

# Water

## List of Tables

- 6.1:** Distribution of Large Dams Completed
- 6.2:** Live Storage Capacity of Large Dams/Reservoirs/Projects
- 6.3:** Ultimate Irrigation Potential
- 6.4:** Plan-wise Financial Expenditure on Major and Medium Irrigation
- 6.5:** Achievements of Bharat Nirman on Irrigation Potential Creation including Minor Irrigation
- 6.6:** Year-wise Achievements of Irrigation Potential Created/Utilised in respect of Minor Irrigation Projects of XI plan
- 6.7:** Financial Expenditure on Flood Management Work
- 6.8:** List of on-going Projects under Command Area Development and Water Management (CADWM) Programme during the period of XI<sup>th</sup> Plan
- 6.9:** Central Grant Released under the Command Area Development Programme (CADP)
- 6.10:** Rural Water Supply Facilities
- 6.11:** Installation of Off-Grid/Decentralized Renewable Energy Systems/Devices
- 6.12:** Source-wise Estimated Potential of Renewable Power
- 6.13:** Installed Capacity of Power Utilities (Including allocated shares in Joint & Central sector utilities)
- 6.14:** Electricity-Installed Capacity, Generation and Consumption
- 6.15:** Status of Hydropower Potential Development
- 6.16:** Electricity Sold to Ultimate Consumers
- 6.17:** Towns and Villages Electrified
- 6.18:** Consumption of Electricity by Users and Per Capita Consumption
- 6.19:** Year-wise Achievements of Irrigation Potential Created/Utilised in respect of Minor Irrigation Projects of XI<sup>th</sup> plan
- 6.20:** Ground Water Resources Availability, Utilization and Stage of Development

**Table 6.1:** Distribution of Large Dams Completed (as on October, 2014)

Year of completion											Total
Up to 1900	1901 to 1950	1951 to 1960	1961 to 1970	1971 to 1980	1981 to 1990	1991 to 2000	2001 & beyond	Year of Construction not Available	Total Completed Dams	Under Construction	
-	-	-	-	-	-	-	-	-	-	1	1

**Table 6.2:** Live Storage Capacity of Large Dams/Reservoirs/Projects (as on November, 2015)

Total Live Storage Capacity (BCM)		
Completed	Under Construction	Total
0.000	0.663	0.663

**Table 6.3:** Ultimate Irrigation Potential (UIP)

('000 ha)

Irrigation Potential		2015
<b>Major &amp; Medium</b>		0
<b>Minor</b>	Surface	65
	Ground	5
	Sub-Total	70
<b>Total</b>		70

**Table 6.4:** Plan-wise Financial Expenditure on Major and Medium Irrigation

(Rs. Crores)

Ninth Plan (1997- 2002)	Tenth Plan (2002-07)	Actual Expenditure (2007-08)	Actual Expenditure (2008-09)	Revised Approved Outlay (2009-10)	Revised Approved Outlay (2010-11)	Actual Expenditure (2011-12)
0.1	0.1	0	0	0.01	0	0.01

**Source** (Tables 6.1-6.4): Dam Safety Monitoring Directorate, Water Monitoring Directorate, Central Water Commission, National Registrar of Large Dam, Ministry of Water Resources, Planning and Progress Directorate, Central Water Commission, Govt. of India (Water and Related Statistics, 2015).

<http://www.cwc.gov.in/main/downloads/Water%20&%20Related%20Statistics%202015.pdf>  
(Accessed on 08.10.2016)

**Table 6.5:** Achievements of Bharat Nirman on Irrigation Potential Creation including Minor Irrigation

('000 ha)

Achievement from April 2005 to March 2009	Achievement				Cumulative Achievement
	2010-11	2011-12	2012-13	2013-2014	
8.91	4.90	4.15	0.00		23.21

**Source:** Ministry of Water Resources, Govt. of India (Hand Book on Water and Related Information, Central Water Commission January-2016).

<http://www.cwc.gov.in/main/downloads/Handbook%20on%20Water%20&%20Related%20Information-2016.pdf> (Accessed on 10.06.2016)

**Table 6.6:** Year-wise Achievements of Irrigation Potential Created/Utilised in respect of Minor Irrigation Projects of XI plan\*

('000 ha)

Ultimate Irrigation Potential				70
Cumulative achievement		Up to X Plan	IPC	21.26
			IPU	14.95
XI Plan	Target		IPC	21.26
			IPU	NF
	Achievement	IPC	IPC	9
			IPU	NF
	Achievement	IPC	IPC	9
			IPU	NF
	Achievement	2009-10	IPC	3.87
			IPU	2.3
	Achievement	2010-11	IPC	4.93
			IPU	NF
	Likely Achievement	2011-12	IPC	3.68
			IPU	2.2

\*: Figures under reconciliation with states; IPC: Irrigation Potential Created; IPU: Irrigation Potential Utilised

**Table 6.7:** Financial Expenditure on Flood Management Work

(Rs. Crores)

During IX Plan (1997-02)	Upto IX Plan (1997-02)	During X Plan (2002-07)	Upto X Plan (2002-07)	Actual Expenditure (2007-08)	Actual Expenditure (2008-09)	Revised Approved Outlay (2009-10)	Revised Approved Outlay (2010-11)	Actual Expenditure (2011-12)
0.00	1.11	0.00	1.11	0.00	0.00	0.0	0.00	1.50

**Source:** Planning and Progress Directorate, Central Water Commission, Water Resources Information System Directorate, Information System Organisation, Water Planning & Projects Wing, Govt. of India (Water and Related Statistics, 2015).

<http://www.cwc.gov.in/main/downloads/Water%20&%20Related%20Statistics%202015.pdf>  
(Accessed on 20.09.2016)

**Table 6.8:** List of on-going Projects under Command Area Development and Water Management (CADWM) Programme during the period of XI<sup>th</sup> Plan (2007-08 to 2011-12) (as on March, 2013)

(‘000 ha)

Project Name	Districts benefitted	Year of Inclusion	CCA	CCA Covered till 31.3.2013	Reported balance of executable CCA
Cluster of 5 Minor Irrigation Projects at Changki Valley	Aizawl, Champai	2011-12	0.222	0.053	0.169
Cluster of 60 MI Schemes Phase-II Aizawl, Lunget and Chhimituipui District		2003-04	3.04	0	3.04
<b>Total</b>			3.262	0.053	3.209

CCA - Cultural Command Area

**Table 6.9:** Central grant Released under the Command Area Development Programme (CADP)

Total up to end of VIII Plan	Up to IX Plan (Lacs)	Up to X Plan (Lacs)	Total XI Plan (Lacs)	During XII Plan			Cumulative Up to 2014-15 (Lacs)
				2012-13	2013-14	2014-15	
0.0	11.9	73.0	19.4		0.0		92.4

**Source** (Tables 6.8-6.9): Planning and Progress Directorate, Central Water Commission, Ministry of Water Resource, (CAD wing) Govt. of India (Water and Related Statistics, 2015).

<http://www.cwc.gov.in/main/downloads/Water%20&%20Related%20Statistics%202015.pdf>  
(Accessed on 08.05.2016)

**Table 6.10:** Rural Water Supply Facilities

Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
No. of villages provided with piped water supply	88	73	92	94	81	54	110	65	106	29
No. of hand pump tube wells installed	263	88	68	49	-	222	111	91	18	54
No. of rain Water harvesting tanks constructed	1567	485	805	1257	1616	504	789	38	55	17
No. of village springs improved	9	122	32	19	116	16	19	16	1	-
No. of impounding reservoirs constructed	7	7	2	6	1	1	1	-	-	-
No. of rural schools provided with drinking water facilities	180	140	400	1986	-	-	-	126	-	733
Ground water based	-	-	-	-	-	-	-	2*	-	-

(-) Nil; \*: Newly introduced Project by the concerned Department

**Source:** Directorate of Economics & Statistics Government of Mizoram

(Statistical Abstract of Mizoram, 2013).

<http://desmizo.nic.in/file/Abstract2013.pdf> (Accessed on 10.8.2016)

**Table 6.11:** Installation of Off-Grid/Decentralized Renewable Energy Systems/Devices

Year	2010-11	2011-12	2012-13	2013-14	2014-15
Biogas Plants (Nos.)	3820.0	3820.0	4020.0	4520.0	4770.0
Water Pumping Wind Mills (Nos.)	-	-	-	-	0.0
SPV Pumps (Nos.)	37.0	37.0	37.0	37.0	37.0
<b>Solar Photovoltaic</b>					
SLS (Nos.)	5812.0	431.0	431.0	431.0	431.0
HLS (Nos.)	3045.0	5395.0	6801.0	6801.0	6801.0
SL (Nos.)	431.0	8331.0	9589.0	9589.0	9589.0
PP (KWP)	109.0	109.0	241.0	241.0	241.0
Solar Cooker (Nos.) #	110.0	110.0	-	-	-
Biomass Gasifiers (Nos.)	200.0	200.0	250.0	250.0	250.0
<b>Remote Village</b>					
Villages (Nos.)	20.0	20.0	20.0	20.0	20.0

#Figures calculated for 2011- 12 onwards in MW unit

Note: SLS = Street Lighting System; HLS = Home Lighting System; SL = Solar Lantern; PP = Power Plants; SPV= Solar Photovoltaic; SHP = Small Hydro Power; MW = Mega Watt; KWP = Kilowatt peak

Source: Ministry of Statistics and Programme Implementation, Govt. of India (Statistical Year Book, India, 2016).

<http://www.mospi.gov.in/statistical-year-book-india/2016> (Accessed on 16.11.2016)

**Table 6.12:** Source-wise Estimated Potential of Renewable Power (in MW)

Power/ Energy	2012	2013	2014	2015	
Biomass Power	1	1	1	1	
Waste to Energy	2	2	2	2	
Wind Power	0	0	0	-	
Small Hydro Power	167	169	169	169	
Cogeneration bagasse	0	0	0	-	
Solar Energy	-	-	-	9090	
<b>Total</b>	Estimated Reverses	170	172	172	9261
	Distribution (%)	0.19	0.18	0.12	1.03

Source: Ministry of New and Renewable Energy, Govt. of India (Energy Statistics, 2013, 2014, 2015, 2016).

<http://mospi.nic.in/> (Accessed on 22.11.2016)

**Table 6.13:** Installed Capacity of Power Utilities (Including allocated shares in Joint & Central sector utilities) (as on October, 2016)

Ownership/ sector	Mode-wise Breakup							Grand Total
	Thermal				Nuclear	Hydro (Renewal)	RES (MNRE)	
	Coal	Gas	Diesel	Total				
State	0.00	0.00	0.00	0.00	0.00	0.00	41.47	41.47
Private	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
Central	10.35	40.54	0.00	50.89	0.00	34.31	0.00	85.20
<b>Sub-Total</b>	10.35	40.54	0.00	50.89	0.00	34.31	41.57	126.77

**Source:** Central Electricity Authority, Ministry of Power, Govt. of India.  
[http://www.cea.nic.in/reports/monthly/installedcapacity/2016/installed\\_capacity-10.pdf](http://www.cea.nic.in/reports/monthly/installedcapacity/2016/installed_capacity-10.pdf)  
 (Accessed on 23.11.2016)

**Table 6.14:** Electricity-Installed Capacity, Generation and Consumption  
 [Installed Capacity: Thousand kw); Generation: Gwh]

Year		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Installed Capacity	Hydro	-	0	0	0	0	-
	Steam	-	0	0	0	0	-
	Diesel and Wind	69	80.32	88.33	88.33	88	-
	Gas	-	0	0	0	0	-
	Nuclear	-	0	0	0	0	-
<b>Total</b>		69	80.32	88.33	88.33	88	0
Electricity generated (Gross)	Hydro	-	0	0	0	0	0
	Steam	-	0	0	0	0	0
	Diesel and Wind	61	102.8	102.1	102.1	102	102.1
	Gas	-	0	0	0	0	0
	Nuclear	-	0	0	0	0	0
<b>Total</b>		61	102.8	102.1	102.1	102	102.1
Consumption in Power Station		-	0	0.18	2.81	1	1.1
Electricity Generated (Net)		61	102.8	101.9	99.32	101	101
Consumption*		165.5	191.3	237.6	252.1	286.6	302.8
Per capita consumption (kwh)	Utilities	378.30	429.31	461.69	506.74	469.40	378.30
	Non Utilities	-	-	-	0.00	0.00	-
<b>Total</b>		378.30	429.31	461.69	506.74	469.40	444.68

\*: Relates to sales to ultimate consumers.

**Source:** Central Electricity Authority, Ministry of Power, Ministry of Statistics & Programme Implementation, Govt. of India (Statistical Year Book, India, 2016).  
<http://www.mospi.gov.in/statistical-year-book-india/2016> (Accessed on 23.11.2016)



**Table 6.15: Status of Hydropower Potential Development**

(Installed Capacity)

<b>Capacity</b>	<b>as on 31.03.2015</b>	<b>as on 31.08. 2016</b>
Identified Capacity Total (MW)	2196	2196
Above 25 MW	2131	2131
<b>Capacity Developed</b>		
Mega Watts	0.00	0.00
Percent	0.00	0.00
<b>Capacity under Construction</b>		
Mega Watts	60.0	60.0
Percent	2.82	2.82
<b>Capacity Operation &amp; Under Construction</b>		
Mega Watts	60.0	60.0
Percent	2.82	2.82
<b>Capacity yet to be Developed</b>		
Mega Watts	2071.0	2071.0
Percent	97.18	97.18

**Source:** Central Electricity Authority, Ministry of Power, Govt. of India.  
[http://cea.nic.in/reports/monthly/hydro/2015/hydro\\_potential\\_region-08.pdf](http://cea.nic.in/reports/monthly/hydro/2015/hydro_potential_region-08.pdf) (Accessed on 23.11.2016)

**Table 6.16: Electricity Sold to Ultimate Consumers (Utilities only)**

(Gwh)

<b>Electricity Sold</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Total sold to ultimate consumers	191.33	237.56	252.05	286.60	302.79
Domestic	129.16	174.40	170.92	197.59	200.15
Commercial	11.86	14.65	18.89	21.10	23.57
Industrial Power at low & medium voltage	1.75	1.57	1.76	1.81	2.09
Industrial Power at high voltage	0.63	0.31	0.33	1.47	4.99
Public lighting	5.15	7.04	6.04	5.36	7.48
Traction	0.00	0.00	0.00	0.00	0.00
Agriculture	0.50	0.12	0.09	0.08	0.06
Public water works & sewage pumping	30.62	27.29	36.28	37.23	40.21
Miscellaneous	11.66	12.18	17.74	21.96	24.24

**Source:** Ministry of Statistics and Programme Implementation, Govt. of India  
 (Statistical Year Book, India, 2016).  
<http://www.mospi.gov.in/statistical-year-book-india/2016> (Accessed on 03.06.2016)

**Table 6.17:** Towns and Villages Electrified

(in Nos.)

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Towns</b>							
Number of Towns (2011 Census)	22	22	22	22	22	22	22
Electrified	22	22	22	22	22	22	22
Percentage	100	100	100	100	100	100	100
<b>Villages</b>							
Number of Villages (2011 Census)	707	707	707	707	707	707	704
Electrified	570	570	570	623	657	661	596
Percentage	80.6	80.6	80.6	88.1	92.9	93.5	84.7

**Source:** Ministry of Statistics and Programme Implementation, Govt. of India  
(Statistical Year Book, India, 2016).  
<http://www.mospi.gov.in/statistical-year-book-india/2016> (Accessed on 06.06.2016)

**Table 6.18:** Consumption of Electricity by Users and Per Capita Consumption

Year	2003 - 04	2004 - 05	2005 - 06	2006 - 07	2007 - 08	2008 - 09	2009 - 10	2010 - 11	2011 - 12	2012 - 13
Unit	MU	MU	MU	MU	MU	MU	MU	MU	MU	MU
KJP	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.894
Domestic	82.003	84.448	91.02	95.98	109.01	111.34	128.19	147.21	170.91	193.693
Commercial	7.086	6.527	6.94	7.35	8.9	9.94	13.65	13.77	18.88	21.099
Public Lighting	4.933	5.81	5.28	15.88	9.963	4.04	4.95	5.23	6.04	5.364
Public Water Works	18.789	18.03	17.94	20.04	27.092	25.26	28.14	27.76	36.28	37.228
Industrial	1.673	1.931	2.26	1.77	1.59	1.62	2.40	1.87	2.08	3.286
Bulk Supply	8.506	8.654	11.07	9.63	12.435	11.38	12.02	12.18	17.31	21.479
Others (Misc.)	1.971	0.276	0.227	0.237	99.238	1.90	1.35	0.12	0.52	0.484
<b>Total</b>	124.96	125.68	134.74	150.89	268.23	165.48	190.70	208.14	252.02	286.53
Per Capita Consumption	140.64	141.44	151.64	169.71	173.26	186.23	173.04	190.77	231.02	263

**Source:** Directorate of Economics & Statistics Government of Mizoram  
(Statistical Abstract of Mizoram, 2013).  
<http://desmizo.nic.in/file/Abstract2013.pdf> (Accessed on 10.08.2016)

**Table 6.19:** Year-wise Achievements of Irrigation Potential Created/Utilised in respect of Minor Irrigation Projects of XI plan\*

('000 ha)

Ultimate Irrigation Potential			70	
Cumulative achievement		Up to X Plan	IPC	21.26
			IPU	14.95
XI Plan	Target		IPC	21.26
			IPU	NF
	Achievement	IPC	IPC	9
			IPU	NF
	Achievement	IPC	IPC	9
			IPU	NF
	Achievement	2009-10	IPC	3.87
			IPU	2.3
	Achievement	2010-11	IPC	4.93
			IPU	NF
Likely Achievement	2011-12	IPC	3.68	
		IPU	2.2	

\*: Figures under reconciliation with states; IPC: Irrigation Potential Created; IPU: Irrigation Potential Utilised

**Source:** Planning and Progress Directorate, Central Water Commission, Water Resources Information System Directorate, Information System Organisation, Water Planning & Projects Wing, Govt. of India (Water and Related Statistics, 2015).

<http://www.cwc.gov.in/main/downloads/Water%20&%20Related%20Statistics%202015.pdf>

(Accessed on 20.09.2016)

Water

**Table 6.20:** Ground Water Resources Availability, Utilization and Stage of Development (as on 2011)

(in bcm)

Annual Replenishable Ground Water Resource				Net Annual Ground Water Availability	Annual Ground Water Draft			Projected demand for Domestic and Industrial uses up to 2025	Ground Water Availability for future irrigate on use	Stage of Ground Water Development (%)
Monsoon Season		Non-monsoon Season			Irrigation	Domestic and industrial uses	Total			
Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources	Total						
0.0257	Neg.	0.005	Neg.	0.027	0.0	0.001	0.001	0.002	0.025	3.52

**Source:** Central Ground Water Board, Ministry of Water Resource, Govt. of India (Ground Water Year Book, 2014-15). <http://www.egwb.gov.in/documents/GroundWater%20Year%20Book%202013-14.pdf> (Accessed on 08.06.2016)