

Rural communities responding to Covid-19: field experiences from Bangladesh, Sierra Leone and UK

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Introduction

The 2020 Covid-19 pandemic has affected almost everyone in the world in some way. Only two of the 189 nation-states recognised by the United Nations, with combined populations of 300,000, have not yet (as at 30 November 2020) recorded any case of the virus. National responses have varied from 'laissez faire' to very strictly imposed restrictions on citizens' movements. Extensive global restrictions on travel and hospitality continue to blight many economies.

RedR International is a federation of organisations that support humanitarian agencies when they respond to disasters. As the pandemic developed, a network of interested individuals in many parts of the world was created to meet regularly and reflect on the national responses in each of the countries represented. The national perspectives represented in the group included UK, Scotland, Germany, Bangladesh, Malaysia, Australia, Indonesia, Thailand and Sierra Leone.

This paper presents three examples of rural people and organisations responding at community level to the crisis in differing socio-economic contexts and makes observations on factors that may affect the spread of this global crisis.

Case study 1: UK, Upplowman in Rural Devon, UK

The author is the Clerk (Secretary) of Upplowman Parish Council, the lowest level of local authority in UK. Upplowman has an electorate of 350, of whom about 60% live in two small villages and the rest are in scattered farms and cottages. Figure 1 shows the location of Upplowman 30km north of Exeter, together with the current (30 Nov) rate of infection across the county of Devon (Upper Tier Local Authority, or UTLA). It can be seen that the rate of infection (new cases per 100,000 population) is low locally compared with other parts of the UK and has been throughout 2020.

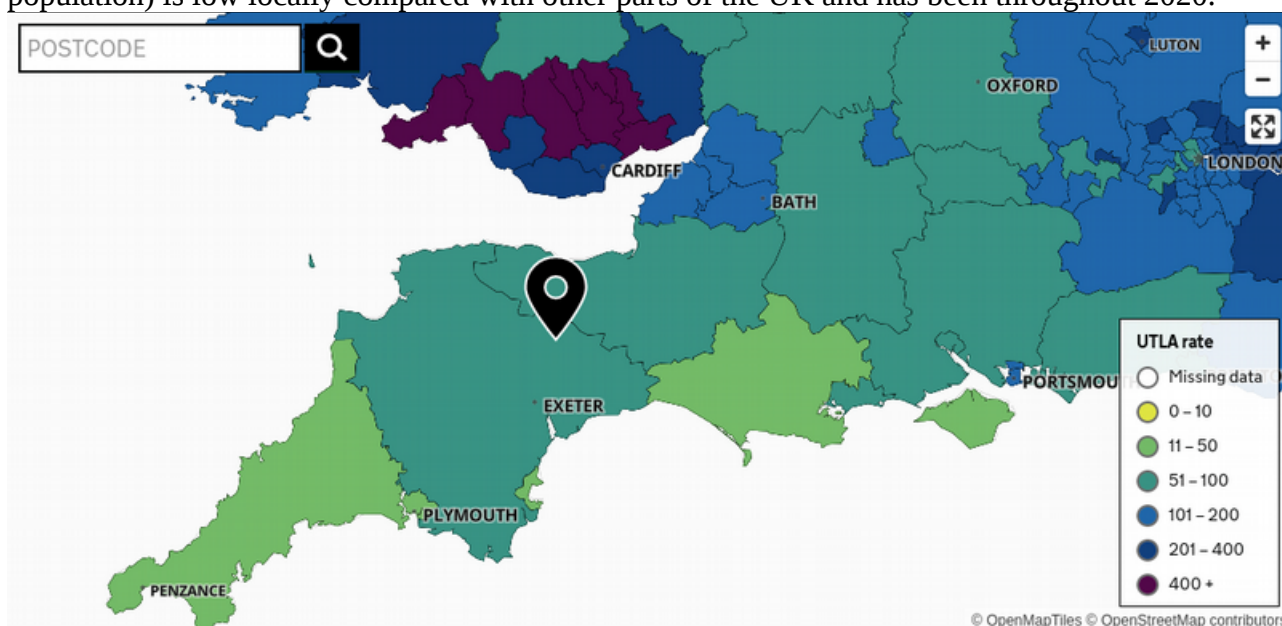


Figure 1: Location of Upplowman within South West England (Gov.uk, 2020)

Although the World Health Organisation declared a global health emergency on 30th January, the UK government's advice restricting movements and activity was not promoted until 16th March, when 1543 cases had been confirmed across the country, with a 'lockdown' being imposed one week later on 23rd March (all data from BFPG, 2020). This timing was fortuitous in Uplowman.

Uplowman Parish Council ((PC, equivalent to community councils in many countries) meets every second month and had a meeting scheduled for 19th March. Although several councillors had already decided to self-isolate, enough met to take the decisions required to develop a local responses and create a framework for supporting the local community through the impending movement restrictions.



Figure 2: Uplowman's VE day socially distanced celebration

As with many activities, the pandemic kick-started a number of actions that had been on the 'to-do' list for a while. A database was created that amalgamated several existing resident lists into a single data protection-compliant repository and soon included contact information for about 90% of parish households. This could be interrogated to identify those who were isolating and those who had volunteered to provide assistance to their neighbours. A facebook page was set up to keep villagers in touch with one another and details of all arrangements were posted on the existing parish website.

The UK restrictions required all vulnerable people to remain in their homes. Food was distributed to those most on need and a number of local suppliers set up home delivery arrangements. While less vulnerable people generously volunteered their services to get food orders for neighbours, in the event only about 6 households availed themselves of these offers and most volunteers were not needed. The most useful part of Uplowman's response was the regular distribution of news via email. This kept isolated people informed and helped co-ordinate limited village activities, for example to commemorate the VE day 75th anniversary in May (Figure 2).

Case study 2: Sundarban village, Bangladesh

The Non-Governmental Organisation (NGO) SAFE (Simple Actions For the Environment) has been working on ways of creating better living conditions for people in rural north west Bangladesh for ten years (Figure 2). Apu Roy is its director and SAFE has been supported by a number of UK-based groups. Mr Roy has participated in the RedR International network conversations.



Figure 3. Sundarban location

SAFE's supporters realised from the start of the pandemic that movement restrictions would cause significant hardship among the many hand-to-mouth residents of rural Bangladesh and rallied round to help SAFE to respond to the coming crisis. SAFE's first programme was a public awareness campaign to inform people about the threat and advise on basic measures such as hand-washing and social distancing. Posters were erected all round Sundarban Union area.

North west Bangladesh soon became a hot spot for the virus, possibly as a result of garment workers travelling back from factories in the Dhaka area. This resulted in tight lock-down regulations and many people being prevented from any income opportunities. SAFE became involved in arranging distribution of

government emergency rations.

Farmers in rural Bangladesh were hit by problems selling their produce; SAFE became part of a Dhaka-based relief operation, Krishi Bapanan, that was set up to fund food from 12,000 NW farmers, transport it to peri-urban parts of Dhaka and distribute it among 2600 families for the cost of the transport. This neatly supported the farmers at a time of great need as well as providing sustenance to the urban poor.

Government clinics closed due to the movement restrictions so SAFE and another local NGO, Chetonar Dak, set up an emergency mobile health clinic to provide medicines for common ailments (not COVID-19!) to remote residents who were unable to access medical support any other way.



Figure 4: Apu Roy & awareness campaign, Sundarban



Figure 5: Food distribution, Sundarban



Figure 6: Emergency healthcare, Sundarban

Case study 3: Western Rural District, Sierra Leone



Figure 7: Location of study area, Sierra Leone

SEAfoRS (Sustainable Empowerment Approach for Rural Society) is a new NGO that was being set up in Sierra Leone by Mohammed Kenneh ('Ken') and a group of like-minded associates as the Covid-19 pandemic started to sweep across the world. SEAfoRS objective is to promote improved agricultural practice in rural Sierra Leone to help that developing nation to feed itself. Ken had worked with the author during the ebola epidemic in 2014 and turned to him for help in getting established. The Covid-19 epidemic appeared a more pressing need and it was agreed that SEAfoRS' initial activities would mirror those of SAFE and promote hygienic practice to the group's agricultural beneficiaries and to the wider population of Western Rural District.

Workshops in the five rural communities where SEAfoRS is active emphasised the importance of regular, effective hand washing and of social distancing. Face coverings, buckets and soap were provided, since none of the target communities enjoy piped water supplies. 500 hand-bills were posted in public places across nearby urban areas and the team hosted two one-hour slots on the local radio station to get the message out.



Figure 8: Hygiene promotion, Sierra Leone



Figure 9: On the radio, Sierra Leone

Impacts of these interventions

The impacts of local interventions such as these must be viewed in the national context in which each was set. The primary aim of all three local responses was to reinforce their government strategies in the face of the global threat and all three such strategies consisted of a mix of movement and social restriction coupled with some form of support for the restricted population. In the case of UK, a wealthy country, there was substantial support for people unable to work. In Bangladesh, though it took some time to become established, there has been provision of basic food-stuffs to those most in need. Rifts within the government over limited resources have meant that Sierra Leone has not provided systematic support at community level in a country where there is widespread food insecurity.

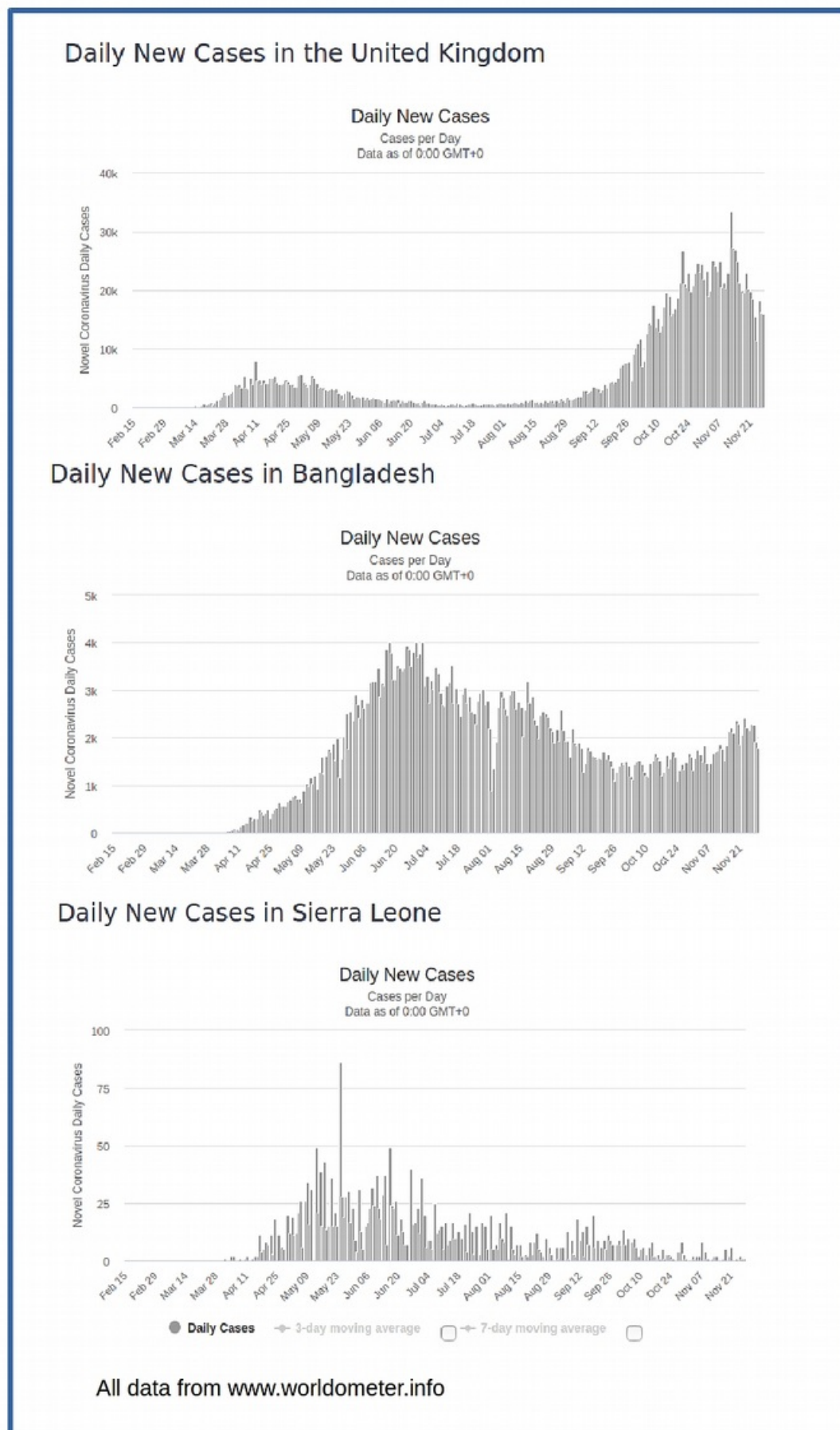


Figure 10: Comparison of Covid caseloads in study countries

The government regulations and guidelines have been mostly followed closely in Uplowman, which has a relatively aged and self-reliant population. Government support reduced anxiety over possible loss of employment and the area remains (Nov 2020) at fairly low risk to the virus. In Bangladesh government movement orders were, at times, enforced rigidly by the police. Sierra Leone has enjoyed low rates of infection and life has continued more or less unhindered in between the short periods of restriction.

The charts on the previous page (Figure 10) illustrate the nationally reported cases of the virus in each of the countries studied. These are based on cases verified by testing and many cases, especially those with few or no symptoms and those during the early part of the pandemic, will not have been reported. It should be noted that these charts have different vertical scales.

It is striking that there have been very few reported cases in Sierra Leone and, given that Bangladesh has a population of nearly three times that of the UK, the rates of infection there are not excessive compared with UK and other European nations.

European and US citizens are repeatedly told that low income and Indian (or African) origins are both indicators of poor outcomes to Covid infection. These data show clearly that there must be additional factors, since both Bangladesh and, especially, Sierra Leone have, as can be seen in the photos, very low rural incomes.

International comparisons

A review of published data from all 189 countries recognised by the United Nations (UN) has been undertaken to explore the apparent conundrum identified above. It took population and Covid data from Worldometers (2020) as at 30th November, just before the introduction of mass vaccinations in UK, Europe and US, plus information on the state of development of each country from UNDP (2020) to attempt a rationale for the apparently chaotic spread of the virus.

To date, just two countries in the world, islands with a combined population of 300,000, have not reported any case of the virus and a further 11 countries have not reported any deaths. The virus has achieved extraordinary spread.

Normalising the data

The study took the ratio of Covid cases in each country to the national population as a benchmark. The immediate challenge was to identify how many cases had actually occurred in each country (rather than those reported). Lack of testing and unreported minor infections are just two reasons why the true number of cases is sure to exceed the reported number.

A study in New York (Worldometers, 2020) found that in May some 20% of residents had antibodies to the virus and hence the number of cases might be up to 10 times the reported number. That study estimated the mortality rate as 1.4%. Taking all the published data currently available gives an average global mortality rate of 2%, which has been used for present purposes as follows.

Where national statistics have reported mortalities in excess of 2%, the number of cases has been increased pro rata to give a number corresponding to 2% mortality. Where reported mortalities were less than 2% it has to be assumed that some deaths have not been reported and the number of cases has been left unaltered. It is very likely that the overall number of cases remains underestimated but these comparisons are, in any case, crude and are presented for interest.

Factors considered

The data show crude regional similarities, for example Bangladesh statistics are broadly similar to those of its much bigger neighbour, India, and there is a very low incidence of the virus reported across much of Africa, while many European nations are affected similarly to the UK.

To explore these factors, the data was ranked according to the following factors:

- Population density
- State of development,
- Median age, and
- Behavioural factors.

Population density

It might be thought that, as the virus is transmitted from person to person via air-borne droplets, there might be a correlation with population density. Bangladesh is one of the most densely populated countries with a density of about 1250 persons per sq.km. In European terms, the UK has a relatively high population density as well. Figure 11A below shows no clear relationship between the number of cases and population density so the next possibility considered was the percentage of urbanisation. Urban living implies closely packed populations and work in office environments and, indeed, there is more of a correlation, albeit with considerable scatter (Figure 11B).

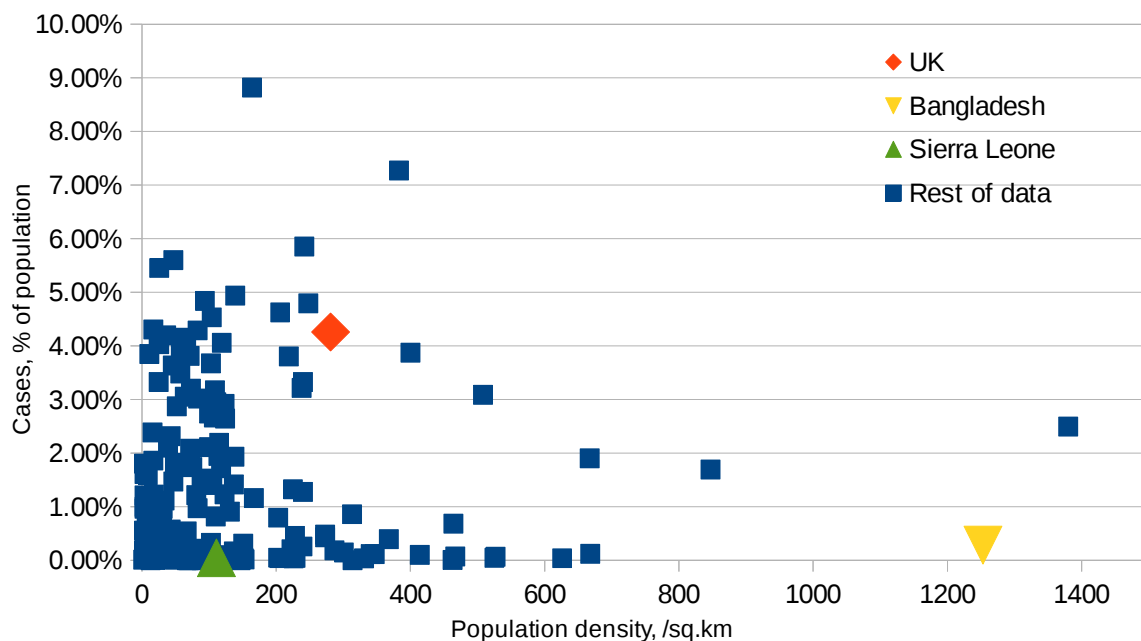


Figure 11A: Cases per population vs population density

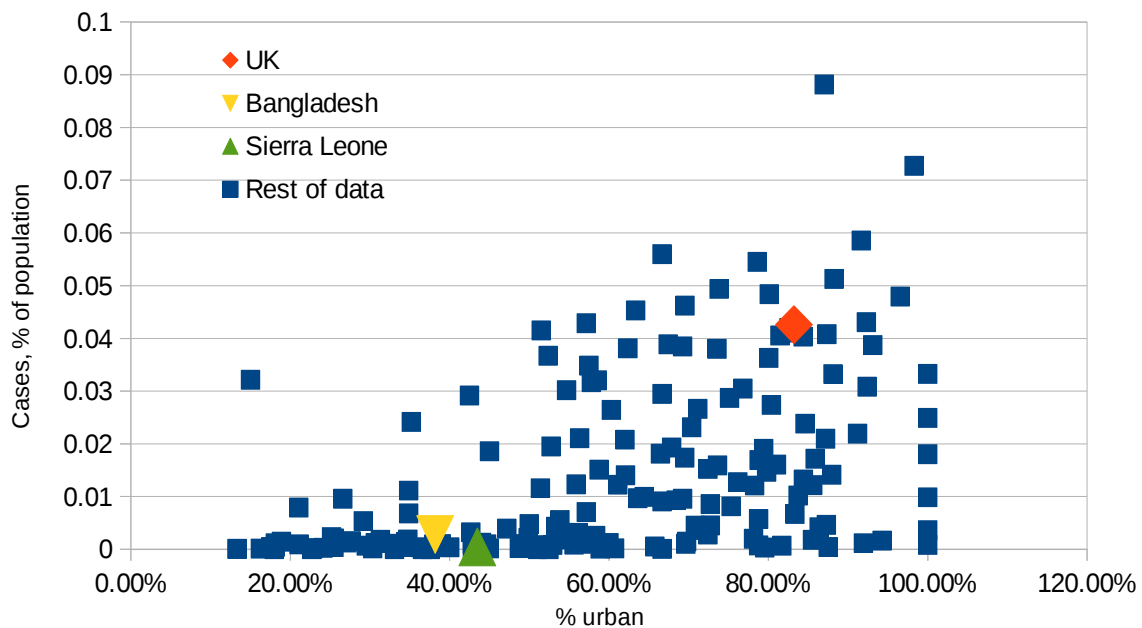


Figure 11B: Cases per population vs. Percentage of population in urban settings

State of development

The UN calculates the Human Development Index (HDI) of each nation state to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living and the countries have been ranked according to these factors. UK is 15th, Bangladesh comes 135th and Sierra Leone is 181st in the ranking for 2019 (UN, 2020) so the three case studies cover the full range of the HDI rankings.

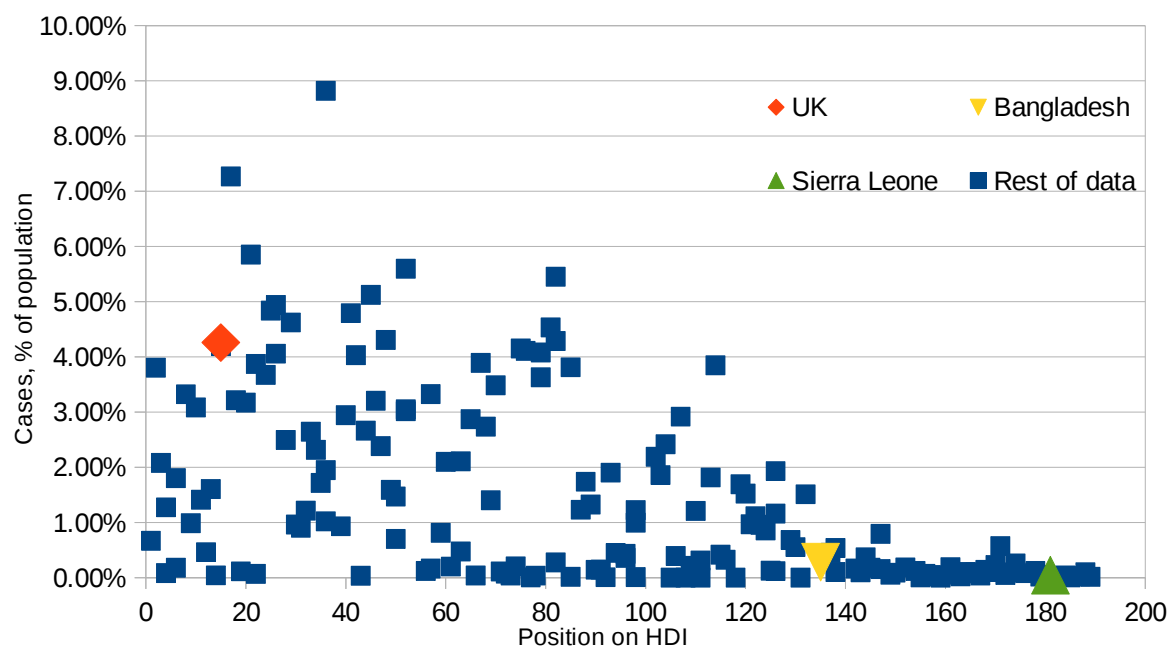


Figure 12: Cases per population vs. position on the HDI

Figure 12 shows that there is a better trend with HDI but there is considerable scatter with the three case studies falling roughly midway. It is clear that many of the countries low on the HDI scale (that is, at high number) have, to date, been relatively unaffected by Covid-19. Many of these are in rural areas of Africa, like Sierra Leone.

Median Age

It is widely accepted that young people are relatively unaffected when they contract the virus. The data was matched against the published median age of each nation. Figure 13A below shows the result and also gives a clear trend, albeit with considerable scatter. As an aside, there is also an inverse correlation between median age and HDI (Figure 13B), demonstrating that many of the least developed countries have very young populations.

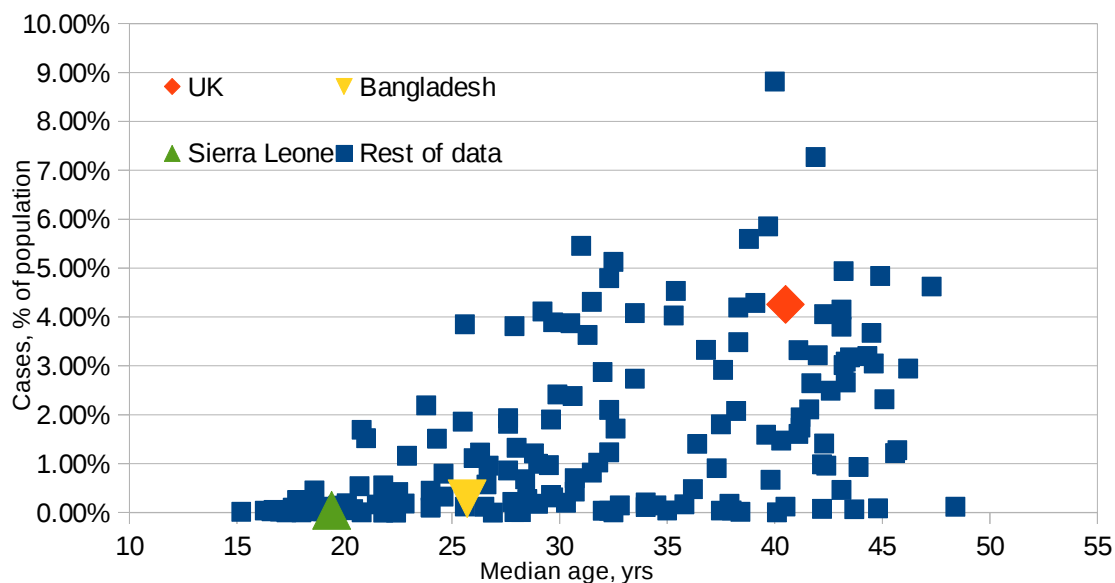


Figure 13A: Cases per population vs. median age of population

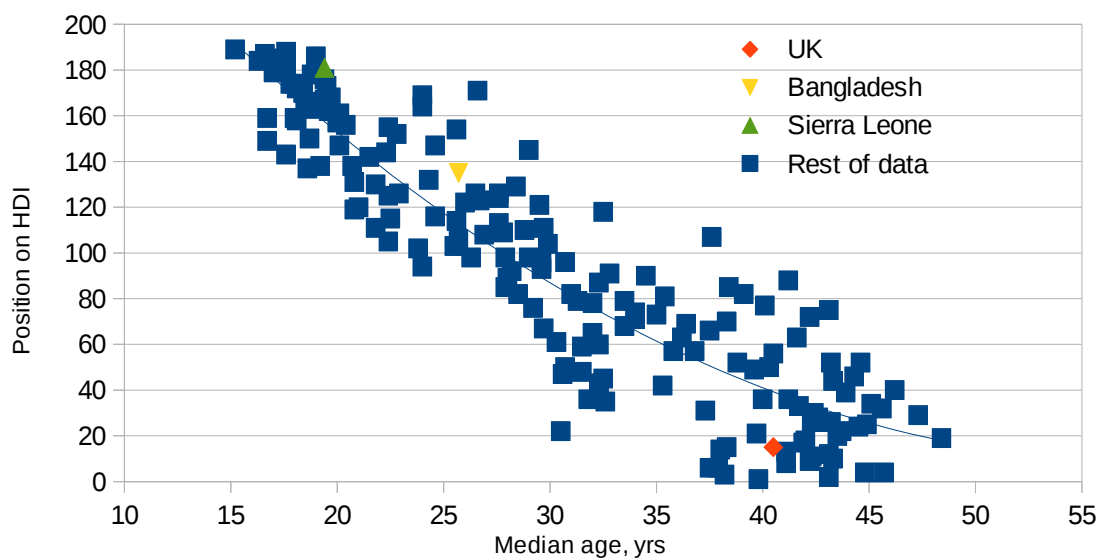


Figure 13B: Position on HDI vs median age

Behavioural factors: ‘Tightness’

Gelfand et al (2011) proposed that national cultures could be characterised in terms of conformity to social norms. They described their proposals as either ‘tight’, in which members of a society tend to conform rigidly to a pre-set combination of social norms (for either cultural or administrative reasons), or ‘loose’, in which society members behave according to individual references.

The author’s experiences of disaster response suggest that overall outcomes are improved when those affected respond in a concerted, cohesive (ie. ‘tight’) way. In essence, it is better to do act quickly and together (even if not in the best way) than to spend a long time deciding the ‘right’ thing to do. Therefore, a ‘tight’ society should be capable of responding more effectively in the first instance than a ‘loose’ one.

Gelfand et al (2011) ranked 33 countries on their ‘tightness’ scale. These included European, American and Asian cultures (but no African ones) and produced a range of scores from 1.6 (Ukraine) to 12.3 (People’s Rep of China). European cultures (and USA) tended to score at around 5 to 7 and Asian ones at the higher end. Bangladesh was not included but can be considered similar to India at 11.0. As there were no comparators for Sierra Leone, it has arbitrarily been accorded the same score.

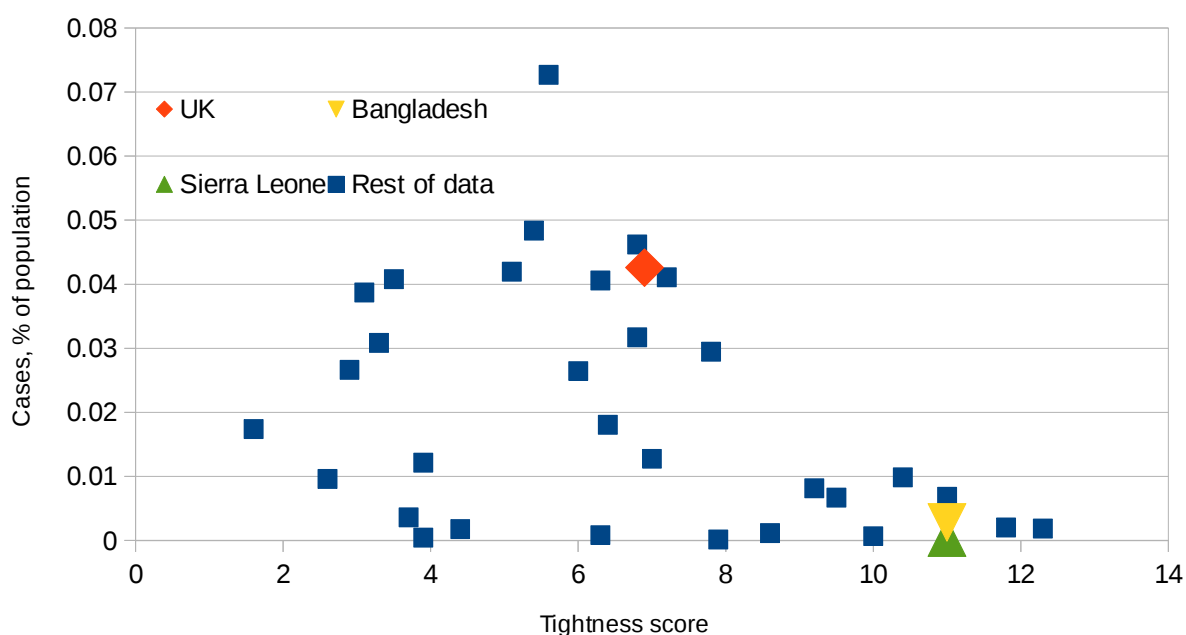


Figure 14: Cases per population vs. Gelfand’s ‘Tightness’ score

Figure 14 illustrates that the scatter reduces as the ‘tightness’ score increases, ie as the governance process become more authoritarian in general. It raises some interesting speculations.

1. Firstly, the Gelfand studies were mostly conducted in capital cities that may not always reflect behaviours in more remote settings;
2. Behaviours can change according to fashion and other drivers and the 2011 scores might be outdated;
3. It is possible that some behaviours have altered in the face of a global external threat. This is not likely to be significant in ‘tight’ societies but could happen in those that are initially ‘loose’. For example, New Zealand, with a tightness score of 3.9 is apparently ‘looser’ than UK (with a score of

6.9) and yet has achieved considerably lower Covid spread. New Zealand is one position above UK on the HDI ranking and has a marginally lower median age so the two countries are very similar in many ways. A lot has been made of the significance of 'Leadership' in responding to this external threat and it is possible that confidence in leadership has the effect of temporarily 'tightening' behaviour, and

4. It's not clear whether the Gelfand analysis reflects cultural diversity rigorously. US and most European populations are now ethnically very diverse, with a range of inherent characteristics, and it is likely that different 'tightness' scores would be obtained from interviews within different ethnic sub-sets. This may have a bearing on the dichotomy that UK residents of Asian origin are apparently affected more than their relatives in India.

Summary and some observations

Experiences from grass-roots Covid-19 response groups illustrates how people across the world have worked together. The case studies provided snapshots of work in three continents to educate and support the populations affected and prompted consideration of why the overall outcomes in the three diverse nations have been markedly different.

Covid case numbers for each of the 189 nations recognised by the UN have been compared with possible factors affecting the spread of the disease, including population density, age, state of development, and national behavioural characteristics.

Even after a rough normalisation of the Covid case numbers in different countries, none of the comparisons undertaken showed a close correlation with the rates of infection. Some very general trends could be discerned but there was huge scatter in the data, particularly in the more developed economies (with lower HDI and higher median ages). It seems likely that behavioural characteristics are important and, no doubt, considerable work is being done to understand this factor (see, for example, Universite de Geneve, 2020).

Factors that could not readily be examined include ease with which borders can be managed (on, for example, remote islands) and intercommunication with other global regions. Australia and New Zealand have maintained low rates of infection; both closed their borders at an early stage in the pandemic and still maintain very tight controls on international movements.

The spread of the Covid-19 virus is clearly complex and requires coordinated efforts by everyone to arrest it.

References

BFPG (2020): British Foreign Policy Group: Covid-19 Timeline, at <https://bfpg.co.uk/2020/04/covid-19-timeline/> on 09/12/20

Gelfand et al (2011): Differences between Tight and Loose Cultures: A 33-Nation Study, Gelfand MJ, Raver JL, Nishii LH, Leslie LM, and Lun J. Cornell University ILR School, 2011.

Gov.uk (2020): Coronavirus (COVID-19) in the UK interactive map, at <https://coronavirus.data.gov.uk/details/interactive-map> on 09/12/20

Universite de Geneve (2020): survey of behaviours to avoid Covid, at <https://pharma.unige.ch/limesurvey/index.php/326544?lang=en>

Worldometers (2020): National statistics, including Covid-18 data, at <https://www.worldometers.info>.

UNDP (2020): 2019 Human Development Index Ranking, at <http://hdr.undp.org/en/content/2019-human-development-index-ranking> on 10/12/20