



# What the lockdown has accomplished

**It has slowed down the spread of infections; air and water pollution have also come down**

**Kirit S Parikh** May 10, 2020 Last Updated at 20:54 IST



At the end of May 3, the 40th day of the lockdown, there were 42,505 cases of infection and 1,391 deaths. The hardship the lockdown has imposed on the country is well known. All the lost jobs and income has stressed many millions. Tens of thousands of migrant workers are so anxious to go home from cities that they are willing to confront the police. Their anxiety reflects the inability of the central and state governments to provide them with food and a space to live. Our endemic problem of corruption that has for decades led to the siphoning off of relief from the intended beneficiaries persists despite “main khaunga nahi aur na kisiko khane dunga”.

The question then arises: Has the lockdown been effective at least in controlling the spread of Covid-19? Has all the pain produced any worthwhile outcome?

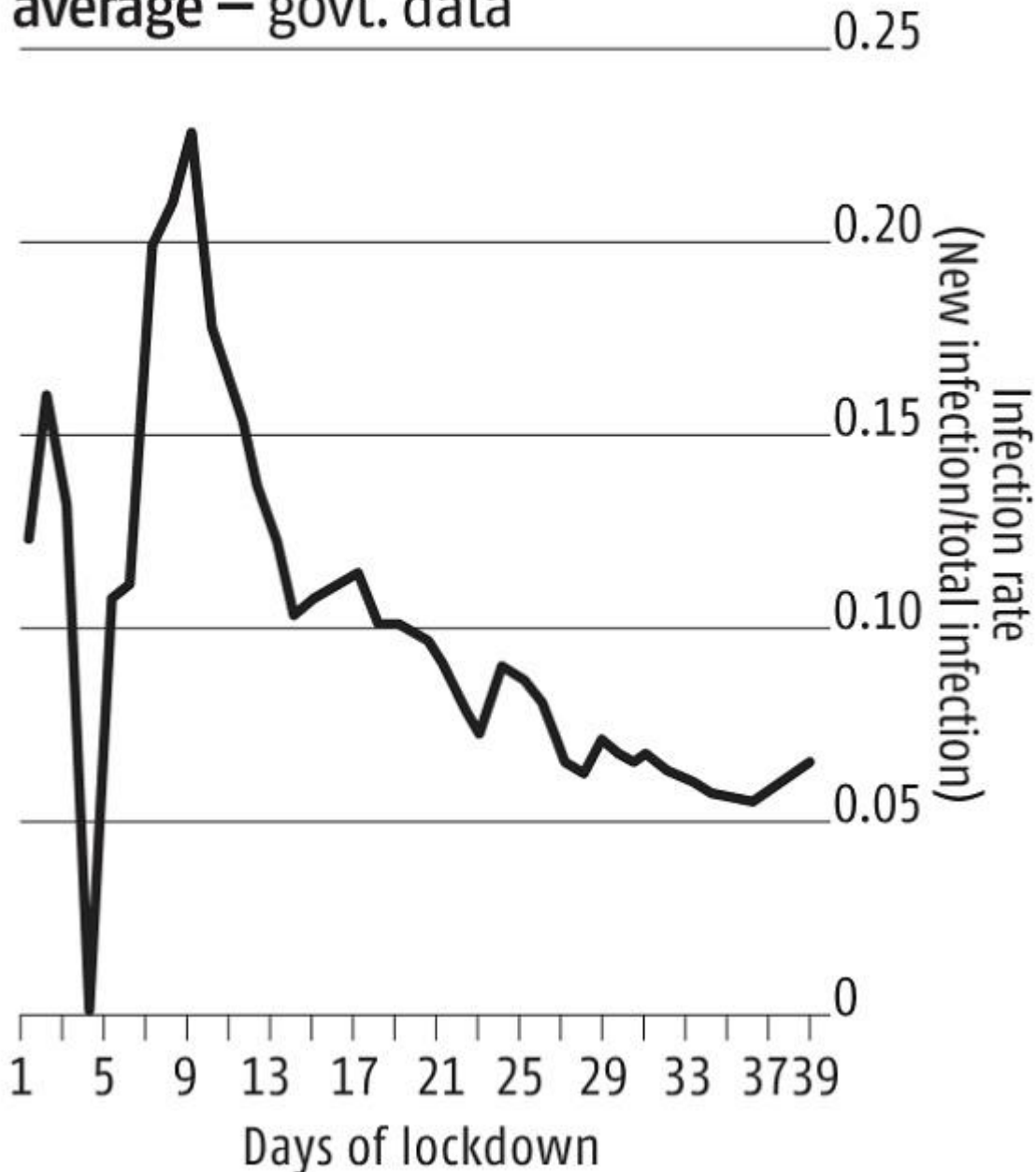
The number of cases of infection is relatively small in India compared to its population. But the number keeps growing. However, the rate of increase has been coming down. The figure shows infection rates. Three-day moving average is taken for the rates. After 12 days, the rate was 15 per cent, that is, the doubling rate was around five days. The infection rate has been coming down and for the last seven days, it has been around 6 per cent, giving a doubling time of 12 days. However, the rate seems to be going down very slowly. If it does not go down further, by the end of June, we may have 1.2 million cases.

Many sceptics believe that as our testing rate is very low, the number of infected persons is underestimated. I try below to make an alternative estimate of the number of people infected and see if the rate of doubling has reduced indeed.

While the number of infected may be underestimated, the number of deaths are likely to have a smaller error. An infected person gets the symptoms after four to six days.

# SOCIAL DISTANCING IMPACT

Infection rates, three-day moving average – govt. data



He may then go to a hospital. After admission to a hospital, if she is to die, she may die in eight to 12 days. Thus a person who dies today was likely to have been infected 12 to 16 days earlier. If we assume that because of the younger population and the exposure to all kinds of infections in the past, Indians will have a lower death rate of 1 per cent, then this will imply that for every death, there were 100 infections 12 to 16 days prior. If we take 12 days, we will get a larger estimate of infections. Since we want to see how the doubling rate is coming down, this should not matter much. This way the number of infected persons is estimated to

be 2,700 on March 18, doubled to 5,800 in three days on March 21, again doubled in four days to 11,800 on March 25 and further to 24,600 on March 29, growing to 44,400 on April 4, the eleventh day of the lockdown. Thus it will double in seven to eight days. The doubling rate is coming down and we can say with some confidence that the reduction in the doubling rate is not just an outcome of our low testing rate. The lockdown has delivered and slowed down the spread of infections.

There have been other gains from it too. The water pollution in rivers and air pollution have come down. While the lower air pollution levels may be due to a variety of reasons such as fewer trucks, cars, auto rickshaws and two-wheelers moving on the road, the closure of industrial activities of both large and small units, no

construction dust and pollution from sources external to the city. Thus, to quickly reduce air pollution after the lockdown ends would require action on all these fronts.

The bluer and cleaner waters in our rivers like Ganga and Yamuna are different and do indicate what we need to do to clean up the rivers. The main change in the effluent discharge in the rivers is due to the stoppage of industrial activities. The municipal waste discharges are not likely to have changed. What this suggests is that the enforcement of industrial effluent standards by pollution control boards has been very lax and just tightening them could clean up the rivers significantly.

It has been argued that the waters look bluer because of the reflection of blue sky due to reduction in air pollution. However, when fish are seen in rivers, there must have been some improvement in quality. Some of it may be due to increased flows in tributaries as withdrawal of water for irrigation in this season is small. These could be tested easily. The pollution control boards measure water quality at many places along the rivers. Unfortunately, they only provide information on pollution concentration and not on total pollution load. All they need to do is to measure total water flow at the same sites. If the information on pollution load at different points along the river is known, then the impact of larger flows and reduction in effluent loads can be sorted out.

The Clean Ganga project was launched by Rajiv Gandhi in the 1980s. In 2008, the Supreme Court asked me as then member, Planning Commission, in-charge of water, to report on the progress. I had found inadequate sewage treatment capacity in most major cities along the river and very little improvement in the quality of water. In fact, the coliform count was higher in many places. The Namami Gange website lists many actions taken by the government. It would be nice to know the change in water quality that has taken place. The lockdown has shown what it needs to do to clean it up rapidly — effective enforcement of industrial effluent standards.

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