

Mumbai is a city with a complicated relationship with water. It’s annual rainfall should ideally suffice for everyone. Unfortunately, the reality on the ground is more complicated. Distribution systems remain uneven across neighbourhoods. Systems in place are fragile. Their quality is tied down to varied degrees of civic legitimacy for each locality. Poorer neighbourhoods face shortages regularly.

The ultimate source of water supply for the city - like for most of the country - is the annual monsoon. Which brings its own issues. The city witnesses downpours that are getting increasingly severe and floods becoming more and more vicious as last week’s media coverage of the city’s tryst with the downpour showed.

The drainage system of Mumbai was constructed to handle rainfall at the rate of 25mm/hour. The city is actually subjected to approximately 100mm/hour which already stretches the existing capacity. Besides this, building over natural water flows by disregarding the monsoon shaped geography has produced a catastrophic scenario - which only gets worse every year. Landslides and flooded homes have become increasingly frequent. Added to this, lack of a comprehensive waste management system leads to clogged drains and garbage blocks throughout neighbourhoods.

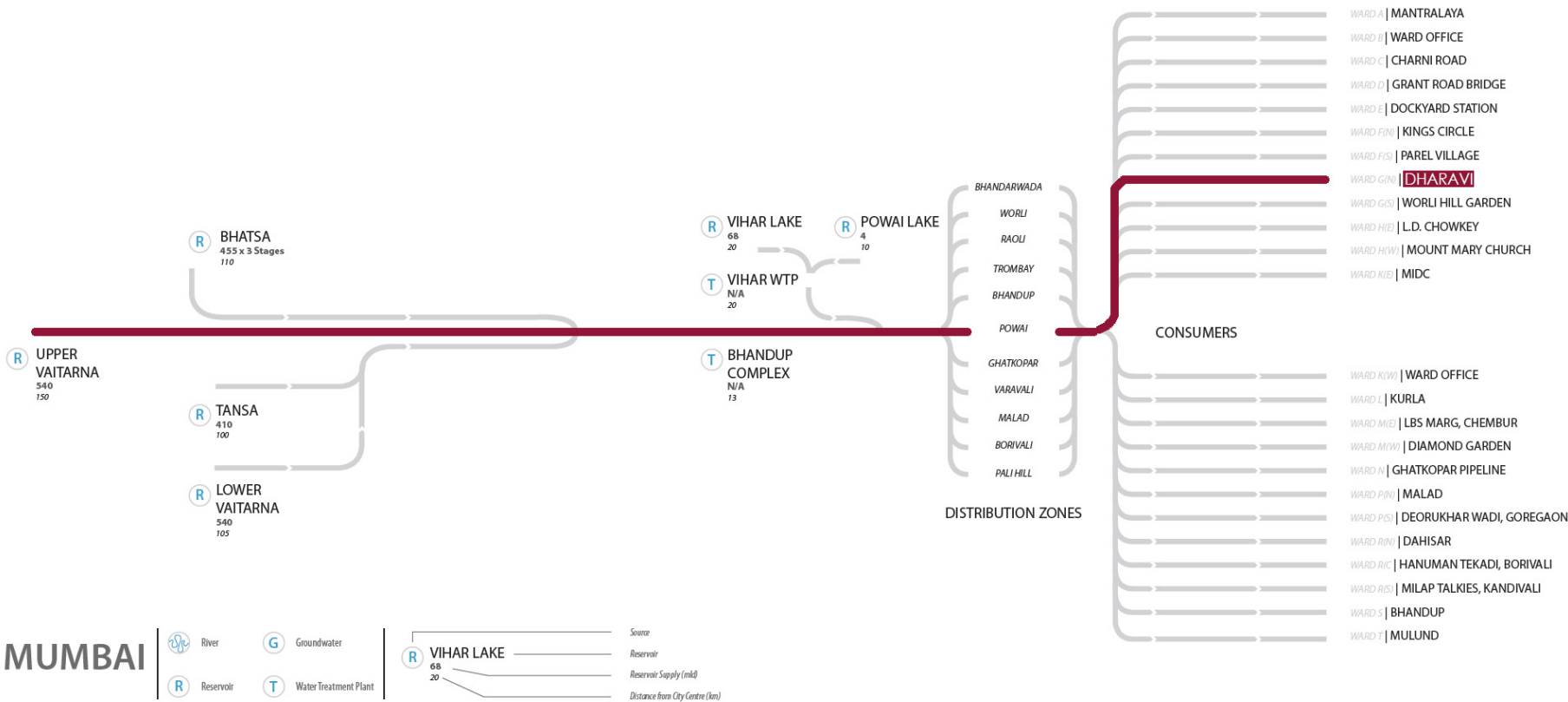
Dharavi sits in the heart of the city and experiences all of this at close quarters. This week’s issue explores the story of water as it falls onto the neighbourhood from the heavens above, the water pipes that come from the city’s municipal supply and the flows through the streets drains and gutters back into the sea.

## Limited access to water

Dharavi has come a long way in providing shelter to hundreds of thousands of Mumbaikars. Most of our respondents in this small study this week had spent approximately 20 years in the neighbourhoods. From the 24 respondents 8 mentioned sharing a water line between neighbours or borrowing water from their neighbour’s line. It is common in Dharavi to share water sources and split the bill.

People with and without individual water lines face one issue which is common to both; shortage of water. There are fixed times at which different areas receive supply. That is when they fill up their storages which are usually in 300 litre drums or more. Sometimes water comes at 4 am. If one misses that slot of 2 or 3 hours they need to plan their day without or with minimum water.

There are days when residents are informed about a total cut off a day in advance. This is a regular part of their lives and people have found ways of dealing with it. They store extra water. They resort to quick showers, avoid washing clothes that day, use the minimum possible amount of water for cooking, and try to use fewer utensils. One of our respondents, Shivaji Bhosle falls back on buying drinking water while Mehraz Kureshi goes to her mother’s place in Kurla whenever a water cut is announced.



Mumbai water supply base map by India Waterportal.

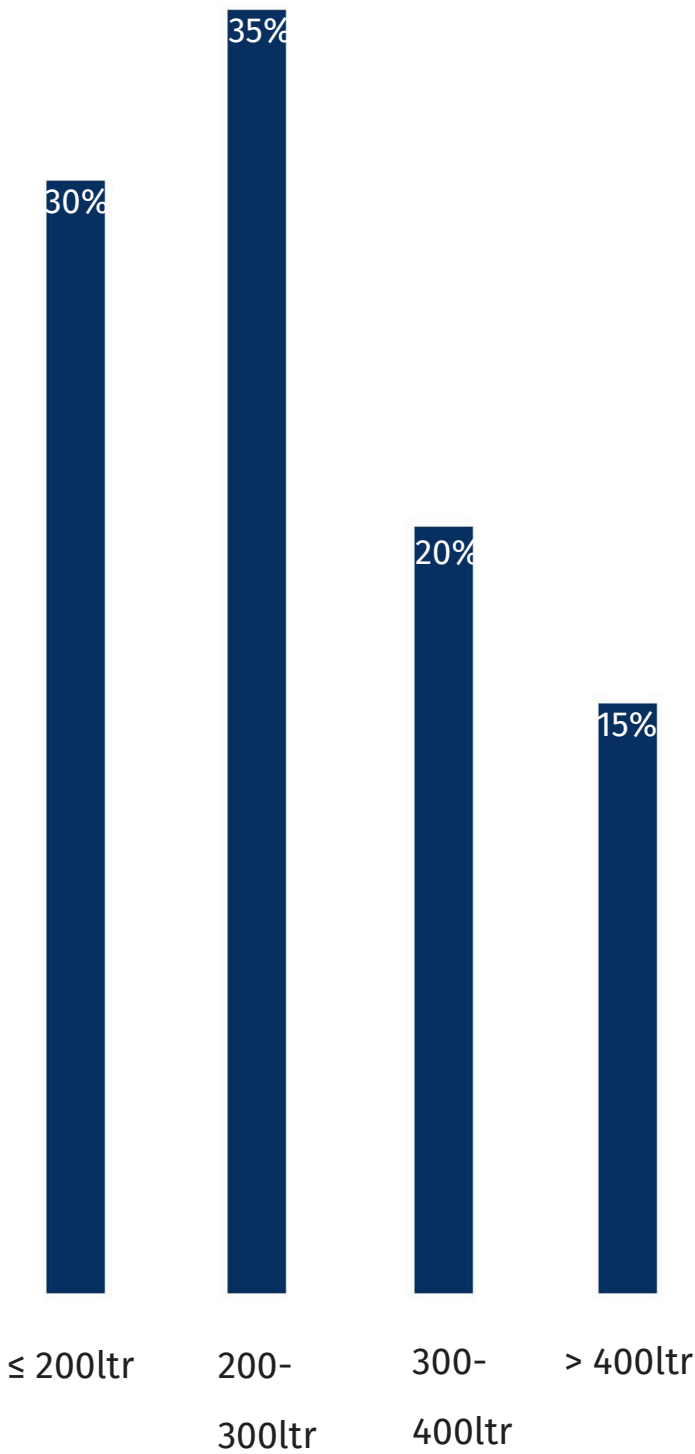
WATER  
EVERYWHERE - BUT  
NOT WHEN YOU  
NEED IT.

## STORIES

### Forced recreation

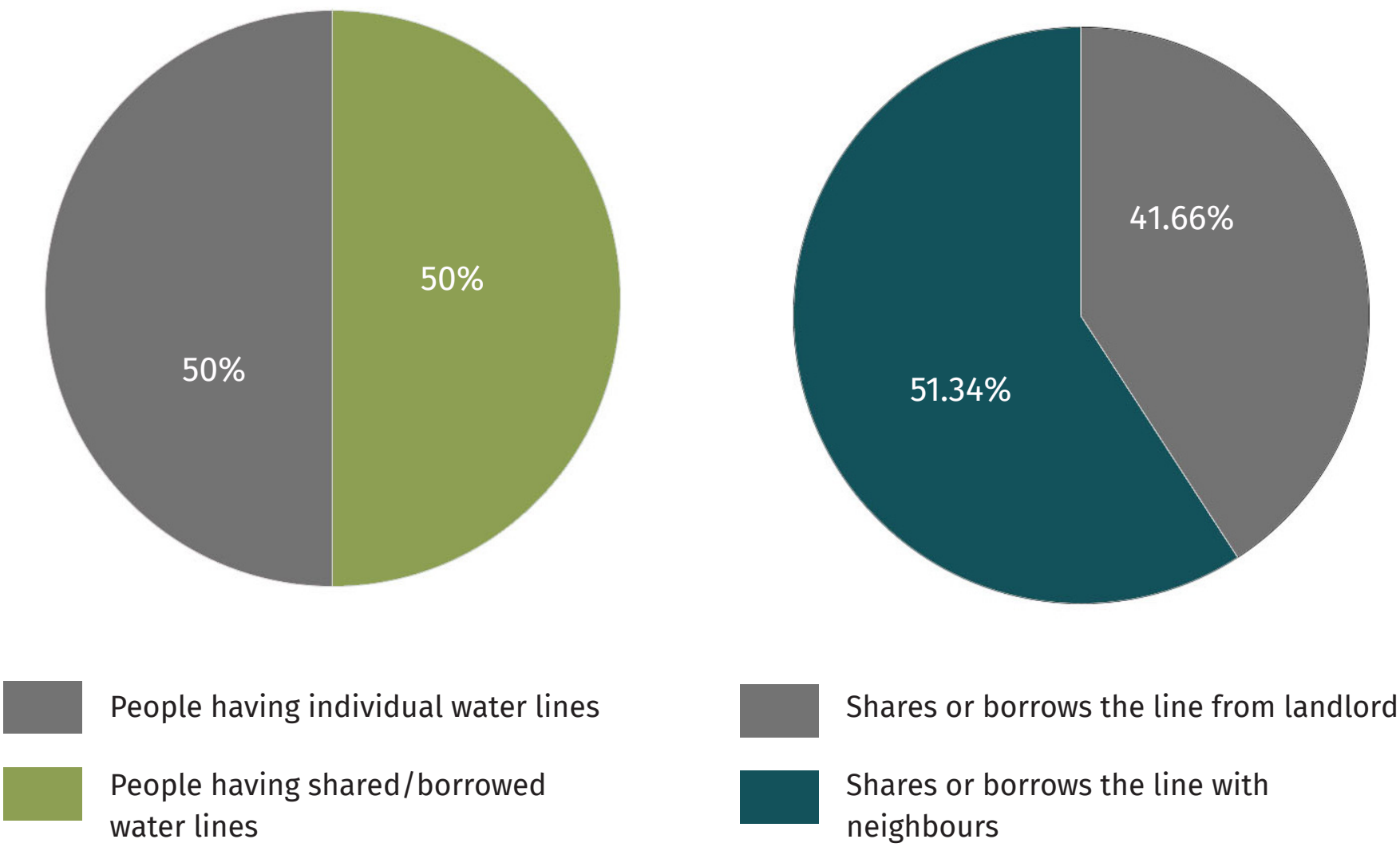
One of the respondents, Shyam Kanle has a water storage of almost 700L. His own immediate family requires approximately 400L/ day. He shares the tank with his brother. The waterline that is owned by him is shared with 5 other families.

When it comes to planning their water - cut off day, the family goes one extra step. Members go out to eat breakfast. They do this to avoid dirtying more vessels. They also bring back lunch and use paper plates. They made it out as if it was a fun thing to do to break the monotony of everyday cooking but on a more serious note, they acknowledged that it is actually borne more out of necessity. It was forced recreation actually.



The graph shows the amount of water consumed in a day against the number of respondents.

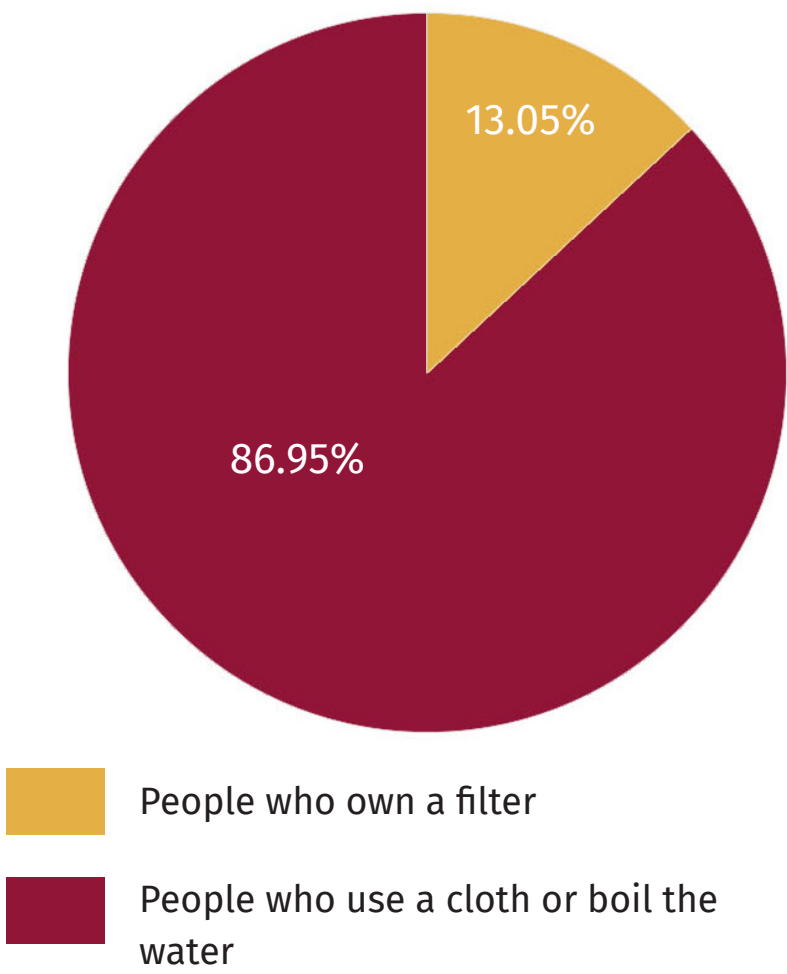




The charts above show that 50% of the respondents either share a water line or borrow a water line. Out of these 50 %, the second chart shows who do they share their water lines with.

## Quality over facility

While many of the respondents have clean water, there are people who aren't lucky enough. Our respondents mentioned letting go of some water in the beginning to avoid the murky flow. Sometimes though, the murkiness does not stop. Especially in the monsoons when the quality of the water supply becomes uncertain. After filling tanks, most people filter it. Either using a fine cloth or by boiling. From our respondents only 3 homes had electric filters. If the quality of the water is bad, then the hours of supply doesn't matter. A lot more expense is incurred just to make it usable.



Out of the 24 respondents, this chart shows the no. of people who own a filter.



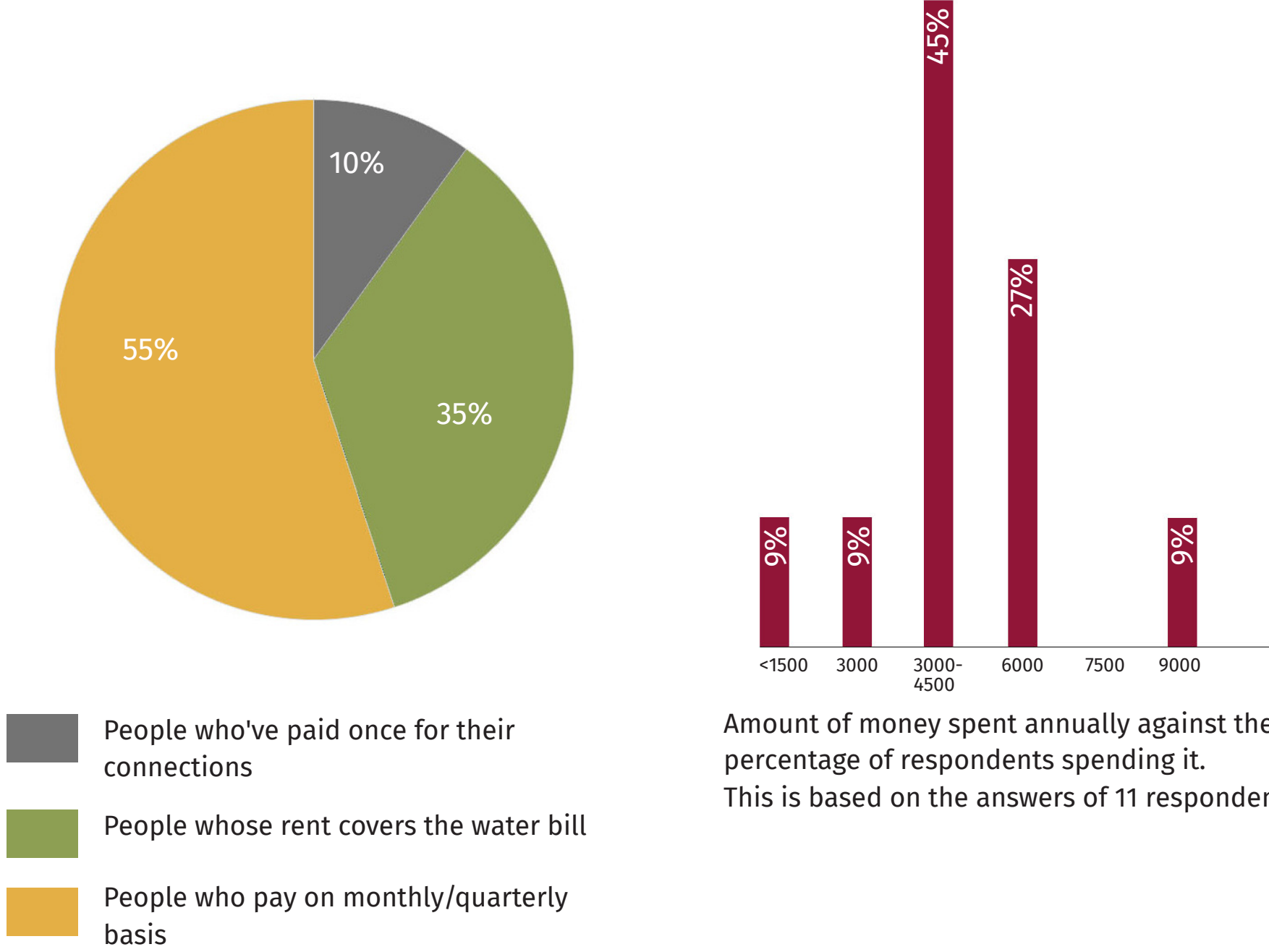
State of a kitchen during monsoon and after using up the first storage of water i.e. buckets and handis.



The quality of water at Ali Sheikh's house.

## Methods of payment

There are different ways in which people pay for their water connections. Based on the answers of our respondents, there are 3 main methods of payment. Respondents like Shalini and Meena have spent a certain amount once to get the connection while the other respondents are either paying monthly or quarterly bills or the rent of their house covers the water bills.



Amount of money spent annually against the percentage of respondents spending it. This is based on the answers of 11 respondents.

## Water for a price

Zubair Kureshi, a resident of Dharavi, has to purchase drinking water almost everyday. The Kureshi family is one of those who receive murky water no matter how long they let the tap flow. In spite of the fact that they filter the water with a fine cloth and boil it, the water often remains undrinkable. Their complaint of the quality of water includes stinking water. There are kids in the family and the parents are particularly concerned, which makes them have to buy bottled water almost every other day.

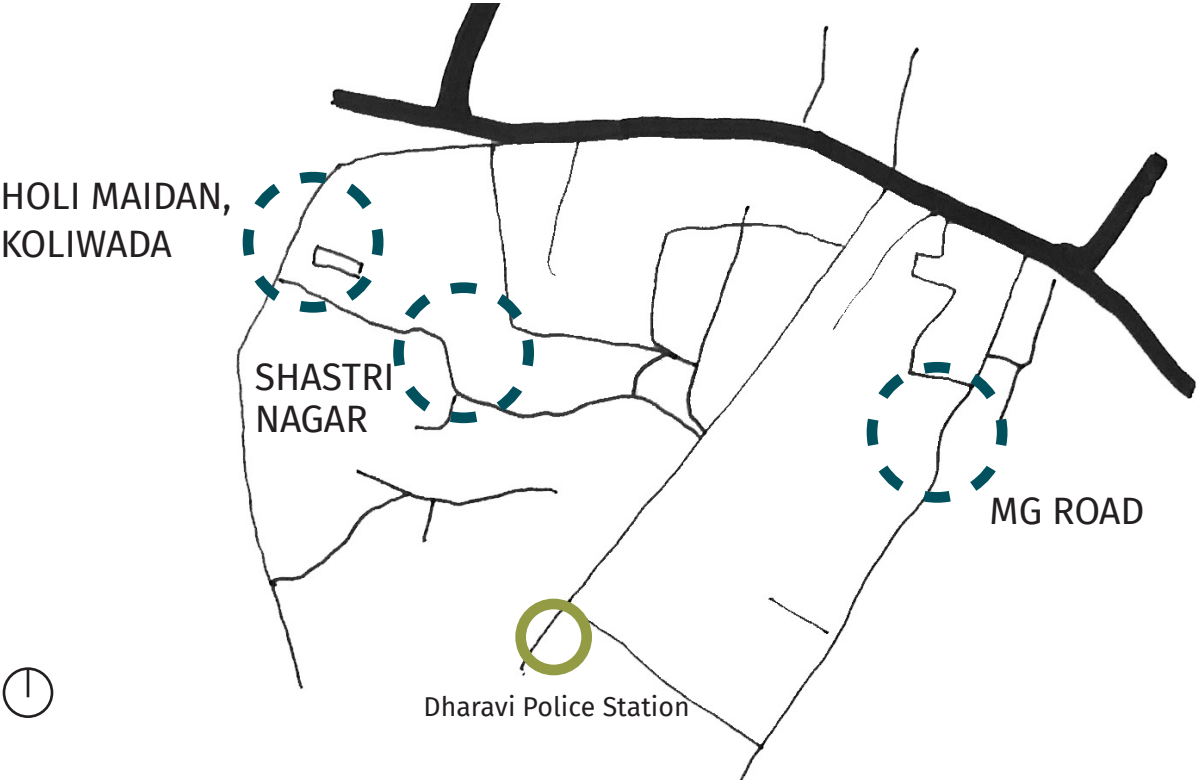
Even though Zubairbhai, as a community leader, has helped a lot of people during the lockdown, he says he needs help too from the municipal authorities to take action on the quality of drinking water.



# Surviving floods

This week Mumbai experienced heavy rainfall for 2 consecutive days. Many areas were brutally hit but Dharavi seems to have survived just fine. Most of our respondents did not mention any major damage or loss. This was also verified by a general overview of the locality. It was, like it has been, during several monsoons over the years. People this year did whatever little they could do to deal with the intensity of the monsoons. This includes using plastic sheets to cover windows and over roofs. Some people had their switch boards or cupboards close to walls ruined because of leakage, but nothing particular connected to flooding or water logging. At the same time, the previous years have taught people to be cautious. Most had transferred their belongings either to the floors above if they had an extra floor or even a neighbour’s houses on a higher storey. Even though these downpours occur suddenly, nobody mentioned any major damage to any of their possessions.

Even though Dharavi didn't have major floods this time, people did point out that clogged drains and poor flow of rainwater made it difficult to wade through the streets - even short distances - especially to the community toilet in the neighbourhood.



According to our respondents, these are the 3 areas which were flooded during this week's downpour.

## The use of Community toilet during monsoon

Sanjyoti is a young adult who lives in a chawl. Her family has an individual tap whose line is shared with other families of the chawl. They have adapted to water cut off days but are yet not accustomed to the rains - having recently moved to the city.

Sanjyoti doesn't have a toilet in the building and uses the community toilet, which in the monsoons means going out with an umbrella, on most mornings. The toilet is plagued by water logging which also causes a massive breeding of mosquitoes - becoming a health hazard in its own right. The issue is pervasive throughout the year but during these times - falling ill is particularly dangerous, given the lack of accessibility of hospitals and doctors.

# Reasoning and awareness

All the respondents we interviewed seemed to be aware of the reasons why Dharavi does not suffer the floods as much as other parts of the city. According to them the areas they are in - mostly around the older habitats such as the fishing village of Koliwada - are built on a higher level allowing the water to flow downhill.

At the same time they also had an idea of why rainwater still became a nuisance for most of them. There are uneven levels of constructions and garbage blocked in drains that trap the water and make it a pain to wade through. Those who are at the end of a slope face most of the brunt.

Our respondents pointed out that there isn't enough open ground for the water to seep in which delays the retreat of water collected during rain. Most agreed that it was the lack of maintenance of gutters and drains that caused major obstructions to water flows.

Respondents acknowledged that they themselves are also responsible for littering the open nallas. However, they also pointed out that the municipal authorities are not doing their job properly. They are supposed to clean the drains before each monsoon but rarely manage to do so. They suggested that it is important for the public and authorities to work together to battle the monsoons.

# Neighbours save the day

Water logging or shortage of water, residents of Dharavi are able to ward off these issues with the help of each other. The neighbours have always stepped up whenever they can to help their next-door friends. Our respondents mentioned cases of being helped by their neighbours when they didn't have enough water and vice versa. One of the respondents, Shalini had helped her friend for over 2 months until her water line was fixed. Also during rain, people whose houses are lower or are on the ground have been welcomed to keep their belongings at their neighbours’ house which are higher or even stay over. It is only when there is a sense of community can one face the adversities. Dharavikars are a prime example of that.



These are the pictures captured during heavy rains this week. Images are shared by Dilip Khandare.