# Household Assets and Amenities

The preceding chapters have focused on the way in which Indian households earn their livelihood and on their levels of income and poverty. In this chapter, we turn to the day to day lifestyles of these households by focusing on their consumption patterns through access to amenities such as clean water, sanitation, electricity, and a variety of other household goods. The provision of basic services such as piped water, sanitation systems, and electricity has been an important goal of Indian developmental planning. Hence, a description of these services from a household perspective provides an overview of the success of public policies as well as the challenges facing these policies.

Household assets and amenities reflect a household's quality of life. Electric lights enable more reading and education; new fuels and improved stoves provide a cleaner environment and better health; clean water and sanitation reduce the prevalence of gastrointestinal diseases; motor vehicles and mass media strengthen the household's connection to the country as a whole; access to piped water and use of kerosene or liquefied petroleum gas (LPG) for cooking reduces the time women spend in water and fuel collection, thereby reducing domestic drudgery and increasing time devoted to other activities. While these amenities improve the quality of life, they also demonstrate to family and neighbours that the household has succeeded financially. In modern life, household possessions are both the signs of social status and instruments for a better life.

Assets and amenities cost money, so their acquisition is determined primarily by household income. Household possessions reflect accumulation over many years, so they

may be a better indicator of a household's long term economic standing than annual measures, such as income. Many surveys on non-economic issues actually rely on household possessions as their primary economic indicator. Fortunately, the IHDS measured income, consumption, and household possessions, so it is possible to compare household assets and amenities with other measures such as income and expenditure.

A household's assets and amenities are also determined by its economic context and the development of local infrastructure, such as roads, electricity, and water. For example, a television is not of much use if the village has no electricity. Motorcycles, scooters, or cars are not very useful without a network of roads and easy access to a petrol pump. Gas cylinders are difficult to replace if the household is many kilometres from the nearest supplier. And because these possessions are also a sign of the family's economic success, owning a television, scooter, or gas stove becomes more important when one's neighbour has one. Thus, a rich household in a rich state will have many more amenities than an equally rich household in a poor state.

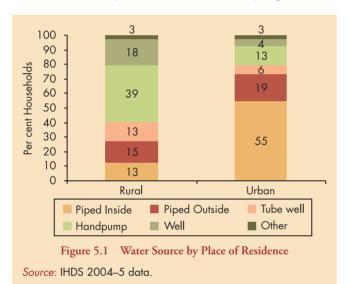
This chapter addresses three major themes. First, it provides a description of households' standard of living as measured by basic assets and amenities such as access to water, sanitation, fuel, and electricity, and the possession of a variety of consumer goods. Second, it documents inequalities in the possession of these assets and amenities, with a particular focus on regional inequalities. Third, it highlights the public policy challenges of providing high quality services by documenting the reliability (and lack thereof) of electricity and water supply.

#### WATER AND SANITATION

Clean water and sanitation form the backbone of an effective public health system. However, the challenges of providing these services in a large and heterogeneous country can be vast. As Figure 5.1 documents, the provision of piped water in villages, at best, remains sketchy.

More than half (55 per cent) of urban households get piped water in their homes; another 19 per cent get piped water outside their homes. In villages, only 13 per cent get piped water in their homes; another 15 per cent have piped water outside their home. Hand pumps (39 per cent), open wells (18 per cent), and tube wells (13 per cent) are more common in rural areas.

Whether in villages or towns, piped water is rarely available 24 hours a day (see Table A.5.1a). Only 6 per cent of



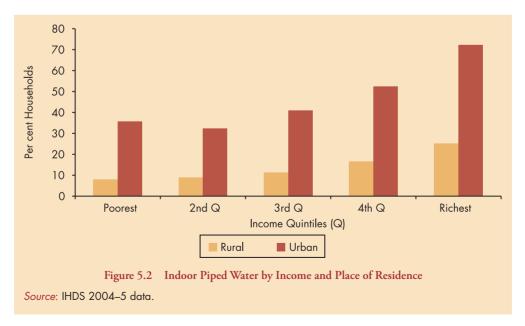
households with piped water report that water is available all day. Most (63 per cent) have water available fewer than three hours on a typical day. The inconsistent supply means that most households have to store their water in household containers, allowing the potential for contamination.

The availability of piped water largely follows state wealth (see Table A.5.1b). For instance, 59 per cent of households in Gujarat have indoor piped water, compared with only 2 per cent in Bihar. Nevertheless, the reliability of water service remains a significant problem throughout most of India. Although most households in Gujarat have piped water inside their homes, over two-thirds (68 per cent) of them get service for fewer than three hours per day.

Piped water is also more common in high income households. About one-half (52 per cent) of the most affluent households, but only 11 per cent of the poorest households, have indoor piped water. Some of the advantage for high income households is owing to the fact that they more often live in high income states and in urban areas. But even within rural and urban areas, the higher the income, the more likely the household is to have indoor piped water (Figure 5.2).

However, household income does not fully explain either the urban–rural difference, or the state differences.

For those without tap water in their households, the burden of collecting water can be time consuming. The typical<sup>1</sup> Indian household without indoor water spends more than one hour per day collecting water. But some households spend much more time collecting water, so the mean time spent is even higher, at 103 minutes a day. As might be expected, the time spent collecting water is substantially greater in rural areas (109 minutes a day) than in

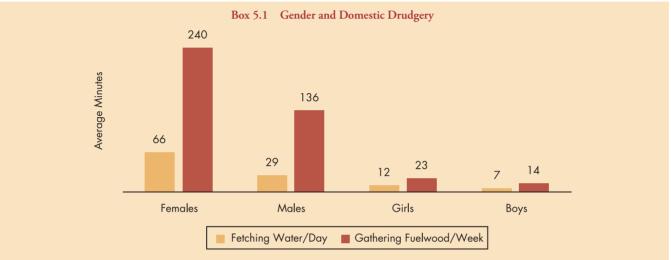


<sup>&</sup>lt;sup>1</sup> In this context (and throughout the report), a reference to the typical household is based on the median.

urban areas (76 minutes). Thus, not only are villagers less likely to have indoor water than town and city dwellers, they have to go farther when they do not have it. When averaged over households that have piped water and those that do not, the average time spent per household fetching water is 53 minutes per day (Table A.5.1a). This is a substantial loss of time that could be used for other purposes. As Box 5.1 documents, this burden is largely borne by women.

shared toilet, a facility available to only 9 per cent of the rural households without a toilet.

Although household wealth is associated with access to piped water and sanitation, contextual factors play an even greater role. Many of these systems cannot be set up by individuals for their own use. They require a societal investment. Hence, even rich households are far less likely to be able to obtain piped water or a flush toilet if they live in villages or in poorer states (see Box 5.2).



Average Time Spent Collecting Water and Firewood for Households (if any) by Sex and Age

Lack of indoor piped water and clean fuel for cooking affects females disproportionately. The graph in this box suggests that women spend nearly twice as much time gathering firewood and fetching water as men. A similar ratio exists between girls and boys in the time devoted to these activities. Households in which water is brought from outside spend an average of 103 minutes, more than 1.5 hours per day, fetching water, including the time required to wait in line. Gathering firewood is not necessarily a daily activity but requires longer trips and households spend an average of 369 minutes, or more than 6 hours, per week on this activity. A disproportionately large share of this work rests with women, and any improvement in access to water and kerosene, or LPG is likely to result in a considerable reduction in domestic drudgery for women, freeing up their time for other activities, including labour force participation.

Given past research that has documented substantial participation of young women and men in collecting firewood and water, it is somewhat surprising to see that in this 2005 data, this burden mostly rests with adults. This may be a function of rapidly growing school enrolment.

Source: IHDS 2004-5 data.

The time spent collecting water takes time away from the household's quality of life and its productivity. In addition, poor water supply has obvious health costs for both urban and rural households. Research on health outcomes suggests that both the quality and the quantity of water are important determinants of the prevalence of gastrointestinal diseases. This problem is further compounded by lack of access to sanitation. About 58 per cent of Indian households do not have a toilet, 19 per cent have a pit or some other type of latrine, and 23 per cent have a flush toilet. The absence of toilets is particularly stark in rural India, where 72 per cent of households have no toilet, compared to 27 per cent in urban areas (Figure 5.3).

Moreover, among urban households that do not have a toilet, nearly half are able to use some form of public or

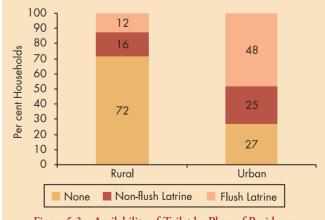
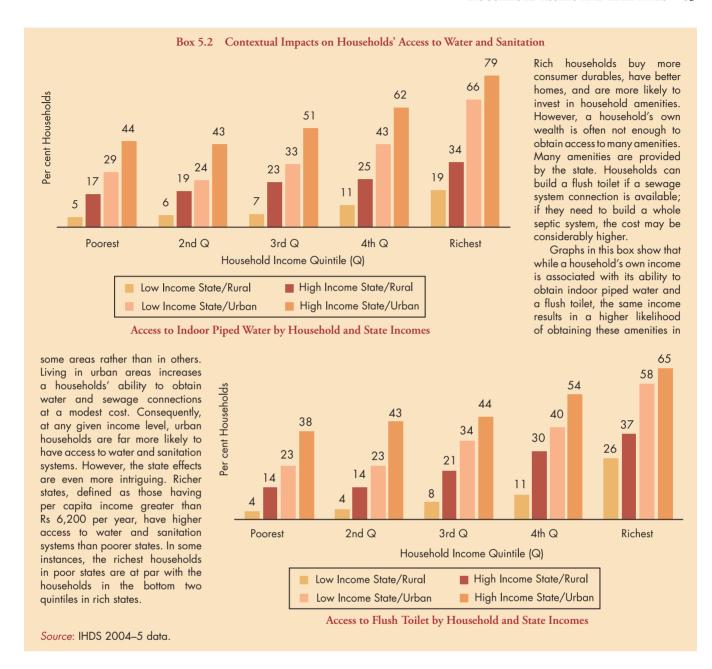


Figure 5.3 Availability of Toilet by Place of Residence Source: IHDS 2004–5 data.



#### **COOKING FUELS**

Cooking fuels have aroused increasing interest over the past twenty years because fuel wood harvesting has caused extensive deforestation, and because cooking with biomass fuels on open fires causes significant health problems. An estimated 1.6 million people worldwide die prematurely due to exposure to indoor air pollution. Of course, households use energy for a wide variety of activities besides cooking.

In India, the use of biomass energy in traditional stoves is still quite common, but the use of modern fuels such as LPG has increased as well. The IHDS found that Indian households use many different fuels for cooking, lighting, and heating (see Table 5.1).

Table	5.1 Hou	sehold	Fuel Use	d for Differ				
					(in p	per cent)		
	Firewood	Dung	Crop Residue	Kerosene	LPG	Coal		
Not Used	26	59	84	19	67	95		
Cooking	51	30	10	15	26	4		
Lighting	0	0	0	53	0	0		
Heating	2	1	1	2	0	0		
Combination	n 21	9	4	11	7	1		
Total	100	100	100	100	100	100		
Source: IHDS 2004–5 data.								

Almost half of all households use at least three different fuels at different times, or for different purposes. It is not uncommon, for instance, for a cook to rely primarily on firewood for cooking the main meals, to use a fuel like LPG or kerosene for quickly making tea, and to use dung cakes for the slow heat needed to simmer fodder for animals, or heat milk. The IHDS captured this variety by asking about each type of fuel use independently, thus providing a more complete picture than is possible with a single question as is common in other surveys.

As shown in Table 5.1, the most widely used fuel in India is kerosene, but most households (53 per cent) use it only for lighting. However, kerosene is a poor lighting fuel. It provides less light than a simple 40-watt light bulb and is more expensive. Households with electricity immediately switch to electric lighting and use kerosene primarily as a backup fuel when the power is unreliable.

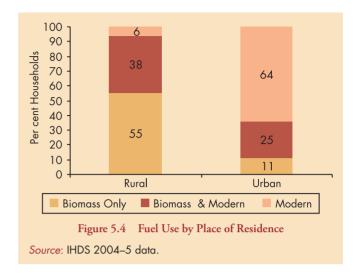
For household cooking, the picture is quite different. The most widely used cooking fuel remains firewood, used by 72 per cent of households. Dung cakes are the second most common cooking fuel, used by 39 per cent of households. The other biomass fuel used for cooking is crop residue, that is, stalks left over after threshing and not used for animal fodder; 15 per cent of households use these for at least some of their cooking. The use of coal or charcoal is very localized and used by only 5 per cent of households, and is more important in Jharkhand and West Bengal which are closer to coal sources.

Liquid fuels must be purchased in the marketplace, but they have the advantage of being used in more efficient stoves that emit far less air pollution and reduce utensil cleaning. Kerosene is almost universally available across India, through both the open market and the Public Distribution System, and is used by 26 per cent of households for at least some cooking. The use of LPG has increased significantly as a result both of market liberalization to encourage private vendors and of the expansion of public sector outlets. About one-third of Indian households now use LPG for some or all of their cooking, and this figure has been increasing steadily.

The use of modern fuels—kerosene, LPG, or coal—is vastly greater in urban than in rural areas (Figure 5.4).

Almost all urban households (89 per cent) use some modern fuel for some of their cooking, and the majority (65 per cent) do not use biomass fuels at all. In rural areas, the reverse is true. Almost all (93 per cent) use some form of biomass fuel for cooking, and the majority (55 per cent) do not use modern fuels at all.

States also differ widely in the use of modern fuels. Over half of rural households in Jammu and Kashmir (68 per cent), Himachal Pradesh (53 per cent), Punjab



(61 per cent), the North-East (54 per cent), and Kerala (59 per cent), use LPG in their households. Less than one in 20 rural households in Jharkhand (3 per cent), Chhattisgarh (2 per cent), and Orissa (5 per cent) do. These differences are partly due to higher incomes in cities and in the states with greater availability of LPG. In fact, the wealthiest households in urban areas use modern fuels almost exclusively, while the poorest rural households are almost completely dependent on biomass. But as with water and sanitation systems (see Box 5.2a and Box 5.2b), household income is only part of the explanation.

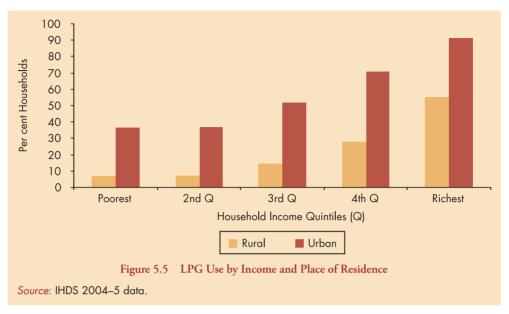
Urban households use modern fuels not only because they are better off financially but also because modern fuels are easily available in towns and cities. Rural households use biomass fuels not only because they tend to be poorer but also because biomass is easily available there unlike urban areas. Income definitely matters, but fuel availability in both urban and rural markets appears to be an even more important factor in determining the fuels that households adopt for cooking (see Figure 5.5).

## **ELECTRICITY**

The Indian government is committed to providing adequate electricity for all segments of the society. However, rapid economic growth has increased electricity demands. Government policies have emphasized rural electrification through the Rajiv Gandhi Grameen Vidyutikaran Yojna and these efforts appear to be reflected in the rapidly rising rates of electrification. Nevertheless, a significant number of rural households lack electricity and the quality of service still lags behind that of many other countries.

The IHDS found that 72 per cent of households have electricity.<sup>2</sup> These levels are higher than the 56 per cent reported by the Census just four years earlier. There may be

<sup>2</sup>The 61st round of the NSS and the *National Family Health Survey-III*, which were conducted around the same period as the IHDS, found electrification rates of 68 and 65 per cent, respectively (NSSO 2005b and IIPS 2007).



several reasons for this difference. First, the Rajiv Gandhi Grameen Vidyutikaran Yojna has made significant investments to increase rural electrification, so the electrification rate has been rising during the intervening years. Second, the IHDS includes non-standard and unofficial connections. Many of households may have illegal connections, a practice that is quite common in rural India. These households may not report their illegal connection to the Census, which is an official arm of the government. It is also likely that the electrification rate may be underreported in the IHDS, as well.

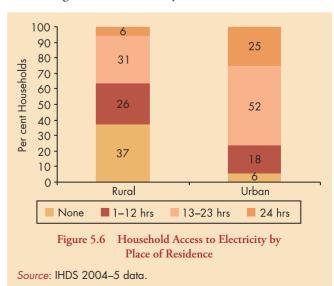
The central government has financed much of the electricity development, but the actual delivery of electricity to consumers is primarily a state responsibility. Therefore, the enormous statewise variations in electrification, especially in rural areas, are not surprising. In Himachal Pradesh, a well-managed state with extensive hydroelectricity production, virtually all households have electricity, including 98 per cent of rural households. The highly developed states of Punjab, Jammu and Kashmir, and Haryana also have achieved rural connection rates greater than 90 per cent. All states in the south have rates of rural electrification greater than 80 per cent. In contrast, the poor states have low rates of rural electrification: only 29 per cent of Bihar villagers have electricity. Orissa (36 per cent) and Uttar Pradesh (34 per cent) are only slightly better off. Even the more affluent households in these states often lack electricity. Electrification, like all household amenities, depends not only on how wealthy a household is but also on how wealthy the neighbours are.

Although most urban households (94 per cent) have electricity, for urban dwellers the problem is the poor reliability of the electricity supply. Only 25 per cent of households in urban India report a steady supply of electricity

24 hours a day, and as many as 18 per cent of urban consumers have 12 or fewer hours of electricity each day (see Figure 5.6).

Inadequate supply is an even bigger problem for rural households: only 6 per cent have a steady 24 hour supply, another 26 per cent have only twelve or fewer hours, and about 37 per cent do not have any electricity service.

It is the poor who suffer the most from the lack of access to electricity. Poverty is related to low access to electricity in two ways. First, poverty at individual as well as state level reduces access to electricity. Second, low access to electricity reduces income growth. Poor households find it difficult to pay for a connection and monthly charges. Poor states find it difficult to ensure supply to remote areas. However, the absence of electricity also affects income growth. Many home based businesses, particularly those run by women, such as tailoring or handicraft, may be more feasible if electric



lighting could extend the hours available to work. Similarly, states with poorly developed electric supply may experience low investment and productivity growth.

The relationship between state level conditions and household conditions in shaping access to electricity is complex. Poor households often live in poor states. So their lack of access to electricity is affected both by their own inability to pay for the connection/operating costs as well as lack of electric supply. However, IHDS finds that the poor are less likely to have electricity, no matter where they live (see Figure 5.7) suggesting a greater importance of household level factors than the state level factors.

Most poor households actually live in villages where electricity is available. Only 8 per cent of the 38 per cent of rural households without electricity live in non-electrified villages.

As noted earlier, many households have illegal connections. It is difficult to ask in a survey about illegal connections, but the IHDS inquired about the mode of payment for electric connections and the amount of payment. The results, presented in Table 5.2, indicate that 80 per cent households receive bills from the State Electricity Board, 9 per cent pay to neighbours or landlords, and 11 per cent of households with electricity do not receive a bill and do not make payment.

Among other modes of payment, households who get a bill from the State Electricity Board pay the greatest amount followed by generator users. Households who make payments to neighbours or landlords pay the least.

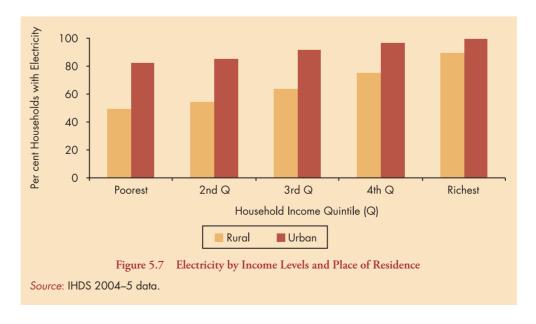
## **HOUSEHOLD POSSESSIONS**

Electricity, piped water, and cooking fuels provoke extensive policy debates about the proper public role for the state. However, from a household's point of view, they are part of a family's standard of living, much like motor vehicles, refrigerators, and other household possessions, which are not the focus of such policy scrutiny. As income rises, a household is more likely to acquire a motor vehicle or refrigerator, just as it is more likely to have electricity, piped water, or modern cooking fuel.

The IHDS asked questions about 27 other household goods or housing amenities (in addition to a flush toilet, LPG,

Table 5.2 Mode of Payment for Electricity by Place of Residence (for households with electricity)

(for households with electricity)									
	Rural	Urban	Total						
Per cent Households									
No Bill	15	5	11						
State Electricity Board	77	85	80						
Neighbour	4	3	3						
Part of Rent	2	6	3						
Generator	0	0	0						
Other	3	2	2						
Amount of Payment (Preceding Month)									
No Bill	0	0	0						
State Electricity Board	153	272	201						
Neighbour	<i>7</i> 1	172	104						
Part of Rent	91	142	123						
Generator	180	168	175						
Other	92	136	103						
All households with Electricity	138	255	185						
Source: IHDS 2004–5 data.									



and electricity) that reflect a household's standard of living.<sup>3</sup> These items range from an electric air conditioner, owned by less than .01 per cent of Indian households, to the most commonly owned item, two sets of clothes (97 per cent, see Figure 5.8). Together, these 30 assets and amenities provide a simple measure of a household's standard of living.

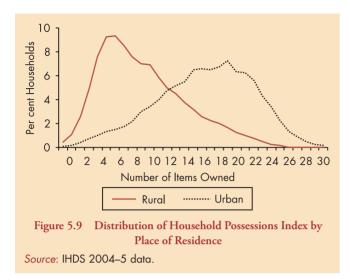
Summing the number of items in each household produces an index from 0–30 that has a normal bell-shaped distribution with an average of 12.8 items per household. Ninety per cent of Indian households have at least four of these items; only 10 per cent have as many as twenty. Figure 5.9 demonstrates most clearly the difference in amenities available to urban as against rural households.

Although income differences between urban and rural households were documented in Chapter 2, when we compare their lifestyles, the divide between urban and rural India is far more clear.

Like income and consumption (discussed in Chapter 2), the asset index is a measure of a household's economic standing. A household in the lowest income quintile has, on an average, just six of these assets and amenities. A household in the highest quintile has close to eighteen. Differences among social groups, household educational levels, and states (see Tables A.5.1a and 5.1b) for the asset index are very similar to those for the income and consumption measures reported in Chapter 2. Because these assets are acquired over several years, the index reflects a household's medium- or long-term economic position, in contrast to the more volatile annual income or consumption measures. As a result, the relationships of other enduring household characteristics, such as educational level, caste, and religion, are even stronger for the asset index than for measures of annual income or consumption. But the shape of the relationships is similar. On an average, forward caste households, households with college graduates,



<sup>&</sup>lt;sup>3</sup> In fact, the IHDS asked about several other items that were originally thought to reflect a household's standard of living (for example, a generator, the number of rooms in the house), but because they did not correlate well with other items, they were dropped from the index.



and those living in affluent states such as Punjab or Kerala have more household assets and amenities, just as they earn higher incomes and spend more on consumption.

In Chapter 2, we remarked on the higher total incomes of households with a large number of adults. This advantage diminishes when we consider per capita income. However, large families are able to pool resources and acquire assets and amenities that are often not easy for a smaller household to acquire. For example, a four-person household spends the same amount of money acquiring a mixer or grinder that a six-person household does. These economies of scale are reflected in better access to assets and amenities in larger households, as shown in Figure 5.10.

## **CONCLUSION**

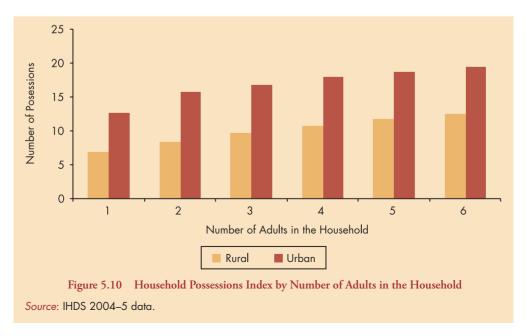
To sum up, amenities such as access to electricity, a clean water supply, and the quality of cooking fuels are major

factors in determining the quality of life for ordinary citizens. The availability of these services and the number of household assets vary considerably throughout the country. Household income is closely related to all of these services and assets, but local and statewise income levels are also important, especially for many of the public services. Wealthy households have better access to quality household fuels, reliable electricity, and tap water, in part because they more often live in wealthier states and communities.

While access to services has been expanding, with great strides made in some areas (for example, rural electrification) and slow progress in others (water supply and sanitation), quality and reliability emerge as paramount considerations in our analysis of water and electricity supply. It is not uncommon for household members to wake up in the middle of the night, during the hour in which the water supply is available, to fill water storage containers for use in the day-time. Nor is it uncommon for unexpected electricity outages to disrupt the rhythm of daily life.

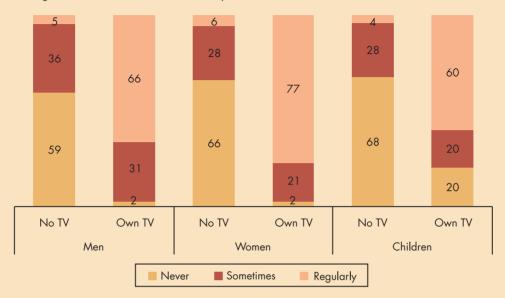
#### DISCUSSION

Access to amenities can often affect lives in unanticipated ways. Ownership of a television provides an interesting example. Increasingly, the government tends to rely on television to communicate information about health, access to government programmes, and other relevant topics. As Box 5.3 documents, household ownership of a television gives exposure to current issues and excludes certain households from this informational network, a topic to which we return when discussing knowledge of HIV/AIDS spread in Chapter 7 on health. Similarly, electrification is associated with better education outcomes for children, a topic we will discuss in Chapter 6 on education.



#### Box 5.3 Have Television, Will Watch

While it is not unusual to see Indian families watching television at a neighbour's home, owning a television makes a considerable difference in television-watching habits, particularly for women. Among the IHDS households, nearly 48 per cent own a television set. These households are far more likely to watch television and to watch it regularly than households that do not own a television set. This may limit the likelihood that informational messages, such as those about HIV/AIDS or polio vaccination, will reach their intended audience.



TV Ownership and Frequency of TV Watching

Source: IHDS 2004-5 data.

# **HIGHLIGHTS**

- 72 per cent of the surveyed households report having electricity. However, access to piped indoor water and a flush toilet is far more limited.
- The supply of water and electricity tends to be highly irregular: only 37 per cent of households with piped water report water availability of at least 3 hours per day, while only 57per cent of households report that electricity is available at least 18 hours per day.
- Only 80 per cent households with electricity report getting a bill from the State Electricity Board. About 11 per cent get no bill at all.
- Access to all services: water, sanitation, and electricity differ sharply between urban and rural areas; even upper income households in villages do not have access to piped water and sanitation.
- Households' access to a variety of consumer durables and other amenities varies considerably across states.
- In spite of rapid economic growth in the 10 years preceding the survey, few households own expensive goods: 2 per cent own a car; 1 per cent a computer; 3 per cent a washing machine; and 1 per cent a credit card.

	Water			Flush/	Fuel		Elec	tricity	No. of
	Piped indoors  (per cent)	At least 3 hours/ day if piped (per cent)	Mins/ day Spent Fetching	Toilet	Any Bio-Fuel (per cent)	Min/ Week Spent Collecting	Any Electricity (per cent)	At least 18 hrs/day if Any Electricity (per cent)	Assets Owned
All India	25	37	53	23	77	186	72	57	11
Maximum Household Edu	cation								
None	10	29	76	6	95	275	49	41	7
1-4 Std	14	30	67	9	92	244	57	47	8
5-9 Std	21	35	58	18	83	198	72	57	10
10-11 Std	34	38	41	31	68	130	85	62	14
12 Std/Some college	37	39	35	36	64	122	88	60	15
Graduate/Diploma	50	46	19	54	41	68	94	67	18
Place of Residence									
Metro city	68	55	8	55	14	3	97	90	18
Other urban	50	40	27	46	43	33	94	69	16
Developed village	18	23	57	18	91	207	75	51	11
Less developed village	7	40	73	7	96	293	51	38	8
Household Income									
Lowest Quintile	11	24	69	8	95	243	52	45	7
2nd Quintile	13	28	68	10	93	271	59	49	8
3rd Quintile	20	32	58	19	82	194	72	55	10
4th Quintile	30	41	46	29	69	147	83	61	13
Highest Quintile	52	47	22	48	45	78	95	66	18
Social Groups									
Forward Caste Hindu	41	46	36	37	58	136	86	64	15
OBC	23	29	56	20	80	180	73	54	11
Dalit	17	33	67	14	87	229	63	55	9
Adivasi	12	31	74	7	89	375	53	47	7
Muslim	21	47	42	24	80	117	69	49	11
Other religion	37	52	15	59	63	39	95	74	18

	Water			Flush/ Fuel			Electricity		No. of
	Piped indoors	At least 3 hours/ day if piped (per cent)	Mins/ day Spent Fetching	Toilet	Any Bio-fuel	Min/ Week Spent Collecting	Any Electricity (per cent)	At least 18 hrs/day if Any Electricity (per cent)	Assets Owned
All India	25	37	53	23	77	186	72	57	11
Jammu and Kashmir	43	70	56	22	75	263	98	30	12
Himachal Pradesh	51	55	48	28	85	617	98	99	14
Uttarakhand	25	70	103	39	80	432	80	41	13
Punjab	35	89	7	43	67	49	97	26	18
Haryana	47	63	40	18	78	186	94	37	16
Delhi	70	82	6	64	10	6	99	84	19
Uttar Pradesh	8	80	53	13	88	186	45	10	10
Bihar	2	97	58	5	93	196	35	3	7
Jharkhand	9	63	65	13	76	245	61	50	9
Rajasthan	35	29	86	22	84	249	64	46	11
Chhattisgarh	13	48	41	7	88	576	68	72	8
Madhya Pradesh	18	22	92	24	86	322	76	18	9
North-East	37	54	21	20	77	112	87	54	12
Assam	8	60	8	2	81	78	70	18	10
West Bengal	15	83	20	23	79	108	53	83	10
Orissa	6	75	69	5	90	223	43	92	8
Gujarat	59	32	65	40	65	209	88	77	14
Maharashtra, Goa	48	23	40	18	60	143	87	78	13
Andhra Pradesh	27	17	82	21	77	168	89	50	12
Karnataka	37	16	87	20	77	187	91	33	11
Kerala	13	86	22	67	91	49	90	98	16
Tamil Nadu	23	22	32	38	63	92	90	94	13

Source: IHDS 2004–5 data.