

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

State report

Jammu & Kashmir



Submitted to:

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

Report prepared by: NIELSEN (INDIA) PRIVATE LIMITED

Functionality Assessment Survey 2020-21- Jammu & Kashmir

Table of Contents

1.	Introduction	2
	Objectives of the study	
	Approach and Methodology	
	Key Findings	
	Conclusions	
An	nexure 1: List of village with no scheme/defunct schemes/under construction	g
An	nexure 2: List of villages with schemes supplying only through tap stand	10
An	nexure 3: List of villages where 15 FHTCs were not found	10
An	nexure 4: Indicative proportion of functional tap connections by districts	10
Δn	nexure 5: List of villages where samples failed for given quality parameter	11

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 Jammu & Kashmir the survey was conducted in 2796 households from 200 villages in 20 districts.

4. Key Findings

SL.	INDICATOR	Jammu & Kashmir	India
	Household level		
1	Average household size	6.7	5.6
2	Percent of households using FHTC for drinking purpose	93.2	88.9
3	Percentage of households reported working tap connections (supply at least one day in last 7 days)	92.6	93.6
4	Number of water supply days in a usual week		
4a	1 – 2 days	9.2	7.6
4b	3 – 4 days	6.2	10.4
4c	5 – 6 days	1.0	1.5
4d	7 days	83.6	80.5
5	Number of water supply days in the last week		
5a	0 days	0.3	2.4
5b	1 – 2 days	11.9	9.7
5c	3 – 4 days	11.4	14.8
5d	5 – 6 days	2.1	4.9
5e	7 days	74.2	68.1
6	Percentage of households reporting reliability of water supply days	84.0	86.5
7	Percentage of households reporting tap connections functioning continuously for more than 15 days in a month for last 12 months	80.1	84.6
8	Average number of times water is supplied on the days of supply		
8a	1 time	57.9	56.6
8b	2 times	16.5	28.2
8c	3 times	1.0	6.1
8d	4 times/24 hours	24.6	9.1
9	Percentage of households reporting reliability of supply for different supply timings	79.4	84.3
10	Percentage of households reporting adequate water pressure for different supply timings		
10a	Morning	70.0	80.1
10b	Afternoon	68.1	84.6
10c	Evening	86.1	84.8
11	Percentage of households reported paying water tariff – separately or along with other taxes	72.0	52.8
12	Percentage of households reported receiving 55 lpcd or more	85.4	83.5
13	Percentage of households having potable water *	58.3	61.3
14	Percentage of households reporting regularity of supply	89.1	87.2
15	Percentage of households reporting functional tap connections	52.7	47.8
	Village level		
16	Percentage villages having functional water and sanitation committees	22.5	48.5
17	Percentage of functional schemes in the sample villages considering all schemes (supplying water any day in the last 7 days)	90.2	86.0

SL.	INDICATOR	Jammu & Kashmir	India
18	Percentage of in-village schemes having O&M undertaken by village water and sanitation committee or by Panchayat	37.8	83.1
19	Percentage of sample schemes reported having faced challenges in the last one year		
19a	Inadequate infrastructure	47.1	40.2
19b	Poor water availability at the source	51.5	33.0
19c	Poor maintenance	52.2	46.2
19d	Natural calamity	75.0	63.4
20	Percentage of schemes reporting measure to improve source sustainability	30.5	59.9
21	Number of sample villages found with no scheme (defunct/under construction/not handed over/not constructed)	12	751

Figures 1, 2 and 3 depicts the functionality aspects of the household tap connections in Jammu & Kashmir. 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.

Functionality in terms of potability, Jammu & Kashmir 80 Percentage of water samples 58 60 40 19 12 20 6 5

2 parameters

failed

3 parameters

failed

More than 3

parameters

failed

Fig 1: Functionality of the household tap connection in terms of potability - Jammu & Kashmir

Base: Households with water quality testing done, N: 180

1 parameter

failed

Samples

passed/zero

parameter failed

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.

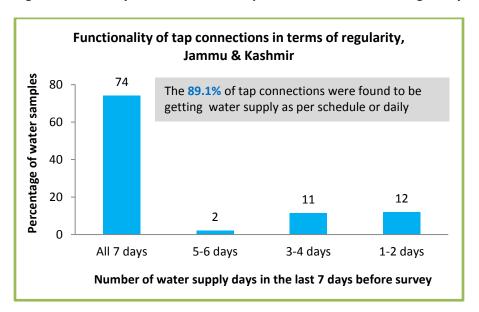


Fig 2: Functionality of the household tap connection in terms of regularity - Jammu & Kashmir

Base: All Households, N: 2795

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.

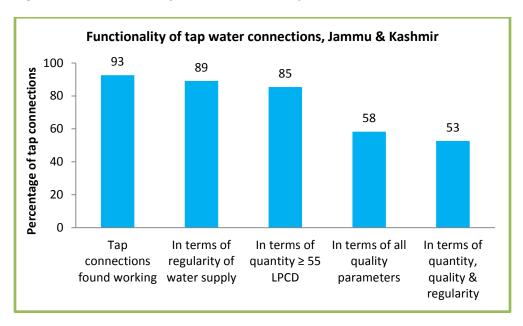


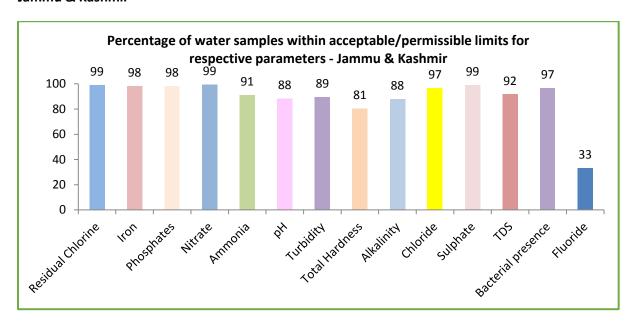
Fig 3: Overall functionality of the household tap connection - Jammu & Kashmir

Base: Total count of tap connections considered for functionality assessment, N: 2670

A total of 180 water samples were tested as per BIS: 10,500 standards for all 13 parameters. Of these samples, 3 samples were tested 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 Jammu & Kashmir – 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.

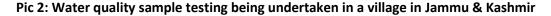
As can be seen, almost all the samples (98% or more) had Residual Chlorine, Iron, Phosphates and Nitrate within acceptable/permissible limits. The key water quality issues were Total Hardness, pH, Turbidity and Alkalinity were the key issues, along with Ammonia, TDS and Turbidity which were beyond acceptable/ permissible limits. Two thirds of the samples tested in fluoride affected villages for Fluoride were not found to be within acceptable limits.

Fig 4: Percentage of water samples within acceptable/permissible limits for respective parameters – Jammu & Kashmir



Pic 1: Household survey being undertaken in one of the villages in Jammu & Kashmir







5. Conclusions

Jammu & Kashmir had slightly higher functional tap connections (52.7%) as compared with the national average. About 85 percent of the households were estimated to be supplied 55 lpcd or more and 89 percent with a regular water supply. However, the proportion of households receiving potable water is less - about 58 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 (54.4% households having adequate quantity and potable water; 55.1% households having potable water received on a regular basis; while 79.7% households had adequate quantity of water supply on a regular basis).

The main issues with the samples which were not found potable were Ammonia, Alkalinity, Turbidity, Total Hardness and pH 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 (83.6%), has reported receiving water supply on a daily basis in the last 7 days (74.2%). Almost three fifth of the households have reported being supplied water once a day, and the rest, mostly twice a day. A majority of the households have reported a reliability of water supply timings (79.4%) as well as adequate water pressure.

However, despite good quality water supply service delivery, around 72 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.

A little less than one fourths of the villages (22.5%) have reported having water and sanitation committees – of these villages, only in 38 percent, the water and sanitation committees were actually taking responsibility for operation and maintenance activities of the PWS schemes. As reported by the communities 'natural calamities, inadequate infrastructure, poor water availability at source and poor maintenance' were the main challenges faced by the schemes. About one thirds 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

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

S.No.	District Name	Block Name	Panchay at Name	Village Name	Name of Largest Scheme in the Village	Туре	Status of the Scheme	Remarks
1.	Jammu	Bhalwal Brahmana	Muthi Maira	Muthi	WSS Muthi Mehra	MVS	No scheme	There is no piped water scheme in this village.
2.	Jammu	Marh	Saharan	Saharan	WSS Ladore Ladori	MVS	No scheme	There is no piped water scheme in this village.
3.	Kathua	Bani	Fatehpur	Sandhi	WSS Sandhi Seru	MVS	Scheme is defunct	Scheme is not functional since last 1 year
4.	Kathua	Hiranagar	Chillak	Chillak	WSS Sanyal	MVS	No scheme	There is no piped water scheme in this village.
5.	Kupwar a	Kralpora	Reshigun d	Reshigun d	WSS Redi Resh Mohalla Muqam (Cov)	MVS	No scheme	There is no piped water scheme in this village.
6.	Rajauri	Kalakote	Kothian- A	Bali Bawan	WSS Kothian	MVS	Under constructi on	Under construction- only boring work is started till now.
7.	Reasi	Pouni	Later	Manai Jagir	WSS Kheral	MVS	No scheme	There is no piped water scheme in this village.
8.	Samba	Bari Brahmana	Tarore	Tarore B	Sangwal	MVS	Scheme is defunct	Scheme is not functional since last 1 year
9.	Samba	Purmandal	Deon	Padal	WSS Deon	MVS	No scheme	There is no piped water scheme in this village.
10.	Samba	Ramgarh	Channi Fatwal	Shamma Chak	WSS Kotli Matkalian	MVS	No scheme	There is no piped water scheme in this village.
11.	Samba	Sumb	Talour	Talour	WSS Badhori	MVS	Under constructi on	Under construction- boring work has been completed till now.
12.	Udham pur	Jaganoo	Ritti	Ritti	Riti Barta	MVS	Scheme is defunct	Scheme is not functional since last 11 months.

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

S.N o.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Type	Remarks
1.	Kishtw	Drabs	Pora	Chandal	WSS-Kandni	MVS	No FHTC. Water supply
	ar	halla	Chandali	i	Drabshalla		through tap stand only

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

S.N o.	District Name	Block Name	Panchayat Name	Village Name	Name of Largest Scheme in the Village	Туре	Number of Households Surveyed
1.	Jammu	Marh	Kana Chak	Sui	WSS Sui	MVS	5
2.	Udhampu r	Udhamp ur	Tirshi	Tirshi	Sambal Gangera	MVS	13

Annexure 4: Indicative proportion of functional tap connections by districts

S.No.	District	Percentage Functional Taps
1.	Anantnag	100.0
2.	Bandipora	66.7
3.	Baramulla	67.3
4.	Budgam	89.3
5.	Doda	83.3
6.	Ganderbal	100.0
7.	Jammu	0.0
8.	Kathua	3.4
9.	Kishtwar	11.7
10.	Kulgam	70.0
11.	Kupwara	76.3
12.	Poonch	6.7
13.	Pulwama	68.7
14.	Rajauri	6.7
15.	Ramban	12.0
16.	Reasi	20.0
17.	Samba	14.7
18.	Shopian	80.0
19.	Srinagar	90.0
20.	Udhampur	8.8

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

S.No.	District name	Block name	s failed for given quality par Gram panchayat name	Village name
Villages	with failed water	samples for Turbidity		
1.	Bandipora	Bandipora	Onagam A	Onagam/Sonagam
2.	Baramulla	Sangrama	Ranji	Trambgund
3.	Budgam	Beerwah	Bonahama	Bonahama
4.	Jammu	Satwari	Dharap	Dharap
5.	Kathua	Mandli	Barota	Barota
6.	Kathua	Nagrota Gujroo	Siyalana	Siyalana
7.	Kishtwar	Bunjwah	Nali	Nali
8.	Kishtwar	Padder	Machail	Machail
9.	Kulgam	Devsar	Akhran	Akhran
10.	Kulgam	Kulgam	Laroo Jagir	Kanipora
11.	Poonch	Loran	Loran	Loran
12.	Poonch	Mendhar	Jugal	Mehra
13.	Poonch	Mendhar	Goldha	Goldha
14.	Pulwama	Pulwama	Ashmander	Monghama
15.	Rajauri	Thanamandi	Shadra Sharif A	Shadra
16.	Ramban	Gool	Gool-B	Gool M
17.	Samba	Purmandal	Purmandal	Purmandal
18.	Shopian	Chitragam	Sugan	Sugan
19.	Udhampur	Khoon	Sundala	Sundala
Villages	with failed water	samples for pH test		
1.	Baramulla	Noorkhah	Pehlipora B	Pehlipora
2.	Baramulla	Sangrama	Ranji	Trambgund
3.	Budgam	Beerwah	Bonahama	Bonahama
4.	Doda	Gundna	Gundna	Malwana Jagir
5.	Jammu	Satwari	Chatta	Chatta
6.	Jammu	Satwari	Lower Gadigarh	Gadigarh
7.	Kathua	Bhoond	Sandhar	Sandhar
8.	Kishtwar	Kishtwar	Beroon Town - Ii	Kishtwar
9.	Kishtwar	Warwan	Aftee	Aftee
10.	Poonch	Mendhar	Gulutha	Gundi
11.	Poonch	Surankote	Sanai	Sanai
12.	Rajauri	Khawas	Panglar	Panglar
13.	Rajauri	Plangarh	Behrote (Proper)	Behrote
14.	Rajauri	Thanamandi	Shadra Sharif A	Shadra
15.	Ramban	Rajgarh	Rajgarh	Rajgarh
16.	Ramban	Ramsoo	Bhordar-B	Bohardar
47	Ramban	Ukhral	Balihote-B	Narthyal
17.	Hamban			
17.	Reasi	Pouni	Pouni Budhan	Kanah

akh il
il
il
il
С
1
wah
al
r
il

S.No.	District name	Block name	Gram panchayat name	Village name
3.	Jammu	Mathwar	Ranjan	Ranjan
4.	Jammu	R.S.Pura	Dablehar	Dablahar
5.	Kathua	Bhoond	Sandhar	Sandhar
6.	Kathua Dhar Mahanpur		Ghoral	Jhankar
7.	Kathua	Dinga Amb	Dinga Amb	Dinga Amb
8.	Kathua	Mahanpur	Mara Pathi	Patti
9.	Kathua	Mandli	Barota	Barota
10.	Kishtwar	Dachan	Sounder-C	Sounder-C
11.	Kishtwar	Padder	Machail	Machail
12.	Poonch	Lassana	Hari Budha	Hari Budha
13.	Poonch	Mendhar	Goldha	Goldha
14.	Poonch	Surankote	Pamrote	Pamrote
15.	Rajauri	Doongi	Agrati (N)	Agrat
16.	Rajauri	Thanamandi	Shadra Sharif A	Shadra
17.	Rajauri	Thanamandi	Hasplote (Proper)	Hasplote 1
18.	Ramban	Batote	Sana	Sana
19.	Reasi	Arnas	Kanthan	Kanthan
20.	Reasi	Mahore	Mahore-A	Mahore
21.	Samba	Purmandal	Purmandal	Purmandal
22.	Udhampur	Khoon	Sundala	Sundala
Villages	with failed water s	amples for Chloride to	est	
1.	Jammu	Satwari	Lower Gadigarh	Gadigarh
2.	Kathua	Dhar Mahanpur	Ghoral	Jhankar
3.	Kathua	Mahanpur	Mara Pathi	Patti
4.	Kishtwar	Kishtwar	Beroon Town - Ii	Kishtwar
5.	Kishtwar	Nagsani	Dool - B	Dool-B
6.	Samba	Rajpura	Chak Dulma	Sangwali
Villages	with failed water s	amples for Ammonia	test	
1.	Bandipora	Naidkhai	Gund Jehangir	Gund Balakh
2.	Bandipora	Sumbal	Rakh Shilvat	Rakhi Shilveth
3.	Poonch	Lassana	Phagla	Phagla
4.	Poonch	Surankote	Sanai	Sanai
5.	Pulwama	Awantipora	Panzgam	Panjgam
6.	Rajauri	Plangarh	Behrote (Proper)	Behrote
7.	Rajauri	Thanamandi	Shadra Sharif A	Shadra
8.	Ramban	Khari	Manghit	Mangat
9.	Reasi	Arnas	Dhanour	Dhanour
10.	Reasi	Bamagh	Danga Kote	Danga Kote
11.	Reasi	Thuroo	Budhan	Chaklas
12.	Samba	Bari Brahmana	Lower Birpur	Birpur
13.	Samba	Purmandal	Purmandal	Purmandal

S.No.	District name	Block name	Gram panchayat name	Village name
14.	Samba	Purmandal	Uter Bahni	Anandpur
15.	Udhampur	Chenani	Chulyar	Chaliyar
16.	Udhampur	Udhampur	Chakhar	Chakhar
Villages	with failed water	samples for Phosphate	e test	
1.	Rajauri	Manjakote	Drari	Dareari
2.	Rajauri	Plangarh	Behrote (Proper)	Behrote
3.	Udhampur	Chenani	Chulyar	Chaliyar
Villages	with failed water	samples for Residual C	Chlorine test	
1.	Kulgam	Frisal	Kojar	Kojar
2.	Rajauri	Thanamandi	Hasplote (Proper)	Hasplote 1
Villages	with failed water s	samples for Iron test		
1.	Baramulla	Sangrama	Ranji	Trambgund
2.	Rajauri	Thanamandi	Hasplote (Proper)	Hasplote 1
3.	Srinagar	Khunmoh	Khunmoh C	Khunmoh
Villages	with failed water s	samples for Nitrate te	st	
1.	Rajauri	Thanamandi	Hasplote (Proper)	Hasplote 1
Villages	with failed water s	samples for Sulphate t	test	
1.	Baramulla	Tujjar Sharief	Wadura	Wadura
2.	Kupwara	Meelyaal	Firkiyan	Farkin
Villages	with failed water s	samples for Total Disse	olved Solids test	
1.	Jammu	Dansal	Patyari	Kore Gasil
2.	Jammu	Mathwar	Ranjan	Ranjan
3.	Jammu	R.S.Pura	Dablehar	Dablahar
4.	Jammu	Satwari	Chatta	Chatta
5.	Kathua	Barnoti	Budhi	Nagrota
6.	Kathua	Dhar Mahanpur	Ghoral	Jhankar
7.	Kathua	Mahanpur	Mara Pathi	Patti
8.	Kishtwar	Dachan	Sounder-C	Sounder-C
9.	Kishtwar	Kishtwar	Beroon Town - Ii	Kishtwar
10.	Kishtwar	Padder	Machail	Machail
11.	Poonch	Mendhar	Goldha	Goldha
12.	Rajauri	Doongi	Agrati (N)	Agrat
13.	Rajauri	Thanamandi	Hasplote (Proper)	Hasplote 1
14.	-			
14.	Reasi	Mahore	Mahore-A	Mahore
15.	Samba	Purmandal	Purmandal	Purmandal
15.	Samba	Purmandal		Purmandal
15.	Samba	Purmandal	Purmandal	Purmandal
15. Vi	Samba llages with failed v	Purmandal vater samples for Bact	Purmandal teriological present/ absence t	Purmandal est using H2S vials
15. Vi	Samba Ilages with failed v Kathua	Purmandal vater samples for Bact Dhar Mahanpur	Purmandal teriological present/ absence t Ghoral	Purmandal est using H2S vials Jhankar
15. Vi 1. 2.	Samba Ilages with failed v Kathua Kathua	Purmandal vater samples for Bact Dhar Mahanpur Mahanpur	Purmandal teriological present/ absence t Ghoral Mara Pathi	Purmandal est using H2S vials Jhankar Patti

Functionality Assessment Survey 2020-21- Jammu & Kashmir

S.No.	District name	Block name	Gram panchayat name	Village name			
6.	Reasi	Thuroo	Budhan	Chaklas			
Villages with failed water samples for Fluoride test							
1.	Baramulla	Sangrama	Ranji	Trambgund			
2.	Kathua	Mandli	Barota	Barota			