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DownToEarth

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COVID-19

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PEOPLE

GLOBALISATION

ECONOMY

GOVERNANCE

IDEOLOGY

72
71



PHOTOGRAPHS: REUTERS

COVID-19

A PANDEMIC

IT WAS FORETOLD, BUT
WE NEVER BELIEVED
THAT A CRUMBLING
INFRASTRUCTURE IN THE
WEALTHY WORLD WOULD
MAKE ALL OF US VICTIMS

BY RICHARD MAHAPATRA

THE PLANET is locked in containment. Barring lifestyle diseases, no other disease or infection has ever caught the grip of the globe in contemporary time—176 countries, and over 2,00,000 patients spread in every continent, except the Antarctica. Rich or poor, some 3 billion people are virtually in containment as 112 countries have closed their borders (see map, p 22). We are in the midst of what is called the containment stage in the global protocol to fight a pandemic.

But the invisible foe—COVID-19—has already escaped from our radar. It is spreading faster than anyone had expected. Between the period *Down To Earth* did its last cover story on coronavirus in February, and now writing this unprecedented second cover closing on March 20, cases outside China—the origin of the pandemic—have increased by 15-fold (see graph: “Tipping point”). Our helplessness to control this first non-flu pandemic of the 21st century has resulted in panic and hysteria. Health experts are no more hopeful of containment because we still don’t know the real number of cases from poor and developing countries that are ill-equipped to screen and count such cases.

We still don’t know how and when it transferred into a human host from an animal. But we know for sure now that it is a prolific jumper from human to human. Taking a clue from the Spanish Flu pandemic of 1918, we, the social animals, have been prescribed with social distancing—measurable to 3 feet—as the best way forward to delay transmission of COVID-19, not to stop it.

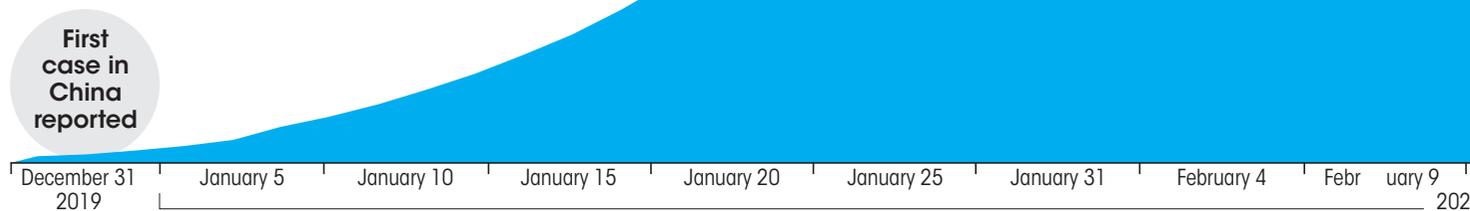
Coronavirus is not new to us, but COVID-19 is. It is the third new human coronavirus of the century. And its characteristics are not in line with this family of virus. Coronaviruses were supposed to have evolved in humans just to widen their spread, thus, not to kill but just to sicken us. But that is not happening. COVID-19 has already killed more than the earlier two such infections together—SARS and MERS. When it infects also, the symptoms are not according to observed patterns. They are mild enough not to be noticed and in many cases even

absent after being diagnosed.

That is where the spread is unbridled: we don’t treat or contain those who don’t show symptoms. After the outbreak in China, the immediate screening and detection elsewhere were not adequate. In Africa, Chinese workers were allowed immediately after the New Year holiday, and they were not screened. This also makes all of us a potential carrier of the pandemic, and making it simply not containable. Marc Lipsitch, a professor of epidemiology with Harvard University, USA, says, “I think the likely outcome is that it will ultimately not be containable.” After China’s quarantining 100 million people in and around the epicentre, Hunan, COVID-19 spread to rest of the world much faster. On March 6, we had 100,000 cases which doubled by March 18.

As screening and detection became aggressive across the world, new epicentres or secondary hotspots emerged in hydra-like splits, from Europe, West Asia and Southeast Asia, and now to Africa. This means the world has to mount an even bigger and more expansive containment and surveillance to catch each suspect and then scan all those who were in touch with this individual. The virus has emerged as the powerful demolisher of the globalised world, where we all thought the world is with us for everything. One after another, COVID-19 tested the crumbling health infrastructure in the developed world. Their weaknesses and failures got globalised as affected people took the virus to other countries. Developing countries are dense in settlement and population. This makes containment and detection less effective. Thus allows transmission in multiple chains, almost like an uncontrolled atomic chain reaction. With over 8,788 deaths by March 20, the fear of fatality leaping seems real now. T Jacob John, a paediatrician who has extensive experience of more than 25 years in microbiology and virology, says, “As much as 60 per cent of the Indian population would be infected in a year’s time

GRAPHIC: SANJIT / CSE



because the infection would be seeded well. The reason why I put such a number is the fact that unlike mosquito or waterborne infections, this is a respiratory infection.”

The world is now unable to contain the spread and hopes that it becomes a general community infection, like any other cold and flu. It is argued that in such a scenario the community would develop immunity and thus developing the capacity to fight. But, it also means that the fatality from COVID-19 would be in thousands till we reach this level of infection. “What is important is the timescale: whether it is in a matter of 6-9 months which will completely overwhelm many health systems, or over many years which will allow health systems to cope adequately,” says TEO Yik-Ying, dean, Saw Swee Hock School of Public Health, National University of Singapore. In Italy and Spain we are already witnessing this situation, while it is going to erupt in India and African countries. As the virus spreads, the already-stressed health infrastructure will be under extra pressure. This would be overwhelming and fatalities would be more.

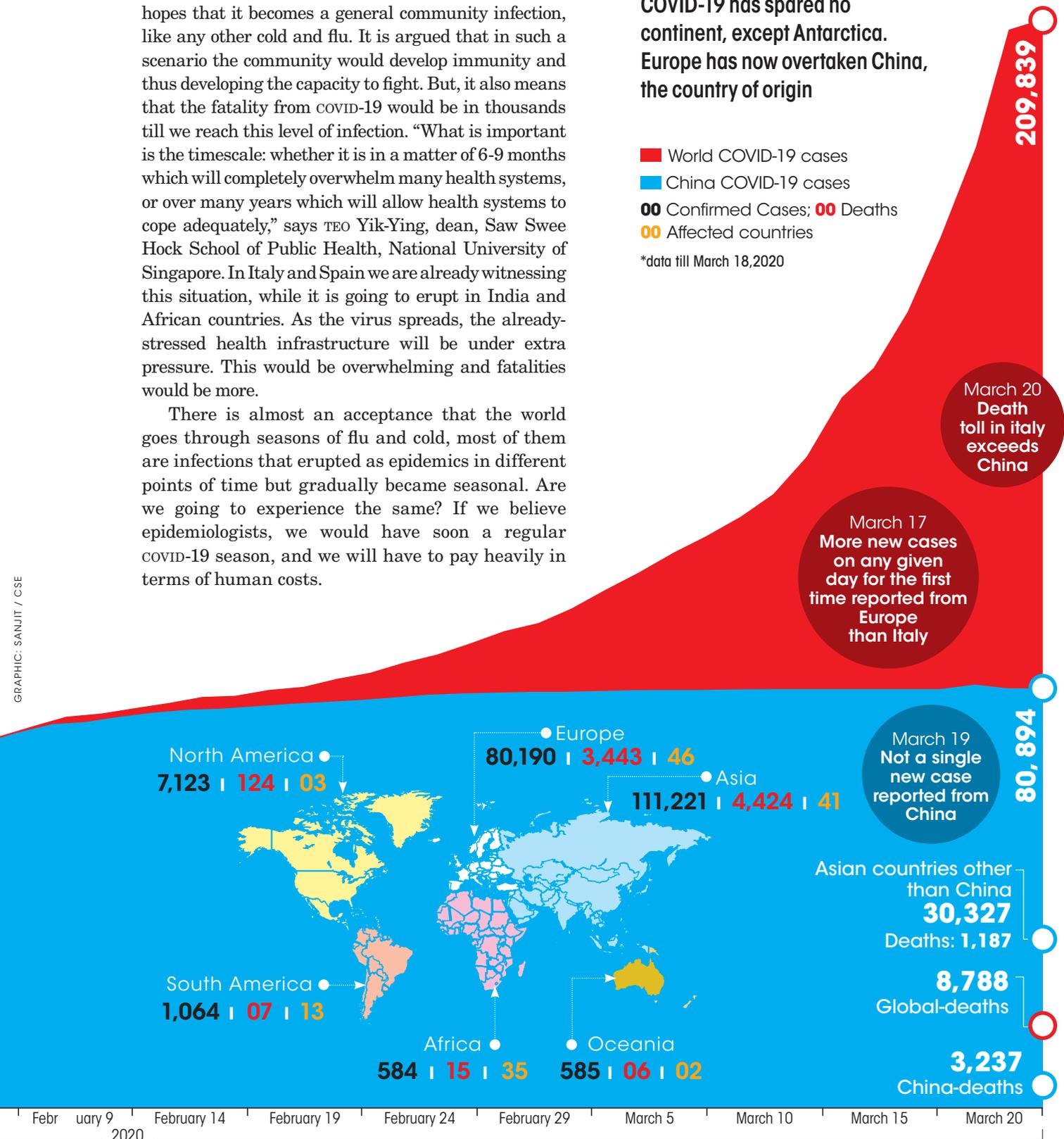
There is almost an acceptance that the world goes through seasons of flu and cold, most of them are infections that erupted as epidemics in different points of time but gradually became seasonal. Are we going to experience the same? If we believe epidemiologists, we would have soon a regular COVID-19 season, and we will have to pay heavily in terms of human costs.

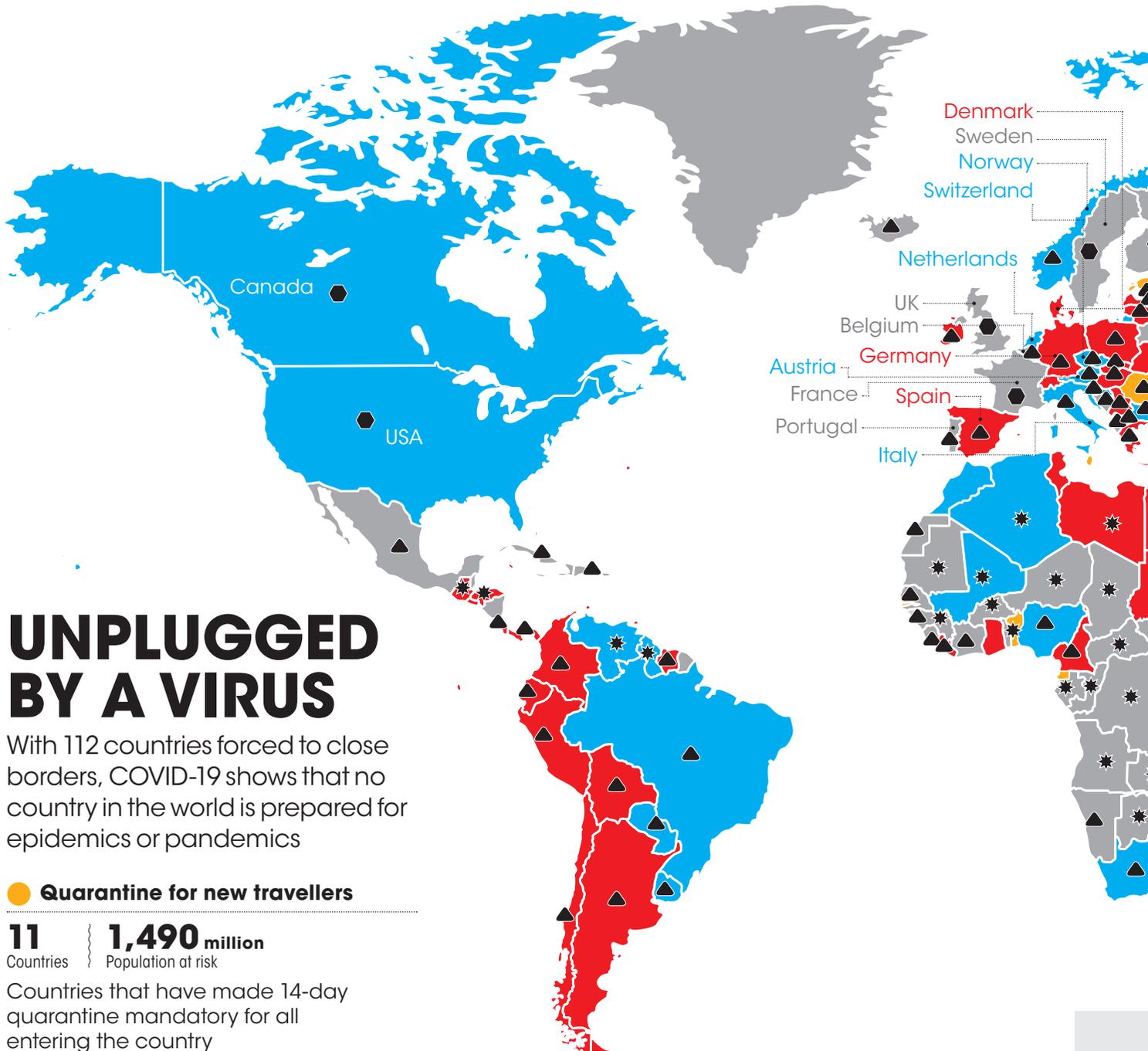
TIPPING POINT

COVID-19 has spared no continent, except Antarctica. Europe has now overtaken China, the country of origin

- World COVID-19 cases
- China COVID-19 cases
- 00** Confirmed Cases; **00** Deaths
- 00** Affected countries

*data till March 18, 2020





UNPLUGGED BY A VIRUS

With 112 countries forced to close borders, COVID-19 shows that no country in the world is prepared for epidemics or pandemics

● Quarantine for new travellers

11 Countries } **1,490 million** Population at risk

Countries that have made 14-day quarantine mandatory for all entering the country

● Border shutdown*

59 Countries } **2,482 million** Population at risk

Countries that have completely sealed their borders, shutting down road, sea and air routes

● Border restrictions*

53 Countries } **2,343 million** Population at risk

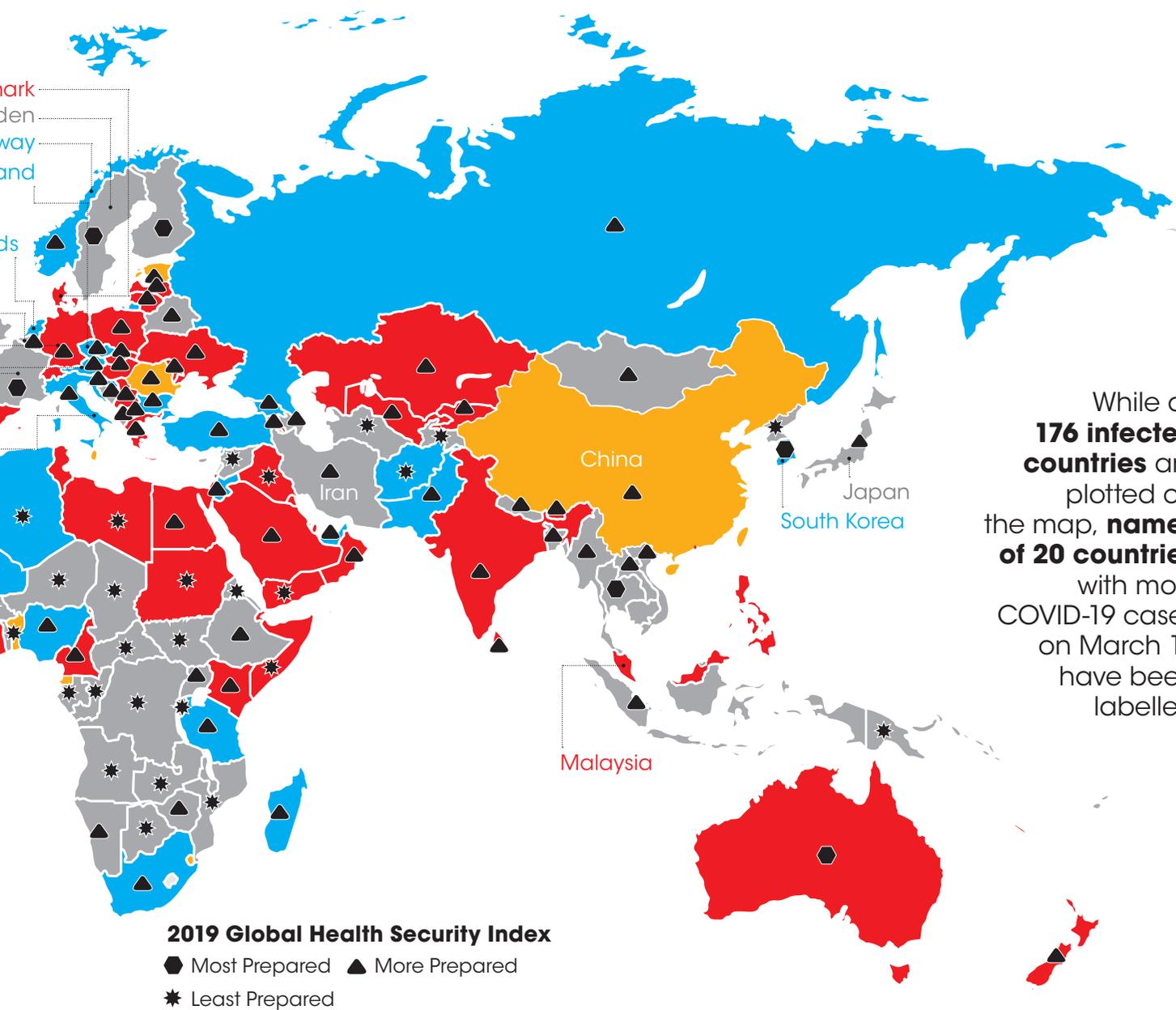
Countries that have shut down road, sea and air routes to neighbouring and/or high-risk countries

● Domestic lockdown

53 Countries } **822 million** Population at risk

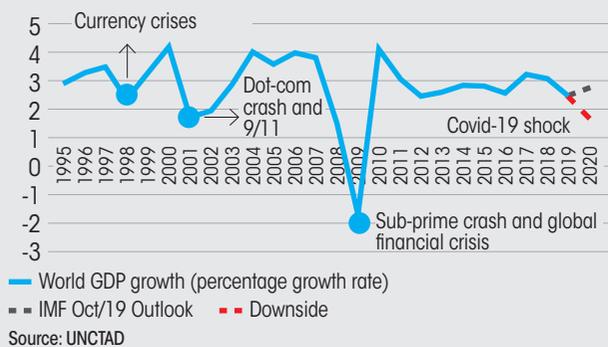
Countries that have only taken domestic steps. From widespread testing to social isolation, all the 176 infected countries have taken some domestic measures

*Except for citizens or residents returning home or special circumstances.
Source: Local governments/media reports and Global Health Security Index 2019; Updated till March 19, 2020



Hefty price

The Covid-19 shock will decelerate global annual growth to below 2.5 per cent—the threshold for recession. This will cost the world US\$ 3 trillion in 2020



Developing thoughts

All 177 developing countries will be badly hit by COVID-19 due to rising public debt and high dependency on China



Source: UNCTAD Secretariat calculations, IMF Global Debt database and COMTRADE. The graph is centered with average values for all developing countries.

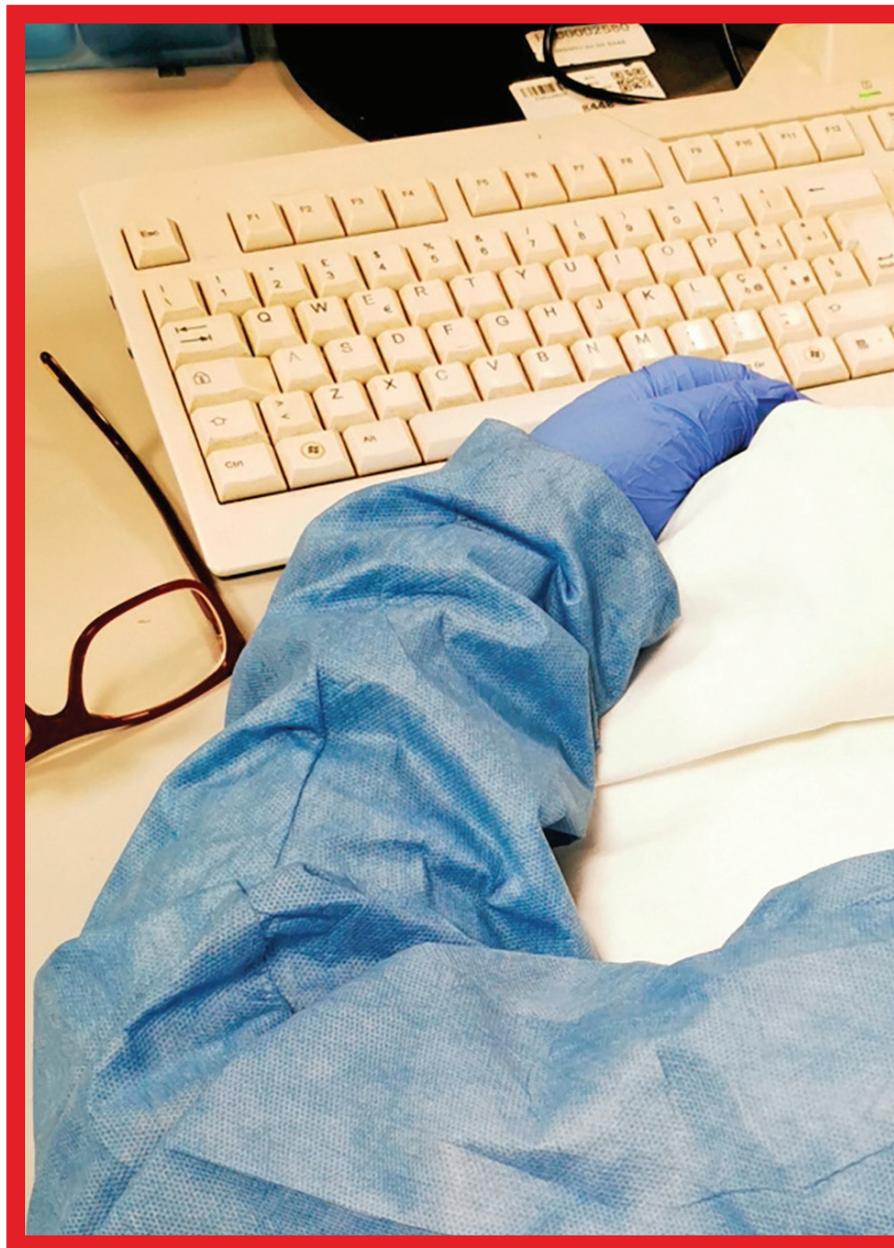
THIS IS WHY

Globalisation is punishing everybody for somebody else's unpreparedness. The COVID-19 pandemic has exposed how fragile we are in the face of a globalised health emergency

CHRISTOPHE HITAYEZU AND BANJOT KAUR

IT IS the globalised world's most localised emergency. An epidemic has become a pandemic faster in a globalised world, as we have experienced now. The outbreak of the new strain of coronavirus took just 70 days to be declared as a pandemic on March 11. But the effort to contain it has to be ultra-local. It boils down to a physical distance of over 3 feet between two individuals just to stop it from spreading further. How a local health infrastructure mounts surveillance and testing in its neighbourhoods makes the difference as to how deadly this globalised scourge becomes. It is almost an intense personal fight to stop a fast globalising invisible virus.

In Italy, the health system was overwhelmed—considered the second best in Europe—and reported more fatalities than China. Here, doctors applied judgement as to which patient they should to treat and which ones they should leave to die. Most COVID-19 patients were old, and needed intensive care. But there was no adequate health infrastructure or facilities. The country banned funerals to avoid gatherings, so military transport was arranged to ferry dead bodies. The whole country is under isolation at present. In the US, it is an emergency like never before. Its healthcare system has not been able to manage the



deluge of patients—by March 20, 150 people had died. Though the Congress has passed the Families First Coronavirus Response Act to bear the testing costs for COVID-19, the treatment is turning out to be prohibitively expensive—27 million Americans are without health insurance and an average treatment costs around \$35,000 per patient (based on cases reported). The Kaiser Family Foundation has estimated that even with insurance and in case of non-complicated cases, the treatment would cost around \$9,763. With over 10,000 patients already under treatment, the country is proposing to adopt direct cash support to its affected citizens. This flags a caution as the march

of COVID-19 moves to developing countries such as India and Africa. How would a lesser-developed healthcare systems in these countries react to the pandemic?

With over 200 cases of COVID-19 infections, India is staring at an eruption of cases as screening and detection efforts have picked up. The Indian Council of Medical Research says by mid-March, India was in the stage second of the pandemic: dealing with infection from people who travelled to countries with COVID-19 cases. The country is checking out and quarantining those who came in contact with the infected. But transmission is believed to have become domestic and untraceable waiting to

A nurse rests during a night shift at a hospital in Cremona, Italy



show up in big numbers in a few weeks, to be specific by mid-April. This is inevitable, but the ongoing efforts to contain the infection can delay it. India has already imposed a travel ban for foreigners. Some 15 states have enforced closure of public gatherings. Five Northeast states have sealed their borders.

THE NEW HOTSPOTS

The focus on India as the next big geography of spread is valid given its 1.37 billion population and its dense distribution. There is a fear whether India's weak health infrastructure would be able to manage a pandemic of this proportion. According to the United Nations Conference on Trade and Development, India is one of the 15 economies to be most impacted economi-

cally by pandemics. Given that tourism, services and other retail sectors will be affected the most due to restrictions on mobility, some 30 per cent of India's workforce is staring at economic losses. This, in turn, will weaken people's capacity to bear their health expenditure (see "Last Word", p58).

Like India, Africa is also a secondary hotspot. The continent has over a billion population and underdeveloped health infrastructure. Till first week of March, the Johns Hopkins University's real-time interactive map on COVID-19 didn't show those scary red dots indicating infections in sub-Saharan Africa. But by March 10, the situation changed. In just 10 days, 33 African countries reported more than 600 cases and 17 deaths due to COVID-19. Just

A man, wearing a protective mask, places a poster on the door of a closed shop due to the coronavirus outbreak in central Madrid, Spain

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like in India, experts say, in Africa too, the virus is spreading across the continent undetected and even faster. “My concern is that we are sitting on a ticking time bomb,” says Bruce Bassett, a data scientist at the University of Cape Town, who has been tracking COVID-19 data since January. The response is showing up slowly.

Around 30 African countries have imposed travel restrictions from China and other countries with positive COVID-19 cases. For example, in Uganda, travellers from 16 countries must be quarantined at their own cost for 14 days. Angola has temporarily banned direct travel from seven countries. China is Africa’s main trading partner. This has increased air traffic between China and Africa, says John Nkengasong, director of the African Centres for Disease Control. Mary Stephen, a public health expert at the World Health Organization (WHO) Africa Region, says they have assessed pillars of preparedness and response for Africa, and one of the pillars is their capacity of case management and availability of facilities.

Way back in August 2019, Africa’s preparedness for a pandemic came into focus. WHO had asked African countries to make “pandemic preparedness” more affordable for people on the continent in a new strategy document. Pandemic preparedness in Africa is estimated to cost \$2.5-3.5 per person annually, according to the Regional Strategy for Integrated Disease Surveillance And Response (IDSR strategy), prepared by WHO.

Pandemics can be very disruptive. Even a moderately severe pandemic could have a potential global economic impact of \$500 billion, or 0.6 per cent of global income. In contrast, the cost of adequately preparing for a global pandemic is estimated at \$4.5 billion, or less than \$1 per person per year. Unfortunately, according to WHO, most countries are grossly underprepared in infrastructure to mitigate a pandemic crisis. This indicates that the pandemic preparedness per person per year in Africa is expensive,

rather than affordable. That’s why, investing in pandemic preparedness is an affordable public health good for Africa, said the IDSR strategy document. Charles Bigabiro, an expert in health economics, says, “Most of the countries are not ready, authorities are not yet aware of the pandemic and don’t have commitment to protect their population. They think the problem is for other countries.”

Assessing the facilities, WHO’s Mary Stephen says countries are now using facilities for other infectious diseases to manage COVID-19 cases. “Despite the fragility of the health system, countries have surveillance in place that is enabling health workers to detect the infected. If you look at some of the statistics that are coming out from China, we understand that 81 per cent of the cases are mild, 14 per cent are severe and 5 per cent of the cases are critical. So 19 per cent of the cases would require hospitalisation,” she says. “In the past, Africa has dealt with more than one epidemics like cholera, Ebola... so that the continent has great resistance and coping capacity,” says

AFTERSHOCKS#COVID-19

Rush for drugs development

There are over 300 clinical trials underway to find a cure for COVID-19. One such drug is remdesivir, developed and patented 10 years back by Gilead Sciences. It is being tested against a variety of pathogens including the Ebola virus. A recent study showed that this drug was useful against MERS coronavirus, suggesting that it could work on COVID-19 too. Generic versions of this drug have been developed by BrightGene Bio-Medical Technology in China. Meanwhile, researchers at Moderna, a Massachusetts-based biotech, have developed an mRNA vaccine which is set to be tested on 45 healthy people at Kaiser Permanente Washington Health Research Institute. The future of these drugs and vaccines depend on how the disease pans out. In case people develop immunity against the pathogen naturally, the vaccine might not get a market. A pertinent question haunts: whether these drugs and vaccine, if found effective, would be accessible to the poor?



AFTERSHOCKS#COVID-19

A trillion dollar loss

COVID-19 will usher in a global recession and the world will lose over US \$1 trillion, estimates UNCTAD. The World Health Organization has requested member countries to provide US\$675 million for strategic preparedness and response plan for the pandemic. Of this, \$61.5 million is needed urgently to mount various activities till April. So far, WHO has received \$153 million. But as COVID-19 spreads, it will add on to the budget requirement, particularly for low-income countries. The World Bank Group has announced an initial package of \$12 billion to assist countries in coping with the health and economic impacts of the pandemic. Many countries have already parked funds for fighting the spread in their respective countries. The US has declared a \$1 trillion stimulus package to hedge the economy from slipping into a deep recession. The Canadian government is providing \$82-billion aid package to its citizens and businesses through income supports, wage subsidies and tax deferrals. India has pledged \$10 million toward a COVID-19 emergency fund for the South Asian Association for Regional Cooperation nations.

Michael J Ryan, executive director of WHO's Health Emergencies Programme.

However, experts have expressed concerns about the late onset of the outbreak in Africa. This is mostly based on the contested hypothesis of COVID-19 thriving in colder temperatures and becoming milder in a hotter atmosphere. Going by the temperature in countries affected, it is clear that the most affected are colder than those least affected. Severely affected countries like South Korea, Italy, Iran and Spain had temperature ranging from 6-12° C during January-March. In sub-Saharan Africa, countries reporting COVID-19 like South Africa, Nigeria, Senegal, Togo, Cameroon and Benin had 20-32° C in this same period. For example, the peak circulation of flu in South Africa is in the winter season between April and July. But there is a catch. "In Senegal, the peak season is in the rainy season, from July to October. Many other African countries experience these peaks during the cold rainy season.



A message about protecting yourself from the coronavirus is seen on an electronic billboard in a nearly empty Times Square in Manhattan in New York City, USA

This could mean that the preparedness of most African countries may soon be tested when these seasons come, especially as many more countries are confirming imported cases into the continent,” says Akebe Luther King Abia, research scientist, University of KwaZulu-Natal in Durban. There is no let-up in this scourge.

GLOBALISED VIRUS

“We have not seen a global epidemic like this in 100 years. Nobody has an experience of having dealt with anything like this in the past,” renowned historian-philosopher Yuval Harari said in a news show on CNN. He links it to recession, and the globalised nature of our existence. Either globalisation will have a multiplier effect on this pandemic or those favouring globalisation say pandemic would rather negatively impact globalisation. Differences apart, they agree on one point: globalisation is going to be a deciding factor in this pandemic. What the world was busy

TURN TO P32 »

Curves that matter

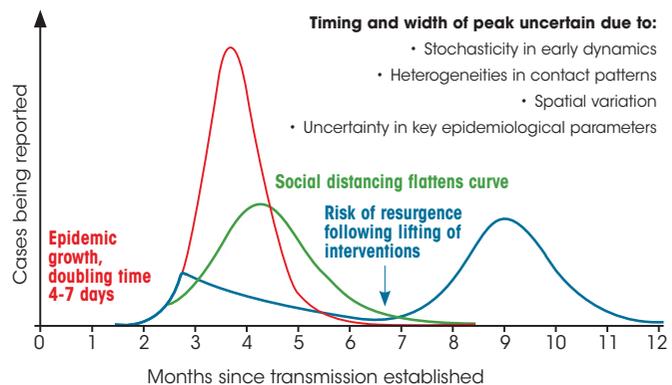
Projected paths of the pandemic

Snigdha Das

Exponential curve This offers the worst case scenario, where the virus spreads uncontrollably. Since the word “exponent” is grounded in algebra, the curve suggests a rapid increase of the infected, as is typical of exponential growth. Let’s take a conservative estimate. If a sick person infects two others in a day, there will be 16,000 cases after 14 days. The infection rate, though varies from country to country, is higher for COVID-19, suggesting a steeper infection curve. During this rapid infection growth phase, the number of people needing hospitalisation can grow in leaps and bounds, overwhelming the local healthcare system. More hospitals may run out of basic supplies they need to respond to the outbreak.

Flatten the curve Since there is no vaccine to medicine to treat COVID-19 and only limited testing kits to diagnose the virus, flattening the curve is the only effective intervention to limit the spread of the virus. The infection rate can be reduced through a combination of collective actions, such as social distancing of the entire population, case isolation, household quarantine and school and university closure. Though the same number of people may get infected in a flatter-curve scenario as in the exponential-curve scenario, a slower infection rate ensures a less stressed healthcare system, fewer hospital visits on any given day and fewer sick people being turned away.

Sine curve This is the basic example of a periodic curve, a graph that keeps repeating. Flattening the curve can help reduce the rate of transmission. But there will still be the risk of resurgence once interventions are relaxed. Interventions like social distancing may thus need to be in place until a vaccine is developed—after 18 months or longer.



Source: *How will country-based mitigation measures influence the course of the COVID-19 epidemic?*, published in *The Lancet* on March 9, 2020

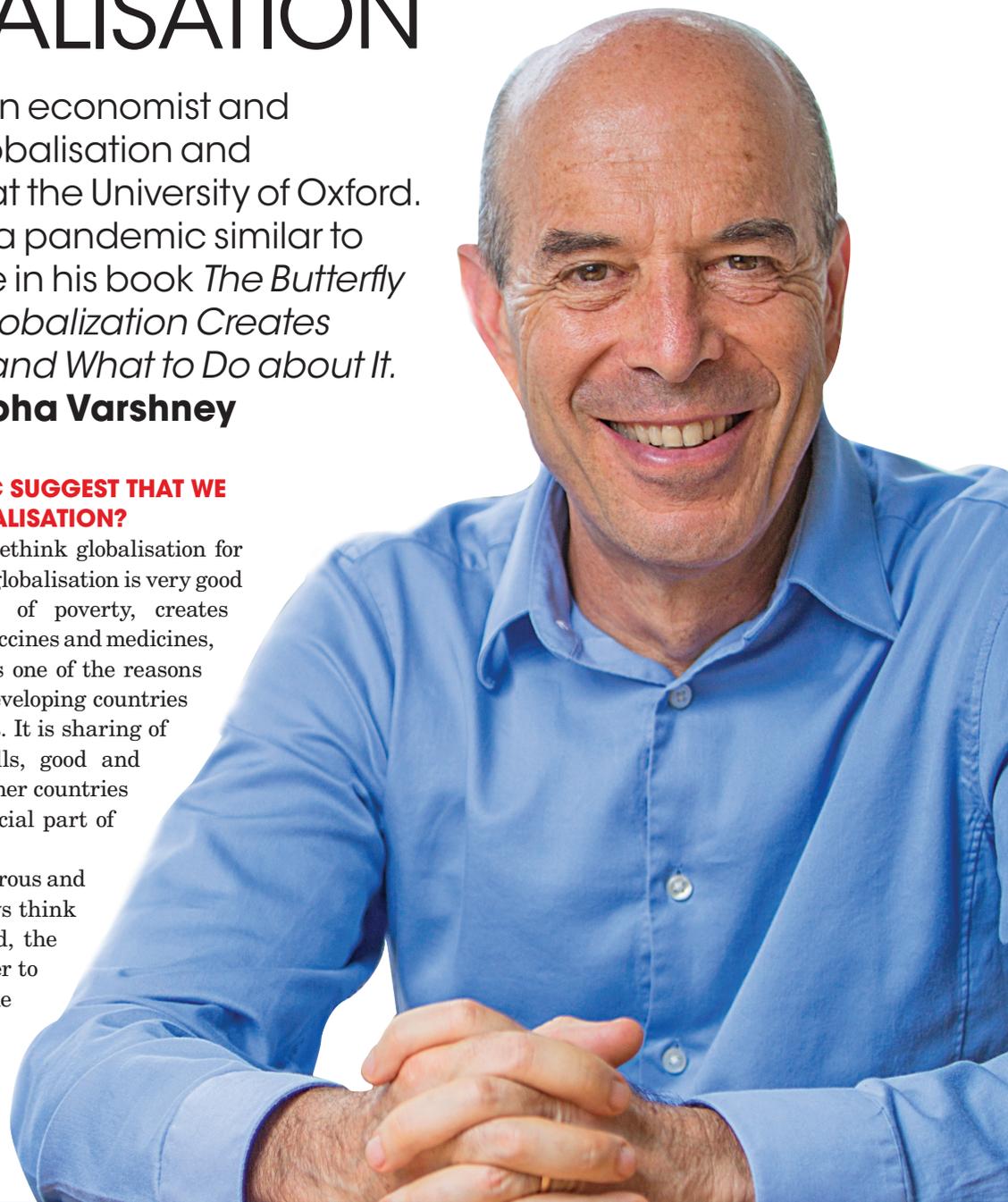
“PANDEMICS ARE THE SPILLOVERS OF GLOBALISATION”

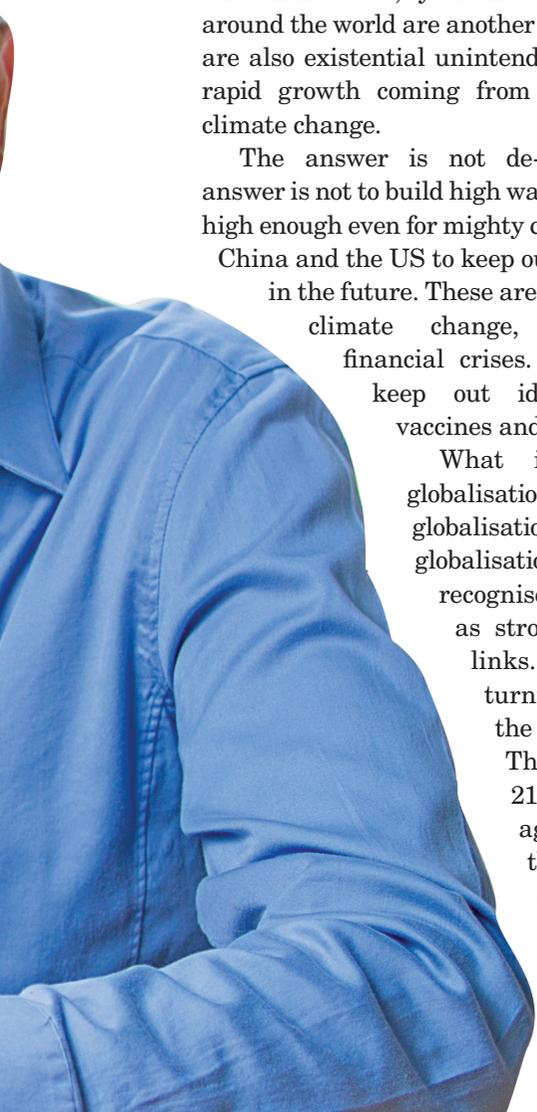
Ian Goldin is an economist and professor of globalisation and development at the University of Oxford. He forecasted a pandemic similar to the current one in his book *The Butterfly Defect: How Globalization Creates Systemic Risk, and What to Do about It*. He spoke to **Vibha Varshney**

DOES THIS PANDEMIC SUGGEST THAT WE MUST RE THINK GLOBALISATION?

I have felt the need to rethink globalisation for very long now. We know globalisation is very good as it lifts people out of poverty, creates opportunities, spreads vaccines and medicines, jobs and finance. That is one of the reasons India like many other developing countries have seen rapid progress. It is sharing of ideas, technologies, skills, good and services, finance with other countries which defines the beneficial part of globalisation.

But it also very dangerous and can be very ugly. I always think globalisation as the good, the bad and the ugly. In order to harvest the benefits, one has to manage the risks. But what we are seeing is that people are not managing the risks, and this is





making globalisation dangerous. Dangers like pandemics are the spillovers of globalisation. Integration of China with the world economy, 1.4 billion tourists, business travelers around the world every year are not only spreading good things, but also spreading bad things. Take the case of pandemics like that of the COVID-19. The rapid growth of cities like Mumbai and Wuhan which have airports means that anything that happens in these cities can go across the world in just a few days. And this is what we are seeing in this pandemic. This spread is not only in pandemics, we saw this spread in the financial crisis in 2008 too, cyber viruses which are spread around the world are another example, and there are also existential unintended consequences of rapid growth coming from globalisation, like climate change.

The answer is not de-globalisation. The answer is not to build high walls. There is no wall high enough even for mighty countries like India, China and the US to keep out the great threats in the future. These are the threats such as climate change, pandemics and financial crises. These high walls keep out ideas, technologies, vaccines and finance.

What is missing from globalisation is political globalisation and human globalisation. We need to recognise that the world is as strong as its weakest links. We have countries turning their backs on the United Nations. This is not fit for the 21st century. Global agencies are doing their best, but their shareholders, the governments, are not reforming and empowering them. That is the challenge.

WHAT IS MORE LIKELY TO HAPPEN? GLOBALISATION OR DE-GLOBALISATION?

It depends on how you define globalisation and what you are talking about. If you are talking about Asia, my sense is that we would continue to see a rapid growth of Asian economies like India, China and Indonesia. They will also recover when the pandemic is over.

We will see growth in other places too, but at a slower pace. We are not entering de-globalisation, and but only entering globalisation of a different nature. We are more likely to see less of manufacturing trade, but more services trade. Asian countries recognise that they need the benefits of globalisation, which I don't see being reversed. If these are being reversed, it would be detrimental. Of course, we also need policies to manage the risks of globalisation.

HOW CAN WE ENSURE INFECTIOUS AND ZONOTIC DISEASES PREVALENT IN ASIAN COUNTRIES DO NOT CAUSE PANDEMICS IN FUTURE?

To control pandemics, countries need the capacity to monitor and respond. When governments allocate resources, the military is given 100 or more times more than health and pandemic preparedness. We need to reverse the trend and catch up with the world threats. We need to increase investment in surveillance and in the overall healthcare system.

It also requires investment in improving hygiene and sanitation, upgrading of slums and informal settlements, investing in health research, investment in regulation and enforcement. It also requires changes in behavioural patterns. For example, people should not touch their faces so often, they should wash hands more often. Such measures can reduce the risk of infectious diseases. The current pandemic has made people aware of this. I hope we can use this as an opportunity to learn, so that we do not have another pandemic and also are better able to manage other systemic risks such as climate change.

 @ian_goldin

PR in times of Corona

The impact of COVID-19 can be gauged from the simple fact that when the dust settles in the post-COVID-19 world, countries won't be in the same stage as they were till December 2019. In fact, relations already appear to be shifting. In the third week of March when China offered Brussels to provide more than 2 million medical masks, 50,000 coronavirus testing kits to help the European countries, Ursula von der Leyen, European Commission president, said "China has not forgotten that in January, when it was the centre of the outbreak, the EU helped." Before that China had sent 300 intensive care doctors and a planeload of medical supplies to Italy and announced assistance to Serbia, after their requests for support went unheard by neighbours in Europe. "We will remember those who were close to us in this difficult period," said Luigi Di Maio, Italy's foreign minister, in response to China's goodwill packages. Analysts say China's move is to exert diplomatic influence.

"We are doing instead of talking. We are friends, not enemies. Could the American do the same to Chinese?" China's ambassador to South Africa Lin Songtian has tweeted. In the face of the bloc's disputes with its own rival, the US, Beijing appears to forge closer relations with the EU by rebranding its image of an authoritarian incubator of a pandemic. Is there some ulterior geopolitical ambition on its mind? Or else, how can one explain a recent threat by Beijing to cut off pharmaceutical supply to the US after which it will be "plunged into the mighty sea of coronavirus"!



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Workers disinfect the interiors of a passenger bus in Ahmedabad, Gujarat

enjoying the benefits of globalisation, policymakers forgot the ill-effects of a free market world. Weak healthcare systems and their impacts are playing out at globalised scale. So, a near non-existent healthcare system in the US couldn't manage an infection from an emerging economy like China. And before China clamped down in a massive scale to curtail the spread, two of its citizens had already landed in Italy, spreading COVID-19 undetected. Italy's complacency in tackling infection domestically led to a wider spread, even in faraway India.

"It would be overly simplistic and inaccurate to describe globalisation as either "good" or "bad" for health," wrote Kelley Lee, London School of Hygiene, in a paper, *Globalisation: what is it and how*



does it affect health? Lee says spatial change is leading to increased migration of people throughout the world.

A global health security index did a country-wise assessment of pandemic preparedness and found that not a single country is prepared. Most countries lacked foundational health systems capacities vital for epidemic and pandemic responses. Of the seven categories, this was the lowest scoring category. The average score was 26.4 out of 100. About 131 countries, including several high-income countries, were in the bottom tier of this category. Only 11 per cent countries showed plans to dispense medical countermeasures during health emergencies.

The pandemic has brutally shattered the belief that the private sector-led health

services are efficient and responsive. At least, it makes the case for a more robust and public-funded response system when every country's infection is globally contagious. In the face of COVID-19, Italy—a high income country—looks as helpless as any poor country without any semblance of an organised public health system. In the 1990s, Italy privatised parts of its healthcare delivery system. A comparison of mortality rate before and after privatisation found public spending was significantly associated with reductions in avoidable mortality rates over time, while greater private sector spending was not at the regional level. The country has also the second highest average life expectancy in Europe, reaching 79.4 years for men and 84.5 years for women (2011 data).

The US is facing flak from its own experts for not testing adequately and for delaying testing for about two weeks. The country couldn't manufacture the test kits at the right time, thus delaying the most critical aspect of containing the virus spread. The White House, the Centres for Disease Control and Prevention and the Food and Drug Administration for long debated and discussed and delayed the kits' manufacture. There was scarcity of kits thus letting out many with the virus freely moving around and transmitting it to others. This explains why 38 per cent of the US' COVID-19 patients were below 55 years of age, unlike elsewhere. It indicates undetected patients and unbridled

transmission, a scenario now feared in developing countries.

The pandemic also unveiled another aspect of globalisation. When it comes to profit or wealth, most countries adapt one mode. But when it comes to a global emergency, they just adopt the opposite of what globalisation means. Desirably, countries have sealed their borders. There has been selective stopping of trade. While WHO minced no words in criticising these restrictions, not a single public health expert was willing to say that this was a much-needed step. Whether or not this step led to containment would remain a matter of sharp debate, but what would remain undoubtedly a fact is that when a

Kenyan health workers dressed in protective suits walk after disinfecting the residence where Kenya's first confirmed coronavirus patient was staying, in the town of Rongai



health emergency strikes, all principles of globalisations are thrown to the winds.

A few countries moved a step further. They stopped export of Active Pharmaceutical Ingredients and PPEs. Despite continuous appeals by WHO, these countries showed their selfish attitude because on one hand, the ban on export may lead to access Personnel Protective Equipment in one country, and on the other, countries may badly be falling short of it putting their frontline health workers at risk.

WHO, while declaring the outbreak as global Public Health Emergency of International Concern prepared a global plan for the pandemic on January 31. The plan said WHO would require \$637 million. By mid-March not even one-third has been collected despite vehement appeals that there is acute shortage of personal protective equipment and masks for the frontline healthcare workers. Till date, various countries and agencies have donated only \$206 million. This shows how countries have decided to leave a global health body in the lurch when they were required to help. Harari in his interview clearly pointed out that if countries remain short-sighted and do not help other countries, they would end up only increasing their own risk.

The COVID-19 pandemic has brought out the fragile side of globalisation: a growing and imbalanced dependence on each other. Take China for instance. It almost controls the supply chain of goods of the world because it is the factory to the world. It seems a truck driver in China couldn't join work due to COVID-19; the shipment of solar photovoltaic chips couldn't reach India on time unsettling the country's solar energy target. Thousands of fisherfolk in India's coastal areas are losing their livelihoods because there is a curb on shipping due to the pandemic.

The global response has also proved that the pandemic might actually push countries faster towards de-globalisation. Many countries are already moving towards this phase to protect national

A deadly debt blow

When COVID-19 struck, the world was already reeling under another pandemic: debt. At the end of 2018, the total debt (including public and private, the later being accounting for more) was \$229 trillion. This was two-and-half times of the total world GDP. In developing countries, private debt is 73 per cent of the total debt. Developing countries (excluding China) are expected to incur an economic loss of over \$220 billion. With this kind of debt, both public and private entities would find the new economic disruption by COVID-19 unbearable. At least 23 developing countries would be directly impacted by the pandemic, thus, adding fresh debt to their accounts. "Growing inequalities over several decades have eroded most households' spending power since long before the COVID-19 outbreak, and they now pose serious headwinds against a robust post-outbreak recovery," warned the UN.

interests. This is not the first time that a disease is derailing the process of globalisation—the Spanish Flu too had killed the first wave of modern globalisation. The difference is this time globalisation is truly global. A recent Bank of America report states that 80 per cent of multinationals have invested in plans to repatriate part of their production—known as re-shoring—a trend that COVID-19 could turn into a tidal wave.

However, globalisation has also made the exchange of critical information faster. China did the genome sequence of the virus within a record time of 20 days. It shared the sequence on publicly accessible platform. This helped researchers across the world to develop diagnostic assays. This was impossible had China not shared it. Very quickly, scientists in various parts of the world started collaborating on research on drugs and therapeutics. WHO is also leading multi-country trials of these products. The global scientific community is collaborating well and there is evidence for this. Vaccine prototypes exist and soon there will be human trials.



IS COVID-19 DISEASE X?

The pandemic could be the unknown disease World Health Organization warned about in 2018

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IN 2018, the World Health Organization (WHO) released a list of 10 diseases that can cause epidemics and all were viral in nature. Besides the usual suspects such as zika, Ebola and Severe Acute Respiratory Syndrome or SARS (triggered by a coronavirus), it also had a Disease X, to be caused by an unknown pathogen (see “Repeated Attacks”, p37). There is now a growing consensus that COVID-19 is Disease X.

“This outbreak (COVID-19) is rapidly becoming the first true pandemic challenge that fits the Disease X category,” writes Marion Koopmans, head, viroscience department, Erasmus University Medical Centre in The Netherlands in journal *Cell*. Peter Daszak, who was part of the WHO team that collated the 2018 list, writes in the *New York Times* that they had postulated that Disease X would be a viral originating in animals and would emerge in a place where economic development drives people and wildlife together. The group predicted that the disease would be confused with other diseases during the initial stages and would spread quickly due to travel and trade. Disease X would have a mortality rate higher than seasonal flu and would spread as easily as the flu. It would shake the financial markets even before it became pandemic. “In a nutshell, COVID-19 is Disease X,” he writes. This flies in the face of WHO’s expectations that the next pandemic would be that of influenza.

The devastation caused by COVID-19

pandemic is a rude reminder of the fact that the world needs to better understand and manage epidemics. “Our understanding of infectious diseases has improved. But we don’t fully understand all aspects regarding the emergence of epidemics,” says Suresh V Kuchipudi, clinical professor and associate director, Animal Diagnostic Lab, Department of Veterinary and Biomedical Sciences, the Pennsylvania State University. He, however, highlights a similarity among the past few epidemics. “RNA viruses have caused all the recent major outbreaks, including COVID-19,” he says. Due to their inherent nature to mutate and evolve, RNA viruses are more likely to cause future epidemics. WHO tracked 1,483 epidemic events in 172 countries between 2011 and 2018. Nearly 60 per cent of the recent epidemics were zoonotic, of which 72 per cent originated in wildlife. Besides COVID-19, WHO reported nine disease outbreaks in the first 79 days of 2020.

Climate change and environmental degradation are making matters worse as they help viruses to mutate faster, thus increasing the rate of spread. RNA viruses have mutation rates that are up to a million times higher than their hosts. These high rates are correlated with enhanced virulence and evolvability, traits considered beneficial for viruses, wrote Siobain Duffy, associate professor at the School of Environmental and

CONTAINMENT MEASURES HAVE NOT EVOLVED SINCE THE SPANISH FLU IN 1917-18 THAT KILLED MILLIONS

