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Columns: For a cleaner India

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Ever wondered how the government spends money? After all, the government is no different than anyone of us. We all have fixed money income, and given this income we have to prioritise our spending. The government does the same. Allocating money for different sectors such as education, health, sanitation, defence, etc, is what is popularly known as the budget. But the government has to tactfully spend this money—ideally in a way so that returns from each additional rupee spent on each one of these sectors give some benefit or return. Economists say money is spend unproductively when, in spite of money being spend on some sectors, there are no returns. If that happens, then the government runs into a budget deficit, which is not good for any economy.

We use district-level income data to find out how each one of these aforementioned sectors is giving return, on money spent on them (for a detailed analysis, see Anurag Banerjee and Nilanjan Banik (2014), 'Is India Shining?', Review of Development Economics, February issue). We find that the closed drainage system has the maximum impact on income through own and spillover effects. The own effect reflects how the level of development (captured through development indicators) in any particular district (x) affects its own income. For 1% increase in a closed drainage system, the income increases between 0.96% and 2.58%. The second biggest factor is the availability of potable water. A 1% increase in the availability of tap water systems within households gives rise to a 0.16-1.30% rise in income.

Many districts in India do not have a proper drainage system and lack potable water. Poor drainage systems usually have stagnated water, thereby becoming a breeding place for mosquitoes. This could result in an increase in malaria and water-related diseases in the vicinity, adversely affecting income. Similarly, proper potable drinking water systems have positive public health outcomes. If people are healthy, they can work harder and assimilate knowledge more efficiently, which translates into higher productivity and income growth. In fact, studying income data tells us that income inequality has fallen across districts and there is an increased aspiration for living in a cleaner hygienic condition. Categorising India into high, medium and low-income regions, we find that some districts of Madhya Pradesh, Odisha and Rajasthan have moved from being low-income to middle-income categories. Some of the fastest growing states comprise the erstwhile BIMARU states such as Bihar, Madhya Pradesh and Jharkhand. Our paper also finds evidence about the neighbourhood spillover effect. We find that when income in district (x) increases by 100%, income in the neighbouring district (y) increases by 10%.

Given these observations, the Swachh Bharat and cleaning the river Ganga programmes, launched by prime minister Narendra Modi, are certainly welcome moves. In hindsight, returns from sanitation and potable drinking water do give maximum benefit. The Swachh Bharat mission was launched on October 2, which aimed at creating a "Clean India" in the next five years. The launch of the mission comes in the wake of the perception about Indian cities not being clean. A number of people in rural areas still do not have access to toilets. Even some schools in the rural areas do not have toilets. According to Census 2011, only 32.70% of rural households had access to toilets. According to a UN report released this year, India continues to have the largest number of people in the world defecating in the open.

Similarly, for cleaning the river Ganga, Modi instituted a separate ministry. The Union finance minister, Arun Jaitley, in his maiden Budget, announced an ambitious \$33 million "Namami Gange" project—rejuvenating the polluted water of river Ganga within the next three years. The Ganga basin constitutes 26% of India's landmass. Major cities in the basin—including Delhi, Agra, Meerut, Kanpur, Lucknow, Varanasi, Allahabad, Patna and Calcutta—generate

and discharge huge quantities of waste water into the river.

Both these programmes, if implemented properly, will have an important implication from the perspective of having a cleaner environment, and eventually increasing national income. However, it is important to note that these programmes will not be successful without undertaking necessary structural reforms. There is a need to change the law so that the people and firms responsible for littering/polluting can be held accountable. There is also a need for educating the common masses so that the cultural attitude changes towards having a cleaner environment. The government should also encourage more private sector participation for setting up waste water treatment plants. Only then the Clean India campaign will become more meaningful and eventually successful.

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