

Assessment of functionality status of household tap connections in rural areas (2020-21)

State report

Chhattisgarh



Submitted to:
National Jal Jeevan Mission
Department of Drinking Water and Sanitation
Ministry of Jal Shakti

Report prepared by:
NIELSEN (INDIA) PRIVATE LIMITED

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1. Introduction

Announced in 2019, the Jal Jeevan Mission – Har Ghar Jal (JJM – HGJ) is implemented by Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti in partnership with States/ UTs. JJM aims to provide a Functional Household Tap Connection (FHTC) to every rural home in the country by 2024. A household tap connection is said to be functional when the tap water supply is of adequate quantity (minimum 55 lpcd) and prescribed quality (as per BIS:10500) on regular and long-term basis. Further, JJM seeks to promote holistic management of local water sources and not just provide tap water connections.

The DDWS had engaged Nielsen (India) Private Limited to undertake 'Functionality Assessment' of household tap connections. The assessment covered household tap connections in 6,992 villages across 704 districts from 31 States/ UTs. The survey was undertaken in November – December 2020.

2. Objectives of the study

The main objectives were an assessment of Functionality of Household Tap Connections (FHTCs) under JJM on various parameters; ascertaining, in the form of data, on-ground progress of JJM in terms of adequate quantity of prescribed quality of drinking water supplied to rural households on regular basis; and engaging with Gram Panchayats and/ or its sub-committees of the sample villages and soliciting their feedbacks and recommendations for improving the programme implementation; and to suggest measures for mid-course correction for improvement in functionality of household tap connections.

3. Approach and Methodology

The approach followed was to assess the functionality of household tap connections (within premises) and in-village drinking water supply infrastructure. The selection of sample villages was from the JJM-Integrated Management Information System (IMIS) data-base of villages having at least 15 household tap connections. In each sample village, the largest PWS scheme was sampled. The survey was planned as in-person Computer Aided Personal Interview (CAPI) survey, and included an on-ground assessment of the functionality of sample PWS schemes and tap connections attached to the same. The survey included measurement of the quantity of water received at the household level through the tap connection, as well as water testing to check whether the quality of the drinking water is as per the BIS standards, using Field Test Kits (FTKs) and H₂S vials. The study also collected supply side information, including assessment of the quantity of water supplied by the scheme, operation and maintenance arrangements, availability and functionality of scheme level infrastructure and the aspects related to source and system sustainability.

A sample of 10 villages from every district in the State were selected following probability proportionate to size (PPS) systematic random sampling method ensuring due representation of SC/ SC majority villages as well as quality-affected villages. In each selected village, households for the survey were selected at head end, middle and tail end of the selected piped water supply network. In Chhattisgarh the survey was conducted in 3015 households from 280 villages in 28 districts.

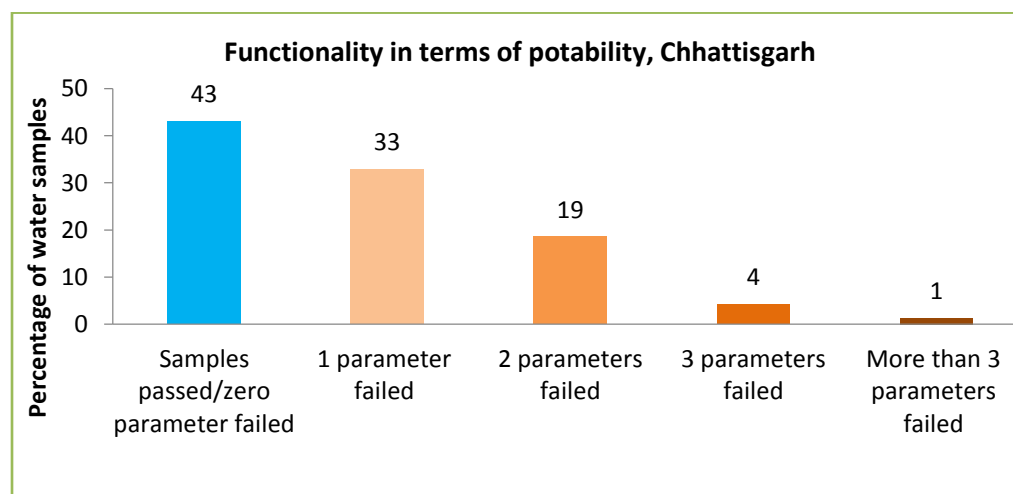
4. Key Findings

SL.	INDICATOR	Chhattisgarh	India
Household level			
1	Average household size	5.7	5.6
2	Percent of households using FHTC for drinking purpose	96.4	88.9
3	Percentage of households reported working tap connections (supply at least one day in last 7 days)	97.7	93.6
4	Number of water supply days in a usual week		
4a	1 – 2 days	4.4	7.6
4b	3 – 4 days	1.4	10.4
4c	5 – 6 days	0.7	1.5
4d	7 days	93.6	80.5
5	Number of water supply days in the last week		
5a	0 days	1.5	2.4
5b	1 – 2 days	6.4	9.7
5c	3 – 4 days	3.1	14.8
5d	5 – 6 days	6.3	4.9
5e	7 days	82.7	68.1
6	Percentage of households reporting reliability of water supply days	87.2	86.5
7	Percentage of households reporting tap connections functioning continuously for more than 15 days in a month for last 12 months	83.7	84.6
8	Average number of times water is supplied on the days of supply		
8a	1 time	46.0	56.6
8b	2 times	52.9	28.2
8c	3 times	1.0	6.1
8d	4 times/24 hours	0.1	9.1
9	Percentage of households reporting reliability of supply for different supply timings	87.0	84.3
10	Percentage of households reporting adequate water pressure for different supply timings		
10a	Morning	73.1	80.1
10b	Afternoon	75.3	84.6
10c	Evening	72.7	84.8
11	Percentage of households reported paying water tariff – separately or along with other taxes	70.1	52.8
12	Percentage of households reported receiving 55 lpcd or more	81.4	83.5
13	Percentage of households having potable water *	43.0	61.3
14	Percentage of households reporting regularity of supply	90.0	87.2
15	Percentage of households reporting functional tap connections	29.5	47.8
Village level			
16	Percentage villages having functional water and sanitation committees	33.2	48.5
17	Percentage of functional schemes in the sample villages considering all schemes (supplying water any day in the last 7 days)	79.0	86.0
18	Percentage of in-village schemes having O&M undertaken by village water	86.8	83.1

SL.	INDICATOR	Chhattisgarh	India
	and sanitation committee or by Panchayat		
19	Percentage of sample schemes reported having faced challenges in the last one year		
19a	Inadequate infrastructure	59.0	40.2
19b	Poor water availability at the source	37.8	33.0
19c	Poor maintenance	72.4	46.2
19d	Natural calamity	33.3	63.4
20	Percentage of schemes reporting measure to improve source sustainability	81.2	59.9
21	Number of sample villages found with no scheme (defunct/under construction/not handed over/not constructed)	52	751

Figures 1, 2 and 3 depicts the functionality aspects of the household tap connections in Chhattisgarh. Figure 1 presents the details of the potability aspects – the proportion of samples which have qualified as per all 13-15 parameters, as well as the proportion of sample which have failed due to one/two/three/more than three parameters.

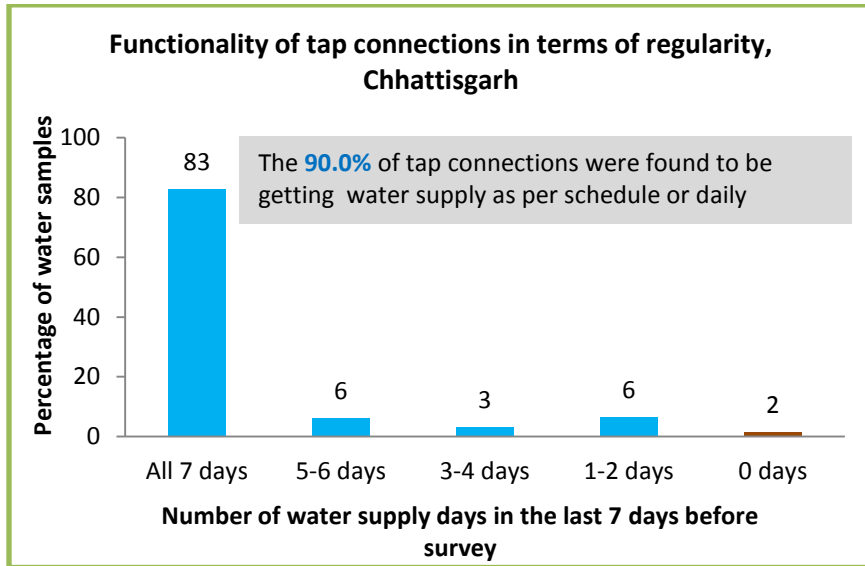
Fig 1: Functionality of the household tap connection in terms of potability - Chhattisgarh



Base: Households with water quality testing done, N: 237

Figure 2 presents functionality in terms of regularity, and presents the water supply situation in the last 7 days (before survey date). This includes information on the proportion of taps supplying water on all 7 days, 5-6 days, 3-4 days, 1-2 days and zero days in the last 7 days. As not all schemes are planned to supply water daily, the information of the proportion of taps supplying water daily or as per the water supply schedule is also presented.

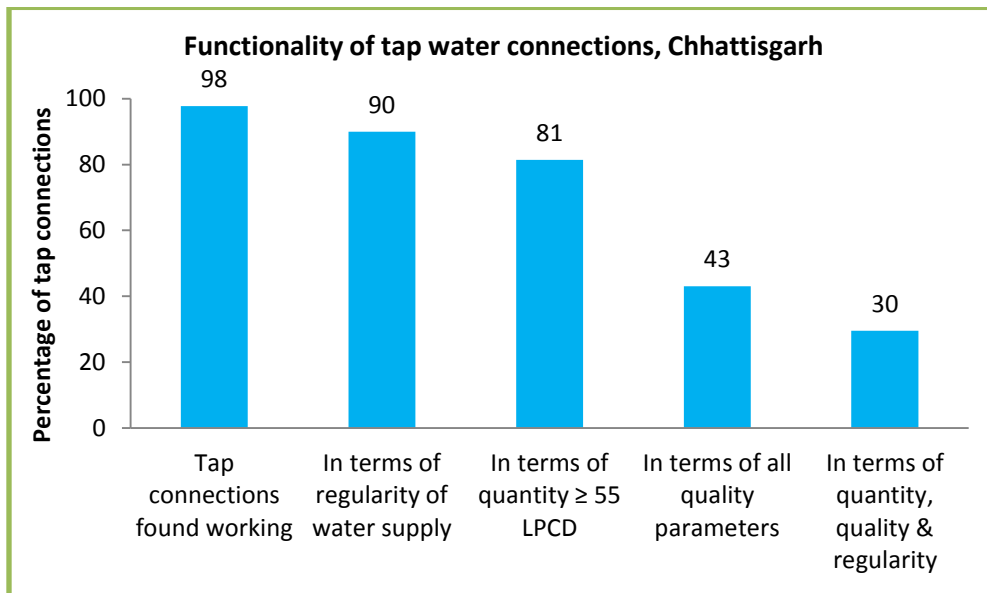
Fig 2: Functionality of the household tap connection in terms of regularity - Chhattisgarh



Base: All Households, N: 3015

Figure 3, presents the summary situation of the working tap connections (defined as supplying water atleast on one day in the last 7 days), the functionality in terms of the proportion of tap connections which have qualified regularity, quantity, quality parameters, and the proportion which have qualified all 3 parameters.

Fig 3: Overall functionality of the household tap connection - Chhattisgarh

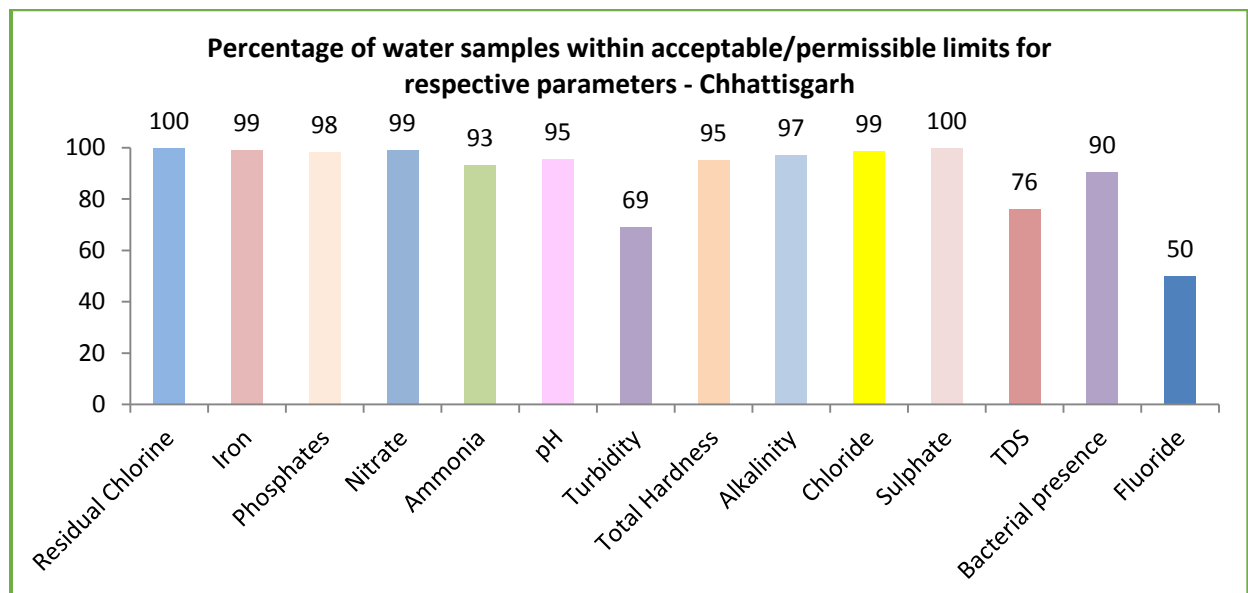


Base: Total count of tap connections considered for functionality assessment, N: 2898

A total of 237 water samples were tested as per BIS: 10,500 standards for all 13 parameters. Of these samples, 4 samples included testing for Fluoride. All the water samples were taken from a randomly selected head end household of selected sample PWS schemes in the sample villages of Chhattisgarh – one sample for each of separate water sources in the village. The figure below shows the proportion of samples in which different parameters were found within acceptable/ permissible limits.

As can be seen, almost all the samples (97% or more) had Residual Chlorine, Iron, Phosphates, Nitrate, Alkalinity, Chloride and Sulphate within acceptable/ permissible limits. Turbidity, TDS, Total Hardness, Ammonia, pH and Bacterial presence were the key issues. Half of the samples tested for presence of Fluoride in Fluoride affected villages were found not to be within acceptable limits.

Fig 4: Percentage of water samples within acceptable/ permissible limits for respective parameters - Chhattisgarh



Pic 1: Household survey being undertaken in one of the villages in Chhattisgarh



Pic 2: Water quality sample testing being undertaken in a village in Chhattisgarh



5. Conclusions

Chhattisgarh had less functional tap connections (29.5%) as compared with the national average. About 81 percent of the households were estimated to be supplied 55 lpcd or more and 90 percent with a regular water supply. However, the proportion of households receiving potable water is less - about 43 percent. Since the tap connections considered to be functional were as per the JJM guidelines of including adequate quantity (55 lpcd or more), potability (as per BIS:10500 standards) and regularity of water supply (all days or as per the water supply schedule), the reason that a lower proportion of households had functional tap connections is mostly due to the lower proportion of households having a combination of potability and regularity (32.1% households having adequate quantity and potable water; 37.2% households having potable water received on a regular basis; while 76.4% households had adequate quantity of water supply on a regular basis).

The main issues with the samples which were not found potable were Turbidity, TDS, Total Hardness, Ammonia, pH and Bacterial presence being above permissible limits.

For most of the schemes water supply was scheduled as daily supply but there seems to be variation from the schedule. A much lower proportion of those reporting a usual daily water supply (93.6%), has reported receiving water supply on a daily basis in the last 7 days (82.7%). Forty six per cent of the households have reported being supplied water once a day, and the rest, mostly twice a day. A majority (87%) of the households have reported a reliability of water supply timings as well as adequate water pressure.

However, despite good quality water supply service delivery, around 70 percent households have reported paying water tariff. As per the JJM guidelines, the State Government needs to ensure 100% fund requirement for operation and maintenance of the schemes are met by the Agency responsible for water supply provision to function as a utility.

One thirds of the villages (33.1%) have reported having water and sanitation committees – of these villages, in 87 percent, the water and sanitation committees were actually taking responsibility for operation and maintenance activities of the PWS schemes. As reported by the communities 'inadequate infrastructure and poor maintenance' were the main challenges faced by the schemes. About 81 percent of the schemes had taken any initiatives for source sustainability.

Annexures to this report includes:

- List of village with no scheme/defunct schemes/under construction is placed as Annexure 1,
- List of villages with schemes supplying only through tap stand/stand posts is placed as Annexure 2,
- List of villages where 15 FHTCs were not found is placed as Annexure 3,
- Indicative proportion of functional tap connections by districts is placed as Annexure 4, and
- List of villages where samples failed for given quality parameter is placed as Annexure 5

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Annexure 1: List of village with no scheme/defunct schemes/under construction

S.No.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Type	Status of the Scheme	Remarks
1.	Baloda Bazar	Baloda bazar	Khairtal	Khairtal	Force Lift Pump	SVS	Scheme is defunct	Scheme is not functional since last 4 years
2.	Baloda Bazar	Bilaigarh	Salonikala	Salauni Kala	Additional T.W. for PWSS	SVS	Scheme is defunct	Scheme is not functional since last 15 years
3.	Baloda Bazar	Kasdol	Matiya	Matiya	Installation Of Extra Deep H.P.	SVS	Scheme is defunct	Scheme is not functional since last 7 years
4.	Balram pur	Balram pur	Bardar	Bardar	Pws Scheme Santosinagar	MVS	No scheme	No scheme in village
5.	Balram pur	Balram pur	Bhanaura	Bhanaura	PWS Scheme	MVS	Scheme is defunct	Water tank, pipeline and pump are all damaged.
6.	Balram pur	Balram pur	Jarhadih	Jarhadih	PWS Scheme	SVS	Scheme is defunct	Scheme is not functional since last 5 years
7.	Balram pur	Kusmi	Chando	Chando	IRP/ FRP System (WQP)	MVS	Scheme is defunct	Scheme is not functional since last 4 years
8.	Balram pur	Ramchandrapur	Bhanwarmal	Bhanwarmal	PWS Scheme Bhawarmal	SVS	Scheme is defunct	Scheme is not functional since last 1 year
9.	Balram pur	Shankargarh	Mahyadih	Mahuyadih	Force Lift Pump	MVS	Scheme is defunct	Water tank leakage and pipeline leakage from 2016
10.	Bemeta ra	Bemeta ra	Bahera (P)	Pendri (Janta)	(WQ) Group Water Supply Schemes	MVS	Under construction	Scheme not yet started
11.	Bemeta ra	Nawagarh	Baharbod	Nawagaon (Dud)	(WQ) PWSS Group Water Supply Scheme - Nawagarh	MVS	Scheme is defunct	MVS scheme defunct since last 1 year
12.	Bijapur	Bijapur	Papanpal	Papanpal	Force Lift Pump	SVS	Under construction	Under construction
13.	Bilaspur	Masturi	Bitkula	Bitkula	Near School	SVS	Scheme is defunct	Only scheme structure available from 2009; but no water supply
14.	Bilaspur	Masturi	Navagaon	Nawagaon	New PWSS	SVS	Scheme is defunct	Scheme is not functional since last 3 months
15.	Dantewada	Dantewada	Bhansi	Bhansi	New GWSS	MVS	Under construction	MVS proposed. Water tank construction done before 6 month.

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S.No.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Type	Status of the Scheme	Remarks
16.	Gariyaband	Devbhog	Purnapani	Purnapani	New Single Phase PP Purnapani	SVS	No scheme	No scheme in village
17.	Gaurela Pendra Marwahi	Gaurella-1	Andhiyarkhor	Andhiyarkhor	Main Basti	SVS	Scheme is defunct	Water tank, pipe line, are all available from 2014, but scheme not started because of lack of adequate funds.
18.	Gaurela Pendra Marwahi	Gaurella-2	Sevra	Sewra	Force Lift Pump	SVS	No scheme	No scheme in village
19.	Gaurela Pendra Marwahi	Marwahi	Shekha	Sekhwa	New PWSS	SVS	Scheme is defunct	Water tank, pipe line, pump all are available from 2015 but HH tap connection not provided yet. Also stand post not available
20.	Gaurela Pendra Marwahi	Marwahi	Ushad	Usarh	Solar Dual Pump 2017	SVS	No scheme	No scheme in village
21.	Janjgir-Champa	Balauda	Hedaspur	Hedaspur	MNRE Solar Powered Dual Pump Based (Hedaspur Mh)	SVS	Scheme is defunct	Only 20 households having tap connection, but water supply stopped from last one year
22.	Janjgir-Champa	Dabhar	Faraswani	Faraswani	Forcelift Pump Scheme	SVS	Scheme is defunct	Scheme is not functional since last 4 years
23.	Janjgir-Champa	Jaijaipur	Parsadih	Parsadih	M_Jai_Og PWSS	SVS	Scheme is defunct	Scheme is not functional since last 6 years
24.	Janjgir-Champa	Pamgarh	Nandeli	Nandeli	Ed_PWSS_19	SVS	No scheme	No scheme in the village
25.	Janjgir-Champa	Pamgarh	Pachari	Panchri	Pachari	SVS	Scheme is defunct	Scheme is not functional since last 1 month
26.	Kawardha	Bodla	Bhaluchua	Bhaluchua	New PWSS	SVS	Scheme is defunct	Scheme construction done in 2017 but water supply not yet started due to the lack of adequate funds to fully operate and maintain the scheme
27.	Kawardha	Pandari	Amal	Amaldiha	Ongoing PWSS	SVS	Scheme is defunct	Scheme is not functional since 2016

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S.N o.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Type	Status of the Scheme	Remarks
	ha	ya	diha					
28.	Kondagaon	Baderajpur	Kondkera	Koundkera	Stand Alone System I.R.P	MVS	Scheme is defunct	Scheme is not functional since last 15 months
29.	Kondagaon	Baderajpur	Salna	Salna	Force Lift Pump	SVS	Scheme is defunct	Scheme is not functional since last 15 months
30.	Kondagaon	Keshkal	Atekonhadi	Atekonhadi	New PWSS	SVS	Scheme is defunct	PWS scheme not available in the village.
31.	Kondagaon	Kondagaon	Mungapadar	Mungapadar	0	SVS	Scheme is defunct	Scheme is not functional since last 15 months
32.	Kondagaon	Makdi	Shampur	Shampur	Force Lift Pump	SVS	Scheme is defunct	Scheme is not functional since last 15 months
33.	Korba	Kartala	Jarwe	Jarve	Jarve (PWSS)	SVS	Scheme is defunct	Scheme is not functional since last 1 year
34.	Korba	Kartala	Sendripali	Sendripali	Rejuvenation Of Old H.P	SVS	Scheme is defunct	Scheme is not functional since last 2 years
35.	Koriya	Baikunthpur	Ranai	Ranai	PWS	SVS	Scheme is defunct	Scheme is not functional since last 5 years
36.	Koriya	Khadgawana	Katkona	Katkona	Supply And Installation Of Single Phase PP	SVS	Scheme is defunct	Scheme is not functional since last 15 months
37.	Koriya	Khadgawana	Tolga	Tolanga	Ongoing Force Lift Pump	SVS	Scheme is defunct	Scheme is not functional since last 4 years
38.	Mungeli	Mungeli	Bhatli kala	Bhatli Kala	New PWSS	SVS	Scheme is defunct	Scheme is not functional since last 15 years
39.	Mungeli	Mungeli	Dashrangpur	Dasharangpur	PWSS	SVS	Scheme is defunct	Scheme is not functional since last 15 years
40.	Narayanpur	Narayanpur	Bakulwahi	Bakulwahi	New PWSS Bakulwahi	SVS	Scheme is defunct	Scheme is not functional since last 18 months
41.	Narayanpur	Narayanpur	Chhinari	Adpal	IAP Solar Power Pump	SVS	No scheme	No scheme in village
42.	Narayanpur	Narayanpur	Tadopal	Khadkagaon	IAP Solar Power Pump	SVS	No scheme	No scheme in village

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S.N o.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Type	Status of the Scheme	Remarks
43.	Narayanpur	Orchha (Abhujmad)	Gomagal	Gomagal	MNRE Solar Powered Dual Pump Based PWSS	SVS	No scheme	No scheme in village
44.	Raigarh	Lailunga	Khedaama	Khedaama	SP In School	SVS	Scheme is defunct	Scheme is not functional since last 18 years
45.	Rajnandagon	Chhuikhadan	Bhothli	Bhujari	Solar Powered Dual Based PWSS In IAP District	SVS	No scheme	No scheme in village
46.	Rajnandagon	Chhuikhadan	Garra	Garra	Ongoing Supply And Installation Single Phase Power Pump (Habitation)	SVS	No scheme	No scheme in village
47.	Rajnandagon	Chhuikhadan	Manpur Pahadi	Manpur	MNRE Solar Powered Dual Based PWSS	SVS	Scheme is defunct	From 2019 water tank available but leakage in pipeline and households tap connection not available in the village.
48.	Sukma	Sukma	Gongla	Gongla	IRP Installation	SVS	No scheme	No scheme in village
49.	Sukma	Sukma	Sonakunara	Sonakunara	IRP Installation	SVS	Scheme is defunct	Scheme is not functional since last 1 year
50.	Surajpur	Pratappur	Khadgawankala	Khadgawankala	PWS Scheme_Ongoing_Khadgawankala	MVS	Scheme is defunct	Scheme is not functional since last 15 months
51.	Surajpur	Ramanujanagar	Parashurampur	Parashurampur	PWS_Drilling Of Additional Tw For PWSS, Pipe Line & PP, Ph_Parshurampur_Majhapara	SVS	Scheme is defunct	MVS scheme defunct for 5 years
52.	Surguja	Lakhanpur	Rajpurikala	Rajpurikala	Force Lift Pump	SVS	Scheme is defunct	Scheme is not functional since last 3 years

Annexure 2: List of villages with schemes supplying only through tap stand

S.No	District Name	Block Name	Panchayat Name	Village Name	Name Of Largest Scheme In The Village	Type	Remarks
1.	Baloda Bazar	Palari	Kanakot	Kanakot	Single Phase P.P. (Habitation) Kanakot	SVS	No FHTC. Water supply through tap stand only
2.	Balrampur	Wadr afnagar	Raghunathnagar	Raghunathnagar	Drilling Of Add. Tw. For PWSS, Pipe Line And Pp, Ph	SVS	Water tank, pipe line and pump all are defunct from 2006 so not water supply to household tap connection. Only water supply through stand post.
3.	Bijapur	Bhairamgarh	Kodoli	Kodoli	PWSS Kodoli	SVS	Scheme defunct for 1 year due to pipe leakage. Water supply from tap stand only.
4.	Bijapur	Bhairamgarh	Mirtur	Mirtur	Force Lift Pump (On Going)	SVS	2 public tap stands only
5.	Bijapur	Bhairamgarh	Pinkonda	Pinkonda	IRP	SVS	Water tank, pipe line, and pump all are available from 2018 but scheme not started yet. Stand post available.
6.	Bijapur	Bijapur	Chairpal	Cherpal	Force Lift Pump	SVS	Water tank, pipe line and pump all are available from 2018 but scheme not started yet. Stand post available.
7.	Bilaspur	Bilha	Udantaal	Udantal	Supply And Installation Of Single Phase PP	SVS	Only 4 households have FHTC
8.	Dhamtari	Magar lod	Parewadih	Parewadih	Force Lift Pump-Parewadih-PS	SVS	No FHTC. Water supply through tap stand only
9.	Gariyaband	Fingeshwar	Parsadakhala	Khudsa	Pipe Line Extension	SVS	No FHTC. Water supply through tap stand only
10.	Janjgir-Champa	Bahmin dih	Taldeori	Taldeori	Taldewari	SVS	Only FHTC structure available from last 15 month, but water supply from stand post
11.	Jashpur	Pharsabahr	Ankira	Ankira	I.A.P. Solar Pump PWS	SVS	Only 5 households have FHTC
12.	Kanker	Antagarh	Tadoki	Tadokee	Solar Power Pump	SVS	Scheme defunct from 14 months
13.	Kaward	Bodla	Tregaon	Taregoan	Ongoing Water Supply In School	SVS	Single village scheme defunct for 3 years.

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S.No	District Name	Block Name	Panchayat Name	Village Name	Name Of Largest Scheme In The Village	Type	Remarks
	ha		Jungul	Jungle	Through Power Pump		Now only mini scheme has water supply through stand post
14.	Kawardha	Kawardha	Laghan	Laghan	Force lift pump	SVS	No FHTC. Water supply through tap stand only
15.	Koriya	Khadgawana	Pondi	Pondi	Supply And Installation Of Single Phase Pp	SVS	Water source available but not provided water for last 2 years.
16.	Koriya	Khadgawana	Udhanapur	Udhanapur	Ongoing Force Lift Pump	SVS	No FHTC. Water supply through tap stand only
17.	Koriya	Sonhat	Latma	Latma	Solar Powered Dual Pump	SVS	No FHTC. Water supply through tap stand only
18.	Koriya	Sonhat	Sundarpur	Sundarpur	Ongoing New Water Supply From Distance Source Sunderpur	SVS	No FHTC. Water supply through tap stand only
19.	Mahasamund	Mahasamund	Dhansuli	Dhansuli	Piped Water Supply Scheme	SVS	No FHTC. Water supply through tap stand only
20.	Mahasamund	Saraipali	Bondanawapali	Bondanawapali	MVWSS Latnala (Khamharpali)	MVS	No FHTC. Water supply through tap stand only
21.	Mungeli	Pathariya	Chhindbhog	Chhindbhog	O and MPWSS	SVS	Only 3 households have FHTC
22.	Mungeli	Pathariya	Dandgaon	Dadgaon	Dugwell Ongoing	SVS	No FHTC. Water supply through tap stand only
23.	Narayanpur	Narayanpur	Chhinari	Chotefarsgaon	MNRE Solar Powered Dual Pump Based PWSS	SVS	No FHTC. Water supply through tap stand only
24.	Sukma	Sukma	Jhapra	Jhapra	IRP Installation	SVS	No FHTC. Water supply through tap stand only
25.	Surajpur	Bhaiyathan	Kewara	Kewara	Group Water Supply Scheme-Sarasor_Mahanadi	MVS	MVS scheme defunct for 1 year due to pump breakdown. Water supply through stand post
26.	Surajpur	Ramanujnagar	Amgaon	Amgaon	Khaspara	MVS	MVS scheme defunct for 15 years. Water supply through stand post

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S.No	District Name	Block Name	Panchayat Name	Village Name	Name Of Largest Scheme In The Village	Type	Remarks
27.	Surguja	Ambikapur	Sukhari	Sukhari	PWS Sukhari	MVS	Scheme defunct from 12 months

Annexure 3: List of villages where 15 FHTCs were not found

No villages present where 15 FHTCs were not found.

Annexure 4: Indicative proportion of functional tap connections by districts

S.No.	District	Percentage Functional Taps
1.	Balod	16.7
2.	Baloda Bazar	70.0
3.	Balrampur*	0.0
4.	Bastar	37.0
5.	Bemetara	67.5
6.	Bijapur	0.0
7.	Bilaspur	41.9
8.	Dantewada	72.6
9.	Dhamtari	24.4
10.	Durg	15.3
11.	Gariyaband	0.0
12.	Gaurela Pendra Marwahi	41.3
13.	Janjgir-Champa	50.0
14.	Jashpur	48.5
15.	Kanker	51.1
16.	Kawardha	0.0
17.	Kondagaon	0.0
18.	Korba	15.8
19.	Koriya*	31.1
20.	Mahasamund	0.0
21.	Mungeli	0.0
22.	Narayanpur	88.0
23.	Raigarh	25.9
24.	Raipur	18.7
25.	Rajnandagon	41.0
26.	Sukma	48.9
27.	Surajpur	4.4
28.	Surguja	0.0

* The denominator is less than 50

Annexure 5: List of villages where samples failed for given quality parameter

S.No	District name	Block name	Gram panchayat name	Village name
Villages with failed water samples for Turbidity test				
1.	Balod	Dondi	Chikhali	Chikhali
2.	Balod	Dondi	Salhe	Salhe
3.	Balod	Dondilohara	Arajpuri	Arajpuri
4.	Balod	Dondilohara	Arajpuri	Arajpuri
5.	Balod	Dondilohara	Suregaon	Suregaon
6.	Balod	Gunderdehi	Khuteri (Bhat.)	Khuteri (Bh)
7.	Bastar	Bakawand	Rajnagar	Rajnagar
8.	Bastar	Bakawand	Rajnagar	Rajnagar
9.	Bastar	Bastar	Kudkanar	Kudakanar
10.	Bastar	Jagdapur	Markel-02	Markel-02
11.	Bijapur	Bhairamgarh	Jangla	Jangla
12.	Bilaspur	Takhatpur	Ghonghadih	Ghonghadih
13.	Bilaspur	Takhatpur	Chhatauna	Chhatauna
14.	Durg	Dhamdha	Mohrenga	Mohrenga
15.	Durg	Patan	Jamrao	Jamrao
16.	Gariyaband	Chhurra	Gondlabahra	Gondalabahara
17.	Gariyaband	Chhurra	Mudagaon	Mudagaon
18.	Gariyaband	Fingeshwar	Parsadakala	Khudsa
19.	Gariyaband	Fingeshwar	Kosamkhuta	Kosumkunta (Kasumkunta)
20.	Gariyaband	Fingeshwar	Borsi	Borsi
21.	Gariyaband	Gariyaband	Hathbay	Hathbay
22.	Gaurela Pendra Marwahi	Gaurella-1	Bhadora	Bhadoura
23.	Janjgir-Champa	Bahmindih	Taldeori	Taldeori
24.	Janjgir-Champa	Balauda	Mahuda (Ch)	Mohda
25.	Janjgir-Champa	Nawagarh	Hardi	Hardi(Hari)
26.	Jashpur	Kansabel	Pongaro	Pongro
27.	Jashpur	Kansabel	Pongaro	Pongro
28.	Kondagaon	Keshkal	Jamgaon	Jamgaon
29.	Kondagaon	Kondagaon	Bamhni	Bamhni
30.	Kondagaon	Pharasgaon	Alor	Alor
31.	Korba	Korba	Dhangaon	Dhangaon
32.	Korba	Pali	Basibar	Basibar
33.	Korba	Pali	Donganala	Donganala
34.	Korba	Pali	Bandhakhar	Bandhakhar
35.	Korba	Pali	Hardibazar	Hardibazar
36.	Koriya	Khadgawana	Udhanapur	Udhanapur

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S.No	District name	Block name	Gram panchayat name	Village name
37.	Koriya	Khadgawana	Pondi	Pondi
38.	Koriya	Manendragarh	Kelhari	Kelhari
39.	Koriya	Sonhat	Sundarpur	Sundarpur
40.	Koriya	Sonhat	Latma	Latma
41.	Mahasamund	Bagbahara	Suwarmal	Suwarmar
42.	Mahasamund	Bagbahara	Tamora	Tamora
43.	Mahasamund	Bagbahara	Khallari	Khallari
44.	Mahasamund	Bagbahara	Samhar	Samhar
45.	Mahasamund	Mahasamund	Joba	Joba
46.	Mahasamund	Mahasamund	Konwajhar	Kaunwajhar
47.	Mahasamund	Mahasamund	Dhansuli	Dhansuli
48.	Mahasamund	Saraipali	Toshgaon	Toshgaon
49.	Mahasamund	Saraipali	Bondanawapali	Bondanawapali
50.	Mungeli	Lormi	Pendritalab (N)	Pendritalab (N)
51.	Mungeli	Pathariya	Dandgaon	Dadgaon
52.	Mungeli	Pathariya	Kokdi	Kokadi
53.	Mungeli	Pathariya	Birkoni	Birkoni
54.	Mungeli	Pathariya	Chhindbhog	Chhindbhog
55.	Mungeli	Pathariya	Goendri	Goindri
56.	Mungeli	Pathariya	Bhilai	Bhilai
57.	Mungeli	Pathariya	Mohbhatha (K)	Mohbhatha
58.	Raigarh	Lailunga	Subara	Subara
59.	Raigarh	Pusore	Netnagar	Netnagar
60.	Raigarh	Raigarh	Dongitarai	Dongitarai
61.	Raigarh	Raigarh	Bangursia	Junwani
62.	Raipur	Dharsiwa	Neordih	Neordih
63.	Raipur	Dharsiwa	Bhismuda	Bhaismuda
64.	Raipur	Tilda	Pachari	Pachari
65.	Raipur	Tilda	Tarpongi	Tarpongi
66.	Surajpur	Bhaiyathan	Bhaiyathan	Bhaiyathan
67.	Surajpur	Ramanujnagar	Amgaon	Amgaon
68.	Surajpur	Surajpur	Devipur	Devipur
69.	Surguja	Ambikapur	Nawanagar	Nawanagar
70.	Surguja	Ambikapur	Sukhari	Sukhari
71.	Surguja	Lundra	Dumerdih	Dumerdih
72.	Surguja	Lundra	Bargidih	Bargidih
73.	Surguja	Udaipur	Laxmangarh	Laxmangarh
Villages with failed water samples for pH test				
1.	Balod	Dondi	Awani	Awari
2.	Bastar	Jagdulpur	Bamhani	Bamhani

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S.No	District name	Block name	Gram panchayat name	Village name
3.	Bijapur	Bhairamgarh	Jangla	Jangla
4.	Gaurela Pendra Marwahi	Gaurella-1	Bhadora	Bhadoura
5.	Kondagaon	Pharasgaon	Alor	Alor
6.	Korba	Pali	Basibar	Basibar
7.	Raigarh	Lailunga	Subara	Subara
8.	Rajnandagon	Chhuria	Bharritola (B)	Bharri Tola
9.	Rajnandagon	Khairagarh	Tulsipur	Fattepur
10.	Rajnandagon	Rajnandgaon	Bharregaon	Bharregaon
11.	Sukma	Sukma	Chikpal	Chikpal
Villages with failed water samples for Total Hardness test				
1.	Bijapur	Bhairamgarh	Jangla	Jangla
2.	Bijapur	Bhopal Patnam	Gunlapenta	Gulapenta
3.	Bijapur	Bhopal Patnam	Gollaguda	Gollaguda
4.	Bijapur	Usoor	Awapalli	Aawapalli
5.	Bijapur	Usoor	Murkinar	Modakpal
6.	Dhamtari	Kurud	Parkhanda	Parkhanda
7.	Dhamtari	Magarlod	Parewa Dih	Parewadih
8.	Dhamtari	Nagari	Gaddongri [M]	Gaddongari Mal
9.	Kawardha	Bodla	Navagaon	Navagaon
10.	Mahasamund	Bagbahara	Suwarmal	Suwarmar
11.	Rajnandagon	Khairagarh	Mandrakuhi	Madrakuhi
12.	Surajpur	Bhaiyathan	Kewara	Kewara
Villages with failed water samples for Total Alkalinity test				
1.	Bijapur	Bhairamgarh	Pinkonda	Pinkonda
2.	Bijapur	Bhopal Patnam	Gunlapenta	Gulapenta
3.	Bijapur	Usoor	Murkinar	Modakpal
4.	Dhamtari	Kurud	Fusera	Fusera
5.	Dhamtari	Magarlod	Parewa Dih	Parewadih
6.	Dhamtari	Nagari	Gaddongri [M]	Gaddongari Mal
7.	Kanker	Narharpur	Markatola (Largaon)	Markatola(Largaon)
Villages with failed water samples for Chloride test				
1.	Jashpur	Kansabel	Pongaro	Pongro
2.	Jashpur	Kansabel	Pongaro	Pongro
3.	Raipur	Dharsiwa	Bhatgaon	Bhatgaon-1 (Bhatgaon)
Villages with failed water samples for Ammonia test				
1.	Balod	Dondi	Awani	Awari
2.	Balod	Dondilohara	Arajpuri	Arajpuri
3.	Balod	Gunderdehi	Sankari	Sankari
4.	Balrampur	Ramchandrapu	Ramchandrapur	Ramchandrapur

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S.No	District name	Block name	Gram panchayat name	Village name
		r		
5.	Bastar	Bakawand	Rajnagar	Rajnagar
6.	Bastar	Bastar	Kudkanar	Kudakanar
7.	Bastar	Jagdalspur	Markel-02	Markel-02
8.	Bijapur	Bhairamgarh	Jangla	Jangla
9.	Dhamtari	Dhamtari	Bhatgaon	Bhatgaon
10.	Dhamtari	Magarlod	Lader	Louder
11.	Dhamtari	Nagari	Bhursi Dongri	Bhursidongri
12.	Jashpur	Pharsabahar	Ankira	Ankira
13.	Rajnandagon	Chhuria	Bharritola (B)	Bharri Tola
14.	Sukma	Chhindgarh	Chindagrath	Chhindgarh
15.	Sukma	Chhindgarh	Tongpal	Tongpal
16.	Surajpur	Bhaiyathan	Bhaiyathan	Bhaiyathan
Villages with failed water samples for Phosphate test				
1.	Balod	Dondi	Awani	Awari
2.	Bastar	Jagdalspur	Jamawada-01	Jamawada
3.	Sukma	Chhindgarh	Tongpal	Tongpal
4.	Surajpur	Surajpur	Devipur	Devipur
Villages with failed water samples for Iron test				
1.	Bijapur	Bhairamgarh	Jangla	Jangla
2.	Raipur	Arang	Pacheda	Pacheda
Villages with failed water samples for Nitrate test				
1.	Bijapur	Bhairamgarh	Jangla	Jangla
2.	Raigarh	Ghargoda	Jhariyapali	Jhariyapali
Villages with failed water samples for Total Dissolved Solids test				
1.	Bijapur	Bhopal Patnam	Gunlapenta	Gulapenta
2.	Bijapur	Bhopal Patnam	Gollaguda	Gollaguda
3.	Bijapur	Usoor	Murkinar	Modakpal
4.	Bilaspur	Bilha	Pendarva (U)	Pendarwa (U)
5.	Dhamtari	Magarlod	Parewa Dih	Parewadih
6.	Dhamtari	Nagari	Gaddongri [M]	Gaddongari Mal
7.	Durg	Dhamdha	Mohrenga	Mohrenga
8.	Durg	Dhamdha	Semariya	Semariya (L)
9.	Durg	Durg	Chingari	Chingari
10.	Durg	Durg	Katro	Matrodih
11.	Durg	Durg	Nagpura	Nagpura
12.	Durg	Patan	Achanakpur	Achanakpur
13.	Durg	Patan	Borid	Borid
14.	Durg	Patan	Jamrao	Jamrao
15.	Gariyaband	Chhurra	Gondlabahra	Gondalabahara

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S.No	District name	Block name	Gram panchayat name	Village name
16.	Gariyaband	Chhurra	Mudagaon	Mudagaon
17.	Gariyaband	Fingeshwar	Parsadakala	Khudsa
18.	Gariyaband	Fingeshwar	Kosamkhuta	Kosumkunta (Kasumkunta)
19.	Gariyaband	Fingeshwar	Borsi	Borsi
20.	Gariyaband	Gariyaband	Hathbay	Hathbay
21.	Gariyaband	Gariyaband	Sadakparsuli	Sadakparsuli
22.	Gariyaband	Gariyaband	Dhawalpurdih	Dhawalpurdih
23.	Gariyaband	Mainpur	Kodobhata	Kodobhatha
24.	Jashpur	Kansabel	Pongaro	Pongro
25.	Jashpur	Kansabel	Pongaro	Pongro
26.	Kawardha	Bodla	Navagaon	Navagaon
27.	Kawardha	Bodla	Tregaon Jungul	Taregoan Jungle
28.	Kawardha	Bodla	Rengakhar Kala	Rengakhar Kala
29.	Kawardha	Bodla	Tregaon Maidan	Taregoan Madain
30.	Kawardha	Bodla	Khadodalaka	Khadauda Kala
31.	Kawardha	Kawardha	Laghan	Laghan
32.	Kawardha	Kawardha	Mirmitti	Mirmitti
33.	Kawardha	Pandariya	Palansari	Palansari
34.	Mahasamund	Bagbahara	Suwarmal	Suwarmar
35.	Mahasamund	Bagbahara	Tamora	Tamora
36.	Mahasamund	Bagbahara	Khallari	Khallari
37.	Mahasamund	Bagbahara	Samhar	Samhar
38.	Mahasamund	Mahasamund	Joba	Joba
39.	Mahasamund	Mahasamund	Konwajhar	Kaunwajhar
40.	Mahasamund	Mahasamund	Dhansuli	Dhansuli
41.	Mahasamund	Pithora	Sonasilli	Sona Silli
42.	Mahasamund	Saraipali	Toshgaon	Toshgaon
43.	Mahasamund	Saraipali	Bondanawapali	Bondanawapali
44.	Mungeli	Lormi	Pendritalab (N)	Pendritalab (N)
45.	Mungeli	Pathariya	Dandgaon	Dadgaon
46.	Mungeli	Pathariya	Kokdi	Kokadi
47.	Mungeli	Pathariya	Birkoni	Birkoni
48.	Mungeli	Pathariya	Chhindbhog	Chhindbhog
49.	Mungeli	Pathariya	Goendri	Goindri
50.	Mungeli	Pathariya	Bhilai	Bhilai
51.	Mungeli	Pathariya	Mohbhatha (K)	Mohbhatha
52.	Surajpur	Pratappur	Kewara	Kewara
53.	Surguja	Batauli	Mangari	Mangari
54.	Surguja	Lundra	Dumerdih	Dumerdih

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S.No	District name	Block name	Gram panchayat name	Village name
55.	Surguja	Lundra	Bargidih	Bargidih
56.	Surguja	Lundra	Dhaurpur	Dhaurpur
57.	Surguja	Mainpat	Ropakhar	Ropakhar
Villages with failed water samples for Bacteriological present/ absence test using H2S vials				
1.	Balod	Dondi	Chikhali	Chikhali
2.	Balod	Dondilohara	Suregaon	Suregaon
3.	Balod	Gunderdehi	Tavera	Tavera
4.	Jashpur	Kansabel	Pongaro	Pongro
5.	Jashpur	Kansabel	Pongaro	Pongro
6.	Kanker	Charama	Halba	Halba
7.	Kondagaon	Kondagaon	Girola	Girola
8.	Kondagaon	Pharasgaon	Bhandarsiwani	Bhandarsiwani
9.	Koriya	Baikunthpur	Patana	Patna
10.	Mahasamund	Bagbahara	Tamora	Tamora
11.	Mahasamund	Saraipali	Bondanawapali	Bondanawapali
12.	Raipur	Abhanpur	Jounda	Jounda
13.	Raipur	Arang	Nakta	Nakta
14.	Raipur	Arang	Pacheda	Pacheda
15.	Raipur	Dharsiwa	Neordih	Neordih
16.	Raipur	Dharsiwa	Bhismuda	Bhaismuda
17.	Sukma	Chhindgarh	Tongpal	Tongpal
18.	Surajpur	Pratappur	Kewara	Kewara
19.	Surajpur	Surajpur	Shivnandanpur	Shivnandanpur
20.	Surguja	Lundra	Dumerdih	Dumerdih
21.	Surguja	Lundra	Bargidih	Bargidih
22.	Surguja	Lundra	Dhaurpur	Dhaurpur
23.	Surguja	Mainpat	Ropakhar	Ropakhar
Villages with failed water samples for Fluoride test				
1.	Bijapur	Bhopal Patnam	Gollaguda	Gollaguda
2.	Kanker	Charama	Halba	Halba
Villages with failed water samples for Arsenic test				
1.	Bijapur	Bhopal Patnam	Gollaguda	Gollaguda