Briefing Paper 2

National Infrastructure Equity Audit – Phase 1

Social Equity Watch

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LIST OF ORGANISATIONS

- Agragamee, Orissa
- Centre for Social Equity and Exclusion, Bihar
- Gram Jagat, Bihar
- Maruganga society, Rajasthan
- National Campaign for Dalit Human Rights (NCDHR), Delhi and Bihar
- PrajwalaSangham, Andhra Pradesh
- Sanchaynela, Bangalore
- Unnati, Rajasthan
- Vasundhara Sewa Samiti, Rajasthan

Design and Methodology

- Praxis- Institute for Participatory Practices, New Delhi

NATIONAL INFRASTRUCTURE EQUITY AUDIT - PHASE I, SEW SUB-GROUP

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List of Abbreviations

BC:	Backward Class
FGD:	Focus Group Discussion
GP:	Gram Panchayat
ICDS:	Integrated Child development Services
NREGS:	National Rural Employment Guarantee Scheme
NRHM:	National Rural Health Mission
OBC:	Other backward Class
PDS:	Public Distribution System
PGSY:	Pradhanmantri Gram Sadak Yojana
RGGVY:	Rajiv Gandhi Grameen Vidyutikaran Yojana
RGNDWM:	Rajiv Gandhi National Drinking Water Mission
RTI:	Right to Information
SC:	Scheduled Caste
SSA:	Sarva Siksha Abhiyan
ST:	Scheduled Tribe
VPT:	Village Public Telephone

EXECUTIVE SUMMARY

BACKGROUND

In a country where a majority of the population, almost 70%, lives in villages, it is not surprising that rural development is one of the focus areas of the government. Village-level public infrastructure assumes a central role in most of the government's flagship schemes, such as the National Rural Health Mission, Sarva Siksha Abhiyaan, Integrated Child Development Services, targeted public distribution, Pradhanmantri Gram Sadak Yojana, National Rural Employment Guarantee Scheme, Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), Rajiv Gandhi National Drinking Water Mission (RGNDWM), and telecommunication and internet under Bharat Nirman.

Improvement in rural infrastructure under these schemes is considered crucial in the 11th Plan for achieving broad-based inclusive growth and for bridging the rural-urban divide. Large budgetary allocations, up to Rs 13,828 billion, have been made for providing infrastructure under these schemes.

THE EQUITY AUDIT

In this background, we take stock of the impact of the large-scale investment on the hitherto socially skewed distribution of infrastructure at the village level. Access to crucial schemes has been denied to Dalits, tribals and religious minorities. There have been numerous studies which have captured the central and state government's disregard for equitable access while determining the location of critical infrastructure. However, the need has been felt for a large-scale study that captures the current infrastructure-based inequity at all-India level and monitor equity gap over years.

The current action research initiated by Social Equity Watch is a step forward in this direction.

Social Equity Watch is a collective composed of a set of organisations and individuals who collectively laid the foundation stone of the social equity audit in the country. Its membership consists of civil society groups with grassroots presence, research and advocacy-based organisations and aid agencies.

SAMPLE AND METHODOLOGY

This study collected information on 12 village-level infrastructures. These are:

1. Primary school
2. Anganwadi centre (ICDS scheme)
3. Health sub-centre
4. Drinking water
5. Primary health centre
6. Community centre
7. Panchayat Bhavan
8. Road
9. PDS
10. Post Office
11. Secondary school
12. Telephone/ Information kiosk

The equity audit covered a sample of 124 Gram Panchayats, which includes 727 SC/ST and minority hamlets, in five states of Andhra Pradesh, Bihar, Karnataka, Orissa and Rajasthan.

FINDINGS

A summary of findings which emerged from three sections detailed above as well as the overall study, are presented below:

- There is a continued presence of deep-rooted caste-based inequity in the distribution and availability to infrastructure and hence to the accessibility of services and entitlements.
- The SCs, STs and Minorities are being fenced off from access to the functional infrastructure facilities by merely situating them in General or BC habitations.
- There are still many SC/ST habitations, which are left officially uncovered. The people in these habitations have to travel longer distance than prescribed in official norms.
- The equity gap is severe is certain GPs, with concentration of multiple infrastructure from BC/General habitations.
- At places where the infrastructure facilities are located in SC/ST habitations, a sizable percentage of the service providers are from the General or BC category. Further, most of these infrastructure facilitates are in private lands or buildings
- The rating of services by SC/ST and minorities in accessing these facilitates was much lower than their BC/General counterparts in the same habitations. The satisfaction gap was largely due to location of services in other habitations.
- In certain services such as ICDS, where some government guidelines exist for encouraging equitable distribution of infrastructure, the equity gap is less than other infrastructure. Therefore there exists scope for equitable distribution of resources through proactive measures.

From the above findings, it emerges that the task ahead is to monitor the location of new infrastructure in such a way that the existing equity gap can be filled over years. This would be crucial for scarce resources such as drinking water and certain newer infrastructure such as internet kiosks in the coming years.

The magnitude of the equity gap captured through this study is an underestimate, due to resource and sampling limitations. The actual equity gap would be much more severe.

1. Background

1.1 Inclusion and flagship schemes

Inclusive growth demands that all social groups have equal access to rights and equal opportunities for upward economic and social mobility. Ensuring equitable access to different services provided by the State is one way to enable this. It is equally necessary to ensure that there is no discrimination against any social groups in our society. In India, Scheduled Castes (SC), Schedules Tribes (ST), Other Backward Classes (OBC) and Minority social groups have historically been disadvantaged and vulnerable. The Constitution contains various provisions for the development of such marginalised groups, for instance, Article 341 for SCs, Article 342 for STs, Article 340 for OBCs, Article 30 which provides the right to minorities to establish and administer educational institutions, and so on.

Inclusive and equitable growth is also an imperative for the development of rural India and to unlock the huge potential of the population that is presently trapped in poverty and associated deprivations. With a majority of people in India (70%) continuing to live in approximately five lakh rural hamlets, the focus of the government continues to be on rural development through many flagship schemes. Village level public infrastructure assumes a central role in delivering most of the flagship schemes such as the National Rural Health Mission (NRHM), Sarva Siksha Abhiyan (SSA), Integrated Child Development Services (ICDS) targeted public distribution, Pradhanmantri Gram Sadak Yojana (PGSY), National Rural Employment Guarantee Scheme (NREGS), Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), Rajiv Gandhi National Drinking Water Mission (RGNDWM), and telecommunication and internet under Bharat Nirman.

Improvement in rural infrastructure under these schemes is considered crucial in the 11th plan for achieving broad-based inclusive growth and for bridging the rural-urban divide. Rural infrastructure, on the one hand, increases rural productivity and on the other strengthens the delivery of welfare schemes. Village level infrastructure assumes a central role in achieving these. In most of the flagship schemes introduced by Government of India (see table 1), village level infrastructure provision is a direct or indirect component.

Table 1: Flagship Schemes introduced by the Government of India

Name of the scheme	***Ministry***	***Relevant village-level Infrastructure***	***Services provided***	***Crucial village-level service providers***
National Rural Health Mission	*Ministry of Health*	*Primary health centre, sub-centre*	*Health services*	*Asha, ancillary nurse, midwife*
Sarva Siksha Abhiyan	*Ministry of Human Resources, Department of Education*	*Primary, secondary and high school*	*Education and mid-day meal*	*Teachers*
Intergrated Child Development Services	*Ministry of Women and Child Development*	*Anganwadi, balwadi, mini-anganwadi*	*Supplementary nutrition, pre-school education, nutrition, health education, growth monitoring*	*Anganwadi worker, anganwadi helper*
Targeted public distribution	*Ministry of Food and Civil Supplies*	*Fair price shop (distribution) and Panchayat Bhawan (identification, list revision)*	*Targeted Public Distribution Scheme (TPDS)*	*FPS dealer*
Pradhanmantri Gram Sadak Yojana	*Ministry of Rural Development*	*Road*	-	*Private contractor*
NSAP/NREGA	*Ministry of Rural Development*	*Post office (payment)*	*Payment of pension, wages and other payment services*	*Postman, Postmaster*
Indira Aawas Yojana	*Ministry of Rural Development*	*Pukka houses*	-	-
Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)	*Ministry of Power*	*Electricity connections to houses, street lights (including non-conventional), Transformer.*	-	-
Rajiv Gandhi National Drinking Water Mission (RGNDWM),	*Ministry of Rural Development*	*Hand pumps, open dug wells, tap connection (under mini, single village and multiple village schemes)*	*Drinking water scheme*	-
Telecommunication and internet	*Ministry of Communication and Information Technology (dept of communications)*	*Phone connection lines and houses having phone connection. Internet Kiosks.*	-	-

1.2 Civil Society and Government Services

Some of the schemes initiated by the state in last two decades (e.g. NREGA, Right To Information, NRHM) are welcomed and hailed as historic and progressive by the civil society. Many campaigns groups around the right to food, health education and information are able to gather informed public attention around these issues and have played a vigilant role in critically engaging with government. In such engagements, knowledge has emerged as a critical tool at the hands of these campaign groups when engaging and influencing the government, directly or indirectly through litigation.

Use of information and knowledge have great potential in not only making the state accountable over less than promised investment and efforts, but also in terms of

ensuring equity and generating data to monitor the government's own Inclusion agenda and to articulate inequity related issues.

1.3 Investment in Rural Infrastructure

Improvement in rural infrastructure is crucial for broad-based inclusive growth of the economy and for bridging the rural-urban divide. It is estimated that out of the total projected investment of Rs.13,82,846 crore to be incurred by the Centre and the States in the Eleventh Five Year Plan (2007 – 2012) for the sectors like electricity, roads, telecommunications and water and sanitation, Rs 1,82,048 crore (only 13.16%)[1] would be spent exclusively towards improvement of rural infrastructure in the same sectors (see Table 2).

Table 2: Proportion of Investment in Rural Infrastructure in the Eleventh Plan

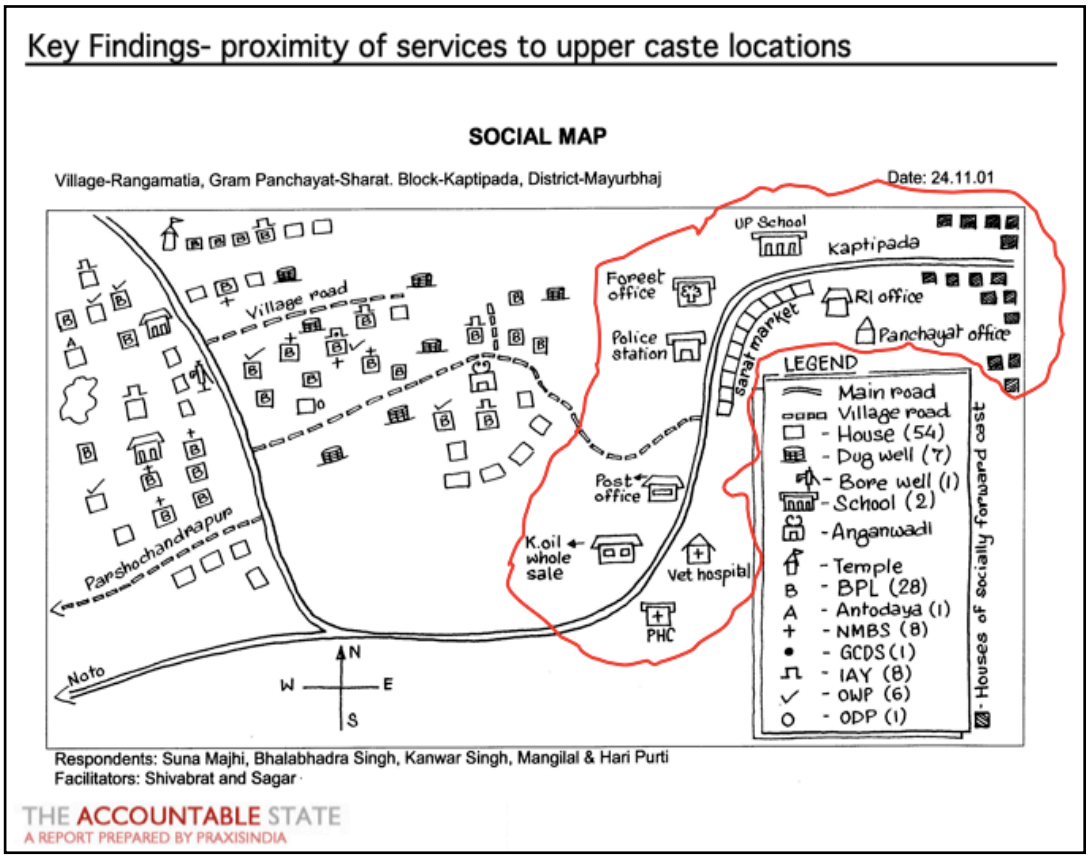
Sl. No.	*Sectors*	*Total Investment in Infrastructure*	*Investment in rural Infrastructure*	*% of investment in rural Infrastructure*
1	*Electricity*	*6, 66, 525 crores*	*34, 000 crores*	*5.10%*
2	*Roads & Bridges*	*3, 14, 152 crores*	*41, 347 crores*	*13.16%*
3	*Telecommunications*	*2, 58, 439 crores*	*16, 000 crores*	*6.19%*
4	*Water & Sanitation*	*1, 43, 730 crores*	*90, 701 crores*	*63.10%*
	Total	***13, 82, 846 crores***	***1, 82, 048 crores***	***13.16%***

1.4 Infrastructure Equity Audit

While infrastructure investment has been crucial in development programmes, they are seldom equally distributed across social groups. Countless poverty studies reaffirm this reality in great detail, including many of Praxis' own Participatory Poverty Assessments. Analysing various types of evidence, such as the social map of Rangamatia, Odisha (shown below), demonstrate the central and state government's disregard for equitable access when determining the location of critical infrastructure. Social services that are critical instruments in implementing anti-poverty programmes, such as schools, the panchayat office, the revenue office, etc, are consistently located close to upper caste habitations. This inequity in the inaccessibility of services is not an isolated incident across a few villages, but instead is a widespread phenomenon across rural India.

With huge investment planned, merely on papers, on infrastructure during the 11th plan, it is time to take stock of the impact it has made. There is seemingly socially skewed distribution of infrastructure at the village level, which denies access of crucial schemes to dalits, tribal and minorities. While there have been numerous village studies which capture the central and state government's disregard for equitable access when determining the location of critical infrastructure, there has been a need for a large scale study which would capture the current infrastructure based inequity at all-India level and monitor the equity gap over time.

[1] Projections of Investment in Infrastructure during 11th five year plan-Planning Commission, GOI (14th August 2008)



1.5 Social Equity Watch

The current action research initiated by Social Equity Watch is a step forward in this direction. Social Equity Watch is a collective composed of a set of organisations and individuals who collectively laid the foundation stone of the social equity audit in the country. Its membership consists of civil society groups with grass roots presence, research and advocacy based organisations and aid agencies.

The goals and objectives of the collective:

1. To facilitate a platform for organisations and people who believe in inclusive politics to come together
2. To generate fresh debates on social exclusion and ignite innovative ideas on inclusion
3. To share equity concerns and to politically engage in the promotion of social equity in all interventions for development
4. To move beyond its original purpose of assessing disaster contexts and to look into strategic development interventions and policy initiatives

1.6 Scope of Current Study

The current study is a step forward – an attempt to capture infrastructure-based inequity, and the immediate, intermediate and long-term justifications for such a study are summarised in the table below:

Table 3: Immediate, Intermediate and Long-term Justifications of Study

Category	Brief description	Partners
Immediate need	Despite the inclusive development agenda during the 11th plan, the state disregarded equity considerations during the stages of planning, monitoring and evaluating infrastructure related investment. Vigilant civil society groups need to continuously monitor the resultant equity gaps and create evidences, and along with people's groups needs to make the state accountable for denying the rights of socially excluded groups through unequal infrastructure provision during the eleventh plan. This assumes importance at a time when consultations with civil society for the 12th plan are still ongoing.	SEW and other partnering networks and campaign groups which engage with government and pressurise the government, when they fail to deliver
Intermediate need	With inclusive development as the stated official government agenda it makes sense to review the progress made in terms of infrastructure-based inclusion as well. The effectiveness of different government schemes and related infrastructure (developmental and welfare) depends on whether they reach the poorest and excluded communities, including SC, ST and religious minorities. Therefore for overall successful implementation of any scheme, an evaluation from an equity perspective is necessary.	Planning commission, different ministries.
Long term structural need	Infrastructure related inequities are often a reflection of deep-rooted structural power imbalance. Capturing and dealing with infrastructure related inequity is one of the important steps towards addressing the larger structural barriers. In the context of agrarian distress/ transition, whereby old land based agrarian client-patron relationships are weakening, the power groups (especially the dominant caste) are maintaining their strong holds through controlling welfare and developmental services and associated infrastructure at the village level. Through control of these crucial infrastructure resources, the power groups on one hand are denying access to new opportunities to dalits, tribals and religious minorities; and on the other hand dividing these groups through targeted provision of welfare schemes/ public goods and creating new client-patron relationships. In this background, an essential strategy for Community Organisations is to claim control over these crucial infrastructure resources through advocacy at higher levels and in the process strengthening their organisational base.	Community Organisations

The table above also identifies three groups, vis-à-vis; networks and campaigns; the Planning commission/ different ministries and community organisations; that have the common agenda of monitoring infrastructure related inequity, although for different reasons. Another potential set of partners for this study include, UN agencies; other multilateral bodies and think tanks who regularly engage in public policy advocacy with governments.

2. Study Vision, Objectives and Methodology

2.1 Vision of the study

The broad vision of the study is to address the issues of exclusion with regard to development indicators and infrastructure

2.2. Objectives of the study

By undertaking an equity audit of the presence, concentration and availability of infrastructure, at the village and Panchayat level, the two broad study objectives of national infrastructure equity audit are:

- To capture how access and control over resources across different segments of the population plays a vital role in determining the status of equity in any society
- To demonstrate the gross inequities that exist with the placement of infrastructure in villages while also exhibiting how this contributes to perpetuating the cycle of poverty for marginalised communities

This information would then be used to prepare a national report of key findings and share it at a consultation with policy makers and other civil society groups and to publish a working paper on the methodology and tools for tracking infrastructure related inequities.

2.3. Sample and Methodology

2.3.1 Sample Profile and Potential Bias

The basic unit of the study was a Gram Panchayat (G.P). One hundred and twenty four Gram Panchayats in nine districts in the states of Andhra Pradesh, Bihar, Karnataka, Odisha and Rajasthan, were covered under the study. Two districts were selected in each state in such a way that one was a backward district and another was a developed district[2].

[2] As defined by the Planning Commission

Table 4: Sample States, Districts and GPs and the Profile of the Sample GP

State	District	Number of sample GPs	Average Population of Sample GPs	Proportion of SC/ST population in sample Gram Panchayats (GPs)			
				Less than 25%	26% to 50%	51 to 75%	Above 75%
Andhra Pradesh	Mahbubnagar	13	2611	0	11	2	0
	Nalagonda	11	3408	9	2	0	0
Bihar	Navada	13	8484	3	8	2	0
	Vaishali	12	11696	5	7	0	0
Karnataka	Bangalore	25	9505	1	15	8	1
Orissa	Angul	12	4325	0	2	10	0
	Rayagada	13	7151	0	0	1	12
Rajasthan	Barmer	13	5498	2	10	1	0
	Jodhpur	12	9620	2	9	1	0
Total		124		22	64	25	13

A total of twenty-five Panchayats have been covered in each state[3]. With the support of the local NGOs and grassroots groups the GPs were identified at random subject to limitation of accessibility and transportation. While selecting the GPs, attempts were made to ensure that they are mixed caste panchayats, which represent the norm for panchayats in the district.

Table 4 indicates the total number of sample GPs in each district in each state, the average population of GPs in different district and the proportion of SC/ST in the total population. The average size of G.P differed widely in different states. The population of GPs in Bihar was highest, around 10,000 people per GP, and the population of GPs in Andhra Pradesh was the lowest, around 3000 people per GP.

In terms of SC/ST population in the sample, the GPs in Odisha had a high share of ST population and the GPs in Karnataka had high share of SC population. On the whole the proportion of SC/ST population is significantly higher in the sample population than the state average, except in case of Rajasthan (Refer Table 5).

While selecting the sample the purpose was to arrive at a list of GPs, which potentially do not fall in extremes of inclusion or exclusion. However the higher than usual proportion of SC/ST population, the working presence of organisations working on issues of exclusion and the unintended sample composition where 50% of the GPs were headed by SC, ST or Minority Sarpanchs, indicates a sampling bias whereby the selected GPs would reflect lesser exclusion or equity gap than would normally exist. The findings are reported along with this disclaimer.

[3] In Andhra Pradesh one GP was dropped because of quality issues.

Table 5: Comparison between the Proportion of SC/ST Population in the State and in the Sample GPs

State	Proportion of SC/ST to the total population in the state	Proportion of SC/ST to the total population in the sample GPs
Andhra Pradesh	23%	35%
Bihar	17%	31%
Karnataka	23%	47%
Orissa	39%	73%
Rajasthan	30%	33%

Source: Census 2001 and the survey findings

2.3.2 Pilot Study

Two pilot studies were conducted in Bihar (at Vaishali and Navada) and in Uttar Pradesh (Bulandsheher) in 2010 to test the tools, which were then revised and finalised based on the pilot findings.

2.3.3 Time Period

The field study for the National Infrastructure Equity Audit was conducted between 21 February and 10 April 2011.

The field study in Bihar and Andhra Pradesh was conducted over February and March and the field study in Karnataka, Rajasthan and Odisha were done in March and April. The data entry, analysis and report writing was done during May - July.

2.3.4 Study tools and respondents[4]

Physical Infrastructure Equity Audit Tool

A detailed structured and pre-coded interview schedule, translated in appropriate local languages, was used to collect the data. A pair of field researchers administered the tool together with an adequate number of the key respondents in the GPs. It was ensured that the key respondents represent diverse social groups.

Infrastructure Access Equity Audit Tool

Along with administering structured interview schedules in each GP, focus group discussions were held separately with groups of specific Scheduled Caste, Scheduled Tribe, Religious Minority, OBC and General Caste community members (subject to the presence of the specific group in the sample GP). The caste habitation for FGD was selected at random and a group typically consisted of eight to twelve women/men. The focus group discussed access issues faced by the communities with reference to each of the selected infrastructures. The participants discussed each infrastructure and rated each infrastructure with help of visual tools, on a ten-point scale using the following indicators:

[4] The study tool can be downloaded from www.socialequitywatch.org.

(i) Importance, (ii) Availability, (iii) Ease of access, (iv) Regularity of use, and (v) Attitude of service providers
The results of the rating exercise were recorded in a structured schedule.

2.3.5 Research process

Step 1: The research team made the list of all Panchayats and revenue villages on the basis of population in each state. The local organisations in association with the research team identified the sample GPs

Step 2: Training programmes/workshops were arranged in each state where the broad objective of study was shared and volunteers were trained and oriented for two days. After the orientation programme fieldwork was planned with the help of the persons from the secretariat to provide practical field exposure to the volunteers on data collection.

Step 3: The research team started collecting data at the Panchayat level. In the process they met the Panchayat leaders and other local leaders and identified key respondents to administer the structured interview schedule.

Step 4: A team of two researchers met the key respondents at a time convenient to them and collected the data at the Gram Panchayat, Revenue Village and Hamlet level.

Step 5: Certain hamlet/habitations were selected randomly to validate the information given by the key respondents. The research team physically visited the infrastructure to validate it with the given information.

Step 6: The research team selected one revenue village from each panchayat for focus group discussions and selected one sample group from each of the caste categories. The infrastructure access equity audit, including the FGD and the infrastructure rating exercise was undertaken during this time.

Step 7: Based on the information collected and with help of selected volunteers a social map of some of the Panchayats denoting different caste hamlets and the presence and location of the infrastructures were also prepared for later validation and quality review.

3. The Audit and Findings

The audit findings are presented in four sections below. The first three are linked specifically with the infrastructure audit, equity audit and the infrastructure access equity audit while the forth is a summary of overall key findings.

3.1 Infrastructure Audit in the GPs

The equity audit collected information on the following sixteen infrastructure facilities located inside the GP:

1) Primary school

2) Anganwadi centre (ICDS)

3) Health sub-centre

4) Drinking water (Bharat Niraman)

5) Primary health centre (PHC)

6) Housing under Indira Awas Yojana (Bharat Nirman)

7) Community centre

8) Electricity (Bharat Nirman)

9) Police station

10) Agriculture centre

11) Panchayat Bhavan

12) Road (Bharat Nirman)

13) PDS

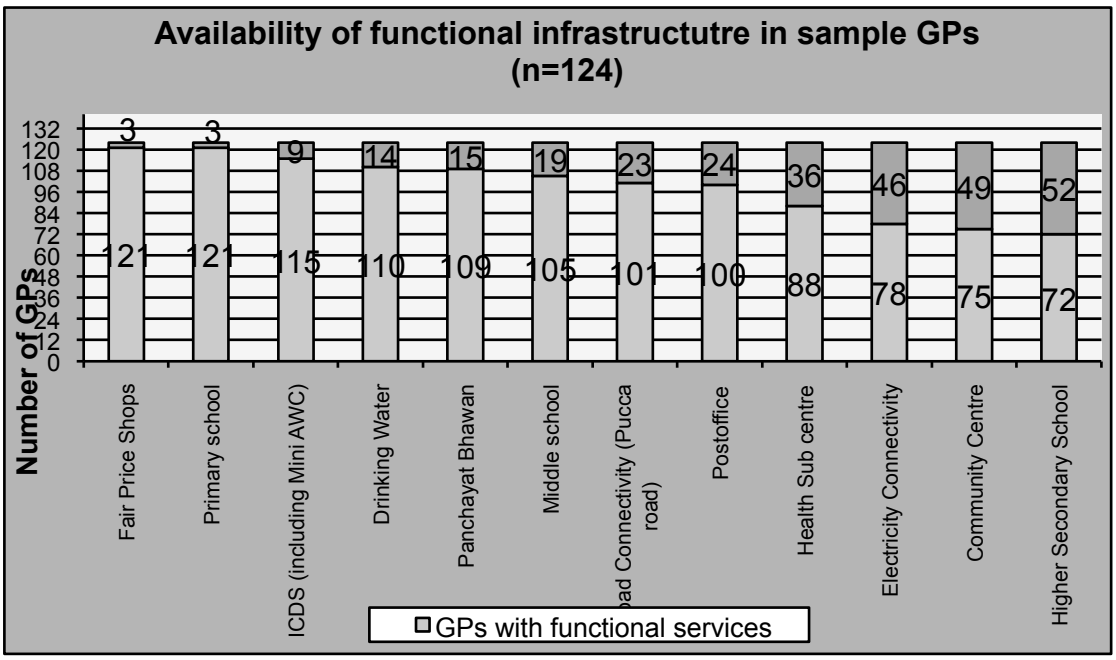
14) Post office

15) Secondary school

16) Telephone/ Information kiosk (Bharat Nirman)

The number of GPs where this above infrastructure is located is reported in Chart 1 below. The x- axis on the chart lists twelve infrastructure facilities and the y- axis indicates the number of GPs, which have the infrastructure (the lighter shades in the bar); and the number of GPs, which do not have functional infrastructure (the darker shades in the bar).

Chart 1



3.1.1 GPs without infrastructure facility

The infrastructure facilities in the above table are arranged in a way that those which are found in most number of GPs are listed closer to the y-axis. The PDS (fair price shop) and primary schools are the two facilities, which are available in most number of GPs (121 out of 124 GPs). Similarly, ICDS, safe drinking water[5], panchayat bhawan, middle school, road connectivity and post office are available in 100 or more GPs. The facilities which were not available in more than 30 GPs included health sub-centre, electricity connection, community centre and higher secondary school. It is important to note that as the population and distance norms differ for these infrastructure facilities listed in the graphs, it would therefore not be accurate to rank infrastructure based on coverage status from available GP level information. For instance, the number of GPs (with smaller population) may not have health centres because they would be accessing it in the next GP.

3.1.2 Concentration of Missing infrastructure in certain states

There were GPs with missing infrastructure in most sample states but the concentration of such GPs was more in Bihar and Andhra Pradesh. In Bihar, it could also be a reflection of the general lack of infrastructure facilities. In the case of Andhra Pradesh, the reason for missing infrastructure in most cases was due to smaller population of GPs, which share infrastructure with other GPs. Additionally, certain types of missing infrastructure were specially concentrated in certain states. For instance, almost all GPs without safe drinking water were found in Andhra Pradesh

[5] The data on safe drinking water would be(??) serious over-estimate as the rapid survey mode could not use the standard definition of safe drinking water due to skill and time limitations.

where one of the sample districts (Nalagonda) is severely fluoride affected. The people in sample GPs in Nalagonda were dependent on privately supplied dinking water. Bihar and Rajasthan share most of the missing facility GPs, with reference to electricity and roads. Similarly Karnataka had more number of GPs without any community centre.

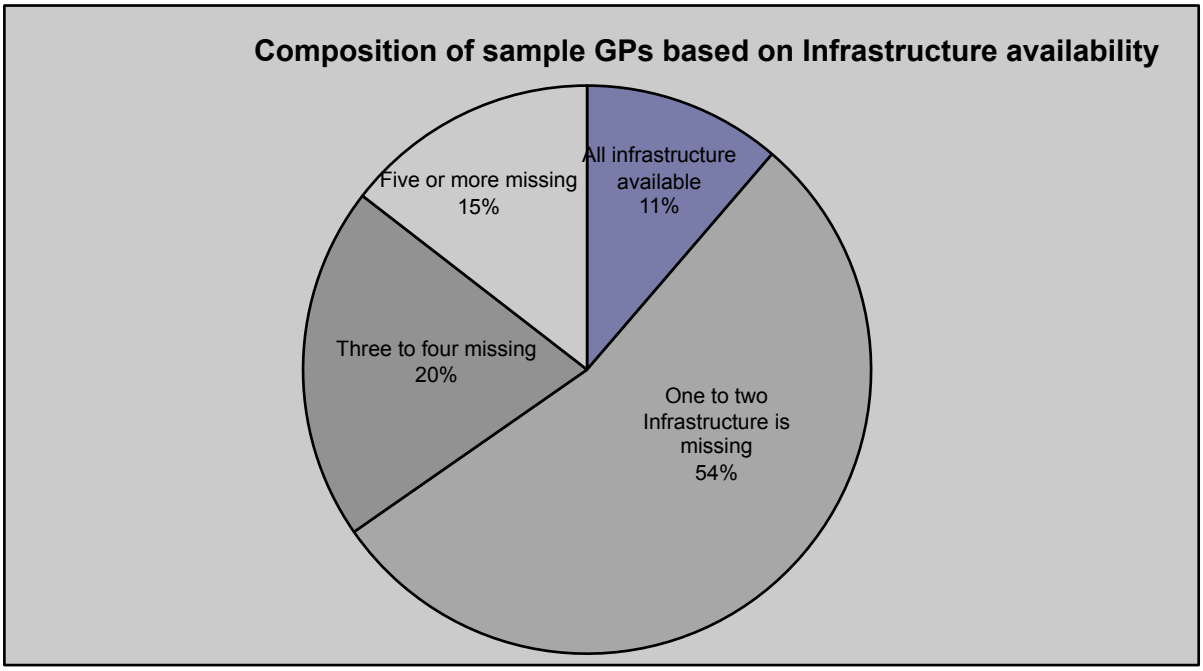
Among the sixteen infrastructures, PHC, agriculture office and police station were always located outside the GP at block headquarters, except in few cases where they were located inside the GP boundary but separated from the main village. Though some information on these facilities was collected they were unusable for drawing equity related inferences. Similarly two infrastructure facilities of internet kiosks (only found in two GPs) and village public telephone (VPT) that existed in few GPs, were largely absent from the GPs.

3.1.3 Availability of Infrastructure in GP

After leaving out the PHC, police station, agriculture centre, public telephone and internet kiosk, which are absent in almost all GPs, the presence of the rest of the infrastructure in the each GP was analysed.

The results showed that sample GPs varied from each other with reference to the number of functional infrastructure located inside the GP. On the one hand there were few GPs which have all infrastructure and on the other hand there are also GPs which do not have as many as ten infrastructure located inside it. The analysis is presented below in Chart 2, which shows that only 11 % of the sample GPs had all eleven functional infrastructure facilities inside the GPs. Majority of the sample GPs (54%) did not have one to two infrastructure facilities inside the GP. Similarly the chart shows that there are a substantial number of GPs that had three or more missing infrastructure facilities.

Chart 2



3.2 Equity audit of the GPs

While the infrastructure audit findings presented above captured the extent of the infrastructure gaps at GP level, the current section attempts to look at how the infrastructure is distributed across social groups in a given GP - i.e.,: a particular infrastructure may be located in one social habitation or can be spread across social habitations or can be located in a mixed habitation.

In case, the infrastructure facility is located in a particular social hamlet, the access of other social habitations may become difficult. The difficulty in accessing facilities from another social habitation is often trivialised and homogenised as 'geographical distance' in the policy discourse. This reason is often cited for locating the facilities outside SC/ ST and minority habitations and inside the general or backward class habitation. While geographical distance may play its part, an often-ignored factor, is the 'social distance' involving power imbalances, which affect the access of the powerless social groups. Whenever the facility is located in 'upper' caste habitations, SC/ST or minority population have to face access barriers due to a 'social distance'.

Table 6 below tries to identify the GPs with SC/ST habitations that have to face this 'social distance' as the infrastructure facilities meant for them are located only in BC and general habitations. The number of GPs that fall under this category for each infrastructure is shown in column B. From equity point of view it is an undesirable state and the focus should be to move to column C, where the social distance is reduced as the facility is located in a mixed habitation or is distributed fairly between habitations. Column D is a further desirable state as the social distance is zero given that facility has to be accessed from the habitation of socially powerless groups (also F which is a subset of column D).

Table 6: Distribution of infrastructure facilities across social habitations in sample GPs

		Location of the functional infrastructure facility			Number of GPs where the infrastructure is available	Services available and available only in SC habitations
S. No	Functional Infrastructure facilities	Only in BC/Gen habitations	Spread across caste hamlet/ in mixed habitations	Only in SC/ST or minority habitations		
	A	B	C	D	E	F (subset of D)
1	Panchayat Bhawan	75	3	22	109	8
2	Post office	65	11	24	100	9
3	Health Sub centre	61	14	25	88	7
4	Higher Secondary School	61	7	32	72	11
5	Fair Price Shops	46	38	16	121	3
6	Middle school	44	35	21	105	7
7	Community Centre	35	52	13	75	9
8	Primary school	22	67	11	121	3
9	ICDS (including Mini AWC)	21	70	9	115	3
10	Pucca road connectivity	18	75	7	101	0
11	Electricity Connectivity	10	81	9	78	1
12	Drinking Water	10	88	2	110	1

In the table above, figures in Column B are more than twice those in Column D. The disparity would have been far more pronounced if the ST dominated hamlets of Orissa had not been included in the current sample. A at look a column F shows the real gap in services. This gap of service availability increases, to more than six times the average in General/BC habitations compared to only SC habitations.

When looking at availability of panchayat bhawans, three-fourths of the *gram panchayats* have the Panchayat Bhawan only in the General/BC habitations. Health sub centres, higher secondary schools, panchayat bhawans and post offices are available in habitations exclusively for General/BC in more than 60% of GPs. All these four facilities have a substantially higher share falling in the undesirable 'socially distant' column B.

Fair Price Shops and Middle Schools are available in habitations exclusively for General/BC in 46% and 44% GPs respectively with their availability in mixed habitations at 38% and 35% respectively.

There is also a certain set of services, where a substantial share of infrastructure is located in the desirable Column C. In less than one-fourth of the GPs, ICDS and primary schools are available only to General/BC and in a little more than one-third GPs, a community centre is available only to General/BC. In cases of all these three services, the corresponding percentages for mixed habitations are relatively high at 70%, 67%and 52% respectively.

One clear reason for a higher percentage falling under column C is the norm specifying coverage of smaller habitations (ICDS and primary schools as explained in table 9). In the case of ICDS, another reason for high percentages in mixed habitation can also be the government guidelines, which require locating Anganwadi Centres (AWCs) in SC/ST habitations. In the case of community centres, one of the reasons could be existence of strict inter-caste interaction norms that restrict access of SC/ST/minority to community centres. As a result, community centres exclusively for SC/ST/minority may have been established in mixed habitations.

It is important to note that even in case of Bharat Nirman infrastructure - roads and electricity- in more than 10% of GPs, the services are only available in General/BC habitations. Since the infrastructure is habitation specific and cannot be shared, this demonstrates complete exclusion of SC/ST and minority habitations.

To summarise, table 6 above, shows that the availability of functional infrastructure facilities in various habitations is clearly linked to the caste of the inhabitants. Caste determining availability and accessibility to services and entitlements is quite evident from the above table.

An attempt at giving an aggregate picture in terms of indentifying GPs with a higher equity gap is presented in the table below. The near absent services inside GPs (PHC, police station, agriculture office, public telephone and internet kiosk) and the three Bharat Nirman infrastructure (drinking water, electricity and road) were not taken into account while computing this table.

As reflected in the table, by definition the equity gap increases when more number of infrastructure are 'only located in BC/General habitations. It is worrying to observe the way infrastructure services are concentrated in few habitations on the pretext of reasons like addressing 'geographical distance'. Around 57% of the sample GPs had

more than 50% of the available infrastructure concentrated in few habitations belonging to the BC/General habitations.

Table 7: Extent of equity gap in the sample GPs

Equity Gap	Definition	Number of GPs	Percent	Cumulative Percent
Critical	GPs where all available infrastructure facilities are only located in BC/Gen habitations.	24	19%	19%
Extreme	GPs where 75 % and more (less than 100%) of the available infrastructure facilities are only located in BC/Gen habitations.	13	11%	30%
Severe	GPs where 50% to 75% of the available infrastructure facilities are only located in BC/Gen habitations.	33	27%	57%
Of concern	GPs where 25-50% of the available infrastructure facilities are only located in BC/Gen habitations.	30	24%	81%
Moderate	Certain infrastructure facilities are located only in BC/Gen habitations.	24	19%	100%
		124 GPs	100%	

3.2.1 Deprivation of SC/ST, Minority Habitations

The exclusion of SC/ST and minority habitations while deciding the location of infrastructure in a GP, have significant coverage and access implications on these social habitations. Given the general overall lack of the infrastructure facilitates, the burden of shortage is borne by these marginalised social groups. This is evident from the Tables 8 and 9 below.

These two tables attempt to capture the status of infrastructure provisions in 299 SC habitations, 378 ST habitations and 50 minority habitations. The tables attempt to capture the burden of infrastructure deprivation through the following questions:

1) How many habitations are not covered as per official norms and guidelines?
2) How many habitations are covered with physical location of functional habitation?
3) Caste of the service providers in the physically covered SC/ST/ Minority habitation?
4) Quality of infrastructure assessed in terms of availability of government building and land for the physically covered SC/ST/ Minority habitation?

It is self evident from the table that there are large-scale gap in infrastructure provision in these social habitations. In most infrastructure listed in both tables, the substantial proportion of SC/ST and Minority habitations are left out of official coverage. Even in case of infrastructure facilities like primary schools and ICDS where the physical coverage of SC/ST/ Minority habitation was relatively better than other facilities, the official coverage status is noticeably poor.

It must be also noted that the progress of the flagship Bharat Nirman scheme for road and electricity components, is extremely poor with a large proportion of social habitations left uncovered. The scheme has remained a non-starter with respect to

village public telephones and internet kiosk services, with almost nil or very low coverage.

The tables also show that, even when SC/ST/ Minority habitations are physically covered by an infrastructure, the control over the infrastructure remains with BC/General caste groups as a substantial proportion of service providers in SC/ST/ Minority habitations are from these caste groups.

Similarly it is also found that a substantial proportion of infrastructure facilities located physically in SC/ST are located in rented houses and private land. This also indicates the impermanence of their location and the risk of their shifting to a place where land is available on a more permanent basis, which is most likely to be with better social habitations.

Table 8: Habitation Level Gap in Infrastructure Provision for SC/ ST and Minority Habitations

		Fair Price Shops	Health Sub centre*	Higher Secondary School	Primary school	Middle school	ICDS (including Mini AWC)	Community Centre	Post office	Panchayat Bhawan
Habitation not covered as per official norms	SC (N=299)	85 (28%)	227 (76%)	39 (13%)	50 (16%)	46 (15%)	50 (17%)	-	-	-
	ST (N=378)	219 (58%)	107 (28%)	156 (41%)	139 (36%)	195 (52%)	38 (10%)	-	-	-
	Minority (N=50)	19 (38%)	33 (66%)	10(20%)	6 (6%)	5 (10%)	11(22%)	-	-	-
Habitation covered with physical location of functional habitation	SC (N=299)	41 (14%)	29 (10%)	15 (5%)	184 (62%)	55 (18%)	125 (42%)	64 (21%)	21 (7%)	12 (4%)
	ST (N=378)	52 (14%)	32 (8%)	15 (4%)	227 (60%)	54 (14%)	184 (49%)	27 (7%)	18 (5%)	13 (3%)
	Minority (N=50)	6 (12%)	3 (6%)	1 (2%)	26 (52%)	7 (14%)	13 (26%	12 (24%)	6 (12%)	3 (6%)
Caste of the service providers in SC/ST/ Minority Habitation	SC	16	12	-	135@	12@	69	-	9	-
	ST	26	8	-	152@	8@	59	-	12	-
	Minority	1	1	-	19@	1@	8	-	2	-
Habitation with infrastructure on govt building and land	SC	10	22	15	167	51	81	-	3	-
	ST	13	10	15	148	25	51	-	3	-
	Minority	0	2	1	25	5	8	-	0	-

* Estimated based on distance norm of 3 km. the data did not permit applying the stipulated population norm.
@ Midday meal cook
Distance norm applied for PDS (2 kms) and school (1km for primary, 3 km for middle school and 5 km for secondary school) and population norm for ICDS

Table 9: Habitation Level Gap in Selected Bharat Nirman Infrastructure Provision for SC/ ST and Minority Habitations

	Habitations without any electricity*	Habitations not electrified as per norms#	Habitations not connected by Pucca roads	Habitations with no quality drinking water source$	Habitations with Village Public Telephone	Internet Kiosk
SC habitations (n=299)	84	175	138	46	30	0
ST habitations (n=378)	230	281	197	29	13	1
Minority Habitation (N=50)	12	28	22	11	6	0

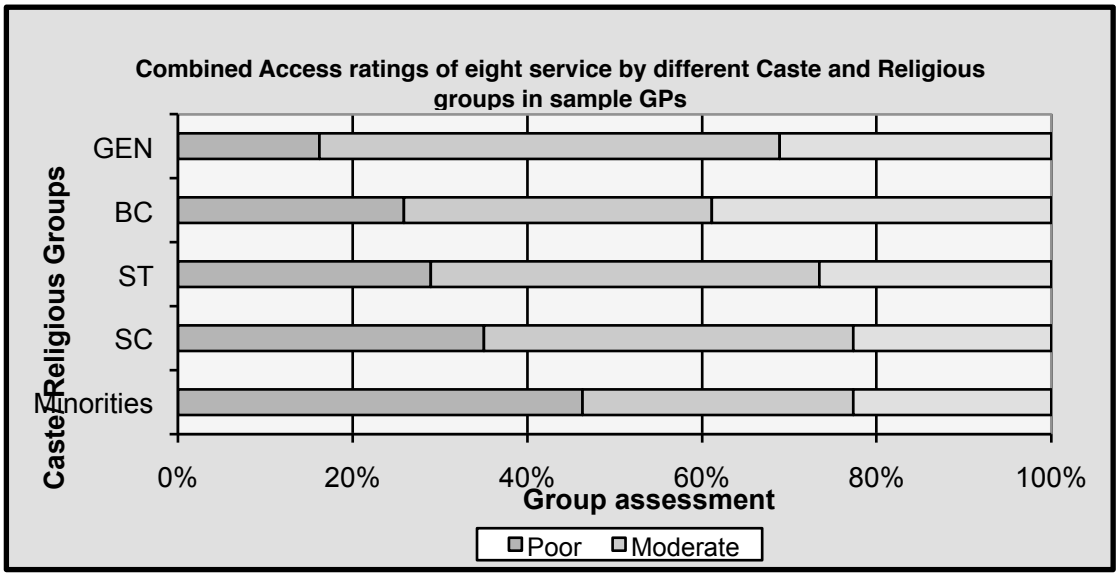
* No electricity connection in the habitation
# less than 10% of habitation population have electricity connection
$ is underestimated seriously

3.3 Infrastructure Access Equity Audit

As stated in the methodology section, separate FGD and infrastructure rating exercises were carried out in each social habitation in a GP. In total FGDs were conducted in 121 SC habitations, 100 ST habitations, 99 BC habitation, and 82 general caste habitations. Each of these exercises was a daylong and availability of participant's time was crucial in conducting them. This was the reason that not all 124 GPs were covered for FGDs. The figures are lower for general caste habitations followed by BC and ST habitations. However the number of FGDs conducted, are adequate to make aggregate inferences at the social groups level.

As stated previously, the social groups consisting of 8-12 members were requested to discuss each infrastructure and rate the each infrastructure on a ten-point scale, as per the following indicators: (i) Importance, (ii) Availability, (iii) Ease of access, (iv) Regularity of use, and (v) Attitude of service providers

Chart 3



The ten-point scale was defined in terms of poor performance (1 to 4), moderate performance (5 to 7) and good performance (8 to 10). The result of the exercise is shown in Chart 3 above. The ratings show aggregated results for eight infrastructure services and indicators including ease of access, regularity of use, and attitude of service providers. The results of the other two indicators (importance and availability) did not show much variation between social groups.

The chart with ratings given by the social groups reflecting their satisfaction or dissatisfaction, demonstrates a clear pattern whereby ratings are explained by the relative 'status' of social groups.
The pattern is also visible when looking at specific infrastructure-wise ratings by different social groups. The social group-wise difference is magnified in case of certain infrastructure like PDS, ICDS and health sub-centre. Similarly in case of middle school the difference was less pronounced. However in all case, including middle school, the ratings by Minority groups were generally worse. While largely all the infrastructure facilities exhibited a pattern whereby the ratings by general habitations showed 'less poor performances' and more 'good performances' than SC/ST or Minority habitations, in case of secondary schools a reverse pattern is visible. As the general caste habitations also rated secondary schools much lower in terms of importance than other social groups, this could reflect in the performance ranking in this section too.

Table 10: Access ratings of eight services by different caste & religious groups

	SC	ST	Minorities	BC	GEN		SC	ST	Minorities	BC	GEN
	PDS						ICDS				
Poor (%)	42	32	30	11	11	Poor (%)	34	22	45	16	15
Moderate	32	46	44	37	54	Moderate	44	51	41	44	45
Good (%)	26	23	26	52	35	Good (%)	23	27	14	40	40
	Primary School						Sub Centre				
Poor (%)	24	11	31	16	9	Poor (%)	54	30	65	44	20
Moderate	44	53	31	34	62	Moderate	38	58	22	33	58
Good (%)	32	36	38	49	29	Good (%)	9	13	13	22	22
	Middle school						Post office				
Poor (%)	20	24	39	20	18	Poor (%)	29	27	45	22	15
Moderate	46	44	25	40	63	Moderate	53	39	24	33	36
Good (%)	34	31	36	40	18	Good (%)	17	34	31	45	49
	Higher secondary School						Community Centre				
Poor (%)	26	29	48	38	17	Poor (%)	54	57	69	48	28
Moderate	47	51	39	32	55	Moderate	35	19	24	27	49
Good (%)	27	20	13	30	28	Good (%)	11	24	7	25	23

3.3.1 Role of Location of Infrastructure

While the most important reasons which explain the differential ratings by SC, ST and other social groups[6], were explored, the results showed that the satisfaction of social group higher when they access services from their own habitation. The rating declines when the social groups access infrastructure from 'upper' caste groups, which is socially distant from these marginalised social groups. However the reverse is not equally true. When the 'upper' caste groups, access services from SC/ST or Minority there is lower rating but these are not as substantially different from the what they give to facilities in their habitations. However for certain services like AWC, and to some extent in schools where mid-day meal is provided, the rating by general caste groups for infrastructure located in SC habitations were poor. However their ratings for ease of access, availability, and attitude of service providers resulted in moderate or good ratings, for infrastructure in SC and ST habitations. Perhaps the social power with the general and backward caste groups, places them in better position to make the service providers from other habitations accountable. This information is presented in the table below.

Table 11: Group-wise Ranking of Infrastructure based on Location

Interviewed Groups		Habitation where the fair price is located				Habitation where the primary school is located			
	Rating	SC	ST	BC	GEN	SC	ST	BC	GEN
SC	Poor (%)	0	13	56	50	0	50	17	12.5
	Moderate	25	25	33	50	100	0	67	50
	Good (%)	75	63	11	0	0	50	17	37.5
ST	Poor (%)	0	22	71	29	NA	0	NA	0
	Moderate	0	44	14	71	NA	33	NA	60
	Good (%)	100	33	14	0	NA	67	NA	40
BC	Poor (%)	25	0	11	25	33	0	0	25
	Moderate	0	25	53	25	67	0	43	25
	Good (%)	75	75	37	50	0	100	57	50
GEN	Poor	0	0	8	25	100	NA	0	0
	Moderate	100	100	54	38	0	NA	0	33
	Good	0	0	38	38	0	NA	100	67
Interviwed Groups		Habitation where the middle school is located				Habitation where the senior secondary school is located			
	Rating	SC	ST	BC	GEN	SC	ST	BC	GEN
SC	Poor (%)	17	22	0	31	13	8	0	60
	Moderate	50	56	55	46	50	62	50	20
	Good (%)	33	22	45	23	38	31	50	20
ST	Poor (%)	0	11	44	22	60	15	0	57

[6] Due to inadequate sample size minority groups were not included in the table

	Moderate	0	78	11	56	40	62	43	29
	Good (%)	100	11	44	22	0	23	57	14
BC	Poor (%)	25	20	15	50	0	33	27	57
	Moderate	75	30	31	25	33	33	9	14
	Good (%)	0	50	54	25	67	33	64	29
GEN	Poor (%)	0	NA	33	22	0	0	25	43
	Moderate	100	NA	33	67	67	100	38	29
	Good (%)	0	NA	33	11	33	0	38	29
Interviewed Groups		Habitation where the AWC is located				Habitation where the sub-centre is located			
	Rating	SC	ST	BC	GEN	SC	ST	BC	GEN
SC	Poor (%)	0	0	25	14	75	14	40	56
	Moderate	100	80	75	86	25	71	40	44
	Good (%)	0	20	0	0	0	14	20	0
ST	Poor (%)	NA	0	NA	20	50	25	20	25
	Moderate	NA	75	NA	80	50	63	40	75
	Good (%)	NA	25	NA	0	0	13	40	0
BC	Poor (%)	0	0	0	0	67	33	45	57
	Moderate	0	0	50	0	33	50	18	29
	Good (%)	100	100	50	100	0	17	36	14
GEN	Poor (%)	100	NA	0	0	0	NA	40	23
	Moderate	0	NA	0	25	100	NA	40	69
	Good (%)	0	NA	100	75	0	NA	20	8
Interviewed Groups		Habitation where the community centre is located				Habitation where the Post office is located			
	Rating	SC	ST	BC	GEN	SC	ST	BC	GEN
SC	Poor (%)	0	100	67	20	29	18	24	19
	Moderate	80	0	33	80	29	64	55	69
	Good (%)	20	0	0	0	43	18	21	13
ST	Poor (%)	50	100	NA	0	25	27	14	50
	Moderate	0	0	NA	0	50	55	36	20
	Good (%)	50	0	NA	100	25	18	50	30
BC	Poor (%)	67	100	50	50	33	27	4	40
	Moderate	33	0	50	0	0	27	50	10
	Good	0	0	0	50	67	45	46	50

	(%)								
GEN	Poor (%)	0	NA	67	25	25	NA	17	7
	Moderate	0	NA	33	50	50	NA	56	27
	Good (%)	100	NA	0	25	25	NA	28	67

Note: Not Adequate (NA) in certain cells refers to inadequate sample size to make any inference.

3.3.2 Role of service providers

Even when we look at the role of location of infrastructure facilities, like schools and sub centres, the results in the above table do not show a clear pattern. These are the infrastructure where the service provider is largely not from the same habitation. This led to the tabulation below, of the results based on one specific indicator, attitude of service provider, which showed a much clearer pattern of ratings even for infrastructure like sub-centre and schools.

Table 12: Group-wise Ranking of Infrastructure based on Attitude of Service Provider

Service	Rating	SC	ST	Minority	BC	Gen
PDS	Poor %	43	38	27	17	17
	Moderate	32	36	36	28	28
	Good %	26	26	36	55	55
Primary School	Poor %	32	26	33	20	14
	Moderate	37	33	24	32	45
	Good %	31	41	42	49	42
Middle School	Poor %	35	26	38	26	16
	Moderate	32	36	25	34	49
	Good %	32	38	38	40	35
Post Office	Poor %	40	34	47	37	23
	Moderate	46	44	20	32	34
	Good %	14	22	33	31	43
Panchayat Bhawan	Poor %	34	20	36	23	13
	Moderate	46	43	30	42	36
	Good %	20	37	33	35	52
Sub-Centre	Poor %	63	54	60	42	27
	Moderate	29	39	24	36	38
	Good %	7	7	16	22	35
ICDS	Poor %	35	25	39	23	11
	Moderate	44	49	30	40	44
	Good %	21	25	30	37	45
Senior Secondary School	Poor %	38	20	44	33	21
	Moderate	42	54	36	42	40
	Good %	20	26	20	25	40

Community Centre	Poor %	52	59	73	64	27
	Moderate	30	16	17	18	31
	Good %	17	24	10	18	41

In general the access ratings of different infrastructure were explained by relative social status of groups and the resultant powerlessness. The access to these crucial services to the marginalised groups become a serious issue, when the infrastructure is located in socially distant place in other habitations and when the service provider is from the 'upper' caste.

3.4 Summary of Main Findings

A summary of findings which emerged from three sections detailed above as well as the overall study, are presented below:

- There is a continued presence of deep-rooted caste-based inequity in the distribution and availability to infrastructure and hence to the accessibility of services and entitlements.
- The SCs, STs and Minorities are being fenced off from access to the functional infrastructure facilities by merely situating them in General or BC habitations.
- There are still many SC/ST habitations, which are left officially uncovered. The people in these habitations have to travel longer distance than prescribed in official norms.
- The equity gap is severe is certain GPs, with concentration of multiple infrastructure from BC/General habitations.
- At places where the infrastructure facilities are located in SC/ST habitations, a sizable percentage of the service providers are from the General or BC category. Further, most of these infrastructure facilitates are in private lands or buildings
- The rating of services by SC/ST and minorities in accessing these facilitates was much lower than their BC/General counterparts in the same habitations. The satisfaction gap was largely due to location of services in other habitations.
- In certain services such as ICDS, where some government guidelines exist for encouraging equitable distribution of infrastructure, the equity gap is less than other infrastructure. Therefore there exists scope for equitable distribution of resources through proactive measures.

From the above findings, it emerges that the task ahead is to monitor the location of new infrastructure in such a way that the existing equity gap can be filled over years. This would be crucial for scarce resources such as drinking water and certain newer infrastructure such as internet kiosks in the coming years.

The magnitude of the equity gap captured through this study is an underestimate, due to resource and sampling limitations. The actual equity gap would be much more severe.

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