

BRIEF NOTE ON LIVE STORAGE STATUS OF 91 RESERVOIRS IN THE COUNTRY (WITH REFERENCE TO RESERVOIR STORAGE BULLETIN OF 29.09.2016)

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 **29.09.2016**, live storage available in these reservoirs is **117.202 BCM**, which is **74%** of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was **96.453 BCM** and the average of last 10 years live storage was **121.445 BCM**. Thus, the live storage available in 91 reservoirs **as per 29.09.2016 Bulletin** is **122%** of the live storage of corresponding period of last year and **97%** 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 **29.09.2016**, the total live storage available in these reservoirs is **13.72 BCM** which is **76%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **86%** and average storage of last ten years during corresponding period was **83%** 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 **29.09.2016**, the total live storage available in these reservoirs is **16.18 BCM** which is **86%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **74%** and average storage of last ten years during corresponding period was **79%** 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 **29.09.2016**, the total live storage available in these reservoirs is **21.75 BCM** which is **80%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **62%** and average storage of last ten years during corresponding period was **81%** of live storage capacity of these reservoirs. Thus, storage during current year is better than the storage of last year but less 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

29.09.2016, the total live storage available in these reservoirs is **38.50 BCM** which is **91%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **77%** 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.

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 **29.09.2016**, the total live storage available in these reservoirs is **27.05 BCM** which is **52%** of total live storage capacity of these reservoirs. The storage during corresponding period of last year was **34%** and average storage of last ten years during corresponding period was **76%** 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 8, better than normal storage is available in Narmada, Mahi, , Ganga, Sabarmati, Godavari, Tapi, Mahanadi & neighbouring East Flowing Rivers. Close to Normal in Indus and Deficient in Rivers of Kutch, West Flowing Rivers of South, Krishna and Cauvery & neighbouring EFRs Basin .
- Table on page 5-7 of the bulletin. The numbers of reservoirs having storage more than last year are **58** and reservoirs having storage more than average of last ten years are **44**. The numbers of reservoirs having storage less than 20% with respect to last year is **3** and having storage less than 20% with reference to average of last ten years is **4**. The number of reservoirs having storage less than or equal to 50% with respect to last year are **7** and having storage less than or equal to 50% with reference to average of last ten years are **16**.

STORAGE STATUS OF IMPORTANT RESERVOIRS IN THE COUNTRY

AS ON 29.09.2016

- 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 **29.09.2016** is **117.202** BCM (**74** percent of the live storage capacity at FRL).The current year's storage is nearly **122** percent of last year's storage and **97** 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.)	2	1	-	1	2	-	-	-	H.P.	-17 %	
									PUNJAB	4 %	
									RAJASTHAN	19 %	
EAST (Jharkhand,Odisha, Tripura & W.Bengal (15 Resv.)	4	2	5	2	-	2	-	-	JHARKHAND	11 %	
									ODISHA	6 %	
									W. BENGAL	37 %	
									TRIPURA	50 %	
WEST (Guj.& Mah.), (27 Resv.)	9	4	3	3	1	2	-	5	GUJARAT	-3 %	
									MAH.	1 %	
CENTRAL (MP,UP,Uttarakhand & Chh.), (12 Resv)	3	6	1	-	1	1	-	-	U.P.	56 %	
									UTTARAKHAND	-2 %	
									M.P.	30 %	
									CHHATISGARH	-4 %	
SOUTH (Karnataka,TN,AP&TG,AP, TG, & Kerala), (31 Resv.)	3	-	2	2	2	5	4	13	AP&TG	-43 %	
									A,P	-14 %	
									TG	63 %	
									KARNATAKA	-31 %	
									KERALA	-35 %	
									T.N.	-41 %	
Status of 91 reservoirs	21	13	11	8	6	10	4	18			

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,Krishna and Cauvery & neighbouring EFRS.

Highly deficient: NIL

- 5 Out of 91 reservoirs, **61** reservoirs reported more than 80% of normal storage & **30** reservoirs reported 80% or below of normal storage. Out of these **30** reservoirs **16** having storage upto 50% of normal storage.

Name of reservoir	%	Name of reservoir	%
ALIYAR	7	SHOLAYAR	43
BHADAR	8	KALLADA(PARAPPAR)	43
VAIGAI	10	TUNGABHADRA	44
NAGARJUNA SAGAR	17	MALAMPUZHA	49
HEMAVATHY	23		
PERIYAR	24		
YELDARI	30		
KRISHNARAJA SAGRA	31		
LOWER BHAWANI	33		
VANIVILAS SAGAR	37		
PENCH (TOTALADOH)	40		
PARAMBIKULAM	42		

14 reservoirs having storage 51% to 80% of normal storage.		
51% to 60%	61% to 70%	71% to 80%
4	4	6

- 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 :- 29.09.2016

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	24.678	87.83%	19.284	68.64%	18.125	64.51%	36.15
INDUS	14.730	10.474	71.11%	12.597	85.52%	12.282	83.38%	-14.72
NARMADA	17.414	17.023	97.75%	15.626	89.73%	14.866	85.37%	14.51
TAPI	7.394	6.265	84.73%	5.446	73.65%	6.153	83.22%	1.82
MAHI	4.012	3.516	87.64%	3.120	77.77%	3.287	81.93%	6.97
SABARMATI	0.735	0.712	96.87%	0.665	90.48%	0.535	72.79%	33.08
RIVERS OF KUTCH	0.887	0.300	33.82%	0.806	90.87%	0.583	65.73%	-48.54
GODAVARI	15.394	11.585	75.26%	7.215	46.87%	10.390	67.49%	11.50
KRISHNA	32.831	19.440	59.21%	10.849	33.04%	26.573	80.94%	-26.84
MAHANADI & NEIGHBOURING EFRS	13.181	11.424	86.67%	10.099	76.62%	11.421	86.65%	0.03
CAUVERY & NEIGHBOURING EFRS	8.359	3.080	36.85%	2.865	34.27%	5.291	63.30%	-41.79
WEST FLOWING RIVERS OF SOUTH	14.766	8.705	58.95%	7.881	53.37%	11.939	80.85%	-27.09
TOTAL	157.799	117.202		96.453		121.445		
PERCENTAGE								-3.49

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 29.09.2016

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	502.85	6.229	4.557	29-09-2016	73	95	90	676	1200
*2	PONG DAM	423.67	416.66	6.157	4.318	29-09-2016	70	86	84	-	360
<u>PUNJAB</u>											
*3	THEIN	527.91	518.25	2.344	1.599	29-09-2016	68	58	66	348	600
<u>RAJASTHAN</u>											
*4	MAHI BAJAJ SAGAR	280.75	281.50	1.711	1.711	28-09-2016	100	99	87	63	140
5	JHAKAM	359.50	359.65	0.132	0.132	28-09-2016	100	92	85	28	-
*6	RANA PRATAP SAGAR	352.81	352.60	1.436	1.403	29-09-2016	98	77	79	229	172
<u>EASTERN REGION</u>											
<u>JHARKHAND</u>											
7	TENUGHAT	269.14	260.12	0.821	0.422	29-09-2016	51	52	43	-	-
8	MAITHON	146.3	149.01	0.471	0.471	29-09-2016	100	58	94	342	-
*9	PANCHET HILL	124.97	127.65	0.184	0.184	29-09-2016	100	58	96	\$	80
10	KONAR	425.81	425.85	0.176	0.176	29-09-2016	100	85	89	\$	-
11	TILAIYA	368.81	371.57	0.142	0.142	29-09-2016	100	100	86	\$	4
<u>ODISHA</u>											
*12	HIRAKUD	192.02	191.57	5.378	5.117	28-09-2016	95	100	96	153	307
*13	BALIMELA	462.08	458.69	2.676	2.065	28-09-2016	77	68	59	-	360
14	SALANADI	82.30	74.01	0.558	0.310	28-09-2016	56	44	61	42	-
*15	RENGALI	123.50	122.61	3.432	3.140	28-09-2016	91	60	86	3	200
*16	MACHKUND(JALPUT)	838.16	837.04	0.893	0.786	28-09-2016	88	95	85	-	115
*17	UPPER KOLAB	858.00	856.12	0.935	0.758	28-09-2016	81	82	67	89	320
*18	UPPER INDRAVATI	642.00	638.98	1.456	1.134	29-09-2016	78	59	80	128	600
<u>WEST BENGAL</u>											
19	MAYURAKSHI	121.31	119.48	0.480	0.406	29-09-2016	85	53	66	227	-
20	KANGSABATI	134.14	132.63	0.914	0.816	29-09-2016	89	29	63	341	-
<u>TRIPURA</u>											
21	GUMTI	93.55	92.30	0.312	0.254	28-09-2016	81	100	54	-	15
<u>WESTERN REGION</u>											
<u>GUJARAT</u>											
*22	UKAI	105.16	103.26	6.615	5.642	29-09-2016	85	78	86	348	300
23	SABARMATI(DHAROI)	189.59	189.27	0.735	0.712	28-09-2016	97	90	73	95	1
*24	KADANA	127.7	127.71	1.472	1.249	28-09-2016	85	63	78	200	120
25	SHETRANJI	55.53	53.42	0.300	0.160	28-09-2016	53	100	81	36	-
26	BHADAR	107.89	100.52	0.188	0.012	28-09-2016	6	87	79	27	-
27	DAMANAGANGA	79.86	79.60	0.502	0.466	29-09-2016	93	100	93	51	1
28	DANTIWADA	184.1	174.99	0.399	0.128	28-09-2016	32	86	48	45	-
29	PANAM	127.41	125.40	0.697	0.424	28-09-2016	61	52	78	36	2
*30	SARDAR SAROVAR	121.92	121.60	1.566	1.508	29-09-2016	96	90	91	2120	1450
31	KARJAN	115.25	105.64	0.523	0.273	29-09-2016	52	68	95	51	3

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA

CENTRAL WATER COMMISSION

WEEK ENDING :- 29.09.2016

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	462.20	2.171	1.556	29-09-2016	72	4	52	227	-
*33	KOYANA	657.90	659.18	2.652	2.652	28-09-2016	100	75	97	-	1920
34	BHIMA(UJJANI)	496.83	496.65	1.517	1.457	28-09-2016	96	4	78	125	12
35	ISAPUR	441.00	433.80	0.965	0.385	28-09-2016	40	35	69	104	-
36	MULA	552.30	552.28	0.609	0.608	29-09-2016	100	52	82	139	-
37	YELDARI	461.77	452.06	0.809	0.134	29-09-2016	17	14	55	78	-
38	GIRNA	398.07	395.84	0.524	0.407	28-09-2016	78	11	49	79	-
39	KHADAKVASLA	582.47	582.47	0.056	0.056	28-09-2016	100	30	77	78	8
*40	UPPER VAITARNA	603.50	603.49	0.331	0.331	28-09-2016	100	71	93	-	61
41	UPPER TAPI	214.00	213.34	0.255	0.216	28-09-2016	85	94	89	45	-
*42	PENCH (TOTALADOH)	490.00	484.99	1.091	0.370	28-09-2016	34	84	84	127	160
43	UPPER WARDHA	342.50	342.50	0.564	0.564	29-09-2016	100	100	93	70	-
44	BHATSA	142.07	141.89	0.942	0.939	28-09-2016	100	81	95	29.378	15
45	DHOM	747.70	747.64	0.331	0.330	28-09-2016	100	53	88	36.2	2
46	DUDHGANGA	646.00	646.02	0.664	0.664	28-09-2016	100	76	97	2.441	24
47	MANIKDOH (KUKADI)	711.25	706.29	0.288	0.205	28-09-2016	71	27	60	2.2	6
48	BHANDARDARA	342.50	342.50	0.304	0.304	29-09-2016	100	100	93	70	-
CENTRAL REGION											
UTTAR PRADESH											
49	MATATILA	308.46	308.46	0.707	0.641	28-09-2016	91	77	90	-	30
*50	RIHAND	268.22	265.79	5.649	4.597	29-09-2016	81	37	48	-	300
UTTRAKHAND											
*51	RAMGANGA	365.30	349.99	2.196	1.176	29-09-2016	54	75	69	1897	198
*52	TEHRI	830.00	824.45	2.615	2.386	29-09-2016	91	89	82	2351	1000
MADHYA PRADESH											
*53	GANDHI SAGAR	399.90	399.61	6.827	6.438	29-09-2016	94	91	60	220	115
54	TAWA	355.40	355.49	1.944	1.944	29-09-2016	100	100	98	247	-
*55	BARGI	422.76	423.05	3.180	3.180	29-09-2016	100	93	93	157	90
*56	BANSAGAR	341.64	341.62	5.166	5.166	29-09-2016	100	67	69	488	425
*57	INDIRA SAGAR	262.13	262.03	9.745	9.685	29-09-2016	99	88	79	2380	1000
58	BARNA	348.55	348.21	0.456	0.433	29-09-2016	95	80	82	546	-
CHHATTIS GARH											
*59	MINIMATA BANGOI	359.66	354.76	3.046	2.097	26-09-2016	69	64	76	-	120
60	MAHANADI	348.70	348.63	0.767	0.760	29-09-2016	99	65	86	319	10
SOUTHERN REGION											
A.P. & TG											
*61	SRISAILAM	269.75	269.08	8.288	5.664	29-09-2016	68	20	78	0	770
*62	NAGARJUNA SAGAR	179.83	160.63	6.841	0.869	29-09-2016	13	1	73	895	810
ANDHRA PRADESH											
63	SOMASILA	100.58	91.25	1.994	0.816	29-09-2016	41	14	48	168	0
TELANGANA											
64	SRIRAMSAGAR	332.54	332.54	2.300	2.300	29-09-2016	100	10	61	411	27
65	LOWER MANAIR	280.42	280.25	0.621	0.621	29-09-2016	100	18	62	199	60

WEEKLY REPORT OF 91 IMPORTANT RESERVOIRS OF INDIA

GOVERNMENT OF INDIA CENTRAL WATER COMMISSION

WEEK ENDING :- 29.09.2016

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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	741.59	1.163	0.310	29-09-2016	27	51	86	79	-
*67	TUNGABHADRA	497.74	492.00	3.276	1.243	29-09-2016	38	62	86	529	72
68	GHATAPRABHA	662.95	659.43	1.391	1.135	29-09-2016	82	41	91	317	-
69	BHADRA	657.76	649.27	1.785	0.927	29-09-2016	52	66	93	106	39
70	LINGANAMAKKI	554.43	547.63	4.294	2.493	29-09-2016	58	51	88	-	55
71	NARAYANPUR	492.25	492.25	0.863	0.740	29-09-2016	86	63	86	425	-
72	MALAPRABHA(RENUKA)	633.83	627.61	0.972	0.353	29-09-2016	36	27	72	215	-
73	KABINI(Sancherla Tank)	696.16	692.20	0.444	0.236	29-09-2016	53	54	54	85	-
74	HEMAVATHY	890.63	876.58	0.927	0.191	29-09-2016	21	45	88	265	-
75	HARANGI	871.42	869.45	0.220	0.171	29-09-2016	78	46	88	53	-
76	SUPA	564.00	547.40	4.120	2.352	29-09-2016	57	43	73	-	-
77	VANIVILAS SAGAR	652.28	634.00	0.802	0.040	29-09-2016	5	6	13	123	-
*78	ALMATTI	519.60	519.60	3.105	3.105	29-09-2016	100	54	93	@	290
*79	GERUSOPPA	55.00	50.28	0.130	0.103	29-09-2016	79	66	79	83	240
<u>KERALA</u>											
80	KALLADA(PARAPPAR)	115.82	97.90	0.507	0.162	29-09-2016	32	35	75	62	-
*81	IDAMALAYAR	169.00	152.96	1.018	0.584	29-09-2016	57	50	79	33	75
*82	IDUKKI	732.43	716.60	1.460	0.682	29-09-2016	47	54	68	-	780
*83	KAKKI	981.46	969.73	0.447	0.276	29-09-2016	62	48	78	23	300
*84	PERIYAR	867.41	859.74	0.173	0.021	29-09-2016	12	29	50	84	140
85	MALAPMUZHA	867.41	859.74	0.224	0.092	29-09-2016	12	29	50	84	140
<u>TAMIL NADU</u>											
86	LOWER BHAWANI	278.89	264.58	0.792	0.147	29-09-2016	19	34	57	105	8
*87	METTUR(STANLEY)	240.79	228.76	2.647	1.202	29-09-2016	45	35	59	122	360
88	VAIGAI	279.20	265.52	0.172	0.007	29-09-2016	4	23	39	61	6
89	PARAMBIKULAM	556.26	543.75	0.380	0.140	29-09-2016	37	71	87	101	-
90	ALIYAR	320.04	302.94	0.095	0.006	29-09-2016	6	86	88	#	60
*91	SHOLAYAR	1002.79	986.64	0.143	0.058	29-09-2016	41	67	95	-	95
TOTAL FOR 91 RESERVOIRS				157.799	117.202						
PERCENTAGE							74	61	77		

Sd/-

* HYDEL POWER CAPACITY HAVING CAPACITY MORE THAN 60MW

Director

\$ TOTAL CCA 342 TH. HA OF DVC SYSTEM

W. M. , CWC

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