A 24/7 globally connected world thrusts disasters in our faces as never before. Some are evidently caused directly by humans, either accidentally or intentionally: bridges and buildings fall down; fires consume buildings along with many of their inhabitants; dams collapse; road accidents kill around 1.35 million people every year with another 20–50 million injured or disabled; and acts of terrorism and warfare inflict death, disfigurement and terrible suffering on combatants and bystanders alike. Yet other disasters appear to arise from natural causes: earthquakes, volcanic eruptions, heat waves, hurricanes, floods, wildfires, droughts, and pandemics caused by highly infectious diseases such as Covid-19. So-called ‘natural disasters’ killed an average of over 50,000 people per year and affected 175 million people per year in the decade from 2010 (this excludes the many millions of deaths from Covid-19 from 2020 onwards). In this paper I focus mainly on the failures of humans, both in their relationships with others and in creation care, to ameliorate or prevent many of the contemporary disasters globally. It is not my purpose here to unwrap the extensive literature on Christian thinking about evil and theodicy but rather to concentrate on human factors in disasters.

I draw on evidence both from scientific research and from biblical writers to discuss disasters in a Christian context. People in the Middle East, where the biblical narrative unfolds, have always experienced disasters, including famines, floods, earthquakes and volcanic eruptions, on top of conflict, enemy invasions and warfare. So the Bible provides a rich source of how Christians might understand and respond to such disasters.

In short, the message of this paper is that what we call ‘natural’ disasters – such as floods, volcanic eruptions and earthquakes – are the very processes that make this world a fertile, habitable planet where humans can thrive.

Summary
So-called ‘natural disasters’ such as floods, earthquakes and volcanic eruptions affect huge numbers of people every year. Yet these very processes make the Earth a fertile, habitable place. It is almost always human actions, or lack of action, that turn natural hazards into disasters. Those in low-income countries, the poor and the marginalised, suffer most and are the least able to rebuild after disasters. A Christian perspective recognises the reality of the brokenness of this world caused by human sinfulness, coupled with the certain hope of a new creation where there will be no more disasters and where all creation will reflect God’s glory.

3 Figures from The International Disaster Database, Centre for Research on the Epidemiology of Disasters – CRED, www.emdat.be
4 Reported deaths from Covid-19 were over 5 million by end 2021, but were probably double or quadruple that: see Adam, D. (2022) The effort to count the pandemic’s global death toll, Nature 601, 312—315.
beneficial, though often hazardous natural processes, may sometimes be turned into disasters by the actions, or inactions, of humans. Indeed, some authors have gone so far as to claim that ‘without people there are no disasters’.6 Thus, we might term them ‘unnatural disasters’ rather than ‘natural disasters’7 particularly in our scientifically literate age where we have the capability to avoid or mitigate most of their effects.

The Good Earth

The biblical view of creation is that God made this world exactly the way he meant it to be. Six times in the first chapter of the Bible, after each creative day, God is reported as pronouncing what he had made as ‘good’. Then after he had made humans, ‘God saw all that he had made, and it was very good’ (Genesis 1:31). There is not much mistaking the message of the goodness of creation in this seminal chapter.

The ‘goodness’ of creation as described in Genesis denotes a fitness for purpose. The created order fulfils, or begins to fulfil, God’s intentions.8 But the world God made wasn’t some kind of pleasure park or a themed Disneyland where people could sit back, do nothing and soak up the ambience. Rather, there were jobs to do: they had to have dominion (or ‘stewardship’) over all living things (Genesis 1:28); they had to till the ground and take care of it (Genesis 2:15). Life was never intended to be one of hedonistic indulgence and idleness. God had entrusted care of the earth to humans, who were made in His image. In other words, God placed upon humans a serious responsibility for the kind of rule they are mandated to exercise over creation, a point too often overlooked in discussions about ‘natural’ disasters. He also gave humankind the capability to understand the world through the orderliness and consistency of its physical processes, knowledge which more recently has been systematised in what we now call the scientific method.

Scientifically, one of the most familiar and almost mundane disasters is that of flooding, which claims many lives annually.

Yet floods distribute soil eroded off mountains and deposit it in river valleys, where it can be used for growing crops and livestock. For millennia, it was the annual flood of the Nile that enabled Egypt to prosper. When the Nile failed to flood, as for example it did in 1784, one sixth of the population died.9

Another natural hazard, volcanic eruptions, is crucial to the fertility of the Earth. Volcanoes continually cycle to the surface huge volumes of minerals essential for life. Many volcanic islands such as Hawaii support lush growth of plants and animals, and as a consequence are some of the most biodiverse areas on earth. Volcanoes also provide a geological source of carbon dioxide in the atmosphere. Without that, the planet would probably have been frozen for most of its history.10 This would have prevented the existence of most, and maybe all of life, including humans. Yet volcanic eruptions may be explosively fatal to those caught up in them.

Considering earthquakes as the last of this trilogy, they occur with a suddenness that is frequently catastrophic, especially if they are near major cities. Yet earthquakes on this dynamic earth are a consequence of plate tectonics, without which there would be no mountain ranges and few volcanic eruptions. The continual building and erosion of mountains and the eruption of molten rock as part of the plate tectonic cycle provides a steady supply of nutrients which allows life to thrive. So earthquakes represent another aspect of God’s good creation.

Similar arguments apply to other natural hazards that we may tend to dismiss as contrary to God’s good creation. For example, naturally occurring wildfires are crucial for some ecosystems to thrive, including both plants and animals,11 and are often beneficial to humans.12 Yet in the past two decades almost 85% of wildfires in the US which damage property, and sometimes cause deaths, are the direct result of human carelessness or deliberate acts like arson, and these are clearly not good.13

Even viruses have their uses when they are in their natural place: some animals use them to help prevent bacterial infections. Retroviral inserts in mammals, including humans, are essential to the development and functioning of placentas.14

Currently, rapid climate change caused by humans is likely to be the biggest driver of increased natural hazards in the coming decades due to storms, droughts, heat-waves and rising sea levels.15 The rate of change is faster than human

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7 A campaign group is seeking to spread the message that ‘there is no such thing as a natural disaster’, not least because it misleads people to thinking that the devastating results are inevitable, whereas in reality much can be done to reduce the vulnerability of communities to natural hazards. See www.nonaturaldisasters.com (accessed 21 June 2021).
9 See for example www.nationalgeographic.org/article/ecological-benefits-fire/(accessed 23 June 2021)
populations can easily adapt to, and so may lead to widespread disruption and even loss of life.

Disasters from Natural Hazards

A critical factor in the vulnerability of people to natural hazards is poverty: high-income nations and rich people can generally buy themselves out of trouble, either by building safe homes in regions known to be prone to floods or earthquakes, or by rebuilding afterwards. Poverty makes that much more difficult, though not impossible. The lowest-income countries bear the greatest relative costs of disasters. Human fatalities and asset losses relative to gross domestic product are higher in low-income countries than in high-income countries.

Nevertheless, it is not always the case that technologically advanced, high-income countries deal with disasters better than low-income countries. When people live in cities (as the majority of the global population now do), and are divorced from the natural world, they sometimes don’t recognise the warning signs of hazards. Culturally embedded indigenous knowledge from previous generations who have faced similar hazards has huge value. For example, during the 2004 tsunami which killed over 230,000 in Indonesia, people living close to the epicentre on Simeulue island off the Sumatran coast, and the Moken people living in the Surin Islands off the coast of Thailand and Myanmar, used knowledge passed on orally from their elders that when the sea retreated suddenly, they should run immediately to high land. That folk knowledge saved numerous lives, while foreign tourists died in their tens of thousands on the beaches of Indonesia.

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Earthquakes

Earthquakes cannot be predicted, but buildings and infrastructure in areas of known earthquake risk can be built to be resilient against earthquakes, and to protect people. During the 2011 Tōhoku magnitude 9.1 earthquake in Japan, despite it being far larger than the maximum expected, no-one in Tokyo was killed by the earthquake because buildings did not fall down. Early warning systems that automatically detected the earthquake 12–15 seconds before the damaging surface seismic waves arrived applied emergency brakes that stopped 33 bullet trains travelling at average speeds of 300 km/hr.


from the conservative elite of whites and French expatriates. A large majority of the conservative voters lived in St. Pierre. The minister of colonies in France may even have ordered the Governor to keep St. Pierre’s voters in town until the election was over. It was an avoidable tragedy.

**Floods**

On 12 November 1970 half a million people died in a single night from a flood in East Pakistan when Cyclone Bhola hit the coast. Numerous other examples occur every week, right down to the deaths of one or a few people when rivers burst their banks. Floods disproportionately affect low-income countries and poor people, because high-income countries can protect themselves more effectively. Following tidal surges in 1953 which inundated large areas of eastern England and the Netherlands, killing 2,190 people, both the British and the Dutch spent billions of dollars to build sea defences. But 30 million people living within one metre of sea level in Bangladesh simply don’t have the financial resources to build such barriers, even if it was technically feasible in a delta. Present rising sea levels and increasing intensity of storms are caused mainly by global climate change resulting from the burning of fossil fuels.

The way in which floods affect poor people most severely is also apparent when disaster strikes high-income, technologically advanced nations. In the New Orleans floods caused by Hurricane Katrina in 2005, about 1,500 people died – disproportionately the infirm, the elderly, the poor and the marginalised, who could not leave the city as the storm approached. Evacuation plans called for people to use their cars to drive away from the coastal areas at risk of flooding. That worked well for 80–90% of the residents of New Orleans. But 112,000 people without access to personal vehicles were stranded. A report by the University of Louisiana into the causes of more than 50 levee breaches concluded that ‘failure of the NOFDS [New Orleans Flood Defense System] was a predictable, predicted, and preventable catastrophe’. It continued: ‘this catastrophe did not result from an act of ‘God’. It resulted from acts of ‘People.’ Yet again, we see the same problem of human actions causing a preventable catastrophe.

**Pandemics**

Pandemics such as Covid-19 are undeniably spread by human contact, with a global reach at the speed of a passenger airplane. It seems likely that the Covid-19 pandemic started when the SARS-Cov-2 virus jumped from a wild animal population, where it was tolerated by the hosts, to humans where it had disastrous consequences. The proximity of wild animals to people is a consequence of humans squeezing animals into ever smaller areas and in some cases in wild meat markets bringing species together which would never normally be in close proximity. Interestingly, some of the countries which fared worse in the Covid-19 pandemic were high-income countries with their dense interconnected populations and lack of experience with such diseases, whereas lower income countries and those who had experienced previous infections from SARS, MERS and Ebola responded better to the Covid-19 pandemic. There may also be political and cultural overtones at play, since highly individualised cultures such as the UK and USA, with their emphases on protecting individual freedoms, fared much worse than those societies driven by a strong sense of the importance of community wellbeing.

**Climate change**

Climate change amplifies risk and makes hitherto rare extreme events more common. It exacerbates many of the natural hazards we face: floods and droughts; high temperature extremes that cause sickness and even death for the very young and very old; rising sea levels as glaciers and ice caps melt, causing increased likelihood of flooding in coastal areas and low-lying islands; declining and uncertain crop yields as weather patterns change and become more volatile; increased intensity of storms and hurricanes as the water vapour content of the atmosphere increases.

The present climate change is happening at a rate unprecedented in human history. Carbon dioxide levels in the atmosphere are higher than they have ever been since humans first walked on earth. The influential IPCC 6th Assessment Report on the physical science of climate change, written by 234 authors from 66 countries and summarising the work of many thousands of the world’s best climate scientists, reported that ‘it is unequivocal that human influence has warmed the atmosphere, ocean and land’. It also found that the frequency and intensity of climate hazards are increasing due to anthropogenic climate change. There is an obvious moral issue: people in high-income countries have largely caused the climate changes by their burning of coal and hydrocarbons as a source of cheap energy, while those in low-income countries disproportionately suffer the consequences. There are many ways to mitigate the risks of climate change, not only by reducing our burning of hydrocarbons and conserving energy or using it more efficiently, but also by developing drought-resistant crops, ways of farming that waste less water, eating less meat and more vegetable protein, developing better flood warning systems, and so on. These are responses within the power of humans that will reduce or prevent disasters rather than sustaining the idea of ‘natural disasters’ against which we are powerless.

**Theological Reflections**

The Bible is suffused with descriptions of God not only as the creator, but also as the sustainer of the entire cosmos, of both inanimate and living things: planets and stars and galaxies as well as quarks and photons; plants and animals as well as humans. We cannot say ‘nature caused that disaster’ as if neither God nor humans had any part in it.

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28 John Wesley (1755), *Serious thoughts occasioned by the late earthquake in Lisbon*: Wesley wrote “What is nature itself, but the art of God, or God’s method of acting in the material world?” A similar idea was expressed over a millennium earlier by Augustine of Hippo (AD 354-430) when he wrote in *De Genesi ad Litteram* that nature is what God has made.
The failure of the proper relationship between the creator God and ourselves also resulted in a breakdown of the relationship between ourselves and the rest of God’s creation.

The failure of the proper relationship between the creator God and ourselves is a root cause of why natural processes often turn into disasters. Some of these were apparently due to natural causes, such as a house collapsing in a storm killing all ten children, while others were due to raiders who killed his retainers and stole his livestock (Job 1:13–19). We know from the prologue of the book that God allowed the Satan to test Job – a righteous man who worshipped God – in this way. All Job wanted in the midst of his woes was for God to explain himself, a very human response by almost everyone caught up in a disaster: ‘why me, O Lord?’.

When God finally answered Job, He didn’t give some tidy reasons that explained why disasters happen. Instead, God gave a magnificent review of his creation and of his sovereignty and care over the whole cosmos: from bringing into being the universe itself with its multitude of stars (Job 38:1–33), through the physical structure of the Earth (Job 38:4–18), its weather (38:22–30, 34–38), and the animals and birds (38:39–39:30), right down to care for what individual creatures eat (Job 38:39–41). God is sovereign over the most scary, untameable parts of his creation, and over evil itself.

Job finally understood both that God’s purposes cannot be thwarted and that God’s knowledge and wisdom is far beyond anything to which Job could aspire. The lesson for us is that we can, and should, hold on to God’s faithfulness and goodness as Job did, however dire our circumstances and in the midst of disaster. And that holds true even, or perhaps especially, when the immediate cause of the disaster can be traced to human actions.

This story is a reminder, too, that lament to God is a proper response to suffering and to a deep sense that the world is not how it ought to be. Lament forces us back to reliance on God and paradoxically can give a sense of hope.

As a third Biblical example, Jesus responded to questions about disasters when he was asked why 18 people had died when a tower in Siloam collapsed on them. Jesus used the
disaster to teach again what we saw with Job, that there is no necessary connection between particular individual sinfulness and suffering. Jesus asked the rhetorical question: “do you think that they were worse offenders than all the others who lived in Jerusalem?”, and then answered: “No, I tell you” (Luke 13:4). Then in his characteristic way, Jesus went on to point beyond the immediate question that his hearers wanted answering to a much more important truth: “unless you repent, you too will all perish” (Luke 13:5). He reminds us of the reality of our need for God’s mercy. It is striking that Jesus made exactly the same comment when told about the death of Galileans at Pilate’s orders (Luke 13:1–3).

Throughout all these examples we see God’s sovereignty over both His creation and over His people, even when people have acted in rebellion against him, and even when by their actions people have caused disasters that hurt both others and themselves. But the last word is not with what goes wrong in this world: rather it is with the good news that Jesus brings which gives real hope for the future, with its restoration of right relationships between God the creator, His creation, and His people. Even if there are volcanoes and earthquakes in the new creation, we can assume that they won’t hurt anyone, but just be part of a creation that all can enjoy as it glorifies God the creator. It is that forward look to the new creation that led the Apostle Paul to write that ‘I consider that our present sufferings are not worth comparing with the glory that will be revealed in us’ (Romans 8:18). This is a striking comment considering the many natural disasters Paul had been through, including being shipwrecked three times, of knowing hunger and thirst and often going without food, of being in danger from rivers and at sea (2 Corinthians 11), and living through an earthquake while in prison (Acts 16).

**Hope for the future**

The Christian gospel is woven through with hope not just for the present but also for the new creation when Jesus returns. This provides a radically different perspective from what the secular world can offer to the problem of disasters: it can only shake its head and say “we must do better next time”. That is not much comfort to the bereaved and the suffering.

Jesus is not being insensitive or making light of the very real suffering caused by famines and shortage of food when he tells us not to worry about what we will eat (Luke 12:22). But he does throw us back on dependence on God rather than thinking we can rule the world, or even rule our own little domains ourselves, however we please: practical experience over millennia shows that we cannot do that in a just and equitable way with our sinful natures. Instead Christians should strive to become more Christ-like in the way we live in this world.

The Christian perspective sees the reality of the brokenness of this world, and the sinfulness of people in it, but also the truth of God’s sovereignty over it and of his ultimate plans for a new creation. That does not mean that we need not strive to improve things now. Rather it points in the opposite direction, that we should work for better scientific understanding of disasters, that we should enable communities to build resilience against them, and that we should strive to remove the unjust disparities in wealth and resources that mean it is so often the poor who are most vulnerable and who suffer most. Even though we may not be able to prevent every casualty of the next disaster, there is an enormous amount we can do even from our present understanding of natural processes to reduce hugely the likelihood and the impact of disasters. Doing so requires social, financial and political commitment, actions in which we can all engage. This is surely what Jesus would want us to do, using our understanding of His creation for the good of others, and working to enable His creation to reflect his glory as He intended it to.

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