

Stopping Zika Virus in Its Tracks, by Unleashing DDT

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We knew that the World Health Organization would finally get in on the “Zika Crisis,” and now Dr. Margaret Chan, the U.N.’s health organization’s Director-General, has ruled Zika a “global public health emergency.”

What she did not say is how to effectively fight it. I have an idea: use DDT.

Zika is a viral infection, which is rarely a significant illness in anyone who is not pregnant. Among pregnant women, there are some data suggesting an increased risk of delivering a baby with a severe neurodevelopmental anomaly, aka microcephaly.

The virus is transmitted by the bite of *Aedes aegypti*, a mosquito species that is commonly found in the warm regions of South and Central America. *Aedes aegypti* also transmits other tropical diseases as well, such as the far more common dengue and chikungunya viruses. In the past two centuries, the bugs were also an important vector for yellow fever, but the effort to eradicate the bugs using improved sanitation,

spraying, and strict control of stagnant water breeding grounds, most notably during the construction of the Panama Canal, was very successful.

One major impediment to combatting the new epidemic is the lack of reliable data pertaining to its extent: no one knows how many people are infected, how many babies have been born with microcephaly, nor what the precise (or even approximate) risk is for the outcome among pregnant women who are infected.

Another barrier to halting or impeding the spread of the virus is nothing new: the onerous environmental obstacles which have been put in place since the mosquito population was decimated in the time of DDT. Following the publication of Rachel Carson's "Silent Spring" (1962) and the subsequent emergence of the "environmental" movement, DDT was effectively banned in 1972 and remains a pariah chemical despite its safety and effectiveness against many vector species. (Of relevance: the UN and its environmental program is among the leading proponents of keeping DDT banned as a "persistent organic pollutant.")

In the absence of DDT, global urbanization progressed, and mosquito control *via* improved sanitation, removal of standing water, and other, less effective insecticides failed to do the job. As the mosquitoes spread, they carried their contagions from the cities to the towns and farms. *Aedes aegypti* is a particularly nasty bug, since it prefers to live among crowds and bites during the daytime, making bednet protection, effective against malarial mosquitoes which bite at night, of little use. Insect repellants and long-sleeved garments are of some benefit.

There is no vaccine, nor treatment, for Zika and it is likely to take at least a decade to find one. Right now, it seems likely that the vector, and therefore the disease, will gain footholds in the U.S., as did the West Nile virus, although the magnitude of this even cannot yet be determined. Far worse, Brazil is hosting the summer Olympics in a few months, and given all the other problems that the country is now experiencing, it is unlikely that it will be able to do an effective job in controlling Zika.

Perhaps there is one legitimate solution: DDT. While it is not perfect (some resistance to the chemical may have emerged in the past), it may represent the best chance to hold this epidemic at least partly in check.

The green movement decided, decades ago, that the lives of sub-Saharan African did not matter as much as eggshell thinning, and millions subsequently died from malaria.

Now is the time for all to agree that the enviro-antipathy to DDT is baseless, and that if the impending Zika catastrophe is to be prevented in time, we need to use it.

About Gil Ross

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