

# Covid-19: the ecological dimension

Monday 13 April 2020, by [THORNETT Alan](#) (Date first published: 6 April 2020).

**The Covid-19 pandemic continues to spread rapidly around the world and remains out of control - other than in those countries, led by China, that had (crucially) moved early and decisively to control it, and had prepared for such a situation in advance. The biggest governmental failures, on the other hand, are by administrations led by right-wing populists like Johnson and Trump who started, in effect, as virus deniers, but were forced belatedly to recognise Covid-19 as a serious threat after their actions had ensured that hundreds of thousands of people would lose their lives unnecessarily.**

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Such pandemics, we have to be clear, are an integral part of the global ecological crisis we are facing, and must be seen and treated as such. They are not just happening at the same time.

They are on a par with the other existential threats to life on the planet that we face such as pollution (particularly of the oceans), global warming and climatic chaos, the mass extinction of species, the fresh water crisis, plus the melting of the ice sheets and the rising sea level. This pandemic joins those as a reflection of the age of the Anthropocene - a geological age defined by the impact human beings on the planet.

Pandemics of dangerous 'crowd infectious' diseases of this kind present a challenge that only well-resourced governments with well-developed social and economic policies can address. Free-market, small-state, neoliberal, capitalism has been exposed for the deadly and reactionary ideology it always was. Under this situation, ultra-right ideology kills even more people than usual.

In Britain, Jeremy Corbyn - and by implication the Labour election manifesto - have been dramatically vindicated in terms of the need for massive investment in health and social services. Those on the right who ridiculed him in last year's election campaign (as well as Bernie Sanders in the USA) as the last of the big spenders have been forced not only to eat their words but to vigorously carry out many of the policies they vilified. Corbyn is absolutely right to insist on this.

Whilst all this creates important opportunities for the left - with the rise of grassroots collectivism and social solidarity - its response to the virus so far has, in my view, fallen short of the mark.

The left has rightly castigated governments for being unprepared, acting late, and causing thousands of unnecessary deaths. It has rightly challenged the capitalist system for creating the social conditions under which such pandemics can flourish. It has also called it out for its pollution of the planet, its industrialised agriculture, its deforestation, habitat destruction, and its endemic mistreatment of animals both wild and domesticated.

It has rightly pointed (in Britain) to 10 years of deliberate and devastating Tory/Lib-Dem cuts which have left British society vulnerable to dangerous pandemics of this kind. It has denounced the breath-taking incompetence of the Johnson government, its criminal (and social Darwinist) herd immunity policy, its scandalous down-grading of testing at the time that it was crucial – plus its failure to provide basic life-saving protection equipment to millions of NHS and social care workers.

It is also clear that the economic impact of this pandemic is going to be massive. Low-paid, young, black, migrant and women workers will be the hardest hit by the shutdown of businesses including restaurants, hotels, pubs, retailers and transport services. In fact, low earners are seven times as likely as high ones to work in a sector that has shut down. According to the Institute for Fiscal Studies a third of the bottom 10% of earners worked in the worst-hit sectors, against one in 20 (5%) of those in the top 10%. [1]

These are good responses from the left – but there is a problem. We as left ecologists cannot (or should not) reduce our analysis of this pandemic (or pandemics in general) to how adequately (or otherwise) various governments have responded to them once they are up and running. This is important but it is not fundamental.

Our starting point has to be where these pathogens come from in the first place, what drives them to become a pandemic, and why such problems are they getting more frequent. We have to have an exit strategy from such pandemics and we have to discuss the kind of societal changes that will have to be made if we are to reduce the risks from such pandemics in the future.

### **Pandemics not new**

Pandemics (and endemics), it is true, have been around for a long time. They emerged with the development of agriculture, around 12,000 years ago – which led to a substantial rise in the global human population. Such infections had been restricted during the hunter-gatherer era by its lack of human population density.

The American anthropologist and writer Jared Diamond, in *Guns Germs and Steel*, puts it this way: “The build-up (of population) began with the rise of agriculture starting about 10,000 years ago and then accelerated with the rise of cities – starting several thousand years ago. He goes on: “Why did the rise of agriculture launch the evolution of crowd infectious diseases? One reason just mentioned is that agriculture sustains a much higher human population densities than does hunter gathering – on average 10 to a 100 times higher. In addition hunter gatherers frequently shift camp while farmers are sedentary and live amongst their own sewage, thus providing microbes with a short path from one person’s body into another person’s drinking water.”

And further: “If the rise of farming was a bonanza for microbes, the rise of cities was a greater one. As still more densely packed human populations festered under even worse sanitation conditions... Another bonanza was the development of world trade routes, which by Roman times effectively joined the populations of Europe, Asia, and North America into one giant breeding ground for microbes.” [2]

The first recorded pandemic (bubonic plague) was the ‘Plague of Justinian’- which took place under the Roman emperor Justinian the first, from 541 – 542 AD, in the Byzantine Eastern Roman empire. It hit Constantinople in particular, but also other port cities around the Mediterranean. It was attributed to the bubonic plague and wiped out 25-50 million people in a year. The Black Death (a type of bubonic plague) killed a quarter of Europe’s population between 1346 and 1352. It fed on urbanisation and the growth of European cities, some of which lost up to 70 per cent of their

population. The development of trade routes between such cities globalised the problem.

The (misnamed) Spanish flu epidemic killed 21 million at the end of WW1. It was fostered in the overcrowded and disease ridden trenches of the Western front and then carried home by demobilising troops. This flu was also particularly destructive because food shortages during WW1 had further weakened the working class in particular who had been living in deprivation even before the war.

The first possibility of a medical fight-back against dangerous pandemics came with Edward Jenner's discovery in 1798 that cowpox provided protection against smallpox, which led to a vaccine. In 1959, the World Health Organization (WHO) launched a huge campaign to globally eradicate smallpox. In 1980, smallpox was declared eradicated – the only human disease that has been eradicated to date.

Today, however, most of the pathogens are still winning, and despite the rise of modern medicine in the 20<sup>th</sup> century they are more dangerous today, in terms of the future of modern humans, than at any time in history.

The roots of the problem

Starting from this perspective, the left should pose the following questions:

- How do pathogens of this kind, particularly 'zoonotic' pathogens – diseases, viruses, bacteria and parasites – that cross the species divide from wildlife to human beings, arise in the first place?
- What is the driving force of such pandemics once the cross-over has been made?
- Why have such pandemics become more frequent and more dangerous during the 20<sup>th</sup> century and why is this trend continuing into the first part of the 21<sup>st</sup> century – despite the efforts of modern medicine to contain them?
- What societal changes would have to be made in order to reduce the likelihood and impact of such pandemics?

There are, in my view, four major factors driving this.

#### *First – globalisation*

The first factor is globalisation, not just of the world economy but of the totality of human activity, with mass transportation – national and international – providing a high speed transmission belt for pathogens and pandemics: air travel in particular. According to the International Civil Aviation Organization (ICAO) the total number of passengers carried on scheduled air services was 4.3 billion in 2017, which is 6.4 per cent higher than the previous year. The number of flight departures reached 37.8 million in 2017, a 3.5 per cent increase.

#### *Second – our unacceptable relationship with nature*

As ecosocialists we have to reject the totally unacceptable relationship that we (as modern humans) have with the rest of nature on the planet. In fact the impact is gigantic.

A sobering estimate, of this impact, is contained in a research paper entitled 'Scale and Diversity of the Physical Technosphere: A Geological Perspective', published in the *Anthropogenic Review* of autumn of 2016. It was the work of a panel of 25 scientists, including Jan Zalasiewicz from Leicester University, who was its corresponding author. It shows that what it calls the total physical technosphere – the sum of the material output/physical infrastructure/waste (landfill for example) of contemporary human society, including power stations, roads, buildings, vehicles, plastics etc., weighs in at 30 trillion tonnes – or 4,000 tonnes for every living person.

The impact of climate change on dangerous pandemics this is addressed by Jem Bendell - the author of *Deep Adaptation: A Map for Navigating Climate Tragedy* (2018), in an article on his blog. He argues that climate change is making humanity more vulnerable to this and other viruses.

He argues that: "Prolonged changes in rainfall and temperatures, their increased variability and the shifting of seasons, aren't sustainable for trees and other vegetation. That means the insects and animals living in those ecosystems are suffering. Biodiversity loss is already huge, as we are living through a mass wildlife extinction event (Diaz, et al 2019). The reduction of the total number of wild animals like birds and bats has implications for our exposure to disease. Why? Because these are 'reservoir host populations' for pathogens, and the fewer birds and bats there are, then pathogen concentration and mixing tends to be higher (for reasons of lowered genetic diversity and easier spread). That increases 'spill over risk' for zoonotic infectious diseases to humans (Evans, et al 2020). [3]

It is a persuasive argument. Animals of all kinds, wild and domesticated, are abused by human kind beings on an industrial scale, not least in terms of industrialised agriculture - meat production in particular- which creates the best conditions for animal viruses to cross-over to humans. Some of the major killers of human beings in recent history - smallpox, flu, TB, malaria, measles, and cholera - evolved from animal crossovers but are now mostly confined to humans.

Today, 70 billion land animals (i.e. excluding fish) are slaughtered every year for human consumption - often under appalling conditions. This figure has doubled in the last 50 years, and is set to double again by 2050. Two-thirds of these animals are reared by intensive methods - or concentrated animal feeding operations (CAFOs) as they are known in the trade.

The case that Bendell sets out may well be a part of the picture in terms of Covid-19. There is, however, in my view, another factor which in the end is more decisive in this: this is the numbers and density of the human species itself.

### *Third - urbanisation and population density*

The source of today's Covid-19 pandemic, according to the WHO (and accepted by Bendell), is believed to be a densely packed "wet market" in Wuhan where multiple species of animals - mammals, fish and birds - both dead and alive, are held in vast numbers and in close proximity, including species not normally in close proximity. At the same time all this is taking place in a city with a large high-density population, factors which appear to have combined to create the optimum conditions to transfer of viruses between species.

Covid-19 originated from a virus carried by bats that mutated to humans using pangolins as a transition species - both of which were sold in the market and butchered on site. The SARS virus, in 2002, also an acute respiratory syndrome, was likewise endemic in bats in China and is thought to have transitioned to humans via civet cats.

Having jumped species, pathogens need a minimum threshold of human population density in order to survive. Jared Diamond points out that measles is likely to die out in any human population of less than half a million people in close proximity. What's true of measles is true of other infectious diseases throughout the world.

The policy of social spacing currently being carried out by governments around the world in both a recognition of the role played by population density and an attempt to find a temporary 'solution' to it. As the mayor of New York, Bill de Blasio, said recently, as Covid-19 cases multiplied and made the city the epicentre of the pandemic in the US: 'Our enemy is population density: we used to like it,

now it is killing us.'

Northern America is the most urbanised region of the planet, with 82 per cent of its population residing in urban areas, whereas Asia is approximately 50 per cent urban, and Africa remains mostly rural with 43 per cent of its population living in urban areas in 2018 (United Nations, 2018)

In the early part of the 21<sup>st</sup> century the urban population outstripped the rural population of the planet. Since then two thirds of the annual global population increase, of 70 million people, goes to feed the growth of the big, mega, and hyper cities. Today 55 per cent of the global population is urbanised, which is expected to rise to 68 per cent by 2040. The 20<sup>th</sup> century is thus tailor made for infectious disease pandemics unless we are prepared to make major changes.

Ashley Dawson in *Extreme Cities* points out that in the period from 1900 to 2013 the density of the human population, via urbanisation and the emergence of mega-cities, far outstripped its numerical growth. [4] Whilst the size of the human population expanded 4.5-fold during this period- from 1.5 to 7 billion the global urban sector of this grew from 225 million to 3.6 billion - a 16 fold increase.

#### *Fourth - giant cities*

Rapid urbanisation has brought about ever bigger/megacities - like Wuhan, where the coronavirus started, which has 11 million inhabitants - the equivalent of London and Birmingham together. Big cities not only emit the most Co2, they present the most advantageous conditions for pandemics to develop as well.

There are 33 megacities in the world (with populations of over 10 million) - this is expected to rise to 43 by 2030. Within that there are 21 hyper cities globally - with over 20 million inhabitants. They are Tokyo-Yokohama with 37.9 million, Jakarta with 30 million. Delhi with 29.3 million, Seoul with 26.1 million, Shanghai with 25.4 million, Karachi with 24.3 million, New York City with 23.6 million, and Mexico City with 22.2 million.

These cities are socially and economically diverse. Some have advanced economies and facilities with high standards of living and good public services; others have vast impoverished shanty towns. They share one thing in common, however. Their high population densities make them more vulnerable to pandemics of dangerous pathogens than they would otherwise be. New York is a current case in point.

In *Planet of Slums* Mike Davis describes it this way: "Ninety-five per cent of this final buildout of humanity (population increase) will occur in the urban areas of developing countries, whose populations will double to nearly 4 billion over the next generation. Indeed the combined urban population of China, India, and Brazil already roughly equals that of Europe and North America. The scale and velocity of Third World urbanisation, moreover, utterly dwarfs that of Victorian Europe. London in 1910 was seven times larger than it had been in 1800, but Dhaka, Kinshasa, and Lagos today are each approximately forty times larger than they were in 1950. China - urbanising 'at a speed unprecedented in human history' - added more city dwellers in the 1980s than did all of Europe (including Russia) in the entire 19<sup>th</sup> century." [5]

In terms of what this has meant for the expansion of slum dwelling, Davis turns to the 1903 UN report UN-HABITAT, which concluded that Bombay (Mumbai) was the world capital of slum-dwelling with 10 to 12 million dwellers. It was followed by Mexico City and Dhaka, with 9 to 10 million each, and then, Lagos, Cairo, Karachi, Kinshasa, Sao Paulo, Shanghai, and Delhi with 6 to 8 million each.

## Conclusions

The first thing is when in a hole; stop digging.

Reversing the process of urbanisation and population density is not going to be easy, but we have to start discussing it. As ecosocialists, this means putting a sustainable planet at the heart of everything we do. It means a new relationship with nature and a new model of society that does not result in ever bigger cities and ever more pollution. It means junking the throwaway society - and replacing it with one that is based on production for use rather than profit.

It also means stabilising human population growth. This means supporting a women's right to choose, that is the right to access contraception and abortion facilities as well as opposing any enforced procedures or intimidation. It also means supporting impoverished women their fight to break free of poverty, to challenge the influence of religion and other conservative influences - such as patriarchal and religious pressure - and giving them full access to education and employment. (The right to choose, of course, includes the right to have children but evidence shows that given genuine choice the birth rate would fall.)

It also involves a revolution in the infrastructure, how we live; the size of cities, how we travel, and what we eat. The task is gigantic but there is no alternative if we are to forge a sustainable future for the planet which resolves the contradiction between ourselves as modern humans and myriad of other none-human species we live alongside.

This involves many tasks: here are some of them:

- Zero carbon by 2030, with a new green energy infrastructure
- A massive extension of public ownership
- Ending deforestation and habitat destruction
- Reversing the pollution of the oceans
- Ending industrialised agriculture
- Localising agriculture to save food miles
- Eating a lot less meat
- Ending the trade in wild animals for pets, fake medicine or for bush-meat
- Curbing the growth in air-travel, introduce a frequent flyers levy
- Dramatically cutting back car use, particularly fossil powered cars

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**P.S.**

- Socialist Resistance:

<https://socialistresistance.org/covid-19-the-ecological-dimension/19641>

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## Footnotes

[1] Institute for Fiscal Studies, 6 April 2020 "[Sector shutdowns during the coronavirus crisis: which workers are most exposed?](#)".

[2] Jared Diamond, *Guns Germs and Steel*, Vintage, 2005, p.205

[3] Professor Jim Bendell 23 March 2020 "[The Climate for Corona - our warming world is more vulnerable to pandemic](#)".

[4] Ashley Dawson, *Extreme Cities*, Verso 2017, p.298.

[5] Mike Davis *Planet of Slums*, London: [Verso](#), 2007.