

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 01.12.2016)

1. ALL INDIA STATUS

Central Water Commission is monitoring live storage status of 91 reservoirs of the country on weekly basis and is issuing weekly bulletin on every Thursday. Out of these reservoirs, 37 reservoirs have hydropower benefit with installed capacity of more than 60 MW. The total live storage capacity of these 91 reservoirs is 157.799 BCM which is about 62% of the live storage capacity of 253.388 BCM which is estimated to have been created in the country. As per reservoir storage bulletin dated **01.12.2016**, live storage available in these reservoirs is **102.841 BCM**, which is **65%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **81.332 BCM** and the average of last 10 years live storage was **105.170 BCM**. Thus, the live storage available in 91 reservoirs **as per 01.12.2016 Bulletin** is **126%** of the live storage of corresponding period of last year and **98%** of storage of average of last ten years.

The overall storage position is **better than the** corresponding period of last year in the country as a whole but is **less than the** average storage of last ten years during the corresponding period.

2. REGION WISE STORAGE STATUS:

a) NORTHERN REGION

The northern region includes States of Himachal Pradesh, Punjab and Rajasthan. There are 6 reservoirs under CWC monitoring having total live storage capacity of 18.01 BCM. As per Reservoir Storage Bulletin dated **01.12.2016**, the total live storage available in these reservoirs is **10.48 BCM** which is **58%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **67%** and average storage of last ten years during corresponding period was **67%** of live storage capacity of these reservoirs. Thus, storage during current year is less than the corresponding period of last year and is also less than the average storage of last ten years during the corresponding period.

b) EASTERN REGION

The Eastern region includes States of Jharkhand, Odisha, West Bengal and Tripura. There are 15 reservoirs under CWC monitoring having total live storage capacity of 18.83 BCM. As per Reservoir Storage Bulletin dated **01.12.2016**, the total live storage available in these reservoirs is **15.38 BCM** which is **82%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **61%** and average storage of last ten years during corresponding period was **71%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year and is also better than the average storage of last ten years during the corresponding period.

c) WESTERN REGION

The Western region includes States of Gujarat and Maharashtra. There are 27 reservoirs under CWC monitoring having total live storage capacity of 27.07 BCM. As per Reservoir Storage Bulletin dated **01.12.2016**, the total live storage available in these reservoirs is **21.13 BCM** which is **78%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **49%** and average storage of last ten years during corresponding period was **72%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also better than the average storage of last ten years during the corresponding period.

d) CENTRAL REGION

The Central region includes States of Uttar Pradesh, Uttarakhand, Madhya Pradesh and Chhattisgarh. There are 12 reservoirs under CWC monitoring having

total live storage capacity of 42.30 BCM. As per Reservoir Storage Bulletin dated **01.12.2016**, the total live storage available in these reservoirs is **34.92 BCM** which is **83%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **63%** and average storage of last ten years during corresponding period was **62%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year and is also better than the average storage of last ten years during the corresponding period.

e) SOUTHERN REGION

The Southern region includes States of Andhra Pradesh, Telangana, AP&TG (2 combined projects in both states) Karnataka, Kerala and Tamil Nadu. There are 31 reservoirs under CWC monitoring having total live storage capacity of 51.59 BCM. As per Reservoir Storage Bulletin dated **01.12.2016**, the total live storage available in these reservoirs is **20.94 BCM** which is **41%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **35%** and average storage of last ten years during corresponding period was **66%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the corresponding period of last year but is less than the average storage of last ten years during the corresponding period.

The region wise and reservoir wise details are given in the following pages of the Bulletin.

BROAD ANALYSIS OF OTHER TABLES IN THE BULLETIN

- Normal storage means average storage of last ten years, Close to normal storage means where shortfall is upto 20% of normal, deficient storage is where shortfall is more than 20% of the normal and upto 60% of the normal, highly deficient means where shortfall is more than 60% of normal.
- In the table on page 4, better than normal storage is available in Narmada, Mahi, , Ganga, Sabarmati, Godavari, Tapi and Mahanadi & neighbouring East Flowing Rivers. Close to Normal in Indus and Deficient in Rivers of Kutch, West Flowing Rivers of South and Krishna and Highly Deficient in Cauvery & neighbouring EFRs Basin.
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **60** and reservoirs having storage more than average of last ten years are **45**. The numbers of reservoirs having storage less than 20% with respect to last year is **5** and having storage less than 20% with reference to average of last ten years is **10**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **13** and having storage less than or equal to 50% with reference to average of last ten years are **17**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 01.12.2016

- 1 Central Water Commission is monitoring storage status of 91 important reservoirs spread all over the country, in which **37** reservoirs have hydropower benefit each with installed capacity of more than 60 MW. These reservoirs are identified thus(*) in the enclosed weekly report.
- 2 The total live storage in 91 important reservoirs in different parts of the country, monitored by CWC as on **01.12.2016** is **102.841** BCM (**65** percent of the live storage capacity at FRL).The current year's storage is nearly **126** percent of last year's storage and **98** percent of the average of last ten years.

3 Region wise storage status:-

REGION (Monitoring No. of Reservoirs)	Filling position of 91 reservoirs w.r.t. FRL								Departure from Normal storage		
	100%	91%-99%	81%-90%	71%-80%	61%-70%	51%-60%	41%-50%	40% & below			
NORTH (HP,Punjab & Rajasthan), (6 Resv.)	-	1	1	-	-	3	1	-	H.P.	-21 %	
									PUNJAB	-13 %	
									RAJASTHAN	13 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	3	2	4	2	1	1	1	1	JHARKHAND	18 %	
									ODISHA	14 %	
									W. BENGAL	30 %	
									TRIPURA	84 %	
WEST (Guj.& Mah.), (27 Resv.)	2	4	10	2	3	1	2	3	GUJARAT	8 %	
									MAH.	10 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	-	3	4	2	1	1	1	-	U.P.	54 %	
									UTTARAKHAND	-6 %	
									M.P.	42 %	
									CHHATISGARH	15 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	2	-	1	-	2	7	2	17	AP&TG	-44 %	
									A,P	-28 %	
									TG	73 %	
									KARNATAKA	-41 %	
									KERALA	-40 %	
									T.N.	-81 %	
Status of 91 reservoirs	7	10	20	6	7	13	7	21			

4 Basin wise storage position:

Better than normal: Ganga,Sabarmati,Godavari,Mahi, Narmada ,Tapi and Mahanadi & Neighbouring EFRS.

Close to normal: Indus

Deficient: Rivers of Kutch,West Flowing Rivers of South and Krishna.

Highly deficient: Cauvery & neighbouring EFRS.

- 5 Out of 91 reservoirs, **57** reservoirs reported more than 80% of normal storage & **34** reservoirs reported 80% or below of normal storage. Out of these **34** reservoirs **17** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
SHOLAYAR	0	PARAMBIKULAM	29
VAIGAI	4	BHADRA	39
ALIYAR	6	MALAPRABHA(RENUKA)	44
PERIYAR	12	KALLADA(PARAPPAR)	45
TUNGABHADRA	13	MALAMPUZHA	50
BHADAR	16		
LOWER BHAWANI	17		
KRISHNARAJA SAGRA	18		
METTUR(STANLEY)	20		
HEMAVATHY	20		
VANIVILAS SAGAR	23		
NAGARJUNA SAGAR	23		

17 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
3	5	9

- 6 Out of **37** reservoirs with significant(*) hydropower generation, the storage build up is less than or equal to normal in

18 reservoirs.

NOTE : **Normal:** Average of previous ten years, **Close to normal:** Where shortfall is up to 20% of the normal, **Deficient:** Where shortfall is more than 20% of the normal and up to 60% of the normal, **Highly deficient** : Where shortfall is more than 60% of the normal

WEEKLY REPORT - BASINWISE

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 01.12.2016

NAME OF BASIN	LIVE CAP. AT FRL	THIS YEAR'S STORAGE		LAST YEAR'S STORAGE		LAST 10 YEARS' AVG. STORAGE		% DEPARTURE W.R.T. AVE. OF 10 YEARS'
GANGA	28.096	21.998	78.30%	15.672	55.78%	16.002	56.95%	37.47
INDUS	14.730	7.897	53.61%	10.079	68.42%	9.828	66.72%	-19.65
NARMADA	17.414	14.894	85.53%	12.511	71.84%	11.995	68.88%	24.17
TAPI	7.394	6.168	83.42%	4.192	56.69%	5.253	71.04%	17.42
MAHI	4.012	3.389	84.47%	2.493	62.14%	2.867	71.46%	18.21
SABARMATI	0.735	0.620	84.35%	0.538	73.20%	0.464	63.13%	33.62
RIVERS OF KUTCH	0.887	0.280	31.57%	0.642	72.38%	0.494	55.69%	-43.32
GODAVARI	15.394	12.018	78.07%	6.403	41.59%	9.708	63.06%	23.79
KRISHNA	32.831	14.559	44.35%	7.739	23.57%	21.857	66.57%	-33.39
MAHANADI & NEIGHBOURING EFRS	13.181	10.993	83.40%	7.541	57.21%	9.835	74.61%	11.77
CAUVERY & NEIGHBOURING EFRS	8.359	1.984	23.73%	5.103	61.05%	5.587	66.84%	-64.49
WEST FLOWING RIVERS OF SOUTH	14.766	8.041	54.46%	8.419	57.02%	11.280	76.39%	-28.71
TOTAL	157.799	102.841		81.332		105.170		
PERCENTAGE								-2.21

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 01.12.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
NORTHERN REGION											
<u>HIMACHAL PRADESH</u>											
*1	GOBIND SAGAR(BHAKRA)	512.06	494.98	6.229	3.497	01-12-2016	56	81	76	676	1200
*2	PONG DAM	423.67	411.65	6.157	3.314	01-12-2016	54	66	62	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	509.41	2.344	1.086	01-12-2016	46	40	54	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	280.45	1.711	1.687	01-12-2016	99	81	77	63	140
5	JHAKAM	359.50	358.00	0.132	0.117	01-12-2016	89	70	68	28	-
*6	RANA PRATAP SAGAR	352.81	349.18	1.436	0.777	22-11-2016	54	30	60	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.31	0.821	0.429	01-12-2016	52	45	43	-	-
8	MAITHON	146.3	148.59	0.471	0.471	01-12-2016	100	36	86	342	-
*9	PANCHET HILL	124.97	127.28	0.184	0.184	01-12-2016	100	22	85	\$	80
10	KONAR	425.81	425.55	0.176	0.171	01-12-2016	97	73	82	\$	-
11	TILAIYA	368.81	369.80	0.142	0.142	01-12-2016	100	80	83	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.80	5.378	4.681	30-11-2016	87	73	86	153	307
*13	BALIMELA	462.08	459.27	2.676	2.159	30-11-2016	81	71	63	-	360
14	SALANADI	82.30	69.58	0.558	0.209	01-12-2016	37	6	42	42	-
*15	RENGALI	123.50	122.90	3.432	3.225	30-11-2016	94	54	72	3	200
*16	MACHKUND(JALPUT)	838.16	836.68	0.893	0.758	30-11-2016	85	88	85	-	115
*17	UPPER KOLAB	858.00	856.36	0.935	0.780	30-11-2016	83	79	62	89	320
*18	UPPER INDRAVATI	642.00	638.90	1.456	1.126	01-12-2016	77	51	72	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	115.34	0.480	0.220	01-12-2016	46	21	44	227	-
20	KANGSABATI	134.14	129.94	0.914	0.576	01-12-2016	63	25	44	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	92.15	0.312	0.247	30-11-2016	79	84	43	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	102.90	6.615	5.453	01-12-2016	82	60	72	348	300
23	SABARMATI(DHAROI)	189.59	188.35	0.735	0.620	01-12-2016	84	73	63	95	1
*24	KADANA	127.7	127.18	1.472	1.137	01-12-2016	77	49	66	200	120
25	SHETRUNJI	55.53	53.62	0.300	0.171	01-12-2016	57	89	73	36	-
26	BHADAR	107.89	101.28	0.188	0.019	01-12-2016	10	54	64	27	-
27	DAMANAGANGA	79.86	79.10	0.502	0.442	01-12-2016	88	87	91	51	1
28	DANTIWADA	184.1	173.03	0.399	0.090	01-12-2016	23	68	38	45	-
29	PANAM	127.41	125.80	0.697	0.448	01-12-2016	64	41	70	36	2
*30	SARDAR SAROVAR	121.92	120.40	1.566	1.290	01-12-2016	82	60	78	2120	1450
31	KARJAN	115.25	108.66	0.523	0.339	01-12-2016	65	54	86	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 01.12.2016

S. NO	NAME OF RESERVOIR	FRL (m)	CURRENT RESERVOIR LEVEL (m)	LIVE CAPACITY AT FRL (BCM)	CURRENT LIVE STORAGE (BCM)	DATE	STORAGE AS % OF LIVE CAPACITY AT FRL			BENEFITS	
							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
MAHARASHTRA											
32	JAYAKWADI(PAITHON)	463.91	462.69	2.171	1.727	26-11-2016	80	11	48	227	-
*33	KOYANA	657.90	655.57	2.652	2.229	30-11-2016	84	62	90	-	1920
34	BHIMA(UJJANI)	496.83	497.05	1.517	1.517	30-11-2016	100	0	76	125	12
35	ISAPUR	441.00	435.13	0.965	0.470	30-11-2016	49	29	65	104	-
36	MULA	552.30	551.88	0.609	0.587	01-12-2016	96	39	77	139	-
37	YELDARI	461.77	454.43	0.809	0.236	01-12-2016	29	11	50	78	-
38	GIRNA	398.07	396.98	0.524	0.462	30-11-2016	88	5	47	79	-
39	KHADAKVASLA	582.47	581.74	0.056	0.046	30-11-2016	82	70	61	78	8
*40	UPPER VAITARNA	603.50	603.15	0.331	0.321	30-11-2016	97	62	89	-	61
41	UPPER TAPI	214.00	213.97	0.255	0.253	30-11-2016	99	89	96	45	-
*42	PENCH (TOTALADOH)	490.00	481.13	1.091	0.463	30-11-2016	42	49	62	127	160
43	UPPER WARDHA	342.50	341.67	0.564	0.491	01-12-2016	87	74	83	70	-
44	BHATSA	142.07	137.67	0.942	0.825	30-11-2016	88	73	84	29.378	15
45	DHOM	747.70	745.19	0.331	0.326	30-11-2016	98	57	78	36.2	2
46	DUDHGANGA	646.00	645.14	0.664	0.664	30-11-2016	100	61	90	2.441	24
47	MANIKDOH (KUKADI)	711.25	705.84	0.288	0.199	30-11-2016	69	25	51	2.2	6
48	BHANDARDARA	342.50	341.67	0.304	0.300	01-12-2016	87	74	83	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	304.89	0.707	0.293	30-11-2016	41	54	63	-	30
*50	RIHAND	268.22	264.48	5.649	4.035	01-12-2016	71	33	42	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	350.72	2.196	1.217	01-12-2016	55	64	71	1897	198
*52	TEHRI	830.00	817.10	2.615	2.092	01-12-2016	80	72	75	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	399.49	6.827	6.367	01-12-2016	93	84	56	220	115
54	TAWA	355.40	353.29	1.944	1.650	01-12-2016	85	79	82	247	-
*55	BARGI	422.76	420.85	3.180	2.688	01-12-2016	85	84	79	157	90
*56	BANSAGAR	341.64	340.76	5.166	4.777	01-12-2016	92	50	59	488	425
*57	INDIRA SAGAR	262.13	260.73	9.745	8.543	01-12-2016	88	71	61	2380	1000
58	BARNA	348.55	347.47	0.456	0.384	01-12-2016	84	47	62	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.89	3.046	2.116	01-12-2016	69	45	64	-	120
60	MAHANADI	348.70	348.65	0.767	0.762	30-11-2016	99	45	73	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	265.94	8.288	4.212	01-12-2016	51	18	63	0	770
*62	NAGARJUNA SAGAR	179.83	160.54	6.841	0.853	01-12-2016	12	0	55	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	93.72	1.994	1.082	01-12-2016	54	94	75	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	332.08	2.300	2.300	24-11-2016	100	9	56	411	27
65	LOWER MANAIR	280.42	279.78	0.621	0.621	24-11-2016	100	17	64	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA CENTRAL WATER COMMISSION

WEEK ENDING :- 01.12.2016

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							CURRENT YEAR	LAST YEAR	LAST 10 YEARS AVERAGE	IRR. (CCA) IN TH. HA	HYDEL IN MW
1	2	4	6	5	7	8	9	10	11	3A	3B
<u>KARNATAKA</u>											
66	KRISHNARAJA SAGRA	752.50	738.41	1.163	0.163	01-12-2016	14	66	79	79	-
*67	TUNGABHADRA	497.74	484.62	3.276	0.278	01-12-2016	8	34	66	529	72
68	GHATAPRABHA	662.95	655.11	1.391	0.869	01-12-2016	62	33	68	317	-
69	BHADRA	657.76	631.55	1.785	0.601	01-12-2016	34	58	87	106	39
70	LINGANAMAKKI	554.43	546.52	4.294	2.262	01-12-2016	53	53	79	-	55
71	NARAYANPUR	492.25	490.20	0.863	0.498	01-12-2016	58	55	85	425	-
72	MALAPRABHA(RENUKA)	633.83	626.35	0.972	0.249	01-12-2016	26	15	58	215	-
73	KABINI(Sancherla Tank)	696.16	689.81	0.444	0.134	01-12-2016	30	43	33	85	-
74	HEMAVATHY	890.63	873.23	0.927	0.104	01-12-2016	11	19	56	265	-
75	HARANGI	871.42	858.10	0.220	0.051	01-12-2016	23	3	32	53	-
76	SUPA	564.00	545.76	4.120	2.196	01-12-2016	53	44	67	-	-
77	VANIVILAS SAGAR	652.28	633.62	0.802	0.035	01-12-2016	4	13	19	123	-
*78	ALMATTI	519.60	516.82	3.105	1.983	01-12-2016	64	20	70	@	290
*79	GERUSOPPA	55.00	51.13	0.130	0.108	01-12-2016	83	74	82	83	240
<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	100.89	0.507	0.202	01-12-2016	40	87	88	62	-
*81	IDAMALAYAR	169.00	154.24	1.018	0.614	01-12-2016	60	56	77	33	75
*82	IDUKKI	732.43	714.65	1.460	0.604	01-12-2016	41	58	71	-	780
*83	KAKKI	981.46	968.07	0.447	0.257	01-12-2016	57	70	85	23	300
*84	PERIYAR	867.41	859.37	0.173	0.016	01-12-2016	9	100	77	84	140
85	MALAPMUZHA	115.06	108.52	0.224	0.097	23-11-2016	43	68	87	21	3
<u>TAMIL NADU</u>											
86	LOWER BHAWANI	278.89	262.18	0.792	0.096	01-12-2016	12	50	70	105	8
*87	METTUR(STANLEY)	240.79	216.56	2.647	0.350	01-12-2016	13	59	67	122	360
88	VAIGAI	279.20	264.49	0.172	0.004	01-12-2016	2	81	63	61	6
89	PARAMBIKULAM	556.26	540.84	0.380	0.092	01-12-2016	24	73	84	101	-
90	ALIYAR	320.04	302.48	0.095	0.005	01-12-2016	5	97	93	#	60
*91	SHOLAYAR	1002.79	962.18	0.143	0.000	01-12-2016	0	34	81	-	95
TOTAL FOR 91 RESERVOIRS				157.799	102.841						
PERCENTAGE							65	52	67		

Sd/-

Director

W. M. , CWC

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

TOTAL CCA 101 TH. HA OF PARAMBIKULAM & ALIYAR

@ TOTAL CCA 425 TH. HA. OF NARAYANPUR AND ALMATTI

† SABARMATI RESERVOIR IS SUPPLEMENTED WITH NARMADA WATER THROUGH PIPELINE.

Sl. No. 30th The FRL of S.S.P. 138.38 M and Live capacity at FRL will be 5.760 BCM. However at present the lowest block of the dam is at the level of 121.92 M. and the live capacity at this level is 1.566 BCM