

GOVERNMENT OF INDIA
WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION
LOK SABHA

UNSTARRED QUESTION NO:1504

ANSWERED ON:24.11.2016

Safety of Dams

Dhotre Shri Sanjay Shamrao;Mahtab Shri Bhartruhari;Singh Shri Satya Pal

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION be pleased to state:

- (a) the number of reservoirs monitored by the Central Water Commission (CWC) across the country as on date along with the water level and live storage in these reservoirs during each of the last three years and the current year;
- (b) whether the Union Government has issued any advisory/guidelines to the State Governments pertaining to dam safety, if so, the details thereof along with the response of the States thereto;
- (c) the salient features of Dam Rehabilitation and Improvement Project (DRIP) along with the cost of the project;
- (d) the number of dams identified under the said project for rehabilitation across the country, State/UT-wise and the present status of such dams; and
- (e) the other steps taken/being taken by the Union Government to improve safety and operational performance of dams in the country along with achievements, if any?

Answer

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION
(DR. SANJEEV KUMAR BALYAN)

- a) CWC monitors live storage status of 91 reservoirs in the country. Water level and live storage of these reservoirs during current year and last three years is at Annexure I.
- b) Yes Madam, various guidelines/ procedures for Dam Safety, prepared by CWC have been circulated to the State Governments as detailed below:
 - i) Report on Dam Safety Procedures.
 - ii) Guidelines for Safety Inspection of Dams.
 - iii) Guidelines for Development and Implementation of Emergency Action Plan (EAP) for Dams.
 - iv) Standardised Data Book Format, Sample Checklist and Proforma for Periodical Inspection of Dams
- c) Govt. of India, with the intent of improving the safety and operational performance of existing dams, has taken up the Dam Rehabilitation and Improvement Project (DRIP) with financial assistance from the World Bank. The DRIP covers the safety and operational performance of about 225 dam projects, in addition to building the institutional capacity of the Dam Safety Organisations of the Participating States and Central Dam Safety Organisation in CWC. The project with an estimated cost of Rs. 2100 Crore is being implemented in Seven States of India, namely, Madhya Pradesh, Odisha, Kerala, Tamil Nadu, Karnataka, Jharkhand (DVC) and Uttarakhand (UJVNL) from 18th April, 2012 for over a period of six-years. The main implementation agencies for DRIP are the owners of dams – i.e. Water Resources Departments and State Electricity Boards in the participating States. Overall responsibility for the project rests with the Central Project Management Unit (CPMU), in CWC at New Delhi.
- d) The State-wise number of the dams identified for rehabilitation, fund allocated to Project Implementing Agencies and the present status of the rehabilitation works are given at Annexure II.
- e) Legislation in the form of Dam Safety Bill is envisaged to provide for surveillance, inspection, operation and maintenance of dams in India to ensure their safe functioning and to ensure uniform dam safety procedures. A draft Dam Safety Bill has been circulated to State Governments.

Annexure I

Annexure referred to Lok Sabha Unstarred Question No.1504 on
Safety of Dams for answer on 24.11.2016

WATER LEVEL & LIVE STORAGE OF 91 RESERVOIRS OF INDIA
(As on 2nd Week of November 2013-2016)

S. NO NAME OF RESERVOIR Water level (m) Live Storage (BCM)

FRL 14th Nov. 2013 13th Nov. 2014 12th Nov. 2015 10th Nov. 2016 Total Capa-city 14th Nov. 2013 13th Nov. 2014 12th Nov. 2015
10th Nov. 2016

HIMACHAL PRADESH

1 GOBIND SAGAR(BHAKRA) 512.06 509.83 505.46 508.71 497.77 6.229 5.608 4.932 5.434 3.858

2 PONG DAM 423.67 418.77 412.15 417.84 413.64 6.157 4.777 3.41 4.570 3.698

PUNJAB

3 THEIN 527.91 510.65 510.18 508.69 512.11 2.344 1.516 1.111 1.037 1.233

RAJASTHAN

4 MAHI BAJAJ SAGAR 280.75 281.25 280.75 279.70 281.45 1.711 1.711 1.711 1.577 1.711

5 JHAKAM 359.50 359.45 358.35 357.60 359.55 0.132 0.132 0.121 0.113 0.132

6 RANA PRATAP SAGAR 352.81 351.38 348.95 348.32 350.42 1.436 1.160 0.734 0.628 0.987

JHARKHAND

7 TENUGHAT 269.14 260.70 259.78 259.11 260.13 0.821 0.446 0.408 0.382 0.422

8 MAITHON 146.3 149.07 145.30 140.79 148.53 0.471 0.471 0.386 0.187 0.471

9 PANCHET HILL 124.97 128.63 123.14 121.31 127.32 0.184 0.184 0.103 0.043 0.184

10 KONAR 425.81 425.65 425.62 423.46 425.78 0.176 0.173 0.173 0.134 0.175

11 TILAIYA 368.81 368.51 369.44 368.01 370.46 0.142 0.131 0.142 0.116 0.142

ODISHA

12 HIRAKUD 192.02 191.99 191.81 190.72 191.94 5.378 4.803 4.69 3.990 4.759

13 BALIMELA 462.08 462.11 461.47 457.41 459.58 2.676 2.676 2.559 1.885 2.212

14 SALANADI 82.30 80.85 72.20 57.80 70.96 0.558 0.504 0.265 0.046 0.237

15 RENGALI 123.50 123.82 122.06 118.99 123.08 3.432 3.432 2.929 1.978 3.302

16 MACHKUND(JALPUT) 838.16 837.82 837.86 837.41 837.19 0.893 0.859 0.86 0.820 0.798

17 UPPER KOLAB 858.00 856.37 856.90 855.86 856.54 0.935 0.781 0.831 0.732 0.797

18 UPPER INDRAVATI 642.00 641.45 640.41 634.85 639.02 1.456 1.395 1.279 0.734 1.138

WEST BENGAL

19 MAYURAKSHI 121.31 120.14 111.54 111.16 115.34 0.480 0.440 0.111 0.103 0.220

20 KANGSABATI 134.14 133.39 124.51 124.01 129.98 0.914 0.891 0.248 0.229 0.579

TRIPURA

21 GUMTI 93.55 90.79 88.60 92.85 92.43 0.312 0.189 0.111 0.281 0.260

GUJARAT

22 UKAI 105.16 104.43 101.80 100.83 103.90 6.615 6.308 4.882 4.416 5.996

23 SABARMATI(DHAROI) 189.59 187.15 186.59 188.06 189.18 0.735 0.510 0.463 0.592 0.702

24 KADANA 127.7 127.71 127.23 123.12 127.71 1.472 1.192 1.142 0.762 1.472

25 SHETRUNJI 55.53 55.47 52.72 55.27 53.77 0.300 0.295 0.127 0.279 0.179

26 BHADAR 107.89 107.78 104.61 106.32 101.53 0.188 0.183 0.076 0.127 0.021

27 DAMANA-GANGA 79.86 79.95 79.00 79.80 79.80 0.502 0.481 0.438 0.475 0.475

28 DANTWADA 184.1 175.91 171.34 181.46 175.09 0.399 0.148 0.064 0.307 0.130

29 PANAM 127.41 127.40 126.55 123.15 125.85 0.697 0.697 0.494 0.307 0.451

30 SARDAR SAROVAR 121.92 121.67 119.29 119.58 121.12 1.566 1.521 1.117 1.158 1.421

31 KARJAN 115.25 115.07 112.60 108.08 109.32 0.523 0.519 0.444 0.326 0.355

MAHARASHTRA

32 JAYAKWADI(PAITHON) 463.91 459.09 459.15 456.73 462.77 2.171 0.670 0.684 0.196 1.752

33 KOYANA 657.90 657.45 656.46 650.47 657.56 2.652 2.598 2.48 1.797 2.465

34 BHIMA(UJJANI) 496.83 497.20 496.16 491.90 497.25 1.517 1.517 1.298 0.179 1.517

35 ISAPUR 441.00 441.00 437.96 433.18 435.27 0.965 0.965 0.681 0.348 0.479

36 MULA 552.30 550.38 549.83 544.75 552.08 0.609 0.510 0.483 0.274 0.597

37 YELDARI 461.77 461.77 457.43 451.71 454.61 0.809 0.808 0.42 0.120 0.246

38 GIRNA 398.07 391.17 391.29 384.56 397.13 0.524 0.230 0.235 0.052 0.470

39 KHADAK-VASLA 582.47 581.62 581.56 579.73 581.13 0.056 0.045 0.044 0.022 0.038

40 UPPER VAITARNA 603.50 603.38 601.92 600.20 603.40 0.331 0.328 0.281 0.225 0.328

41 UPPER TAPI 214.00 214.00 214.00 214.00 214.00 0.255 0.255 0.255 0.255 0.255

42 PENCH (TOTALA-DOH) 490.00 489.62 482.39 484.22 481.88 1.091 1.018 0.562 0.625 0.500

43 UPPER WARDHA 342.50 342.47 341.63 341.50 342.30 0.564 0.561 0.488 0.477 0.546

44 BHATSA* 142.07 133.80 139.74 0.942 0.731 0.879

45 DHOM* 747.70 737.19 747.89 0.331 0.181 0.331

46 DUDHGA-NGA* 646.00 639.54 645.56 0.664 0.473 0.664

47 MANIKDOH (KUKADI)* 711.25 693.19 706.49 0.288 0.075 0.208

48 BHANDAR-DARA* 342.50 341.50 342.30 0.304 0.167 0.303

UTTAR PRADESH

49 MATATILA 308.46 308.43 306.14 304.83 305.20 0.707 0.638 0.401 0.288 0.317

50 RIHAND 268.22 261.83 260.09 259.24 264.90 5.649 2.959 2.276 1.948 4.218

UTTRAKHAND

51 RAMGANGA 365.30 362.38 361.10 354.08 350.92 2.196 1.977 1.882 1.403 1.228
52 TEHRI 830.00 822.85 822.10 815.60 821.20 2.615 2.320 2.291 2.035 2.254

MADHYA PRADESH

53 GANDHI SAGAR 399.90 399.89 397.06 399.08 399.77 6.827 6.607 4.947 6.123 6.533
54 TAWA 355.40 354.48 354.24 354.03 354.70 1.944 1.874 1.823 1.781 1.912
55 BARGI 422.76 422.55 422.20 421.15 421.70 3.180 3.136 3.056 2.772 2.926
56 BANSAGAR 341.64 341.53 340.41 336.31 341.26 5.166 5.166 4.619 2.959 5.109
57 INDIRA SAGAR 262.13 261.05 260.53 259.38 261.62 9.745 8.873 8.35 7.351 9.313
58 BARNA 348.55 347.80 346.56 346.40 347.76 0.456 0.404 0.327 0.316 0.402

CHHATTIS GARH

59 MINIMATA BANGOI 359.66 358.23 357.87 349.68 354.98 3.046 2.648 2.587 1.411 2.129
60 MAHANADI 348.70 348.71 348.00 343.77 348.69 0.767 0.767 0.7 0.366 0.766

A.P & TG

61 SRISAILAM 269.75 269.26 261.20 255.68 267.07 8.288 5.861 0.236 1.602 4.691
62 NAGARJUNA SAGAR 179.83 177.78 175.26 155.11 162.67 6.841 4.556 3.893 0.000 1.240

ANDHRA PRADESH

63 SOMASILA 100.58 98.05 95.57 88.60 94.27 1.994 1.492 1.311 0.588 1.145

TELANGANA

64 SRIRAMSAGAR 332.54 332.54 325.13 320.68 332.17 2.300 2.300 0.654 0.208 2.300
65 LOWER MANAIR 280.42 280.42 272.17 269.05 279.70 0.621 0.621 0.201 0.106 0.621

KARNATAKA

66 KRISHNARAJA SAGRA 752.50 751.10 752.23 747.70 739.50 1.163 0.989 1.163 0.747 0.209
67 TUNGABHADRA 497.74 496.54 497.18 492.87 485.99 3.276 2.449 2.66 1.432 0.386
68 GHATAPRABHA 662.95 657.33 661.07 648.51 659.41 1.391 0.999 1.25 0.529 0.851
69 BHADRA 657.76 656.75 656.64 650.74 646.05 1.785 1.672 1.66 1.055 0.677
70 LINGANAMAKKI 554.43 553.18 552.66 546.58 546.98 4.294 3.911 3.765 2.272 2.351
71 NARAYANPUR 492.25 491.53 490.36 490.22 490.80 0.863 0.771 0.515 0.500 0.563
72 MALAPRABHA(RENUKA) 633.83 629.16 631.35 626.34 626.99 0.972 0.477 0.682 0.266 0.309
73 KABINI(Sancherla Tank) 696.16 693.99 694.64 691.64 690.62 0.444 0.155 0.357 0.210 0.166
74 HEMA VATHY 890.63 887.22 888.09 876.93 874.22 0.927 0.650 0.8 0.203 0.130
75 HARANGI 871.42 866.44 865.89 856.08 861.49 0.220 0.105 0.108 0.038 0.077
76 SUPA 564.00 561.34 555.46 540.83 546.15 4.120 3.797 3.142 1.821 2.243
77 VANMILAS SAGAR 652.28 634.74 636.21 637.15 633.76 0.802 0.054 0.079 0.097 0.037
78 ALMATTI 519.60 518.84 518.13 512.66 517.88 3.105 2.755 2.475 0.932 2.372
79 GERUSOPPA 55.00 49.05 47.89 49.87 48.66 0.130 0.097 0.091 0.101 0.095

KERALA

80 KALLADA(PARAPPAR) 115.82 114.39 115.50 109.70 100.42 0.507 0.460 0.479 0.357 0.197
81 IDAMALAYAR 169.00 164.59 165.48 151.65 154.30 1.018 0.890 0.916 0.554 0.616
82 IDUKKI 732.43 728.96 727.08 720.07 715.38 1.460 1.268 1.166 0.827 0.633
83 KAKKI 981.46 978.67 975.23 968.85 968.97 0.447 0.398 0.347 0.266 0.268
84 PERIYAR 867.41 861.29 868.09 864.95 859.19 0.173 0.060 0.173 0.128 0.013
85 MALAPMU-ZHA* 115.06 864.95 108.52 0.224 0.151 0.097

TAMIL NADU

86 LOWER BHAWANI 278.89 269.25 273.12 268.12 261.83 0.792 0.29 0.46 0.251 0.089
87 METTUR(STANLEY) 240.79 228.48 235.13 227.63 216.91 2.647 1.18 1.89 1.099 0.367
88 VAIGAI 279.20 272.16 273.35 273.59 264.69 0.172 0.05 0.063 0.067 0.005
89 PARAMBIK-ULAM 556.26 554.74 555.80 550.55 543.36 0.380 0.348 0.37 0.264 0.133
90 ALIYAR 320.04 319.49 320.01 317.27 305.20 0.095 0.092 0.095 0.078 0.014
91 SHOLAYAR 1002.79 1002.51 1002.73 985.86 962.16 0.143 0.141 0.143 0.069 0.000

*CWC started monitoring the storage of the project from 2015 onwards.

Annexure II

Annexure referred to Lok Sabha Unstarred Question No.1504 on
Safety of Dams for answer on 24.11.2016

The State-wise breakup of the dams identified for rehabilitation, fund allocated to Project Implementing Agencies and the present status of the rehabilitation works

State/Implementing Agencies No of DRIP dams Total Project Cost(Rs. Crore) Award of works (No. of Dams) Value of awarded works (Rs. Crore) Expenditure upto September 2016 (Rs. Crore)

Kerala (WRD & EB) 28 279.98 25 217.70 43.98
Orissa (WRD) 26 147.74 26 125.40 64.74
MadhyaPradesh (WRD) 29 314.54 22 113.50 90.53
Tamil Nadu (WRD & EB) 107 745.49 85 356.10 144.51
Karnataka (WRD) 27 276.75 18 355.20* 38.35
Jharkhand (DVC) 3 139.40 3 73.80 0.89
Uttarakhand (UJVNL) 5 64.10 2 46.10 20.39
Central Water Commission 132.00 90.00** 34.96

Total 225 2100.00 181 1377.8 438.35

* Karnataka has exceeded its original allocation by Rs. 78.45 crore by using unutilized allocation by other Implementing agencies as on date.

** CWC hired the Engineering and Management Consultant for DRIP

[WRD: Water Resources Department, EB: Electricity Board, DVC: Damodar Valley Corporation, UJVNL: Uttarakhand Jal Vidyut Nigam Ltd]