

DENGUE: A BUG TO KILL A BUG

Dengue is the curse of unplanned urbanization and conventional methods have failed to stop its progress. Since dengue was first documented in Calcutta in 1963, regular epidemics have been sweeping through the Indian subcontinent. One of the worst epidemics hit Delhi in 1996 with 10252 cases and 423 deaths.

O' Neill, *et al* from Monash University in Australia, have developed a startling new way to handle this menace. They infected the *Aedes aegypti* mosquito with the bacterium *Wolbachia pipientis*. The presence of *Wolbachia* in mosquitoes completely blocks the ability of the dengue virus to grow in mosquitoes. Interestingly *Wolbachia* is transmitted vertically from mother to offspring and not through the environment. When an infected male mates with an uninfected female, all her eggs die. When the infected female mates with uninfected males, their eggs hatch normally and all their eggs have *Wolbachia*. So with time *Wolbachia* gets more and more common with every generation.

It is hypothesized that the *Wolbachia* bacteria prevents dengue infection by competing for limited sub-cellular resources required by the virus for replication. In an open field trial in two relatively remote areas in Australia, the team released more than 300,000 adult mosquitoes infected with the wMel *Wolbachia* strain into wild *A. aegypti* populations over a period of 9–10 weeks. Five weeks later, nearly all the wild mosquitoes tested were infected.

For the first time in history, wild insect populations have been transformed to reduce their ability to act as vectors of human disease agents. Now the team is seeking approval to release such infected mosquitoes into dengue-endemic sites in Vietnam, Thailand, Indonesia and Brazil to see if it reduces rates of dengue transmission in people.

It appears to be an attractive low-cost, sustainable strategy for dengue control (*Nature* 24 August 2011).

ELEPHANTIASIS DECLINES

About 120 million people are affected worldwide with lymphatic filariasis and a third of them are in India especially coastal India. Aggressive public health measures in Tamil Nadu have now yielded results with the microfilarial rate (MF rate) reaching an all time low of 0.07%. This has been made possible because of mass drug administration (one dose of diethylcarbamazine and one dose of albendazole annually to all people between 2- 60 years in endemic area) (*The Hindu* 25 August 2011).

A LACK OF POLITICAL WILL

A series of papers in '*The Lancet*' acts as a clarion call to governments to sit up, take notice and to act, to counter the epidemic of obesity and its inevitable consequences. The obvious culprit is the powerful global food industry. This has flooded the world with more and more processed, affordable, palatable and energy dense foods. The intense marketing often aimed at easily influenced children with better distribution has made sure that no corner of the globe remains unaffected.

In the past, governments have failed to tackle tobacco consumption. And today, though ministers know it makes sense to crack down on junk foods, they do not have the will to take on such a huge industry. It is quite apparent that voluntary food industry codes are ineffective and governments need to make more direct policy changes. Some of the suggestions include increasing tax on unhealthy food, shielding children from TV advertisements, and ensuring regular exercise (*The Lancet* 26 August 2011).

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