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**CHAPTER**



# 3

Chapter

## Execution of Flood Management Programme

### 3.1 Introduction

Critical flood control and river management works in the entire country are covered under the Flood Management Programme (FMP). These works include river management, flood control, anti-erosion, drainage development, anti-sea erosion, flood proofing works besides flood prone area development programme in critical regions. It also includes restoration of damaged flood control/management works.

FMP was sanctioned in November 2007 during the XI Plan. However, spill over works of on-going Central plan schemes of X Plan were also to be supported under this scheme during XI Plan and spill over works of XI Plan would be supported during XII Plan. During XII Plan Central assistance for projects of catchment area treatment was also to be provided. Guidelines for the scheme were formulated in December 2007 and revised subsequently in August 2009 for XI plan and in October 2013 for XII plan.

The concerned State Governments submit preliminary reports covering surveys and investigations, International/Inter-State aspect, hydrology, etc. to CWC, which conveys 'in-principle' consent to State Governments for preparation of Detailed Project Report (DPR). Project report after having secured all mandatory clearances from the specified Committees including State Technical Advisory Committee, State Flood Control Board, Forest Clearance, techno-economic viability acceptance of CWC/GFCC/Advisory Committee of MoWR, RD&GR (as applicable), erstwhile Planning Commission, etc. were to be considered and finalized for Central assistance under this scheme by an Empowered Committee (EC) headed by Secretary (Expenditure), Ministry of Finance (MoF) during XI FYP and by an Inter-Ministerial Committee (IMC) headed by the Secretary, MoWR, RD&GR during XII FYP.

Out of the sampled 206 projects in 17 State/UTs, 81 projects were completed as of March 2016. Audit findings relating to these projects are discussed in succeeding paragraphs.

### 3.2 Deficiencies in formulation of Project Proposal/Detailed Project Report

According to Section 4.1 of FMP Guidelines 2009, flood management works were to be taken up in an integrated manner covering entire river/tributary or a major segment of rivers/tributaries. Section 5.2 also states that the CWC/GFCC/BB would play an active role in the formulation stage of the proposals for flood management works by the State Governments.

As per the scheme guidelines, Preliminary Project Report (PPR) were to be prepared including general data of survey/investigation, geological investigation, anticipated benefits/expected outcomes of the project, actual time taken in preparation of PPR reports, date of submission of PPR to CWC and date on which PPR was accepted by CWC. Further, the scheme guidelines also provided that DPRs must contain meteorological and other data like soil survey, socio-economic bench mark survey, salinity and drainage and engineering surveys, land effected cases such as the area under submergence, total forest land effected, total private land effected, revenue land effected, etc. As per guidelines for Preparation of DPR of Irrigation and Multipurpose Projects 2010, the preliminary project proposal should contain general data of the hydrological and meteorological investigations, etc. collected by way of preliminary studies and survey made in advance.

Also the National Water Policy, 2012 underlined the need for factoring the input of climate change into all projects. The policy also envisages that planning and management of water resources structures such as dams, flood embankments, tidal embankments, etc. should incorporate coping strategies for possible climate change.

We found deficiencies in formulation of Project Proposal/DPR, as detailed State-wise in Table 3.1.

**Table 3.1: Deficiencies in Project Proposals/DPR**

State	Observations
1. Arunachal Pradesh	There was no integrated approach in identification of flood management works and selection of FMP projects based on different rivers/basins. Brahmaputra Board was also not involved during the formulation stage. The Water Resource Department stated that projects are shortlisted based on problem areas as identified by Divisional/district level offices.

<b>2. Assam</b>	<p>Though the scope of works was proposed at Divisional level, DPRs of each of the projects executed under FMP were not prepared. During discussion with Audit, the Divisional Officers stated (May-July 2016) that the detailed estimates were considered as DPR. The reply is not acceptable as DPRs containing records of Morphology study, Survey and Investigation, authority/technical Committee who selected the site, etc. were to be prepared.</p> <p>Further, one project (AS-105) out of the above works with an estimated cost of ₹ 14.94 crore was recommended for review (November 2009) by the 47<sup>th</sup> State TAC. However, the project was implemented without obtaining the final approval of TAC.</p>
<b>3. Himachal Pradesh</b>	<p>Of five selected projects, DPRs in respect of only two projects (HP-2 and HP-4) were based on mathematical model study including morphological studies. The remaining three projects (HP-1, HP-3 and HP-7) were taken up without any such study. Central Monitoring Agencies viz. CWC/GFCC also did not insist on preparation of DPRs on the basis of mathematical model studies/morphological studies.</p>
<b>4. Jammu &amp; Kashmir</b>	<p>PPRs were not prepared in the test checked Divisions. Further, the DPRs did not contain information as required under scheme guidelines. Dates of preparation of DPRs were also not recorded. As a result, time taken in preparation of DPR and its submission to SE/CE/TAC and actual time taken in finalization /approval of project could not be verified.</p>
<b>5. Jharkhand</b>	<p>Approval of the State Flood Control Board as stipulated under FMP guidelines was not obtained in respect of proposals for the projects (JHK-01, JHK-02 and JHK-03).</p>
<b>6. Kerala</b>	<p>No PPRs were prepared for the FMP projects, KEL-1, KEL-2, KEL-3 and KEL-4. This was justified on the ground that the DPRs were prepared in 2009 and 2010 based on the recommendations in the study report of M.S Swaminathan Research Foundation (MSSRF) for another project approved (July 2008) in principle by GoI. It was further stated that DPRs were prepared based on Hydrological survey, Meteorological data collection and engineering surveys including total station surveys and scientific study reports furnished by joint team of IIT, Chennai and Centre for Water Resources and Development Management (CWRDM), Kozhikode. The Water Resource Department also stated (June 2016) that the soil investigation of project KEL-2 was conducted by Kerala Engineering Research Institute, Peechi.</p> <p>We, however, found that the above said study was conducted for another project for which final reports were submitted to Government of Kerala in December 2011, after the DPRs for the projects KEL-1, KEL-2, KEL-3 and KEL-4 had already been prepared (2009/2010). Further, the study report on soil investigation was also submitted only in December 2012 after preparation of DPRs.</p> <p>As such, the methodology for preparation of DPRs could not be verified.</p>
<b>7. Uttar Pradesh</b>	<p>In 14 test checked projects, scientific assessment, morphological study and Digital Elevation Model (DEM) required for formulation of project proposals/DPR were not made. Documents pertaining to soil surveys, socio-economic benchmark survey, water logging, engineering surveys were not enclosed in DPR.</p>

<b>8. West Bengal</b>	<p><b>(a)</b> In four selected Projects (WB-3, WB-6, WB-11 and WB - 14), FMP works were not taken up in an integrated manner, covering entire stretch of the affected portion of the river. Rather, these four projects were taken up in a fragmented manner at different locations or stretches of the rivers. For instance, the project WB-6 was executed on two rivers in five different locations<sup>20</sup> and clubbed into one FMP scheme. Similarly, in Project WB-3, two different work sites were clubbed together in one FMP scheme.</p> <p><b>(b)</b> Out of nine selected FMP works, DPRs of only three projects<sup>21</sup> were prepared by Irrigation and Water Department (IW&amp;D). In other six projects only project booklets containing cost estimate of each item, analysis of rate, quantity calculation, etc. were prepared. The project booklets of these six projects did not contain any meteorological data, survey of soil, socio economic benchmark survey, water logging, salinity and drainage and engineering survey. It also did not contain population that would be benefitted by implementing these projects.</p> <p><b>(c)</b> Task Force constituted (June 2009) by GoI to assess the damage caused by cyclone Aila and to suggest remedial measures to prevent further breaches in embankments and consequent flooding of areas recommended for short term and long term measures to be implemented by Irrigation &amp; Waterways Department. DPR for the long term measures was to be prepared by February 2010. However, the Department did not prepare (March 2016) DPR of long term measure due to poor progress of short term measures (re-construction of embankments).</p>
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Thus, it can be observed that in the above eight States, there was no integrated approach in identification of flood management works and PPRs/DPRs were not prepared in accordance with the Scheme guidelines.

The Ministry stated (December 2016) that the integrated basin management approach is always emphasized. However, due to lack of resources with the States/UT and to take up the emergent works in critical areas, proposals are submitted by States/UT which are considered by MoWR, RD&GR.

The fact remained that there was no integrated approach in identification of flood management works and PPRs/DPRs were not prepared in accordance with the Scheme guidelines.

### 3.2.1 Delay in approval of DPRs for Anti-Erosion/Flood Protection work

As per CWC guidelines 2010 for appraisal of Irrigation and Multipurpose projects, the time prescribed for approval of DPRs by CWC/GFCC/BB is nine months after receipt of the project proposal.

Audit observed that there was considerable delay in approval of 39 projects by EC/IMC in eight out of the 17 selected States/UT. The State wise position is given in Table 3.2.

<sup>20</sup> Apalchand, Sidhabari-Chjangmari, Barnesh Domohani and Bakali over river Teesta and Basusuba over river Dharala.

<sup>21</sup> Aila Project, KKB drainage basin scheme and Kandi Master Plan.

**Table 3.2: Delay of projects by EC/IMC after approval of STAC**

State	Projects scrutinised	Projects delayed	Delay by EC/IMC after approval of STAC
1. Arunachal Pradesh	21	11	4 - 8 years
2. Assam	30	1	More than 7 years
3. Bihar	24	10	10 - 75 months
4. Himachal Pradesh	5	1	More than 4 years
5. Jammu & Kashmir	18	5	2 - 4 years
6. Puducherry	1	1	3 years
7. Punjab	5	1	13 years
8. Uttar Pradesh	29	9	17 - 47 months
<b>Total</b>	<b>133</b>	<b>39</b>	

It can be seen from the table that the delays occurred ranging between 10 months to 13 years in approval of DPRs by EC/IMC. The long delay poses a risk of change in the site situation and river morphology over the years due to which technical design as approved by various technical authorities may no longer be relevant at the time of actual funding.

Ministry stated (February 2017) that examination and recommendation of projects depends on timely compliance by the State Governments on the observations made by appraisal agencies. The fact remained that the delay in approval of DPRs affected commencement and completion of the projects.

### **3.2.2 Non-achievement of objectives due to inadequate planning and palliative measures**

In three projects implemented in Assam (two projects<sup>22</sup>) and West Bengal (one project<sup>23</sup>), we noticed that after completion of flood protection works and incurring expenditure of ₹ 16.72 crore, the area was inundated with floods, due to reasons such as protective measures not taken up to prevent back flow of the river, non-establishment of embankment near the sluice gate of the river and damage of newly constructed embankment, respectively.

As a result, the protection measures undertaken by the Departments were not sufficient to prevent damage from floods.

<sup>22</sup> AS-26 - Raising and strengthening of B/dyke from Janjimukh to Neamati including dowel along Mudoijan P.W.D. Road and anti-erosion works at Sagunpara area in district Jorhat, Assam (Expenditure: ₹ 7.35 crore) and AS-40: - Raising and strengthening of embankment on the right bank of river Longai in and around Patharkandi (Expenditure: ₹ 6.47 crore).

<sup>23</sup> Bank protection works along both banks of the river Bhagirathi at Sundarpur and Basantpur, Kazipara to Nabagram and Saharbarati to Uttarasan outfall in the district Murshidabad and at Sanyalchar in the district Nadia, West Bengal (Expenditure: ₹ 2.90 crore).

### 3.2.3 Expenditure without approval of revised DPR

The Haryana State Flood Control Board (HSFCB) approved the FMP project (Har-1) in January 2008. GoI approved (August 2009) the project for ₹ 173.75 crore, to be completed by March 2012. Before any major work under the project was executed, the floods of year 2010 changed the site conditions and HSFCB revised the proposal in December 2010 and March 2012. The scope of the work was substantially changed in revised DPR. Accordingly, the State Government submitted the revised DPR to GFCC, Patna in March 2012 approval of which was pending as of June 2016. Expenditure of ₹ 176.17 crore (including Central share of ₹ 46.91 crore) was incurred without approval of revised DPR.

### 3.2.4 Benefit Cost Ratio

The guidelines for preparation and appraisal of projects under FMP included the procedure for working out Benefit Cost Ratio (BCR) of the project proposed to be undertaken, which was one of the criteria employed in the appraisal of project proposals for financial viability. The BCR should be worked out on prescribed standard and annual loss supported by documents from the Revenue Department of the State. BCR is calculated as follows:

- i) Average annual damage computed on the basis of at least last 10 years' data.
- ii) Average annual damage anticipated after execution of the project.
- iii) Saving in annual damage (item (i) - item (ii)).
- iv) Annual cost of flood management component is (a) 12 *per cent* of allocated cost of dam, (b) 16 *per cent* of allocated cost of embankment, (c) 17 *per cent* of allocated cost for anti-erosion projects, (d) Total annual cost (a+b+c).
- v)  $BCR = \text{Item (iii)} / \text{Item (iv)}$ .

Out of 137 selected FMP projects in Assam, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Odisha, Pudducherry, Punjab, Sikkim, Tamil Nadu and Uttar Pradesh, appraisals of 55 FMP projects received in CWC were checked. We noticed deficiencies in the calculation of BCR, details of which are given in Table 3.3.

**Table 3.3: Deficiencies in calculation of Benefit Cost Ratio**

State/UT	Project	Comment
1. Assam	AS 87, AS-81, AS-104	Data of past damage was not available in the projects. The area likely to be eroded in 50 years was worked out on the basis of average annual erosion (calculated on actual erosion of four to 12 years). Thus, data on probable damage was taken into consideration instead of actual data on damage.



	AS-130	Figures of damages that occurred during last six years as per departmental records of concerned Revenue Circle were taken for calculation of BCR instead of last 10 years.
	AS-102	BCR was based on the value of the produce of the land which would be benefited on implementation of the scheme, instead of actual damage that occurred during the last 10 years.
	AS-90	BCR was based on the approximated value of crop, etc. flooded during one year, and the figures were not authenticated by Revenue authorities.
<b>2. Himachal Pradesh</b>	HP-3	Damages figures were not authenticated by Revenue authorities.
	HP-2	BCR was based on the value of the produce (90.6 <i>per cent</i> of total damages of ₹ 51.53 crore) expected after the completion of the project on account of Agricultural, Horticultural, Fisheries and Forestry produce per annum instead of actual damage that occurred during the last 10 years.
<b>3. Jammu &amp; Kashmir</b>	JK-2, JK-24 & JK-27	Data was taken for less than 10 years period. In JK-2, BCR was calculated on probable average annual benefits occurring after completion of the scheme, instead of actual damage that occurred during the last 10 years.
<b>4. Manipur</b>	MAN-1,2,7,8,10,11,12,13,15,18 and 19	BCR in respect of DPRs of 11 sampled projects was prepared without accounting of pre-project average annual damage for the last 10 years.
<b>5. Puducherry</b>	PD-1	Damages were calculated on the basis of value of land calculated on higher rate instead of approved rates.
<b>6. Punjab</b>	PB-3 and PB-4	Damages worked out on data of area affected by flood for one year instead of average annual damage for the last 10 years.
<b>7. Sikkim</b>	SIK-27	Instead of calculating average annual damage for the last 10 years the BCR was calculated based on the one year average actual loss plus one year average expected loss resulting in double impact of damages. The expected loss also included ₹ 360 crore as cost of Airport, which was incorrect.
<b>8. Uttar Pradesh</b>	UP-29	99 <i>per cent</i> of total damages taken for calculation of BCR were based on probable loss due to chance of breach in the bund which was being restored in this project.
<b>9. Uttarakhand</b>	Not available	Data in respect of population, houses, land affected and annual losses there against was based on departmental surveys alone and not substantiated by authentication from any other agency viz. concerned district administration/Agricultural Department.

Thus, it was observed that the BCR was not calculated as prescribed in the guidelines, due to which we could not derive an assurance on the correctness of the BCR employed as a basis for appraisal and subsequent approval of the projects.

The Ministry agreed (December 2016) to examine the cases mentioned in the report.

### 3.3 Delay in completion of projects

As per clause 4.9 of FMP Guidelines 2009, flood management works of critical nature are expected to be completed in a time bound manner, say in a maximum of two to three financial years. We found cases of delays in completion of projects in five States/UT. The State-wise details are given in Table 3.4.

**Table 3.4: State wise details of delay in completion of projects**

State	Projects test checked	Projects completed with delay	Period of delay
<b>Arunachal Pradesh</b>	21	10	1-3 years
<b>Assam</b>	30	22	3-33 months
<b>Jammu &amp; Kashmir</b>	20	11	1-4 years
<b>Odisha</b>	30	26	1-32 months
<b>West Bengal</b>	9	5	7 months- 5 years

Non-execution of the above FMP works in time affected the issues of preventing soil erosion of the river bank, stabilizing the slope, river training work that poses threat to the lives, properties and siltation in the river.

The Ministry stated (December 2016) that due to lesser budgetary allocation under FMP, States are not getting the required funds, which is leading to delays in completion.

The fact remained that there were huge delays in completion of FMP works which were expected to be completed in a time bound period of two to three years.

Project and State specific delays are highlighted in the subsequent paragraphs.

#### 3.3.1 Delay due to non-acquisition of land

Paragraph 4.6 of FMP guidelines 2009 envisages that at the time of submitting a new proposal, the State Governments should ensure acquisition of land required for the projects and should submit a certificate to this effect, failing which no funds would be released to the State Governments. Further, the land required for the projects were to be funded by the State Governments from its own resources.

EC in its 7<sup>th</sup> meeting (August 2011) reiterated the same and further stated that if any State Government was subsequently found to have provided a wrong

certificate regarding acquisition of land, the relevant project would be dropped and any release made adjusted appropriately.

We found that in seven States (Assam, Himachal Pradesh, Punjab, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal), land was not acquired before the start of work with the result that the projects were stalled, resulting in unfruitful expenditure of ₹ 59.88 crore in 13 projects in these States. A few interesting cases are discussed in Box 3.1.

### Box 3.1: Non-acquisition of land

<b>Assam</b>
Construction of three embankments for a total length of 30.235 km were approved under three projects (AS-88, AS-90 and AS-130) between August 2011 and December 2013 at a total estimated cost of ₹ 135.40 crore. The works were left midway with physical progress of 40 <i>per cent</i> to 80 <i>per cent</i> and total financial progress of ₹ 15.36 crore due to non-availability of required land. The embankments were only partially constructed and there were number of gaps in the embankments. As a result, the entire length was exposed to the threat of inundation. This was significant, as the areas where the projects were sanctioned had suffered from floods every year during 2012-16.
<b>Himachal Pradesh</b>
Under the project HP-1 (Paonta Sahib Division), the work of construction of three embankments (3.200 km) was awarded (November 2010) to a contractor at a cost of ₹ 2.79 crore, stipulated to be completed by June 2011. However, as of June 2016, the contractor completed the embankment of 1.930 km only with expenditure of ₹ 1.95 crore. The delay in execution of the work was attributed to land disputes. This indicated that the Division awarded the embankment work without ensuring encumbrance free land. The Department did not take action to settle the land dispute and the work remained incomplete for more than six years since sanction.
<b>Punjab</b>
The project PB-1 was approved by CWC in March 2006. In order to avoid devastation to the farming community and their life and property and use of Nallah from army point of view, canalization of Sakki/Kiran Nallah <sup>24</sup> , was proposed under the above project. Land acquisition was the major component of the project as land measuring 1,434.85 acre was required for straightening the alignment of the Nallah. Central assistance of ₹ 21.51 crore (October 2008) and State share of ₹ 7.17 crore (February 2009) were released for the project which was to be completed by March 2011. The Department started (October 2008) the project, however, the army stopped the work in June 2009. After obtaining NOC from the army, the work was resumed in January 2010. Thereafter, the project was delayed due to delay in release of funds by Finance Department and non-passing of bills by treasury. As a result, no land was acquired for the project even after lapse of more than seven years after approval of the project. Only 16 out of 36 proposed

<sup>24</sup> Having total length of 155.5 km (88 km in Gurdaspur district and 67.5 km in Amritsar district). It originates from Swalipur Kohlian near Dinanagar and outfalls in river Ravi near village Lodhi Gujjar in Amritsar district.

Village Reach (VR) bridges were completed and one bridge which was to provide connectivity to the people of villages Hardochhani and Balgan was lying in abandoned condition after incurring an expenditure of ₹ one crore. Some earth work in two bridges could not be executed due to non-acquisition of land. As a result, smooth passage of water beneath these two bridges constructed at a cost of ₹ 2.33 crore could not be ensured. The Executive Engineer, Drainage Division, Hoshiarpur, stated that (May 2016) the work was held up due to non-receipt of funds from the Government. The reply is not acceptable as the State Government should have ensured the acquisition of land required for the projects from their own resources.

#### **Tamil Nadu**

Creation of flood protection wall/embankment in the Adyar river near Nandambakkam bridge proposed (July 2008) to GoI under Centrally Sponsored, FMP was withdrawn by Chief Engineer, Water Resource Department (WRD) (March 2012), due to inability of WRD to acquire 0.69 hectare of land for the project, resulting in non-initiation of flood protection works and non-availing of GoI grant of ₹ 7.60 crore. This could have been one of the contributing factors for heavy inundation in Nandambakkam area of Chennai during 2015 floods.

#### **Uttar Pradesh**

Seven<sup>25</sup> out of 29 projects were approved by GoI at cost of ₹ 422.79 crore. The projects involved acquisition of land measuring 666.86 ha. Against this requirement, the Department could only acquire 361.50 ha (54 per cent) land with an expenditure of ₹ 44.62 crore. The Department was unable to acquire land ranging between 12 per cent to 86 per cent in these seven projects.

Further, in three projects (UP-1, UP-2 and UP-4), involving construction of 59.60 km earthen embankment on Ami (Gorakhpur) and Kunra (Siddharthnagar) rivers, only 23.20 km embankment was completed after incurring expenditure of ₹ 29.44 crore. As a result, there were gaps ranging from 60 to 1,000 m in these embankments, which were prone to damage due to rainfall and floods. Thus, construction of embankments without acquiring the requisite land resulted in unfruitful expenditure of ₹ 29.44 crore.

#### **Uttarakhand**

Construction of marginal bund on right bank of River Ganga from Bhogpur to Balawali in district Haridwar in a length of 20.500 Km (Project UK-1) was under the consideration of the State Irrigation Department since March 1988. The project was submitted (April 1989) to GFCC Patna for approval, but the same was revised on several occasions subsequently under the directions of GFCC. The project was approved (October 2005) by the erstwhile Planning Commission at an estimated cost of ₹ 11.92 crore with the remark that work be completed by the end of March 2007. Though the work was started in March 2006, the same could not be completed in time due to non-availability of land. The State Government approached GFCC (May 2009) to revise the cost of project on the ground of delay in inclusion of the project in X Five Year Plan (2002-2007). The project cost was revised by GoI at a cost of ₹ 20.69 crore and the work was completed by April 2014 after incurring expenditure of ₹ 20.69 crore.

<sup>25</sup> UP-01, UP-02, UP-03, UP-12, UP-25, UP-27 & UP-28

Thus, the project took 17 years before getting the approval of the concerned authorities. The State Government stated (December 2016) that it had to depend on GoI for funds and for various approvals. Fact remained that the project took more than 26 years to complete.

### West Bengal

As per DPR of WB-17, Baghai river, one of the main tributary of Kaliaghai was to be desilted from 0 km to 24 km by excavation of the river bed. We noticed that excavation from 11.5 km to 22.50 km of the river stretch was completed (May 2016) at a cost of ₹ 18.85 crore. However, work in the stretch 0 km to 11.5 km and 22.5 km to 24 km was not taken up due to delay in land acquisition. Due to gaps in the excavation of the river stretch, drainage of accumulated water in the entire stretch may be affected.

The Ministry agreed (December 2016) to examine the cases mentioned in the report.

### 3.3.2 Non recovery of compensation due to delay in completion of projects

As per clause 2 of the Conditions of Contract, the contractor who fails to complete the work within the stipulated date shall be liable to pay an amount of compensation equal to one *per cent* or such smaller amount as the Superintending Engineer may decide on the said estimated cost of the whole work for every day that the quantity of work remains incomplete. The entire amount of compensation to be paid shall not, however, exceed 10 *per cent* on the estimated cost of the work.

In 89 works of eight projects<sup>26</sup> in Manipur, the contractors failed to complete execution of the works within the stipulated period. Three works remained incomplete even after lapse of more than four years from the stipulated date of completion. As such, the defaulting contractors were liable for payment of compensation of ₹ 1.88 crore of which ₹ 1.55 crore was not recovered.

### 3.3.3 Incomplete projects

We noticed cases of projects remaining incomplete as detailed below:

**Himachal Pradesh:** The execution of FMP HP-4 having estimated cost of ₹ 922.48 crore was held up due to non-release of funds (Central share/State share) since November 2014 after incurring expenditure of ₹ 359.48 crore up to June 2016.

**Jharkhand:** The work under project JHK-3 was not found completed within the stipulated period of completion (March 2012). The contractor applied for extension of time up to March 2013 on the ground of public hindrances, land problem and delay of payments though these were not mentioned in Standard Bidding Document (SBD) for seeking extension of time. The application was forwarded (November 2013) to Water Resources Department (WRD) after expiry of 14 months from the receipt of application from the contractor in contravention

<sup>26</sup> MAN-1,2,7,8, 10, 11,12,13, 15,18,19

of prescribed period of 14 days. The Ganga Pump Nehar Division, Sahebganj finally granted (December 2013) extension of time after expiry of 38 days in contravention of prescribed period of 21 days. The work remained incomplete as of March 2016.

**Manipur:** Three works executed under the project (MAN-7) remained abandoned since April 2013 after incurring an expenditure of ₹ 2.54 crore.

**Sikkim:** Out of 28 projects sanctioned during 2007-12, four projects (14 per cent) were incomplete as of March 2016. During 2012-16, 17 projects were sanctioned but Gol had not released any funds as of March 2016. Water Resources and River Development Department (WRRDD) stated (November 2016) that these 17 projects could not be executed for want of State share due to revision of cost sharing ratio from 90:10 to 70:30.

The project (Sik-16) was awarded (September 2008) to the contractor for ₹ 5.31 crore with the completion date as April 2010. The contractor was paid (September 2009 to March 2016) ₹ 2.60 crore. The scheduled date of completion of work was subsequently extended upto February 2011 as per the request made by the contractor. However, till August 2013 the contractor had executed only half of the contract value of the work. The Department finally rescinded the work in September 2014 and decided (November 2014) to execute the residual work valuing ₹ 2.70 crore departmentally. Further, as per the report of spot inspection of work site by the site engineer and the public of the area, the quality of the works was also not found satisfactory due to which the Guide Wall and Drop Wall were washed off in the last four monsoon rains and required total reconstruction. The work remained incomplete as of November 2016 and expenditure of ₹ 2.60 crore was rendered infructuous. We observed that the Department did not take any action on the contractor for the loss sustained to the Government. WRRDD stated (November 2016) that the reason for abandonment of work by the contractor could not be ascertained.

**Uttar Pradesh:** Gol sanctioned ₹ 48.85 crore for projects UP-1 to UP-4 (2007-2008) in Uttar Pradesh on the basis of Schedule of Rates (SoR) of 2003-04. Due to formulation of projects on old rates, only 53.62 km against the required length of 127 km embankment was constructed after incurring expenditure of ₹ 41.95 crore. Consequently, project costs of UP-01, UP-02 and UP-03 were revised to ₹ 30.12 crore, ₹ 39.82 crore and ₹ 25.61 crore respectively (2009-10) and UP-04 revised to ₹ 42.12 crore (2010-11), due to increase in cost of material and labour. All the four revised projects were approved by TAC and Steering Committee of State Flood Control Board (SFCB), however, the approval of GFCC/MoWR, RD&GR was accorded only for UP-03 and UP-04 (March, 2012) for ₹ 25.61 crore and ₹ 27.76 crore respectively, whereas approval for UP-01 and 02 was pending as of March 2016. The progress of work of all four projects was stopped (March 2011)

for want of funds with the physical progress between 30 to 54 *per cent*. Thus, work executed after incurring expenditure of ₹ 41.95 crore was stalled and remained to be completed.

Further, in UP-4 project, with a view to protect 1,696 hectares of land, the project (UP-4) for construction of 15 km long earthen embankment on right bank of river Kunra in Siddharth Nagar, Uttar Pradesh was approved by GFCC in 2006-07 with sanctioned cost of ₹ 10.33 crore including Central assistance of ₹ 7.75 crore. The construction work included earthen embankment and 10 regulators. During scrutiny of records and joint physical verification (May 2016) it was found that only 8.119 km of earthen embankment was constructed. Further, regulators were not constructed. Instead several gaps of 50-60 m were left between earthen embankments for these regulators. No plantation work was carried out on the embankment though provisioned in the approved estimates. Due to incomplete construction of earthen embankment and non-construction of regulators, the objective of protection of 1,696 ha of land from flooding was not achieved rendering the expenditure of ₹ 10.33 crore incurred on the project as unfruitful.

### 3.4 Deficiencies in contract management

The project implementing authorities were required to follow the provisions of General Financial Rules, applicable State Financial Rules and CPWD Manual, etc. in the award and management of contracts for execution of works under the sanctioned projects. To observe transparency and maintain economy in contract management and award of work, Central Vigilance Commission also circulated various circulars and guidelines to the States. However, test check of records of FMP Projects revealed various irregularities in the contract management as discussed in succeeding paragraphs.

#### 3.4.1 Execution of work without call of tender

Test check of records relating to 18 projects in four States revealed that works amounting to ₹ 109.01 crore were awarded without call of tender. Details of execution of work without call of tender are given in Table 3.5.

**Table 3.5: Details of works without call of tender**

(₹ in crore)

State	Projects test checked	Estimated cost	Comments
1 Arunachal Pradesh	6 (ArP-2, ArP-4, ArP-5, ArP-6, ArP-10 and ArP-14)	58.49	Projects were executed by implementing agencies through work orders without call of tender.



State	Projects test checked	Estimated cost	Comments
2 Haryana	HAR-1 (seven works )	15.97	In three Divisions works were allotted against single tender received, without re-calling for tenders.
3 Jammu & Kashmir	8 (JK-2, JK-6, JK-7, JK-9, JK-13, JK-14, JK-17 & JK-36	9.45	Works were executed without calling of tender.
4 Uttar Pradesh	2 (UP-12 and UP-15), 53 agreements	10.99	The agreements on nomination basis were signed with private contractors without competitive bidding citing urgency. However, 19 out of 50 works were completed with a delay of seven to eight months. The Irrigation and Water Resources Department stated that the agreements were executed in anticipation of the sanction as the work was urgent. Reply is not acceptable as the laying/pitching work of boulders had started only as late as March after the monsoon season.
	UP-16	14.11	12,65,500 geo-bags <sup>27</sup> were procured at a cost of ₹ 14.11 crore through 14 supply orders (cost ranging between ₹ 40 lakh and ₹ 2.23 crore) from six firms on quotation basis instead of through competitive bidding by inviting tender.

Thus, the benefit of competitive price expected from the tendering process was lacking. Further, award of work without calling for tenders was also in violation of the General Financial Rules.

### 3.4.2 Award of contract in violation of codal provisions/instructions

As per Rule 129 (1) (vi) of the General Financial Rules, no works shall be commenced or liability incurred in connection with it until tenders are invited and processed in accordance with rules. Rules 252 and 253 of the Assam Financial Rules prescribe the following process for allotment of contract work: (1) Publishing of NIT; (2) Receipt of bid documents under sealed cover from interested contractor(s); (3) Opening of bid documents; (4) Selection of

<sup>27</sup> Geo-bag or Nonwoven Geotextile bag is a product that is made out of polyester, polypropylene or polyethylene and is used for the protection of hydraulic structures and riverbanks from severe erosion.



contractors through comparative statement of the bidders; (5) Signing tender agreement and (6) Issue of work order followed.

Further, MoWR, RD&GR suggested (August 2010) to the Government of Assam that works should not be unnecessarily split to engage a large number of contractors. Only reliable contractors should be engaged, so that quality and coordination between contractors could be achieved. It was also suggested that the practice of engaging a large number of contractors through small tenders should be done away with immediately.

We found cases of violation of codal provisions and instructions of Ministry in awards of contracts in Assam which are discussed in succeeding paragraphs.

- (i) Under the project AS-102, the Chirang WR Division issued 151 work orders to 86 contractors before entering into tender agreement with them. The Division accepted (July 2016) the fact and assured that codal provisions would be followed in future.
- (ii) Similarly, under AS-39, the Goalpara WR Division issued work orders (February-December 2009) to 219 contractors without following selection procedures. The work orders contained instructions to sign the tender agreement within three to 15 days which was in contravention of the Assam Financial Rules. Further, agreements were not executed in 67 cases even after allotment of work. The Division stated that the above system followed in the past was discontinued after introduction of e-tendering (December 2015) in the Department.
- (iii) Large numbers of contractors were involved in the projects, ranging from 27 (AS-77), 188 (AS-40) to 517 (AS-104) in a single FMP work. Involvement of such large numbers of contractors in execution of single project created hurdles in maintenance of accounts and monitoring of execution.
- (iv) The Sivasagar WR Division failed to maintain basic records like Register of Works, Contractors' Ledger, etc. The Division stated that such large numbers of contractors were involved in order to provide employment to registered contractors. The reply is not acceptable as the objective of FMP was to provide effective flood control measures and not to guarantee employment to registered contractors.

### **3.4.3 Splitting of Works**

Rule 130 of GFR provides that for purpose of approval and sanction, a group of works which forms one project, shall be considered as one work. The necessity for obtaining approval or sanction of higher authority to a project which consists of such a group of work should not be avoided because of the fact that the cost of

each particular work in the project was within the powers of such approval of a lower authority. This provision however shall not apply in case of works of similar nature which are independent of each other.

We observed from records relating to five projects in three States that works amounting to ₹ 27.81 crore were awarded after splitting of the work to cover the bid capacity of contractors which was in violation of GFR. This resulted in undue favour to the contractor and excess payment of ₹ 1.71 crore to contractors.

- a. **Bihar:** In project BR-51 in Bihar, NIT was invited for work of ₹ 7.32 crore, however the work was split to accommodate the capacity of one bidder and a portion amounting to ₹ 3.21 crore was awarded without re-tendering. Another NIT was subsequently invited for residual work under this project. Thus, award of work to an ineligible bidder resulted in extension of undue favour to contractor.
- b. **Himachal Pradesh:** The work of FMP HP-7 implemented by Paonta Sahib Division having approved cost of ₹ 14.37 crore was split into five jobs on the ground of executing the work speedily, achieving the targets and utilising funds. The Division stated (July 2016) that the work was split up for speedy execution of the work. The reply is not acceptable as the action was in contravention of the GFRs. Moreover, it was seen in audit that the completion of the project was delayed by 13 months and the project remained incomplete as of June 2016.

A comparison of item rates awarded to different contractors of five jobs also revealed variations, which resulted in excess payment of ₹ 1.71 crore to contractors because of higher items rates under their respective contracts.

- c. **Jammu & Kashmir:** As per Financial Rules of Jammu & Kashmir, the Chief Engineer, Superintending Engineer and Executive Engineer (EE) are delegated the powers to allot works costing up to ₹ 50 lakh, up to ₹ 20 lakh and up to ₹ 10 lakh respectively<sup>28</sup>. We noticed that the EE's labour works to the tune of ₹ 6.12 crore (advertised cost) were split in three projects (JK-2, JK-32 and JK-33) and work was awarded to 96 contractors valuing between ₹ 1.50 lakh and below ₹ 10 lakh each.

#### 3.4.4 Excess expenditure due to award of work to L-2

As per para 13.18.1 (f) of Haryana PWD Code, if the lowest agency (L-1) backs out, his earnest money shall be forfeited and the second lowest agency (L-2), third lowest agency (L-3) in order of sequence, may be called upon to bring his offer to the level as the originally first lowest agency. In the event of their refusal to do so, tenders shall be recalled.

<sup>28</sup> up to ₹ 4 crore, up to ₹ 2 crore and up to ₹ 40 lakh respectively (w.e.f January 2013)

In Haryana, tenders were invited for the work 'Strengthening of river embankment of River Yamuna' for an amount of ₹ 6.40 crore in HAR-1 project. As per comparative statement the rate of L-1 was ₹ 75.51 per cu m for earth work. Accordingly, the work was allotted to the firm in March 2012 for ₹ 5.11 crore. The firm, however, backed out and did not undertake the work. Subsequently, the work was awarded to L-2. We observed that the work was allotted to (L-2) on their quoted rate ₹ 84 per cu m instead of the rate quoted by L-1, which was in contravention of rules. The work was completed for ₹ 4.89 crore which resulted in excess expenditure of ₹ 49 lakh.

### 3.4.5 Award of works without collecting Performance Guarantee Bond

As per CPWD Manual, a successful tenderer shall deposit five *per cent* of the tendered amount as Performance Guarantee Bond (PGB) and the letter for the commencement of the work shall be issued to the contractor only after he submits the PGB.

We noticed from records relating to 15 projects in three States that PGB was either not obtained or not renewed, details of which are given in Table 3.6.

**Table 3.6: Details of contracts without Performance Guarantee Bond**

State	Project Code /No. of works	Amount of performance guarantee	Remarks
1 Manipur	334 works pertaining to 11 sampled Anti-erosion Flood Control Projects	₹ 2.83 crore	PGB was not obtained
2 Jharkhand	JHK-1	₹ 38 lakh ₹ 66 lakh	PGB not renewed after July 2012 and August 2013 respectively.
3 Tamil Nadu	Three projects	-	In respect of one project completed in March 2012, PGB was not obtained from the contractor. In two projects validity period of PGB was not extended beyond March 2013.

Non-collection/renewal of PGB was in contravention of the provision of CPWD manual.

### 3.5 Execution of contracts

As per rule 132 of GFR the broad procedure for execution of works includes preparation of detailed design and estimates; issue of administrative approval and expenditure sanction; no work to be executed before issue of administrative approval and expenditure sanction; issue of tenders as per rules; execution of

Contract Agreement or Award of work before the commencement of work; and final payment only on satisfactory completion of the work.

### 3.5.1 Deviations from the approved scope of work

(i) In two projects implemented by Arunachal Pradesh and one project implemented in Uttar Pradesh we observed that work actually executed was below the approved scope of work, as discussed below:

**Arunachal Pradesh:** While executing the work under project ArP-4 - Flood protection works on Pachin river from Naharlagun to Nirjuli, against a total provision of ₹ 6.03 crore for 2,053.00 m, length of only 1,531.33 m of the structure was constructed at a cost of ₹ 1.64 crore. Against the required volume of crated boulder of 16,424 cu m, only 4,975.91 cu m was constructed which was only 30.30 *per cent* of the approved scope of work. Similarly, under the project: ArP-5 - Anti-erosion works of Noa Dehing river to protect both bank of river in the downstream of Border Roads Task Force (BRTF) bridge, against the requirement of 10,136.9 cu m of wire netted boulder crates and 3,732.45 cu m of Boulder pitching at a cost of ₹ 3.63 crore, only 4,332.10 cu m and 1,598.91 cu m respectively was done at a cost of ₹ 16 lakh. Further, revetment was constructed only in and around the spurs though the original provision was for 835 m in length. Thus, there was curtailment of work to the extent of 58 *per cent*, and ₹ 3.47 crore was diverted to other components of the work.

**Uttar Pradesh:** The project UP-27: - Construction of marginal embankment upstream of Elgin Bridge along right bank of river Ghaghra in districts Barabanki was sanctioned by GoI (December 2013) for ₹ 170.08 crore. Earthwork of 62,67,380 cu m (₹ 89.39 crore) was provisioned in DPR but in the estimate, the same was reduced to 38,48,939 cu m (₹ 77.64 crore) without any justification. Since the corresponding length of embankment was not reduced, it may have impact on the safety level of embankment.

(ii) In one project in Arunachal Pradesh ArP-6 - Anti-erosion works of Noa Dehing river to protect Diyun Circle in Lohit river, we observed that a total of 95,954.58 cu m of earthwork with extra charge for additional lift costing ₹ 1.06 crore was executed though the same not provided in the DPR. As the above work was not directly related to Anti-Erosion works, the construction of revetment, embankment and boulder crates was compromised. Justification for taking up the work was not on record.

The Ministry stated (December 2016) that the monitoring teams of CWC/GFCC/BB generally examine and advise the project authorities on these issues during the field visits. The Ministry needs to strengthen the monitoring by these agencies and impress on the State Governments to undertake projects in accordance with the scheme guidelines.

### 3.5.2 Expenditure incurred without approval of the Competent Authority

In four projects implemented in Assam, Himachal Pradesh and Tamil Nadu, we noticed that expenditure was incurred on projects without approval of the Competent Authority. The details are discussed below:

**(i) Assam:** Under the Project AS-85 - Emergent measures for protection of Rohmorla area in Dibrugarh district, the erstwhile Planning Commission accorded (February 2010) investment clearance to the work at ₹ 59.91 crore. State Finance Department restricted the rates of items of the estimate and accorded (December 2010) concurrence at ₹ 52.35 crore based on which Water Resources Department (WRD) accorded Administrative Approval (AA) (December 2010) and Technical Sanction (TS) (February 2011). However, against the sanction, actual expenditure of ₹ 59.82 crore was incurred, resulting in unauthorized expenditure of ₹ 7.46 crore.

**(ii) Himachal Pradesh:** In two projects (HP-1 and HP-7), the contractor executed four jobs of embankment at a cost of ₹ 3.86 crore against the contracted amount of ₹ 3.57 crore during 2011-16. Payment of ₹ 29 lakh was made to contractors over and above the value of the contract without approval of Competent Authority.

**(iii) Tamil Nadu:** Under the Project TN-4, expenditure of ₹ 2.03 crore was incurred for removal of sand shoal under FMP which was not in order as the same was not included in the scope of work. The Department stated (November 2016) that the desilting work was executed out of the savings in the lump sum provision. However, approval of higher authority was not furnished to Audit.

### 3.5.3 Cost escalation in work

Under the project BR-32, Raising, strengthening and extension of existing embankments along Bhutahi Balan river, Madhubani district, Bihar the work of raising, strengthening of 53.08 km and extension of 1.72 km of embankment with brick soling on 53.08 km on existing embankment was approved by MoWR, RD&GR with an estimated cost of ₹ 37.14 crore. The work was awarded (January 2010) to single contractor under two agreements with agreement cost of ₹ 32.02 crore and scheduled date of completion by May 2010. The work of brick soling was not included in the scope of work of the agreements. The work was closed (March 2012) without completing the scope of the agreement. Subsequently, four agreements were executed (March 2012) for residual work and brick soling on 53.08 km on existing embankment with agreement value of ₹ 9.47 crore. Total expenditure on the project was ₹ 35.86 crore. Thus, due to

price escalation and non-inclusion of brick soling work in the original agreement resulted in extra expenditure of ₹ 1.82 crore.

#### **3.5.4 Idle inventory**

Under one project (HP-4) in Himachal Pradesh, the Irrigation and Public Health Department (IPH) procured G.I. wires for issue and use by contractors without assessing actual requirement. This resulted in idle inventory of wires valuing ₹ 25.40 crore, which remained unutilised.

#### **3.5.5 Execution of works at unidentified areas**

Irrigation and Flood Control Department, Manipur executed flood protection works under projects MAN-10 and MAN-13, (December 2008 – March 2010) with an expenditure of ₹ 2.90 crore on various sites namely Jirighat, Khutchoithup and Nongbrang. We, however, observed that these sites were not identified by the Department as flood prone areas. Execution of flood protection works at unidentified sites resulted in wasting of resources.

#### **3.5.6 Irregular expenditure**

We found cases of irregular expenditure in the projects shown below:

- (i) As per the CPWD manual, provision for contingency shall be kept in the estimated cost of the project. The contingencies can be utilized in connection with the execution of the project on activities such as engagement of watch and ward staff and jobworks like surveying, material testing, estimating, structural design, drawings, models and other field requirements, etc.

The GoI released (2008-09) ₹ 11.78 crore for 11 FMP projects in Manipur. However, against this, an amount of ₹ 9.38 crore only was released by the State Government after deducting ₹ 2.40 crore at source including ₹ 35 lakh as contingency charges (at the rate of three *per cent*). As contingency charges are to be utilised by the implementing agency in connection with the execution of the concerned work, deduction at source of the contingency charges by the Finance Department of the State was in violation of the norms.

- (ii) CPWD Manual 2007 provides that mobilisation advance limited to 10 *per cent* of tendered amount at 10 *per cent* simple interest per annum can be sanctioned in not less than two instalments against a bank guarantee for the full amount of the advance. We observed that mobilisation advance was not sanctioned as per the CPWD Manual as discussed below:

**Assam:** Under the project AS-88, interest free mobilization advance of 30 *per cent* of the contract price amounting to ₹ 6.55 crore was granted instead of the prescribed rate of 10 *per cent* of the contract price amounting to ₹ 2.19 crore (10 *per cent*). This resulted in loss of interest of ₹ 78 lakh.

**West Bengal:** The Irrigation and Waterways Department allowed interest free mobilisation advance of ₹ 76 crore in execution of the Aila Project (WB-16) which resulted in loss of interest to the tune of ₹ 15.06 crore.

- (iii) Under the Project TN-3 and TN-4, executed in Tamil Nadu, expenditure of ₹ 34.51 crore was incurred towards provision of jeep track/ inspection roads with Water Bound Macadam (WBM)/ Bitumen (BT) surface over the flood embankment which was ineligible under FMP. In the Exit Conference (November 2016), the Department clarified that the site was of a clay soil necessitating the same for carrying out inspection and maintenance. However, formal sanction to the same was not received.

### 3.5.7 Extension of work resulting in price adjustment

In Jharkhand, the projects (JHK-2 and JHK-3), were to be completed by June 2011 but a corrigendum was issued (September 2010) extending the period of completion of work from June 2011 to March 2012. However, no change/modification in the items of work were mentioned in the Bill of Quantity (BoQ). As a result, the contractor became eligible for the price adjustment of ₹ 2.23 crore (₹ 1.07 crore for JHK-02 and ₹ 1.16 crore for JHK-03) as per Standard Bidding Document (SBD). In addition, the State could not receive Central share of ₹ 2.81 crore from the sanctioned amount of ₹ 7.43 crore for want of approval of extension of completion schedule by the erstwhile Planning Commission, Gol.

### 3.5.8 Additional expenditure due to delay in completion of work

The project UP-12 to be executed in Uttar Pradesh was sanctioned for protection of 312.54 ha land from flood, under which construction of 2,850 m long embankment from Harishchandra Ghat to Udaya Ghat at right side of Ghaghra river in the district Faizabad was approved at a cost of ₹ 5.46 crore (2005-06) from the State budget. The work was entrusted to Uttar Pradesh Project Corporation Limited (UPPCL) and started in February 2007. Payment of ₹ 1.76 crore was made to UPPCL upto March 2008. UPPCL completed only earthen part of embankment and left the work (March 2008) due to change in alignment of embankment (from 0-2,850 metre to 3,900 metre) and increase in cost of material and labour. Consequently, a revised estimate of ₹ 9.42 crore including balance work was prepared which was approved (October 2009) at a cost of ₹ 8.77 crore under UP-12.

Meanwhile, 460 m of constructed earthen embankment was washed away in flood during 2008. In order to protect the earthen embankment, a new project of retired embankment was proposed at a cost of ₹ 12.90 crore which was sent (February 2009) to GFCC again for inclusion under FMP. GFCC accorded approval



of ₹ 11.30 crore (March 2009) under FMP Project UP-12 on which expenditure of ₹ 9.96 crore was incurred (March 2016).

Thus, delay in completion of work resulted in cost escalation.

### **3.5.9 Execution of sub-standard works**

Departmental inspection of nine works in Haryana (HAR-1) amounting to ₹ 41.12 crore for Tajewala complex pointed out a loss of ₹ 17.03 crore (August 2011) on account of substandard works. A committee of three members pointed out that ₹ 10.07 crore was recoverable from contractor. The Department charge-sheeted its 11 officers/officials, blacklisted five contractors for nine works and registered an FIR (May 2012) with Police for fake guarantees. The amount was not recovered as of June 2016. During the exit conference, the State Government intimated that inquiry officer had since been appointed (May 2015).

### **3.5.10 Non-recovery of royalty**

Royalty for minerals used in FMP works from allotted quarries of Industries Department was to be recovered at applicable rates in case where 'M' forms were not submitted by the contractors. Audit noticed that in four FMPs, royalty of ₹ 5.43 crore<sup>29</sup> was not recovered from the contractors who had not submitted 'M' forms along with their bills.

The EEs of the concerned divisions stated (May-July 2016) that action would be taken on merit basis and recovery of royalty will be made accordingly. The fact, however, remains that in spite of instructions of the Industries Department; the divisions had not effected recovery of royalty from the contractor's bills.

### **3.5.11 Excess Payments to contractors**

As per the conditions of tender/agreement in Kel-2, Regulation of flood water in Kayal Area, 4 Padasekharans and Mitigation of floods in Group 9, 5 Padasekharans in Kuttanad Region of Kerala, the tender premium<sup>30</sup> was not to be allowed on the cost of items allowed in the estimate data at market rate. The agreement schedules in all the three works under the above project were prepared (June 2010 to March 2012) after deducting the cost of market rate items before applying tender premium. But while making payments (September 2015), tender premium was allowed on the cost of market rate items also, resulting in excess payments to the tune of ₹ 24 lakh to the contractors.

The Kuttanadu Development Division, Mankombu accepted the observation and assured that the amount would be recovered from the contractors.

<sup>29</sup> HP-1: ₹ 1.64 crore, HP-2: ₹ 2.37 crore, HP-3: ₹ 0.22 crore and HP-7: ₹ 1.20 crore.

<sup>30</sup> Amount charged in excess (23.90 per cent) over estimated cost other than market rate items.



Further, in Tamil Nadu as per PWD Schedule of Rates (SoR), theoretical weight of one m<sup>3</sup> of stone without voids is 1.59 MT. However, while arriving at the rate for stones, the department erroneously adopted 2.65 MT per m<sup>3</sup> in projects TN-2 and TN-3. This resulted in additional avoidable expenditure of ₹ 2.38 crore. The Department (November 2016) confirmed the audit observation.

### 3.5.12 Delay in settlement of claims of contractor

Under the Project: Pud-1: - Flood Protection works in Yanam, Puducherry, against the total quantity of 39,614.40 sq m earth work was to be executed as per agreement. The earth work was to be followed up with providing of Water Bound Macadam grade I and II and Bituminous. The contractor carried out earth work (Bank Stabilization) of 28,181.67 sq m for a total value of ₹ 85 lakh. However, the balance work towards formation of road in the above reaches was not carried out by the contractor due to non-settlement of claims preferred by him for the work already done. In the meantime, earth work done in the above projects eroded in heavy rains and floods during the subsequent years. Consequently, expenditure of ₹ 85 lakh incurred in strengthening of road was rendered infructuous.

### 3.6 Maintenance and upkeep of the project

With regard to upkeep and maintenance of the existing FMP projects, the project authority was to draw programmes for maintenance of works after their completion for effective utilisation of investment on the project. For this purpose, a separate budget was to be provided. Further, as per Para 7.12 of the Report of Working Group on Flood Management and Region Specific issues for XII plan (October 2011), Gol, inventory register was required to be maintained by the Department to have a holistic view on the works already completed and further measure required for reasonable flood management.

We observed cases of deficiencies in maintenance and upkeep of the projects and inventory register as described in succeeding paragraphs.

**a. Assam:** No programme for upkeep and maintenance of the completed projects, with separate budget provision as envisaged in the FMP guidelines was framed.

Four Divisions of the Department did not maintain basic records to watch the assets created for the 22 FMP projects executed during 2007-16. The Department incurred expenditure of ₹ 221.40 crore (as of March 2016) on implementation of the projects. Since the records of assets were not maintained, the Department could not monitor the present state of the assets created and could not ascertain the details of the assets whose maintenance was required.

Moreover, there was no budget provision for maintenance of the FMP projects for the years from 2007-08 to 2015-16 and we noticed that the Department had not taken up maintenance work of any of the assets created under the 22 FMP projects.

**b. Jammu & Kashmir:** We found that no data of assets showing book value, year of completion was in existence in any of the test checked divisions. There was no provision of maintenance of assets in the projects after their completion and no separate funds were provided for maintenance of the eight projects completed since 2013-14 under FMP by the State Government.

**c. Sikkim:** No inventory register was maintained by the Department.

**d. Tamil Nadu:** Government of Tamil Nadu did not provide (since completion of the projects in March 2012 onwards) specific fund in the budget proposals for the maintenance of assets created under FMP at a total cost of ₹ 625.78 crore. Consequently, proper maintenance of such assets could not be ascertained in audit.

### 3.7 Rehabilitation of Natural Drainage Systems

As per clause 10.1 of the National Water Policy, 2012 greater emphasis should be placed on rehabilitation of natural drainage systems. The 21<sup>st</sup> Standing Committee on water resources reiterated this and recommended (February 2014) that the Ministry/CWC should, in consultation with all the basin States, chalk out a time-bound, implementable programme of action to identify those drainage systems viz. rivers/streams, canals, etc., which need immediate rehabilitation and adopt measures to be taken by the concerned agencies/authorities for their repair and restoration.

We observed that CWC did not take any action to identify drainage systems in consultation with the basin States. We also observed that in the 17 States selected for audit, none of the States except Tamil Nadu and Odisha prepared measures for rehabilitation for natural drainage systems.

CWC stated (April 2016) that GoI had approved FMP during XI and XII FYP, scope of which included drainage development as well as catchment area treatment and it was upto State Government to propose the scheme under FMP. Ministry further stated (February 2017) that GFCC had also carried out studies for assessment of the existing waterways under the road and rail bridges for the entire Ganga basin.

The reply is not tenable as Ministry/CWC in consultation with basin States was to chalk out a time-bound implementable programme to identify those drainage systems which need immediate rehabilitation.

### 3.8 Shortfall in convening of Technical Advisory Committee Meeting

In Tamil Nadu, based on CWC instructions, the State Government revived (January 1985) the Technical Advisory Committee (TAC) whose functions inter-alia included identification of flood prone areas and formulation of schemes to contain the flood and recommending to Government, devising measures to evict encroachment in vulnerable areas and safe guarding the flow ways and flood places, evolving a methodology for the flood warning system in the State. The Committee was to meet as and when necessary, but not less than once in six months.

However, the Committee met only on two occasions<sup>31</sup> during 2011-16. Despite availability of ₹ 315 crore under XII Plan (2012-17), the Committee neither identified flood prone areas nor formulated any schemes to contain floods. Further, the TAC failed to devise measures to evict encroachment in vulnerable areas and safe guarding the flow ways and flood places and for the flood warning system in the State.

### 3.9 Conclusion

Some of the flood management works were not taken up in an integrated manner covering entire river/tributary or a major segment of rivers/tributaries and the Preliminary Project Reports/Detailed Project Reports were not prepared in accordance with the scheme guidelines. There were huge delays in completion of FMP works due to delay in approval of DPRs by Empowered Committee/Inter-Ministerial Committee, leading to technical designs becoming irrelevant at the time of actual funding. Instances of incorrect calculation of Benefit Cost Ratios were noticed. There were delays in completion of FMP projects due to non-release/timely release of funds (Central share/State share) and due to non-acquisition of required land. Deficiencies in contract management viz. execution of work without call of tender, award of contract to large number of contractors, splitting of works etc. were noticed. Cases of irregular grant of mobilization advance, award of work without collecting Performance Guarantee Bond etc. were also noticed. There were cases of deviations from the approved scope of work, reduction in physical parameters, execution of work without authorisation of Competent Authority, execution of sub-standard work, delays due to non-settlement of claims. Central Water Commission did not identify any drainage system which needed immediate rehabilitation and adopt measures for its repair and restoration.

<sup>31</sup> 08 March 2013 and 30 October 2015.

### **3.10 Recommendations**

We recommend that

- i)** MoWR, RD&GR may approve the projects under FMP after ensuring that the projects are formulated in an integrated manner covering entire river/tributary or a major segment of rivers/tributaries.
- ii)** MoWR, RD&GR may approve the projects under FMP after ensuring that the Benefit Cost Ratio is worked out correctly as per guidelines in this regard.
- iii)** MoWR, RD&GR may advise the State Governments to make efforts for early completion of delayed projects and completion of new projects in stipulated time.
- iv)** MoWR, RD&GR may take adequate steps to release the funds after ensuring acquisition of required land.