenance – A separate budget for O&M of the existing flood management works (excluding salary) may be provided by the State Governments in their annual budget estimates in order to ensure that maintenance of the existing works is given due consideration.	This is being emp Governments under

	The O&M works may also be supported by Planning Commission in the State Plan budgetary requirements.	
7.6	Flood Forecasting and Warning	
7.6.1	The existing flood forecasting network of Central Water Commission is not sufficient to cover adequately the entire country. More flood information about the important cities is required to plan measures for safety of lives and property of people. Therefore, a concrete plan for extension of CWC's flood forecasting network may be drawn in consultation with the State Governments and IMD to cover A, B-1, B-2 and C-class Cities located near rivers under the network of automatic data collection, transmission and flood information dissemination.	The expansion of flood forecasting stations brought under CWC required, will be Government's constraints.
7.6.2	Presently, CWC provides inflow forecasts to 28 reservoirs / barrages in the country. It is recommended that the Inflow Forecast services may be extended to more dams to cover 80 to 90% of the live storage capacity.	
7.7	Flood Plain Zoning	
	MOWR/CWC had prepared a Model Bill on Flood Plain Zoning and circulated it to State Governments for enacting suitable legislature and enforcement. The State Governments have reported difficulties in enactment of necessary legislation and enforcement of laws in this regard due to constraints of evacuation of people who are already occupying the flood plains and their settlement elsewhere due to constraints of land. However, for orientation of plans for flood damage reduction, it is necessary to have the flood plain zones marked / demarcated by the concerned States in accordance with criteria suggested by CWC in the Model Flood Plain Zoning Bill and draw their zone specific strategies about the use of flood plains including schemes of incentives and dis-incentives about their use. The States should also bring out standard norms for types of buildings which can be constructed in different zones of flood plains considering that required waterway is available for passing the flood discharge.	The Ministry / CWC Zoning way back implementation. By Manipur, Rajasthan demarcation of flood plains has been taken up with invited about any change in the Bill for its effective implementation and Delhi have expressed support for the Bill in the current session. Action by Ministry of Agriculture.
7.8	Watershed Management - Watershed management in the hilly catchments of the rivers originating in Nepal, Bhutan and hilly areas of India should be selectively chosen and funded fully. Implementation should be done through a joint mechanism. Ministry of Agriculture, who is the nodal Ministry for the watershed management works should work out a detailed programme in consultation with the Ministry of Water Resources.	
7.9	Drainage Improvement - Drainage development aspects need to be given due importance, as there have been cases of flooding wherein the floodwater stayed for long periods due to drainage related problems. Special schemes may be formulated by States for improvement of drainage.	Such works related to drainage are covered under conventional works.
7.10	Need for proper Strengthening of Organisations for execution of works with conventional	

	approach	
7.10.1	Presently, the execution of flood management works is done by the Government agencies and expenditure on execution of works including their maintenance is borne by the Government as a social responsibility and the service is provided to the general public by the Government. However, for effectiveness of this approach the working of existing departments needs to be appropriately improved by strengthening the monitoring system with very rigid financial discipline, transparent procedures of tendering of execution of works and involvement of local administration and Grampanchayats. Proper infrastructural facilities including vehicles may be provided to the central and State organizations involved in flood management for more effectiveness of services being provided by them to the public.	Strengthening of respective States. consideration in the Shri Mihir Shah, fo been constituted.
7.10.2	Restructuring and Strengthening of existing organizations of State /Central Governments may be done in an appropriate and time bound manner to enable them in performing various activities of flood management in an effective manner. Also, there should not be any restriction on new recruitments required for undertaking flood management related field jobs.	
7.10.3	Specialized in-house and foreign training may be imparted to the officers/staff of Central/State Governments in all areas of flood management including hydrological data collection & its management, survey & investigation, planning & design, hydrological studies, preparation of techno-economically sound DPRs, flood forecasting, inundation forecasting, construction, equipment operation & maintenance, use of latest GIS based technologies in decision making, etc. The specific training programmes may be drawn by respective organisations and adequate funds for the purpose may be provided.	Being done by resp
7.10.4	Appropriate strengthening of NWA, Pune may be done for its functioning as centre of excellence for conducting domestic and international training programmes in flood management and NDMA's disaster risk reduction programmes.	In progress
7.11	Public-Private Partnership Concept	
7.11.1	In order to address the concerns about irregularities and transparency in execution of various projects, the Planning Commission has recently favoured adoption of the concept of Public Private Partnership (PPP) in operation of Infrastructure related projects. Under this concept the services to the general public are provided by the private agencies and the funds are arranged for implementation of projects through investments by private investors and revenue from the users as a commercial system. The responsibility for the services, however, remains with the Government. Such a system is already in practice in case of major highway projects where revenue generation is through toll plazas. Such a system ensures better financial discipline, transparency in award of works and maintenance of the services. However, efficiency, economy,	

	competition and transparency should be the touchstones for assessing the level of success when dealing with the private sector.	
7.11.2	In the flood sector, if the embankments are made roadworthy, there are great investment opportunities by private investors. Therefore, efforts should be made to make the embankments roadworthy and adopt PPP model for their construction and maintenance and collection of revenue / tax by the private agencies by setting up Toll Plazas	The State Govern projects are yet to a
7.12	Inventory of Works completed by State Governments - Presently, no consolidated records are being maintained by the State Governments about the flood management works completed by them. In order to have a holistic view on the works already completed and further measures required for reasonable flood management, the State Governments are required to maintain inventory of the flood management works completed by them. These details may be compiled river-wise and district-wise. The appraisal agencies may emphasize preparation of such inventories and no new schemes may be recommended by them unless the inventory registers of works already completed are produced and gaps identified by the State Governments in flood management measures.	Action by States.
7.13	Scientific Assessment of Flood Prone Area - The flood prone area forms the basis of any assessment of prioritizing the programmes of flood management. The flood prone areas assessed by RBA in 1980 were based on many assumptions due to inadequate data for carrying out a scientific and rational analysis. Making use of new technologies available today, it is desirable that a scientific assessment of the flood prone areas detailing at micro level using latest satellite imagery data and considering frequency of flooding, duration and depth of inundation etc., may be done. The NDMA may play a lead role in this regard with the help of NRSC, CWC, GFCC, Brahmaputra Board and representatives from flood prone States.	In July, 2012, the Mi for scientific assess The Committee has prone areas on th Committees have b in progress.
7.14	Embankments - Generally, the non-structural measures are conceived as short term measures but in absence of sufficient large storages which could ensure safety on long-term basis and apprehensions developed due to recent breaches in major embankments, the modern techniques like flood plain zoning, durable buildings in flood plains, flood forecasting, inundation forecasting and all remote sensing technology based tools need to be included a part of our long-term strategy of fighting against the menace of floods.	MoWR is already p zoning bill with Stat stilt type buildings ir to river and minimis 445 data collect modernisation of r network is proposec inundation models c satellite data in orde inundation forecast
7.14.1	The conventional flood management measures like construction of new embankments, raising &	

	strengthening of existing embankments, construction of spurs for deflecting flow directions to ensure safety to the embankments, for better and assured preparedness against floods may be adopted as per necessity. The State Governments are constructing embankments in order to stop spilling of water from the rivers. Some of the important embankments were constructed long back and these have a huge risk to the people and their properties in case of breach. Therefore, State Governments should identify and classify the embankments according to their vulnerability and should draw programmes for regular monitoring of the critical reaches of embankments by using mobile arrangements to clear blockages so that the waterway gets cleared and pressure on embankments is reduced. The state Governments should follow the embankment maintenance guidelines.	Action by States
7.14.2	There may be some embankments which were initially designed with a lower return period of flood for providing protection to save agricultural land but at present these embankments need to provide protection to townships and industrial areas as a result of development. Therefore, there is urgent need for revisiting the design procedures of such embankments making use of latest design technologies and new construction materials by the concerned State Governments.	
7.14.3	The State Governments should carry out plantation along the flood embankments for safety of embankments against erosion.	Being encouraged Programme
7.14.4	Identification of appropriate location for spilling sections/sluices in the flood embankment for the controlled flooding of the protected areas for restoring fertility, recharge of soil moisture and ground water. Drainage sluices are recommended to be made an integral part of embankments to prevent water-logging in the protected areas.	Being encouraged Programme
7.15	Flood Management Programme - During XI Plan, Government of India started a Flood Management Programme, a State Sector Scheme under Central Plan and as informed by the Ministry of Water Resources, central assistance is being provided under the scheme as per laid down guidelines. The Flood Management Programme may be continued during XII Plan also. However, the existing mechanisms and procedures of release of funds may be reviewed and simplified to remove the bottlenecks. Only those schemes which are very critical in nature from the angle of long-term protection against floods, costing above Rs. 100 crore and having Benefit Cost Ratio more than 2.0, may be considered for funding by Union Government under Flood Management Programme and other schemes / works may be taken up by the concerned State Governments through their State Plan allocation. However, works of special category States may be decided and funded on the basis of criticality. Planning Commission may consider allocating major portion of the Plan outlay for flood management directly to State Governments as per their requirements under Flood Control Sector and make balance allocation under State Sector in Central Plan for critical flood management works only.	<p>In October, 2013, the Flood Management Rs. 10,000 crore. The criteria are as under:</p> <p>(i) <u>Special Category Funding Pattern</u></p> <p>(a) Projects with completion before 30.06.2013</p> <p>(b) Projects with completion after 30.06.2013</p> <p>Eligibility Criteria: Projects of Rs. 100 crore and above</p> <p>(ii) <u>General Category</u></p>



		<p>Funding Patter</p> <p>(a) Projects w before 30.0</p> <p>(b) Projects w after 30.07</p> <p>Eligibility Crite Projects of Rs.</p>
7.16	Raised Platforms - A system of scientifically designed raised platforms, community housing with livestock units, health units where people can be accommodated during the four months of floods may be adopted. Flood shelters may be used as school, community centres during non flood time. MHA /NDMA may include sufficient provision for flood shelters under the National Flood Risk Mitigation Project or any other related programme.	Action by NDMA
7.17	Procedural Reforms - The Government may consider dispensing with the financial procedure of plan and non-plan, since at present meeting of expenditure on continuation and maintenance of assets created with plan funds becomes difficult with insufficient funds allocated under non-plan.	The revised procedi being followed. T Programme (FMP), Empowered Comm now approved by a headed by Secretar
7.18	International Dimensions	
7.18.1	Expedite steps for construction of large storage dams in Nepal and emphasis may be given on flood control besides other benefits of irrigation and hydropower generation. The outstanding bilateral issues regarding mutual acceptance on the DPR of Pancheshwar Multi Purpose Project may be resolved with Nepal at the earliest.	<p>A Pancheshwar De August, 2014 for Pancheshwar Mult acceptable DPR an</p> <p>Besides, the field im progress.</p>
7.18.2	Steps may be taken for installation of automatic data collection and its transmission through satellite-based communication systems for the stations in the territories of neighbouring countries on rivers which flow into India.	A comprehensive automatic data co satellite-based com Nepal, whose data i
7.18.3	Steps may be taken for providing hourly data by China to India on Brahmaputra and Sutlej so that the same could be utilized in the flood forecasting system of India for meaningful flood forecasting in the region.	During meetings of the matter was tak of Chinese stations proving hourly data

7.19	Application of New Technologies	
7.19.1	Digital Elevation Models (DEM) along major river systems including area falling in the flood affected zone in the range of 0.5 m to 1 m should be prepared for all river basins.	As Phase-I of the preparation of Digital Elevation Models of flood affected areas under the Plan Scheme " Flood Forecasting and the Project.
7.19.2	The State Governments may be encouraged to own the data using modern technology, get it fully digitized and put into application. The State Governments should develop capacity for undertaking such activities in order to tackle the flood problems.	After preparation of flood forecasting and sharing of local areas likely to be in
7.19.3	The NRSC has been undertaking the activities of preparation of flood hazard zonation maps, close contour information, river configuration & bank erosion studies, development of geo-spatial tools and flood mapping & flood damage assessment under the Plan Scheme " Disaster Management Support Programme" ; which may be expanded to include more river basins and NDMA may provide necessary support to NRSC in this regard.	Action by NDMA.  However, NRSC has been preparing Atlas for the States of UP and Odisha
7.19.4	The States should include in their State Plans the activities of data collection, technology up gradation, capacity building, preparation of digital elevation models, hazard zonation maps, inundation maps and modelling, installation of computers, VSAT systems for automatic receipt of online flood information from CWC.	Action by States
7.19.5	Basin-wise flood management models including ALTM technology based Digital Elevation Models, Inundation Forecast Models, Bathymetric Surveys and Cubature Study Models may be undertaken jointly by NRSC, CWC and concerned States.	CWC has planned where DEM is already proposed to be undertaken with availability of DEMs and ALTM technology in the States of UP, Bihar and Odisha undertaken under H
7.19.6	Development of Integrated mathematical models may be undertaken jointly by IMD and CWC for flood / runoff forecasting using weather parameters, rainfall observed and rainfall forecast.	The activity has been

## ANNEXURE – II

STATE-WISE WORKS APPROVED, WORKS COMPLETED AND FUNDS RELEASED UNDER FLOOD MANAGEMENT PROGRAMM  
(UP TO 30.09.2015)

Sl. No.	State	XI Plan			XII Plan			Total (XI + XII Plan)	
		Works Approved		Funds Released (XI Plan)	Works Approved		Funds Released (XII Plan)	Works Approved	
		Nos.	Estimated Cost		Nos.	Estimated Cost		Nos.	Estimated Cost
1	Arunachal Pradesh	21	107.33	81.69	0	0.00	16.83	21	
2	Assam	100	996.14	748.86	41	1386.97	17.76	141	
3	Bihar	43	1370.42	723.18	4	447.63	167.96	47	
4	Chhattisgarh	3	31.13	15.57	0	0.00	3.75	3	
5	Goa	2	22.73	9.98	0	0.00	2.00	2	
6	Gujarat	2	19.79	2.00	0	0.00	0.00	2	
7	Haryana	1	173.75	46.91	0	0.00	0.00	1	
8	Himachal Pradesh	3	225.32	165.98	4	1139.62	144.87	7	
9	Jammu & Kashmir	28	408.22	252.57	14	163.18	82.81	42	
10	Jharkhand	3	39.30	18.44	0	0.00	4.27	3	
11	Karnataka	3	59.46	23.80	0	0.00	0.00	3	
12	Kerala	4	279.74	63.68	0	0.00	55.22	4	
13	Manipur	22	109.34	66.34	0	0.00	24.36	22	
14	Meghalaya	0	0.00	3.81	0	0.00	0.00	0	
15	Mizoram	2	9.13	14.48	0	0.00	1.46	2	
16	Nagaland	11	49.35	28.96	3	37.38	28.53	14	
17	Orissa	67	169.00	101.12	1	62.32	0.00	68	
18	Puducherry	1	139.67	7.50	0	0.00	0.00	1	
19	Punjab	5	153.40	40.43	0	0.00	0.00	5	
20	Sikkim	28	104.92	83.69	17	261.40	2.43	45	
21	Tamilnadu	5	635.54	59.82	0	0.00	0.00	5	
22	Tripura	11	26.57	23.62	0	0.00	0.00	11	
23	Uttar Pradesh	26	667.57	290.69	3	382.27	97.72	29	
24	Uttarakhand	12	119.82	49.63	9	183.45	96.95	21	
25	West Bengal	17	1822.08	643.26	1	438.94	146.15	18	
	Total	420	7739.72	3566.00	97	4503.16	893.08	517	

## ANNEXURE – III

## STATEMENT SHOWING STATE-WISE FLOOD DAMAGE DURING 2013

Sl. No.	Name of State	Area affected in	Population affected in	Damage to Crops		Damage to Houses		Cattle lost	Human lives lost
		Mha	Million	Area mha	Value Rs Crore	Nos.	Value Rs Crore	Nos.	Nos.
1	2	3	4	5	6	7	8	9	10
1	ANDHRA PRADESH #	1.630	3.020	1.630	44.905	75304	2.244	2743	88
2	ARUNACHAL PRADESH*	0.310	0.310	0.310	8.245	986	12.851	75	52
3	ASSAM #	0.001	0.006	0.001	0.000	0	0.000	0	0
4	BIHAR #	0.600	6.900	0.600	105.720	156518	24.020	6548	218
5	CHATTISGARH \$	0.000	NR	0.000	NR	0	NR	0	NR
6	GOA #	NR	0	0	0	4	0.008	0	0
7	GUJARAT #	NR	0.177	0.000	7.750	407	0.144	274	186
8	HARYANA @	NR	NR	NR	NR	NR	NR	NR	NR
9	HIMACHAL PRADESH *	0.102	0.000	0.102	506.000	11243	200.000	24267	73
10	JAMMU & KASHMIR @	NR	NR	NR	NR	NR	NR	NR	NR
11	JHARKHAND \$	0.022	0.199	0.022	3.894	528	0.202	1	3
12	KARNATAKA #	0.228	0.000	0.228	1703.070	12310	9.997	368	124
13	KERALA *	0.011	2.839	0.011	138.800	26694	36.830	80059	198
14	MADHYA PRADESH @	NR	NR	NR	NR	NR	NR	NR	NR
15	MAHARASHTRA @	NR	NR	NR	NR	NR	NR	NR	NR
16	MANIPUR *	0.000	0.000	0.000	0.000	0	0.000	0	0
17	MEGHALAYA @	NR	NR	NR	NR	NR	NR	NR	NR
18	MIZORAM @	NR	NR	NR	NR	NR	NR	NR	NR
19	NAGALAND #	NR	0.075	0.000	1.720	982	29.890	2680	0
20	ODISHA #	0.046	0.390	0.046	0.000	5857	0.216	34	24
21	PUNJAB *	0.110	0.0087	0.110	136.460	36206	25.040	954	44
22	RAJASTHAN	0.040	0.229	0.040	22.300	13108	3.859	157	14
23	SIKKIM \$	NR	0.200	NR	NR	34	NR	106	16
24	TAMILNADU \$	NR	NR	NR	NR	1314	NR	258	92
25	TRIPURA *	0.002	0.021	0.002	2.163	3338	1.854	0	4
26	UTTAR PRADESH *	0.349	3.544	0.349	0.000	79600	0.000	550	380
27	UTTARAKHAND #	NR	0	0	0	4726	0	9470	580
28	WEST BENGAL *	0.182	3.112	0.182	533.950	233336	178.970	28311	41
29	A & N ISLAND @	NR	NR	NR	NR	NR	NR	NR	NR
30	CHANDIGARH *	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
31	D & N HAVELI *	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
32	DAMAN & DIU *	0.000	0.000	0.000	0.000	0	0.000	0	0
33	DELHI *	0.007	0.008	0.002	0.010	nil	nil	nil	nil

34	LAKSHADWEEP @	NR	NR	NR	NR	NR	NR	NR	NR
35	PUDUCHCHERRY @	NR	NR	NR	NR	NR	NR	NR	NR
	TOTAL	3.640	21.147	3.636	3214.987	662495	526.125	156855	2137

\* Complete information received from States

\$ Incomplete Information received

# Information collected from NDM website.

@ No information received from States.



34	LAKSHADWEEP	NR	NR	NR	NR	NR	NR	NR	NR	
35	PUDUCHCHERRY	NR	NR	NR	NR	NR	NR	NR	NR	
	TOTAL	6.837	10.699	4.670	1478.162	164127	452.001	14546	1301	

\* Complete information received from States

\$ Incomplete Information received

# Information collected from NDM website.

@ No information received from States

ANNEXURE – V

MINUTES OF THE FOURTH SITTING OF THE STANDING COMMITTEE ON WATER RESOURCES  
(2015-16) HELD ON MONDAY, 18 JANUARY 2016

The Committee sat from 1100 hours to 1315 hours in Main Committee Room, Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Hukum Singh – Chairperson

MEMBERS

LOK SABHA

2. Shri Devusinh Jesingbhai Chauhan
3. Dr. Sidhant Mohapatra
4. Shri Abhijit Mukherjee
5. Shri Rodmal Nagar
6. Shri Subhash Patel
7. Smt. Aparupa Poddar
8. Shri Vishnu Dayal Ram
9. Shri Lallu Singh
10. Shri Liladharbhai K. Vaghela

RAJYA SABHA

11. Shri Balwinder Singh Bhunder
12. Smt. Naznin Faruque
13. Shri Amar Shankar Sable
14. Prof. Mrinal Miri
15. Shri A.V. Swamy
16. Shri Lal Sinh Vadodia

SECRETARIAT

- |    |                     |   |                     |
|----|---------------------|---|---------------------|
| 1. | Shri Shiv Kumar     | - | Joint Secretary     |
| 2. | Smt. Rita Jailkhani | - | Director            |
| 3. | Shri Kushal Sarkar  | - | Additional Director |



2. The Chairperson welcomed the Members to the sitting of the Committee.

X X X X X X X X

10. Thereafter, the Committee took up for consideration the draft Report on Action Taken by the Government on the observations/recommendations contained in the Fourth Report on "Issues concerning Flood Management, Compensation and Status of Ownership of Submerged and Eroded Land in the Country including Compensation to Farmers for loss of their crops destroyed by Floods and Right to Disposal of the Sand left in the Fields of Farmers", and adopted the same without any modification.

The Committee then authorized the Chairperson to present the Report to both the Houses of Parliament.

The Committee then adjourned

ANNEXURE – VI  
[Vide Para 4 of the Introduction]

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE  
OBSERVATIONS/ RECOMMENDATIONS CONTAINED IN THE FOURTH REPORT  
(SIXTEENTH LOK SABHA) OF THE COMMITTEE

(i)	Total number of Observations/ Recommendations	22
(ii)	Observations/ Recommendations which have been accepted by the Government	
	Para Nos. 2, 3, 4, 5, 6, 10, 13, 16, 20, 21 and 22	
		Total : 11
		Percentage : 50%
(iii)	Observations/ Recommendations which the Committee do not desire to pursue in view of the Government's replies	
	Para Nos. 8, 14 and 18	
		Total : 03
		Percentage : 13.63 %
(iv)	Observations/ Recommendations in respect of which replies of the Government have not been accepted by the Committee	
	Para Nos. 1, 7, 9, 12 and 15	
		Total : 05
		Percentage : 22.72 %

- (v) Observations/ Recommendations in respect of which final reply of the Government are still awaited

Para Nos. 11, 17 and 19

Total : 03

Percentage : 13.63%