



PHOTO: REUTERS

TINY BUT DEADLY

The battle against mosquitoes is becoming a hopeless one both for Dhaka's residents and the administration. Are there any sustainable solutions?

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A tiny insect with a lifespan of hardly 10 days has been threatening billions of lives all over the world. In a densely populated city like Dhaka, it is one of the most hated and also one of the most feared insects. Citizens of Dhaka have been fighting a never ending battle against these tiny insects for centuries whose bites have caused some of the deadliest epidemics in the country. However, defeating these insects is turning out to be an impossible task.

world.

"In Narinda our lives have been plagued by mosquitoes. In our home, we have to keep mosquito coils burning 24/7. However, as the entire area is infested with mosquitoes, nothing can stop them," says Md Azhar Hossain, a local resident of Narinda who is thinking of leaving the area because of the intolerable mosquito infestation.

"Many of my neighbours had dengue fever this year. If I continue to

been breeding in frenzy. Narinda is just one of the many mosquito infested areas of Dhaka.

On April 20, 2015, Annisul Huq, the Mayor of Dhaka North City Corporation (DNCC), said in a pre-election programme that he had conducted a survey among 76,735 citizens living in 36 wards of DNCC area to find out what problems the residents of the area were facing. According to the Mayor, 68.3 percent of the respondents identified mosquito breeding places as the main public nuisance in North Dhaka. Annisul Huq had promised to solve this problem if elected as the Mayor of DNCC. Mosquito control was also one of the top pledges made by Mohammad Sayeed Khokon, the Mayor of Dhaka South City Corporation (DSCC), before election.

Despite such promises the situation has not improved. This year, the outbreak of dengue has taken an epidemic form in the city. According to the disease control unit of Directorate General of Health Services (DGHS), 2,061 dengue patients were admitted to different hospitals of Dhaka till October 31, 2015, the number being seven times higher than the previous year. However, according to a report by the *Daily Prothom Alo*, one of the officials of the disease control unit had said that they could reach only 25 hospitals whereas there are more than 1000 hospitals and clinics in Dhaka. So, it is obvious that the actual number of dengue patients is much greater than 2,061. Besides seasonal dengue fever, lymphatic filariasis is also a widespread disease among Dhakaites, especially slum dwellers.

Steps taken to control mosquitoes have been making almost zero progress due to severe resource and manpower constraints in the city corporations and lack of public awareness. According to DSCC's chief health officer Brigadier General Md. Mahbubur Rahman, DSCC has only 214 adulticide sprayers, 292 larvaecide sprayers and 347 workers to keep its areas of jurisdiction mosquito free. Meanwhile, in DSCC's 45 square kilometre area, there are 569 bighas of clogged water bodies and 463 kilometres of open sewers, not to mention the garbage dumps and other polluted spots that provide perfect breeding grounds for mosquitoes.

DNCC is in no better shape. According to Brigadier General Dr. S M M Saleh Bhuiyan, DNCC has 310 workers with 156 adulticide sprayers and 246 larvaecide sprayers. However, in its 82.4 square kilometre jurisdiction, it has 607 kilometres of open sewers and 2273 bighas of clogged water bodies. Officials from both the city

corporations have claimed that their workers are spraying larvaecide to kill the mosquito larvae everyday in the morning and adulticide to kill the adult mosquitoes in the evening in every ward of the city corporation areas. However, many residents from different parts of the city say that they do not get this service at all. Also, there are several areas which are actually in Dhaka city but do not fall under the jurisdiction of any of the city corporations. As a result, workers of the city corporations do not provide any of these services there.

Brigadier General Mahbub says, "To tackle this problem, I have prepared a map of DSCC area dividing it into three zones: the red zone, the yellow zone and the green zone based on the intensity of mosquito infestation in those areas. I am working to convert this map into digital format so that I can give a printed version of the map to my workers and they can spray the chemicals where it is necessary."

Mosquito breeding can be reduced biologically by controlled cultivation of some fish species such as mosquito fish, Killifish and Tilapia which consume mosquito larvae as their main food.

"Once converted into digital format, it will be possible for us to update the map regularly," adds Brigadier Mahbub.

To ensure service in every part of DNCC area Brigadier General Saleh has taken another plan. He says, "I have connected my spray men with the councillors from every ward. The councillors now can summon the spray men to get the service wherever and whenever necessary."

However, spraying chemicals is not a sustainable way to control the mosquito plague. Overuse of pesticides has adverse effects on human body and environment. So, to tackle this growing problem it is time to think of more sustainable methods. Brigadier Mahbub says, "The best and most scientific way to control mosquito is to keep the stagnant water bodies flowing and covering up the open sewers. Most of the water bodies like canals and ponds in Dhaka are very poorly maintained and remain clogged with

garbage and hyacinth."

"If these water bodies can be rescued and maintained properly, a large part of the mosquito problem will be solved," he adds. According to a report by International Development Research Centre (IDRC), mosquito breeding can be reduced biologically by controlled cultivation of some fish species such as mosquito fish, Killifish and Tilapia which consume mosquito larvae as their main food. Adult dragonfly and some species of gecko and lizards also consume mosquito and mosquito larvae. These species may be introduced in a way so that they cannot make any adverse impact on the local ecosystem.

However, the most important instrument to control mosquito is raising public awareness. Rahat Karim, a student of Dhaka University who lives in Masterda Surya Sen Hall says, "It is true that City Corporation workers spray chemicals everyday in the morning and in the evening in our dormitory premises. Still I have to pass sleepless nights in my room due to incessant mosquito bites."

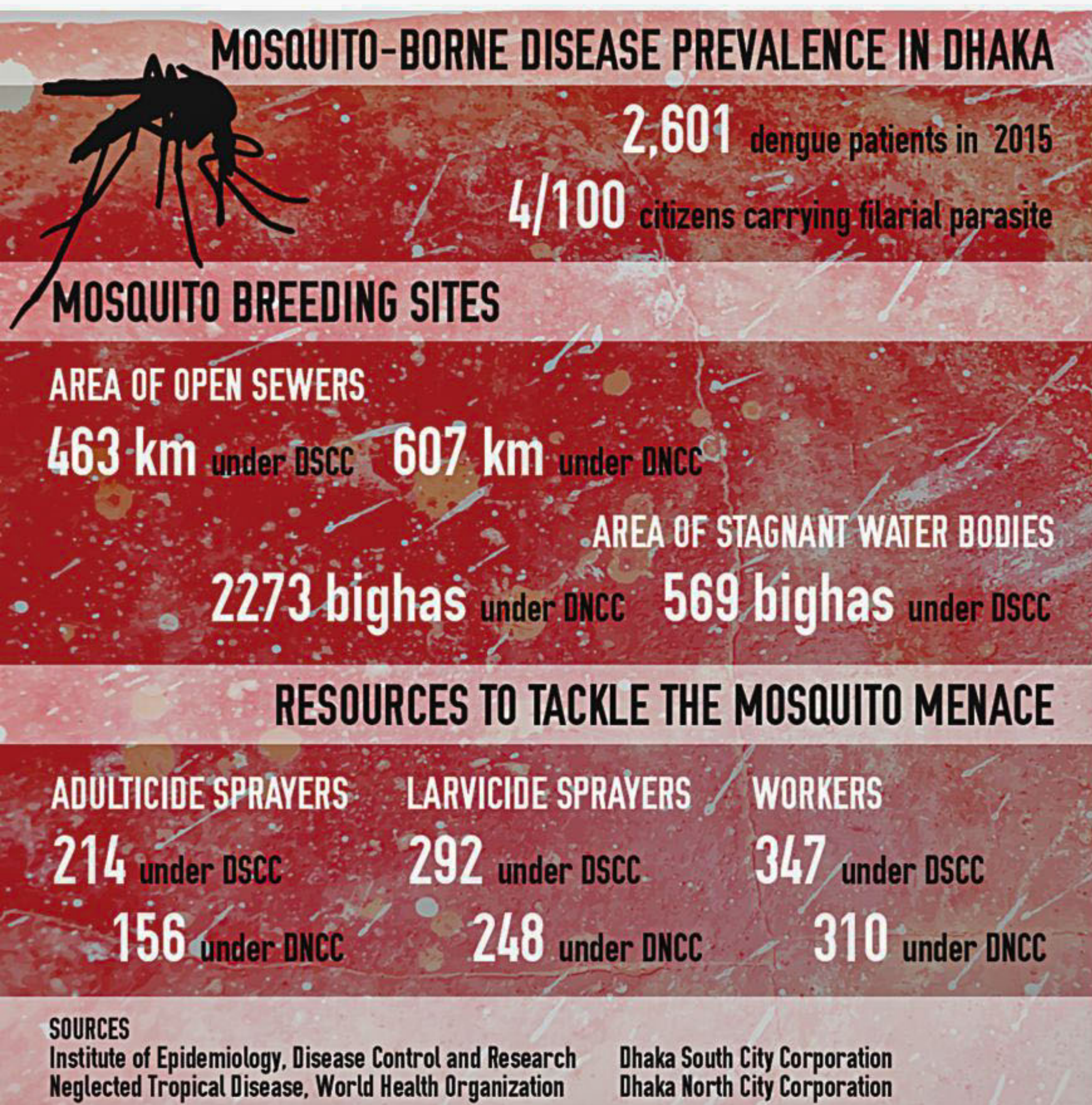
Chemicals can do little while residents continue to indiscriminately throw garbage wherever they want. Disease-carrying mosquitoes like the Aedes mosquito that causes dengue, breed in stagnant water, including water in flower pots, discarded tyres, vases and other containers. Keeping homes clean and ensuring timely removal of stagnant water can keep mosquitoes from breeding. The government should also take measures to launch effective campaigns through the media so that people become inspired to keep their homes and neighbourhoods clean.

Mohammad Hanif, the first Mayor of undivided Dhaka started the journey of Dhaka City Corporation in 1994 with the pledge of turning Dhaka into a mosquito free city. Interestingly after 20 years the two elected mayors of North and South Dhaka have garnered public support during the mayoral election with the same promise. Every year thousands of people in Dhaka get infected by mosquito-borne diseases while hundreds succumb to them.

Every year during the rainy season and with the onset of dry season, mosquito infestation reaches an intolerable level in Dhaka. To tackle this menace we need honest efforts from the city officials as well as scientific research to reduce mosquito breeding in a sustainable and environment friendly way.

The mosquito plague, if not controlled, will make the city an unbearable place to live in.

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INFOGRAPHICS: AMITYA HALDER

Eighteen million inhabitants of Dhaka are helplessly exposed to disease carrying mosquitoes. The high prevalence of mosquito-borne diseases such as lymphatic filariasis and dengue is a major health concern in Dhaka. Hundreds of kilometres of open sewers, polluted, stagnant water bodies and an extremely poor waste management system have made this city an ideal breeding ground for different species of mosquitoes, giving Dhakaites one of the worst city-life experiences in the

live in this area, my family members might contract this deadly disease," says a worried Azhar.

After visiting the extremely polluted, stagnant Narinda canal, the reason behind the suffering of thousands of residents of Narinda and its nearby areas becomes clear. At nightfall, dark, black columns are seen waving above the waters of the canal. These waving columns are actually millions of mosquitoes circling above the dark, hyacinth covered water where they have