Global Capitalism and Pathogenic Environments: Is palm oil monoculture responsible for the ongoing Ebola outbreak?

November 13, 2014

The Ebola pandemic, which has already caused the death of more than 5000 people in West Africa, could kill more than 90,000 people, just in the Liberian county of Montserrado, between now and 15 December, if measures taken in the affected regions are not massively increased over the next few days.[i]

Certainly, nothing suggests that the measures taken so far will have a significant impact on the epidemic. In any case, is it really possible to put an end to a health crisis such as this without addressing its social and environmental causes? We must adopt a broader approach and learn the essential lessons from this catastrophe, in particular from an ecosocialist point of view.

I will start by summarizing five arguments, presented in more detail in previous articles published on the New Politics website (September 6, and October 11, 2014).

1. The transmission of the virus from animals to humans (spillover) is related to qualitative changes in the regional environment resulting from deforestation, exploitation of natural resources (minerals, wood etc), land grabbing and from the rise of agricultural monoculture for export, phenomena all of which have been aggravated in the context of global warming.

2. The increased exposure of village communities to this new pathogenic agent results from accumulation by dispossession which increasingly dominate peripheral capitalism, and is characterized by accelerating privatization of the commons (enclosure), war over the control of raw materials, and the uprooting and forced migration of populations.

3. The failure to control the pandemic results from the collapse of health systems and of public services in general in the countries concerned which is a direct result of the imposition of brutal structural adjustment programs at the expense of the basic social responsibilities of states.

4. The neocolonial alliance between powerful foreign investors and local *bourgeoisies* is designed to guarantee their exclusive control of rents. Associated with this is authoritarianism and repression of popular resistance, which has given rise to profound suspicion among the population of local leaders and foreign actors. This is the political context today that undermines all attempts to control the epidemic.

5. The pursuit of profit that dominates the pharmaceutical industry paralyses research on poor countries' health problems to the extent that they do not represent a threat of a global pandemic or a risk of bioterrorism. This is why there is no vaccine against, nor effective treatment for, Ebola, nearly 40 years after its first appearance in central Africa.

Scientific studies published over the last weeks, in particular in the area of biology, epidemiology and human ecology, have refined our understanding of the links between the development of intensive agriculture for export under the pressure of global market forces, in particular after the financial crisis of 2007-2008, and the rise of the Ebola pandemic. As a general point, these studies

suggest that financial circuits of capital open the way for the emergence of extremely dangerous pathogenic agents, particularly in countries of the periphery, which suffer the immediate social effects of the current process of accumulation by dispossession. We will consider here some of the major consequences of these trends.

Ecosystems and epidemics

We know that the Ebola virus has been present in West Africa for several years, firstly, because antibodies against several of its variants were found in blood samples taken in Sierra Leone 5 years ago; more recently, because the first analyses of the genome of the strain that has been active for over 10 months, allowed its appearance in the region to be dated to the middle of the year 2000.[ii] Given this scenario, why would occasional infections with this pathogen, not diagnosed as such until the end of December 2014, suddenly produce an epidemic? Because, according to a recent study, "changes in policy or socioeconomic structure, including the economics driving plantation farming, can 'desterilize' a natural or human ecosystem in which a pathogen has been largely held in check at a low-level equilibrium value, or simply had not previously evolved"[iii].

Traditional, smallholder agriculture, to the contrary, because of its diversity in time, space and type, presents numerous physical and functional obstacles (that statisticians call « stochastic noises ») to the exponential multiplication of many pathogens. For each ecosystem, researchers are trying to identify, the kinds of socioeconomic changes that facilitate the evolution and propagation of pathogenic agents. For example, it seems that the commercialization of fruit tree culture and the effects of government policies leading to the dispossession of rural communities, have encouraged increased density of humans and animals around export cultures, as well as the multiplication of contacts among and between species. This increased concentration of the virus in a confined space encouraged its spread in line with the "Allee effect" (which establishes a direct relationship between density and growth of a population).

This model suggests the possibility that under certain conditions the "friction" of an ecosystem, which impedes the circulation of pathogens, can suddenly be reduced. With this new "fluidity", emergency interventions are no longer able to contain spread of the virus and ensure its spontaneous regression. From then on, the struggle against the pandemic cannot be managed without structural measures aimed at restoring "viscosity" of the system.[iv] The control of a pandemic implies the capacity to intervene in the ongoing transformations in agriculture, forestry and mining production that are taking place under the pressure of the global market. Such a policy requires conscious action on the part of the affected populations to resist the forces of the international market from a social and ecological perspective.

"Tracking disease emergence along circuits of capital"

The bio-ecologist Robert G. Wallace (University of California, Irvine), among others, promotes the concept of "Structural One Health". These researchers advocate the development of "a new science tracking disease emergence along circuits of capital".[v] For example, if Ebola has been confined to the wild over these years, the end of this latency period and the uncontrollable epidemic that it has provoked, could be due to significant changes in the ecosystems of West Africa, relating to changes in production methods of palm oil. The first foyer of contagion, in a village close to Guéckédou, is indeed situated in a densely forested zone containing a mosaic of villages and plantations all of the same type. We know that the oil palm attracts large, fruit-eating bats, which are the favorite hosts of the virus. These bats can then transmit the virus to humans through urine, excrement or saliva, which means that the consumption of bush meat is not necessarily implicated. The neighboring region of Kailahun, (County of Lofa) Liberia, has similar characteristics, made worse still by massive increases in land grabbing [vi]

Of course, the oil palm tree has been exploited in its natural form and cultivated for hundreds of years in West Africa. However, under international demand, its fallow cycles have progressively decreased, from 20 years in the 1930s, to less than 10 years in the year 2000, resulting in increased plantation density. In Guinea, the cultivation of these trees has expanded recently: 37,000 acres will allow the production of 84,000 tons of palm oil by 2015.[vii] And although the traditional smallholder sector continues to dominate this activity, the Guinean Oil Palm and Rubber company (SOGUIPAH), which is state owned, has served as the transmission belt for foreign markets; through the introduction of a higher yield hybrid variety, the seeds of which can only be obtained through the company,[viii] land requisition and eviction of tenants, multiplication of farming contracts, rationalized production lines, and police interventions to repress popular resistance.

"Development aid" has encouraged these trends with the European Bank of Investment recently funding a quadrupling of the refining capacity of SOGUIPAH. From now on, under threat of imprisonment, small producers are not allowed to extract oil using traditional methods. These developments result in the privatization of the commons; increasing obstacles to the free exploitation of natural palm oil trees or the development of small scale private slash-and-burn agriculture. So while there are, as yet, no large multinational operations in Guinea, as there are in Liberia or Sierra Leone, "oil palm there represents a classic case of creeping consolidation, enclosure, commoditization, and capitalization curtailing artisanal production. So while no private companies presently plants oil palm in Guinea, by a relational geography the effects of the global market upon the local agro-ecology appear to be felt already". [ix]

The violence of the Ebola epidemic in West Africa is merely the reflection – in terms of health – of the violence that drives the destruction of ecosystems (deforestation), the dispossession of rural communities (privatization), the extreme degradation of working conditions in export sectors (super-exploitation), but also the dismantling of the last remnants of social protection that were set up by states (structural adjustment plans). It is an indication of the price that global capitalism will force people to pay, in particular the poorest and most vulnerable, for the ever increasing commodification of their economies and the increasing environmental damage that it generates. One more reason to fight capitalism in the name of an eco-socialist project, which cannot be regarded as a "luxury" for the North but as an urgent necessity for the whole world.

[i] Fishman, D. et Tuite, A.R., "Ebola: No Time to Waste », *The Lancet,* October 24, 2014.

[ii] Schoepp, R. J. et al., "Undiagnosed Acute Viral Febrile Illnesses, Sierra Leone", *Emerging Infectious Diseases,* 20, 2014, p. 1176-1182; Gire, S. K. et al., "Genomic Surveillance Elucidates Ebola Virus Origin and Transmission During the 2014 Outbreak", *Science,* 345, September 12, 2014, p. 1369-1372.

[iii] Wallace, R. G. et al., "Did Ebola Emerge in West Africa by a Policy-Driven Phase Change in Agroecology?", *Environment and Planning,* 46, 2014 (released on-line on October 20, 2014).

[iv] Osterholm, M. T., "What We Need to Fight Ebola", *Washington Post,* August 1st, 2014.

[v] Wallace, R. G. et al., "The Dawn of Structural One Health: A New Science Tracking Disease Emergence Along Circuits of Capital", *Social Science and Medicine,* 2014 (available on-line).

[vi] Fouladbash, L., *Agroforestry and Shifting Cultivation in Liberia: Livelihood Impact, Carbon Tradeoffs, and Socio-political Obstacles,* PhD Thesis, Natural Resources and Environment, University of Michigan, 2014.

[vii] Carrere, R., *Oil Palm in Africa: Past, Present and Future Scenarios,* World Rainforest Movement, Montevideo, 2010.

[viii] In case of breach of contract, the use of seeds from the first generation of trees results in a 40% decrease in yield (Delarue, J. and Cochet, H., "Systemic Impact Evaluation: A Methodology for Complex Agricultural Development Projects. The Case of a Contract farming Project in Guinea", *European Journal of Development Research,* 25, 2013, p. 778-796).

[ix] Wallace et al., «Did Ebola Emerge… », *art. cit.*