Brazil cuts science budget amid mounting yellow fever threat

Miguel Andrade
8 November 2017

The yellow fever deaths of three apes living in the Horto Florestal environmental state park bordering São Paulo's northern sector has brought to the fore the looming danger posed to the Brazilian population by the spread of the deadly disease. This threat has been intensified by the scorched earth policy that every level of government is imposing on the country's health care and scientific sectors amid the worst economic crisis in a century.

Since the beginning of the decade, the country has faced a series of infrastructure-related health emergencies, most notably the mosquito-borne Zika virus outbreak in 2015.

Despite the worldwide attention received by the Zika outbreak, fueled in part by the tragic images of malformations caused in babies born to Zika-infected women, there was less notice of the impact of another two viral diseases spread by the same Aedes aegypti mosquito—the Dengue and Chikungunya fevers. These diseases were the cause of a record 800 deaths in Brazil during the same year, mainly in the impoverished northeast region, which has the fastest growth of urbanization in the country. The total number of infections from the three viruses was estimated at 4 million, with a potential for many times more due to under-notification of milder cases, often confused with the flu.

With Aedes aegypti populations surging higher every summer as forestry management and mosquito eradication efforts decline, the major risk now is that the mosquito becomes able to carry some strain of yellow fever, allowing the return of the so-called "urban cycle" of the deadly disease, eradicated from Brazilian cities in 1942.

Urban virus eradication was achieved with the eradication of the mosquito itself by extensive, military-backed fumigation operations, now considered by health authorities as ineffective and even dangerous. Yellow fever has since then been confined to the so-called "jungle cycle", which needs jungle-bred mosquito species as carriers between two primate infections, and to rural areas, where Aedes aegypti infestations are lower.

The spread of the disease to environmental protection areas surrounding Brazil's largest cities has been traced back to "epidemiological corridors", i. e., semi-continuous ape-populated jungle areas, between these areas and the main affected areas in Minas Gerais, according to a report by the local edition of the Spanish *El País* of November 2.

The same report recorded 261 deaths from yellow fever from the beginning of the year until August, compared to nine for the whole of 2015. Like Dengue, severe forms of the disease—accounting for 20 percent of the cases—cause deadly hemorrhaging. Marcia Chame, a researcher at Brazil's leading disease control center, Oswaldo Cruz Foundation (FIOCRUZ), told the Brazilian daily *O Estado de S. Paulo* as early as January that the surge observed in Minas Gerais at the beginning of the year was surpassing the normal flare-up of the disease in seven-year cycles that tend to result in fewer than 20 deaths.

She raised the possibility that the collapse of a mining dam on the Doce river in the city of Mariana in Minas Gerais, laying waste to 230 towns along the 700km of the river leading to the sea, may have affected the health of the region's ape populations and also forced them to migrate, increasing ape infections. This in turn could be what has precipitated the 3,000 percent increase in the number of human deaths, while creating the possibility of transmission to apes living on the outskirts of Brazilian cities, now threatening some of the largest urban populations on the planet.

Currently, populations of Aedes aegypti mosquitos circulating in Brazil are not able to carry the yellow fever virus, which has allowed for confinement of the disease to rural areas.

According to a 2013 joint research project by the Oswaldo Cruz Foundation (FIOCRUZ), and the University of Maryland, Aedes aegypti breeds circulating in Brazil are not the same as those eradicated in 1942, having been introduced in Brazil in the 1970s from the United States through the Caribbean. When infection occurs in rural communities, people are invariably infected by jungle mosquitoes which had previously bitten infected apes. Yellow fever vaccines are mandatory and are part of Brazilian children's regular vaccine schedule in these areas.

Epidemiologist Eduardo Massad, working at São Paulo University, told the BBC in January that the great question was why Aedes aegypti had not yet been able to carry the yellow fever virus, finally allowing for the decisive crossing from the jungle areas on the outskirts of major cities into the urban centers themselves, threatening the country's 175 million

© World Socialist Web Site

strong urban population. He had at the time described the situation as a “time-bomb.”

There could be no more immediate relation between the current threat of a yellow fever epidemic and the class war being waged on the working class by the Brazilian bourgeoisie. The spending freeze approved as a Constitutional amendment in 2016 is expected to block US$130 billion in health spending over the next 20 years. The groundbreaking FIOCRUZ research institute, responsible for the eradication of yellow fever in 1942 and the isolation of the Zika virus after the first reports of microcephaly in 2015, is chronically underfunded, and has alone lost some US$100 million in annual funding since 2014.

Marcelo Nogueira, the president of the Brazilian Virology Society, has also told *El País* that a lack of vaccines is the only reason why people in the southeast of Brazil have not yet been immunized against yellow fever.

Crucial theoretical work on the mathematical modeling of tropical disease cycles—a crossing of 7,200 parameters and conditions being calculated under FIOCRUZ’s Marcia Chame’s supervision—is threatened by a possible second shutdown of Santos Dumont, Latin America’s largest supercomputer, which couldn’t meet its energy bill shortly after its inauguration in 2016.

Brazil’s Science Ministry is facing a 44 percent funding cut by the end of the 2017 and another reduction of 15 percent for 2018, returning its budget to the 2005 level. That was at the beginning of the commodity boom that caused the now debunked economic euphoria surrounding the so-called BRICS and allowed for the limited poverty reduction policies touted by the Worker’s Party (PT) administrations of Lula da Silva and Dilma Rousseff. The latter was ousted in 2016 on trumped-up charges of budget manipulation and replaced by her right-wing vice president, Michel Temer. From 2005 to 2013, Brazil saw science funding grow slightly faster than GDP, reaching a peak of 1.24 percent of the GDP during Rousseff’s first term, according to a *Nature Magazine* report from 2015.

In a July interview with the BBC, physicist Luiz Davidovich, president of the Brazilian Society for the Advancement of Science, estimated that the total federal funding for science in 2017 will stand at 2.5 billion reais (US$800 million), or a quarter of the 2010 peak, and is expected to fall to roughly a fifth in 2018. Davidovich made clear, however, that Rousseff fired the opening shot of the war on science in 2014 with a 25 percent cut to the ministry’s budget at the first indication of the onset of the capitalist economic crisis.

Since Temer’s takeover as president, Brazil has been harshly criticized by the UN at least three times for allowing the growth of deforestation and land rights abuses, the 20-year budget freeze and for disrespecting international treaties regarding modern slavery and sweatshop conditions. All the reports on these issues have included criticisms of policies introduced under Workers Party rule. The cuts to science funding have also caused 23 Nobel laureates to write an open letter to the Temer at the end of September asking for the overturning of the cuts.

The perception is clear in Brazil and internationally that attacks on workers, peasants, indigenous communities, environmental regulations and scientists are all part of a wide cultural and social regression.

While demoralized petty-bourgeois critics in the pseudo-left mirror their counterparts in the US and Europe, blaming the working class and its supposed backwardness for the right-wing onslaught, the Workers Party (PT) and its affiliated media are trying to forge a right-wing, nationalist political front on the basis that if allowed to have his way, Temer will make Brazil a pariah state.

Reports of cuts to science and international outrage at the rollback of environmental regulations have been central to the PT narrative that Rousseff’s ouster was part of a feudal reaction which threatens Brazilian capitalism.

Nonetheless the popular perception that the PT was a co-conspirator in what the party classifies as a parliamentary coup, is growing. It has left no option for Lula—favored as the 2018 presidential candidate if he eludes corruption charges—but to throw Rousseff to the wolves. In an interview on October 22, he allowed that “the people felt betrayed” by Dilma’s austerity measures and that he should have run in her place in 2014.

Meanwhile, a nationalist drive is accelerating also with a focus on science. Typical in this regard was an October 10 column by Carlos Drummond in the Workers Party mouthpiece *CartaCapital*, entitled “The Navy Shows The Way”, focused precisely on the role that the Brazilian Navy’s nuclear submarine and related projects supposedly would have in developing science and “protecting biodiversity.”

Later, on October 28, the former foreign minister under Lula, Celso Amorim, penned an article under the title “The role of the Armed Forces” that stated “several studies have concluded that where the armed forces act like police, they deteriorate, since modern jets and tanks made with national technology, or a nuclear submarine, have no place”, later adding: “Why is the military silent? Because the line between criticism and rebellion is very subtle.”

This speaks volumes: at a time in which the military is increasingly being called upon to patrol the streets, and has been granted by Temer the “right” to try its own members in military courts for crimes committed against civilians, the Workers Party is worried about them not being allowed to exploit science for the promotion of Brazilian nationalism.

To contact the WSWS and the Socialist Equality Party visit:

wsws.org/contact

© World Socialist Web Site