



भारत सरकार
Government of India
केन्द्रीय जल आयोग
Central Water Commission
वांछ सुरक्षा प्रबोधन निदेशालय
Dam Safety Monitoring Directorate



No. 3/19/NCDS/DSM/ 38th Meeting / 2018 | 145-183

Date: 06 /03/2018

To

NCDS Members

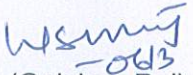
Sub: Minutes of 38th National Committee on Dam Safety (NCDS) Meeting.

Sir,

The 38th meeting of National Committee on Dam Safety (NCDS) was held on 22nd Jan, 2018 under the Chairmanship of Chairman, CWC. The Minutes of the meeting are enclosed for taking action on the decision taken during the meeting. It is requested that the action taken report on the minutes may please be submitted to this office at the earliest.

Yours faithfully,

Encl: as above


(Gulshan Raj)

Chief Engineer, DSO &
Member Secretary, NCDS

Copy for kind information to:

1. PPS to Chairman, CWC, New Delhi
2. PPS to Member (D&R), CWC, New Delhi.
3. Chief Engineer (HSO), (N&W) and (N&WS) CWC, New Delhi

Chief Engineer, DSO &
Member Secretary, NCDS



जल बंधन - जल संयम

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**Minutes of the 38th meeting of National Committee on Dam Safety (NCDS) held on
22nd January, 2018 at Thiruvananthapuram**

Thirty-eighth (38th) meeting of National Committee on Dam Safety (NCDS) was held on 22nd January 2018 at 10:00 hrs. in Thiruvananthapuram, under the Chairmanship of Shri S. Masood Husain, Chairman, Central Water Commission (CWC) and Chairman of the National Committee on Dam Safety (NCDS). List of Officers from various Central/ States and other organizations present in the meeting is given at **Annexure-I**.

Proceedings started with Shri Anil Kumar, Chief Engineer, Dam Safety Organisation (DSO), Kerala welcoming the Chairman, CWC & NCDS, Shri N.K. Mathur, Member, (D&R), CWC, Shri Sanjay Kundu, JS (RD&PP), MoWR, RD & GR, Govt. of India and other members of the committee and participants as the host of the event.

Chairman, NCDS welcomed all the members of the Committee and other participants who were present in the meeting and expressed his happiness on the overwhelming attendance of the members/ invitees which indicated their serious attention and keen interest in this important subject. The Chairman stressed upon the urgency of adopting dam safety and maintenance practices. He mentioned that pre & post monsoon inspections of dams, operation and maintenance, dam break analysis, Emergency Action Plan (EAPs/DMPs) were integral part of the dam safety program and hence all these activities should be given more priority by the concerned organisations.

Joint Secretary (RD&PP), MoWR, RD & GR while thanking all the participants for taking out time out of their busy schedule to attend the meeting, pointed out that India having 5254 completed large dams and 447 dams under construction is the 3rd largest inventory of dams after China and USA. The safety of these dams is to be ensured by well-defined protocols and NCDS could deliberate upon it. The awareness about dam safety procedures being followed and latest technological up gradation in this regard needs to be propagated by dam owners to manage the perception of the public.

Chief Engineer (DSO) & Member Secretary, NCDS, while welcoming all the participating members of NCDS, elaborated on the importance of such meetings. He further stated that as most of the dam owners were from State governments / PSUs, a unified dam safety

procedure may be followed to ensure safety of large dams. Member Secretary, NCDS thereafter took up the agenda items one by one.

38.1 Confirmation of the minutes of 37th meeting

Minutes of the 37th meeting of NCDS circulated vide letter No.3/19/NCDS/DSM/2016/37th meeting/2017/346-378 dated 10th April, 2017 to all the members of NCDS were confirmed by the members.

38.2 Pre & Post Monsoon inspection of Dams

Member Secretary, NCDS informed that pre & post monsoon inspection of each dam needed to be carried out by Dam authorities and consolidated report should be prepared by respective state DSO. The inspection report normally covers the observations of inspection team and suggested remedial measures.

Member Secretary, NCDS apprised the status of Pre and Post monsoon Inspection Reports/ Consolidated Health Status Reports received from States/ DSOs and it was observed that some States had not carried out the inspections and reports were not submitted. He further informed that most of the inspection reports submitted were not as per CWC guidelines as available on CWC website.

The Chairman enquired for the reasons for low progress from the members of the state of Gujarat, Jharkhand, Andhra Pradesh, Telangana, Chhattisgarh and Karnataka etc. and advised them to expedite the Pre and Post monsoon Inspections and submission of reports to DSO, CWC.

Tamil Nadu was congratulated for carrying out inspections and submitting reports for all large dams under their jurisdiction. All member states of NCDS were urged to carry out pre and post monsoon inspection of each large dam under their jurisdiction as per the standard checklist and submit the report to DSO, CWC regularly. It was pointed out that the annual consolidated health status report of some of the states have not been carried out categorizing the dams based on deficiency noticed i.e. Category-I, II and III.

Director, DSR briefed about the new inspection guidelines prepared under the DRIP program and requested all participating states to use it. It was mentioned that CWC was in the process of development of comprehensive dam safety portal DHARMA wherein modules on dam health have provision to fill these inspection reports online or upload pre-filled inspection reports as well as summary. It will also give information/decision parameters not only to Dam owners but also to State DSOs and DSO, CWC. **The states/DSOs/ Dam owning agencies were requested to obtain license ID & password from DSO, CWC and start using the platform.** Representatives of some States requested for training on the DHARMA tool, to which it was agreed that a training program at suitable locations may be conducted after receiving due requests from State Governments nominating 2/3 officers from each State. He categorically told that nominated officers should have the computer expertise who will actually work on the platform in future. Committee was further apprised that number of training programmes have already been organised for the purpose.

Member (D&R) suggested all member states to use at least two modules of DHARMA i.e. engineering features module and module on uploading inspection reports in DHARMA and give the feedback. He also said that the user friendliness of the software would be ensured with feedbacks from users.

(Action: All States/DSOs/ CWC)

38.3 Preparation of Emergency Action Plan (EAP) and Reservoir Operation

Member Secretary, NCDS briefed about the latest status of preparation of Emergency Action Plans (EAPs) for all the large dams by the States/ dam owners. He expressed concern over lackadaisical approach in preparation of EAPs as most of these do not include Dam Break Analysis and Inundation Mapping (DBA & IM). He listed out the States/ dam owners such as Chhattisgarh, DVC, Gujarat, Jharkhand, Kerala Irrigation, Kerala Electricity Board, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal and Meghalaya Power Generation who have prepared very few or no EAPs so far.

Director, NIH, Roorkee offered help in carrying out the Dam Break Analysis and Inundation Mapping and requested all States to approach them, if required. Director, Hydrology, CWC pointed out that Digital Elevation Models (DEM) are available on web from which river

cross sections can be developed for Dam Break Analysis using HEC-RAS 2D. He also proposed five day training at NWA, Pune on the same, if required.

Director, DSR informed that the latest guidelines for preparing EAPs are available on the CWC website as well as the dam safety website i.e. www.damsafety.in. The Model EAP of Hirakud dam is also available for registered users of the website- www.damsafety.in.

Chairman, NCDS desired timelines from the stakeholders for preparation of EAPs and directed CWC to pursue the issue with all concerned on regular basis. GERI –Gujarat promised to complete preparation of EAP of all large dams by March 2019.

Joint Secretary (RD&PP) MoWR, RD & GR informed the committee that dam safety issues are now discussed regularly in Parliament. Although, it is a State subject, the public representatives in Parliament i.e. Honourable MPs are also answerable to the public at large. Hence, Central Govt. is concerned about it. He advised all the stake holders to prepare EAPs of all large dams in the country so as to change the public perception about safety of dams.

(Action: All States/DSOs/ CWC)

38.4 Dam Safety Bill, 2017

It was mentioned that the Dam Safety Bill with nation-wide applicability was discussed in NIH, Roorkee on 18th Feb 2017 in presence of the then Secretary, MoWR, RD&GR. Dam Safety Bill is an important step which will establish an institutional framework for dam safety related issues throughout the country and shall define unified dam safety procedures.

The concerns of Tamil Nadu and Kerala Govt. on Dam Safety Bill as raised in the last meeting (37th) were reiterated by their representatives. Member (D&R) CWC and Vice Chairman NCDS mentioned that the same were on record and would be considered appropriately while taking decisions in this regard.

SJC (BM), MoWR, RD & GR briefed about the latest status of Dam safety Bill, 2017. He informed the Committee that the bill was under the active consideration of the Govt. of India.

38.5 Instrumentation of Dams

38.5.1 Strengthening of seismic instrumentation as per the decision of National Committee on Seismic Design Parameter (NCSDP)

Seismic instrumentation in the dams situated in seismic zone IV and Seismic Zone V is to be strengthened. States of Maharashtra, Karnataka, Himachal Pradesh, BBMB and NHPC have submitted the progress.

Member Secretary, NCDS introduced the issue and stated that the status of seismic instrumentation as reported by the member States was very sketchy and emphasised all member states of NCDS to carry out minimum seismic instrumentation to start with. Member, D&R, CWC and Vice Chairman of the Committee suggested that seismic instrumentation of the dam needed to be completed as per standard practices and guidelines. Director, DSR informed that revised guidelines of seismic instrumentation will be put on DRIP website damsafety.in very shortly. All NCDS member states were requested to take advantage of the guidelines and plan the instrumentation of dams under their jurisdiction accordingly. He further informed that those member states who desire to join DRIP-II may have to mandatorily include the instrumentation plan in their proposals.

Director, DSM, CWC suggested for indicating the timeline for installation of seismic instrumentation. It was agreed that within six months all the stakeholders would comply with the same. WRD Rajasthan informed that they had already mapped the dams in Zone III & IV and instrumentation of these dams has already been included in DRIP-II proposal. Representative of Bihar informed that seismic instrumentation of all dams in Bihar was under process. Uttarakhand representative requested Irrigation & WRD, Uttar Pradesh to install all the instruments in dams located in Uttarakhand and operated and maintained by Uttar Pradesh.

The Chairman, NCDS advised Govt. of Uttarakhand to officially take up the matter with Govt. of Uttar Pradesh and follow up. He further advised DSO, CWC to pursue the issue with State authorities on regular basis.

(Action: All States/DSOs/ CWC)

38.5.2 Strengthening of other instrumentations of large dams

It was mentioned that during earlier NCDS meetings all the States/DSO's were requested to submit separate detailed report on performance of existing instruments installed in the dam body and foundation including analysis of data with permissible limits of instruments in prescribed format to the Director, Instrumentation Directorate, CWC on yearly basis. The Chairman, NCDS, expressed his concern about non submission of instrumentation data to CWC. The State Governments/DSOs were advised to ensure proper functioning of instruments and make sure that at least the basic instruments, i.e. plumb line, V-notch & survey settlement point etc. are in working order. The instruments measuring the parameters pertaining to the serious maintenance issues / problems faced by the dams need to be installed in old dams e.g. extra survey points (for deformation), crack meters (cracks), Joint meter (differential settlement), instruments for measuring uplift pressure & pore pressure and plumb line etc.

(Action: All States/DSOs/ CWC)

38.6 Dams of national importance

Dams of height 100 metre and above or gross storage capacity of 1 billion cubic metres and above have been defined as dams of national importance. As per the NRLD, there are 59 completed large dams in the country classified as dams of national importance. The State Govts./ Project Authorities have pointed out issues of dam safety in respect of only following large dams of national importance:

38.6.1 Bhakra Dam (Punjab)

Member Secretary, NCDS briefed the Committee about the issues concerning the dam viz, excessive deflection of the dam body and requested the representative from the BBMB to explain the latest status. Chief Engineer BBMB informed that recently, a MoU had been signed between BBMB and M/s Dassault System for technical assistance in FEM analysis studies of this dam which are to be conducted in CWC. Committee requested BBMB to immediately provide the detailed engineering data to CWC required for setting up the FEM modelling of this dam. In addition, the data related to instrumentation provided by CWC are also under process in Design Directorates of BBMB. He informed that PMP studies of Bhakra Dam have already been

completed and are under progress for Pong and Pandoh. It was requested that PMP studies of Pong and Pandoh may be expedited with IMD New Delhi.

(Action: BBMB, IMD, CWC)

38.6.2 Srisailem Dam (Andhra Pradesh)

Member Secretary NCDS enquired about the status of design flood review of Srisailem dam to increase the spillway capacity. Chief Engineer, Andhra Pradesh informed that the design flood review had not yet been completed and the matter had been referred to a dam safety panel of experts (PoE) under chairmanship of Shri A.B. Pandya, former chairman of CWC. The PoE felt that flood diversion from fore shore of Srisailem Project via Pamulapadu to Kundu river (50000 to 100000 cusecs) is meagre as compared to available flood (about 2500000 cusecs) at the project. He further stated that plunge pool opposite to block nos. 6 & 8 was getting eroded every year. All the remedial measures suggested till date have been unable to arrest the erosion and need re-look for safe operation of dam. The Committee was further informed that the work of preparation of emergency action plan (EAP) and dam break analysis (DBA) along with inundation maps had been entrusted to NIH, Roorkee.

Chief Engineer, Andhra Pradesh further stated that the said diversion of water had inter-state implications for both Telangana and Andhra Pradesh, as far as sharing of water is concerned and thus this issue has been referred to Krishna River Management Board.

(Action: State of Andhra Pradesh,)

38.6.3 Sardar Sarovar Dam (Gujarat)

The representative from Sardar Sarovar Narmada Nigam Limited (SSNNL) included as special invitee, could not make it to the meeting. As proposed in the Agenda and the Sardar Sarovar Dam being a dam of national importance, the Committee agreed for inclusion of Sardar Sarovar Narmada Nigam Limited (SSNNL) in NCDS.

The representative of Punjab requested to include Ranjit Sagar Dam also in this category so that the same could get expert opinion about the problems being faced in the dam.

The Committee agreed to include both Sardar Sarovar and Ranjit Sagar dams under the category of Dams of National Importance.

38.7 Other Dams

38.7.1 Gararda Dam (Rajasthan)

Representative of State Govt. of Rajasthan informed that works of rehabilitation of the Dam were under progress based on the drawings issued by CWC. The Rehabilitation works will be completed by February, 2020. Chief Engineer Design (E&NE), CWC, suggested third party quality control and evaluation of the work. The Committee advised State Govt. representatives to establish some third party evaluation mechanism for quality control.

Chairman CWC & NCDS observed that a team from CWC may visit the dam for regular inspection and also advised WRD, Rajasthan to submit the status report of the ongoing works.

(Action: State of Rajasthan, Chief Engineer (NW&S), CWC)

38.7.2 Temghar Dam (Maharashtra)

Representative from Maharashtra informed the NCDS that rehabilitation works had been started from February 2017 as per the recommendation of the Committee of experts. He informed the committee that 15% of grouting work had already been completed and 20% leakage was reduced. Chairman NCDS advised that a brief report on rehabilitation work progress needs to be submitted to CWC.

(Action: Chief Engineer (NW&S), CWC, State of Maharashtra)

38.7.3 Maudha Dam (Uttar Pradesh)

Director DSR, CWC briefed about the issue of huge leakages in Maudha Dam and informed the Committee that comprehensive report had already been submitted to Irrigation & WR Deptt., Uttar Pradesh. Director Dam Safety, Uttar Pradesh requested the Chairman to include Maudha dam in DRIP-II. Chairman observed that the rehabilitation works can't wait till the start of DRIP-II and advised the representative of UP to take up the rehabilitation works immediately.

Director, (Dam Safety), Uttar Pradesh informed that though the diagnosis was complete it required specialized work for rehabilitation of the dam and the State Govt. did not have

sufficient fund for the same. Chairman, NCDS said that the issue of funding may be taken up with State Govt.

(Action: State of Uttar Pradesh)

38.7.4 Durgawati Dam (Bihar)

Director, Dam Safety, Bihar informed the Committee that the seepage from the dam was in stable condition since last 4 years. He mentioned that the design FRL of the dam is 128.60 m and presently the storage is restricted at 121.0 m. The work to restore the dam to design section and reconstruction of damaged toe drain is 90% complete and rest is under progress. He further stated that the works of placement of one row of curtain grouting from top of the dam had been postponed due to fund constraints.

Chairman, NCDS advised that a team from CWC may visit the dam and submit their report. Meanwhile the State may submit the latest report on the status of works carried out so far.

(Action: State of Bihar/ CWC)

38.8 Comprehensive Dam Safety Review Panel (DSRP)

Member Secretary, NCDS mentioned that as per Dam Safety Procedures, the States/DSOs shall arrange comprehensive safety review of dams which are more than 15 metres in height or which store 50000 acre feet (60Mm^3) or more of water by an independent panel of experts once in 10 years. He informed that some of the States have not even constituted independent panel of experts i.e. DSRP.

Chairman, NCDS enquired about the States which had not constituted DSRP, and the reasons for the same. It was observed that States/Agencies viz. Gujarat, Jharkhand, Uttar Pradesh, Uttarakhand, West Bengal and MePGCL have not yet constituted DSRP. He instructed Director, DSM, CWC that a DO letters from Chairman CWC & NCDS be sent to all States who had not created DSRPs.

The State Govts./ Agencies were requested to submit not only the numbers of dams for which DSRP is completed but also the name of dams.

(Action: All States/DSOs/CWC)

38.9 National Register of Large Dams - Updation as per new formats

Though till date, the NRLD was being updated by DSM Directorate, CWC as per information provided by State Govts. in a paper based format but now the Dam Safety Rehabilitation Directorate of CWC has developed a web-based portal named Dam Health And Rehabilitation Monitoring Application (DHARMA) in which the data related to NRLD can be filled and updated online.

For updation of data on DHARMA online, member States were requested to take licence for DHARMA. The proforma for DHARMA licence had already been emailed to members. Member States, who had not submitted duly filled proforma, were requested to submit the same as earliest as possible to obtain Login ID and Password.

(Action: All States/DSOs)

38.10 Dam Rehabilitation and Improvement Project (DRIP)

Director (DSR), CWC briefed the committee about the on-going Dam Rehabilitation and Improvement Project (DRIP), with financial assistance from World Bank. The project covers 225 dam projects (5% of the dams in country) in seven States.

Joint Secretary (RD&PP), MoWR, RD&GR informed that Govt. of India was contemplating one more project on similar lines with DRIP, but on an enhanced scale, covering more number of States and dams. The project (DRIP-II) will be formed based on the response and requirement of the States. State Governments were requested to avail this opportunity to develop the capacity and expertise in dam safety.

(Action: All States/DSOs)

38.11 Records of Dam Failures and Major Dam Incidents and their Technical Reports

The State Govts./ DSOs/ Dam Authorities were requested to provide the detailed technical reports of each dam failure as listed in the **Annexure-II**. The Chairman, NCDS emphasized that these reports were valuable source of information for learning and future reference. He desired that the States should be more open and forthcoming about the sharing of details/reasons for such failures.

Representative from Telangana pointed out that, at serial no. 26 and 34 of the list of dam failures at Annexure-XIII of agenda, the name of the State should be corrected as Telangana in place of Andhara Pradesh.

(Action: All States/DSOs)

38.12 Upkeep and archival of records - Data Book and O&M Manual etc.

Member Secretary, NCDS, apprised the Committee that there was a very poor response with regard to the preparation of O&M Manuals by the States. Chairman, CWC & NCDS expressed his concern on the lack of preparation of Operation & Maintenance (O&M) manuals for all the large dams. He mentioned that though it was huge task but needed to be done at the earliest. He advised the members to go through in systematic manner and prepare O&M Manual of each large dam as per the latest guidelines. Director (DSR), CWC informed that the new guidelines for preparation of O&M manuals were available on website www.damsafety.in

Chairman, NCDS said that a sample O&M manual such as of BBMB/ NHPC need to be circulated to members to facilitate preparation of the documents for the Dams under their jurisdiction. He requested all State Government/DSOs to expedite preparation of data books and O&M manuals for all the large dams and submit the updated status to NCDS Secretariat in the format as available at (http://www.cwc.gov.in/Dam_safety.html).

(Action: DSO (CWC), All States/DSOs)

38.13 Setting up Hydrology units and Design Floods Review

Member (D&R), CWC explained the importance of design flood review of the large dams and stated that it has to be the beginning step for any dam safety review. He proposed requisite training to concerned organizations for the same.

Chairman, NCDS observed that it was important to setup the Hydrology Units in the States and prioritize the dams for design flood review. He said that a column needed to be inserted in the relevant Annexure of the agenda to know the status for setting up Hydrological Unit in the State. A tab in DHARMA may be created for knowing the hydrological review status of Dam. He advised the States having large number of dams to set up more than one Hydrological Unit headed by a Director/Superintending Engineer. States were further advised to prioritise the

dams for revising the Hydrology. He requested the members to regularly inform the status of flood reviews to Director, DSM CWC.

(Action: DSO, CWC, All States/DSOs)

38.14 Monitoring of safety aspects of inter-State Dams by Sub-Committees

(a) Mahanadi River System Sub-Committee (MRSS)

Engineer-in-Chief Odisha informed that the 9th meeting of the Sub-committee to monitor safety aspects of interstate dams in Mahanadi Basin was held on 22.05.2017. Rule curves for reservoir, EAP and DBA for 2 dams and health status reports of projects of Hirakud reservoir were shared with member States. They were advised to prepare Standard Operating Procedure (SOP) for major and medium projects in the basin. Odisha has requested Chattisgarh to share EAP for Ravishankar and Bango dam. Odisha also requested Chattisgarh to share flood release and rain fall data in the basin. It was agreed to carry out Catchment area Treatment (CAT) mutually by the Soil Conservation Departments of both states.

(Action: Chief Engineer, Dam safety, Odisha (Member Secretary & Convenor), MRSS, Chief Engineer, Mahanadi Project, Chhattisgarh (Member), Chief Engineer & Basin Manager, Upper Mahanadi Basin, Odisha (Member) and Chief Engineer, Minimata Bango Project, Chhattisgarh (Member))

(b) Subarnarekha River System Sub-Committee (SRSS)

The Committee was informed that 7th meeting of the Sub-committee was held on 28th Jan., 2016 at Jamshedpur. Health status of dams in the basin was shared by Odisha State. The representative of State of Jharkhand was requested to share the flood release data of Chandil dam. It was decided to prepare a digital map of the basin. Engineer-in-Chief, Odisha informed that another meeting was planned to discuss and sort out the issues. However, no further information was shared by the State representative during 38th meeting of NCDS.

(Action: Chief Engineer, Design & Research, Odisha (Member Secretary & Convenor), SRSS, Chief Engineer Design & Research, West Bengal (Member), Chief Engineer, Design, Master Planning & Hydrology, Jharkhand (Member))

(c) Parambikulam Aliyar Project (PAP) System

Representative of Kerala requested the Committee to revive the PAPS Sub-committee for inspection of all PAPS dams. C.E. (DSO), CWC mentioned that since no headway was made on this issue earlier, it was dropped from the agenda from the 36th NCDS meeting onwards. Representative from Tamil Nadu again reiterated that they did not want the Sub-committee to continue. Joint Secretary (RD&PP), MoWR, RD&GR countered the view of Tamil Nadu and advised that Tamil Nadu Government should have a uniform stand on the issue of dam safety as the case of Mullaperiyar dam and PAP projects and should be dealt in similar way. Representative of Tamil Nadu stated that he would convey the issue to their State Government and inform the decision to the NCDS.

(Action: States of Kerala & Tamil Nadu)

At the end, the members appreciated the efforts of Kerala WRD and KSEB Ltd for making all arrangements for organizing the meeting. The meeting ended with a vote of thanks to the Chair.

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Reported failure of dams in India (Year wise)
(As per information furnished by States/DSOs)

Sl. No	State	Name of Project	Type	Max. Height (M)	Year of Completion	Year of Failure	Cause of failure
Up to 1950							
1#	Madhya Pradesh	Tigra	Masonry	24.03	1914-17	1917	Overtopping followed by slide.
2	Maharashtra	Ashti	Earth	17.70	1883	1933	Slope failure.
3#	Madhya Pradesh	Pagara	Composite	27.03	1911-27	1943	Overtopping followed by breach.
1951-1960							
4#	Madhya Pradesh	Palakmati	Earth	14.60	1942	1953	Sliding failure.
5#	Rajasthan	Dakhya	Earth	N.A	1953	1953	Breaching.
6##	Uttar Pradesh	Ahrura	Earth	22.80	1953	1953	Breaching.
7#	Rajasthan	Girinanda	Earth	12.20	1954	1955	Overtopping followed by breaching.
8#	Rajasthan	Anwar	Earth	12.50	1956	1957	Breaching.
9#	Rajasthan	Gudah	Earth	28.30	1956	1957	Breached due to bad workmanship.
10#	Rajasthan	Sukri	Earth	N.A	N.A	1958	Breached by leakage through foundation.
11#	Madhya Pradesh	Nawagaon	Earth	16.00	1958	1959	Overtopping leading to breach.
12#	Rajasthan	Dervakheda	Earth	N.A	N.A	1959	Breaching.
13#	Gujarat	Kaila	Earth	23.08	1955	1959	Embankment collapsed due to weak foundation.
1961-1970							
14	Maharashtra	Panshet	Earth	53.80	1961	1961	Piping failure leading to breach.
15	Maharashtra	Khadakwasla	Masonry	60.00	1875	1961	Overtopping.
16#	Rajasthan	Galwania	Earth	N.A	1960	1961	Breaching.
17#	Rajasthan	Nawagaza	Earth	N.A	1955	1961	Breaching.
18#	Madhya Pradesh	Sampna	Earth	21.30	1956	1964	Slope failure on account of inappropriate materials.
19#	Madhya Pradesh	Kedarnala	Earth	20.00	1964	1964	Breaching.
20##	UttaraKhand	Nanaksagar	Earth	16.00	1962	1967	Breached due to foundation piping.
1971-1980							
21#	Gujarat	Dantiwada	Earth	60.96	1965	1973	Breach on account of floods.
22	Tamil Nadu	Kodaganar	Earth	12.75	1977	1977	Breached on account of floods.
23#	Gujarat	Machhu-II	Composite	20.00	1972	1979	Overtopping due to floods.
1981-1990							
24#	Gujarat	Mitti	Earth	16.02	1982	1988	Overtopping leading to breach.
1991- 2000							
25#	Madhya Pradesh	Chandora	Earth	27.30	1986	1991	Breach.
26*	Telangana	Kadam	Composite	22.50	1958	1995	Over topping leading to breach.
27#	Rajasthan	Bhimlot	Masonry	17.00	1958	-	Breached due to inadequate spillway capacity.

2001-2010							
28#	Gujarat	Pratappur	Earth	10.67	1891	2001	Breached on account of floods.
29#	Madhya Pradesh	Jamunia	Earth	15.40	1921	2002	Piping leading to breaching.
30	Orissa	Gurilijoremip	Earth	12.19	1954-55	2004	The abutment structure along with wing and return walls got undermined with foundation scouring.
31	Maharashtra	Nandgavan	Earth	22.51	1998	2005	Excessive rain causing water flow over the waste weir to a depth beyond the design flood lift.
32#	Madhya Pradesh	Piplai	Earth	16.73	1998	2005	Breach
33#	Rajasthan	JaswantSagar	Earth	43.38	1889	2007	Piping leading to breaching.
34	Telangana	Palemvagu dam	Earth	13.00	U/C	2008	Flash flood resulting in overtopping of the earth dam
35#	Madhya Pradesh	Chandiya	Earth	22.50	1926	2008	Breach.
36#	Rajasthan	Gararda	Earth	31.76	2010	2010	Examination for cause of failure by state authorities in progress.

Note:

* First time dam failure happened in year 1958 due to inadequate spillway capacity and reconstructed in year 1964 that again failed in 1995.

Detailed technical report pertaining to reported dam failures awaited.
Madhya Pradesh-10 Dams, Rajasthan -11 Dams and Gujarat-5 dams

Uttar Pradesh -2 Dams (1dam in UP& 1dam, namely Nanaksagar in Uttarakhand).