Published in *Climate Health & Courage* (forthcoming 2020) by Future Leaders (www.futureleaders.com.au)

Human rights and the environment

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Human rights can be defined in different ways. The Australian Human Rights Commission's website says that simple definitions include:

- *the recognition and respect of people's dignity*
- *a set of moral and legal guidelines that promote and protect a recognition of our values, our identity and ability to ensure an adequate standard of living*
- *the basic standards by which we can identify and measure inequality and fairness*
- *those rights associated with the Universal Declaration of Human Rights.*

It goes on to say that the Commission is limited by its legislation to deal only with the rights and freedoms set out in some specific international agreements such as the International Covenant on Civil and Political Rights, the Convention on the Rights of the Child, and the Declaration on the Elimination of All Forms of Intolerance and Discrimination Based on Religion or Belief. While the law limits the activities of the Australian Human Rights Commission, there are broader aspects of human rights included in the 'simple definitions'. Those definitions exist because most of us understand that there are important human rights not covered by international treaties. In terms of

those definitions, environmental quality obviously affects people's dignity and their standard of living, while the huge differences in environmental quality between leafy suburbs and industrial wastelands are a stark example of inequality. I will discuss the impacts of the environment on human health, consider the right to clean air and water, look at ways of making our cities healthier, and finally discuss the impacts of global environmental issues on human rights. An inevitable conclusion is that the human right to a safe environment is being undermined, leading to a serious proposal to hold to account at the International Court of Justice those who are responsible.

Environment and human health

Our environment has a huge impact on our health. Polluted air causes respiratory problems and affects our cardiovascular systems. Water-borne diseases are still a major cause of lost life-years in the poorest parts of the world. We have known for many decades that heavy metals affect mental development, but it is only relatively recently that we stopped the practice of blending lead compounds into vehicle fuels. That change dramatically reduced the levels of lead in the air of Australian cities, but the air near smelters remains heavily polluted and there are still significant lead levels in suburban soils.

As a broad general statement, it is estimated that about 80% of cancers have some form of environmental cause. That is taking the extreme definition of the environment, so that it includes our diet, the buildings we live and work in, our transport choices and our recreational activities. Most people are now aware of the health risks of smoking tobacco, so the likelihood that an adult Australian will smoke has fallen dramatically

in recent decades, When I was young, the majority of adult males smoked; today, the figure is down to about 11%. However, there are other ways of getting pollution into your lungs. A recent report claimed that breathing the urban air in Beijing is the equivalent of smoking 40 cigarettes a day. That air pollution is mainly the combustion products of fossil fuels, especially coal and petroleum fuels. While our cities are not nearly as polluted as Beijing, there is no doubt that people who live and work in cities breathe air that is much dirtier than you find in country areas or on windy coastlines.

At the global level, the World Health Organisation (WHO) estimates that about 4.2 million people die prematurely each year as a result of outdoor air pollution, mostly in urban areas of low- to middle-income countries. WHO estimate that over 80% of people living in urban areas that monitor air quality are exposed to pollution levels that exceed their public health guidelines. The highest levels of premature mortality are in China and India but it is also a serious health problem in Japan, Korea, Indonesia and some European countries. The WHO say that about 80% of these deaths are due to ischaemic heart disease or stroke, about 14% due to chronic pulmonary disease or acute lower pulmonary infections, and about 6% due to lung cancer. The main health risk is the presence of fine particles, less than 10 microns in diameter, which can be inhaled deep into the lungs.

Indoor air pollution, mainly caused by dirty fuels used for cooking and heating, affects about three billion people in the poorer parts of the world. It is blamed for about 3.8 million deaths a year, almost all of them women and children. Adding

that figure to the premature mortality resulting from outdoor air pollution leads to the conclusion that about 8 million deaths a year are attributable to polluted air.

The burning of fossil fuels puts other pollutants into the air as well as particulates. Oxides of sulphur and nitrogen are associated with breathing problems, while the action of sunlight on combustion products produces ozone which is also a risk factor for asthma and other respiratory complaints. The WHO has also noted that hospital admissions for cardiac problems increase on days when the atmospheric concentration of sulphur dioxide is higher.

Water-borne disease causes about three million deaths a year, most of them in poor countries; about one-third of all the deaths of children under the age of five in the majority world are attributed to dirty water. While relatively few people now die of starvation, malnutrition is still a major cause of lost life-years, especially in sub-Saharan Africa.

As well as the direct biophysical effects of pollution, poor environments also have impacts on our mental health. Noise, stress and the broader atmosphere around us inevitably affects the way we see the world and the likelihood that we will feel contented. Taken together with the measured biophysical impacts, our environment has a major impact on our health and wellbeing. Just as poor environments have negative effects on us, clean healthy surroundings have positive impacts.

The right to clean air and clean water

Given their basic importance to our health, every human should have the right to clean air and clean water. In Australia, most of us now have water supplies that have been treated to ensure that

they are not a health risk. In fact, that is a relatively recent benefit. When I was young, many rural townships relied on tank water. I can remember the arrival of piped water in the town where I lived in the 1950s. Even more recently, Adelaide was one port where visiting ships did not take on water, with water quality still being problematic in the 1980s and many city people choosing to use tank water for cooking.

We should also recognise that there are still communities in rural and remote Australia that do not have access to treated water. Recent studies have verified that many remote Indigenous communities have poor water quality. Water from artesian bores contains significant levels of chemical pollution, particularly in the arid zone where the water system is not replenished by monsoonal rains, while microbial contamination can result from inadequate waste treatment. In Western Australia alone, there are 155 small remote Indigenous communities and more than 75% of them rely on bore water.

From time to time there are problems in the coastal zone; for example, there was an instance in 2009 of an outbreak of cryptospirodiosis, caused by the parasite cryptospiridium in water, with over 1,000 cases in the Sydney-Newcastle area. By international standards, that was a minor health problem; the famous 1993 outbreak in the US city of Milwaukee affected more than 400,000 people. It was still seen locally as a serious problem, and for a short time residents were urged to take precautions such as boiling drinking water and avoiding public swimming pools. This was, however, a relatively unusual event. Generally, water quality in urban areas of Australia is very good. In fact, the consumer organisation CHOICE recently compared

reticulated drinking water with the bottled water which is sold at about 2,000 times the price of tap water and concluded that there is no significant difference between the two products.

Air quality is a different matter and a more demanding problem. The standards set for water ensure that it does not carry any measurable health risk. There is no safe level of air pollutants discussed above: ozone, oxides of sulphur and nitrogen, fine particulates. In every case, there is simply a declining risk as the pollution level is reduced. In the case of particles less than 10 microns in diameter, WHO has recommended reducing the standard from the widely accepted 70 micrograms per cubic metre to 20 and estimates this would reduce premature mortality by about 15%. It would not eliminate the problem; WHO says that in European cities where this reduction has been achieved, there is still an estimated 9 months' reduction in average life expectancy as a result of air pollution. So the air quality standards are explicitly a trade-off. It costs less to burn fossil fuels and release the pollution into the air than it does to contain the combustion products, so tighter standards are better for community health but more expensive for fuel users.

Setting tougher standards for power stations pushes up electricity prices, while setting tougher standards for motor vehicles pushes up the cost of transport. Local socio-economic factors significantly worsen air quality. By the standards of affluent countries, we still get an unusually high share of our electricity from coal, the dirtiest of the fossil fuels, and we have an unusually high fraction of urban commuters travelling by car, which pollutes the air much more than public transport. Our Commonwealth government also makes policy decisions

that cause us to have a very high rate of population increase. More people in our cities mean more cars and more air pollution. Some European countries have now phased out coal-fired electricity and others have set a date beyond which they will not accept new vehicles using petroleum fuels. Neither of those changes is being seriously discussed in Australia.

Making our cities healthier

I was in Adelaide in 2015 for a one-day forum to mark the signing of an agreement between two government departments. Health and Ageing negotiated a memorandum of understanding with Environment, Water and Natural Resources for projects that focus on the health benefits of using the natural environment. An event later this year will review the first five years of the program. The agreement noted that there is a strong evidence base for the connection between contact with nature and human health. Similarly, there is evidence that environmental problems affect health and wellbeing.

Our cities are not nearly as badly polluted as those in China, but there are obvious benefits for urban residents when they get away to the beaches or the mountains — not just cleaner air, but the refreshment of being in a natural area. There is now hard evidence that walking in the bush or on the beach does more for your health than exercising in a gym or along suburban footpaths. Victoria's Healthy Parks, Healthy People program also encourages people to get out of urban areas and use our wonderful natural areas, many of which are relatively easy to reach by public transport from the cities.

We can also make the cities healthier. There is circumstantial evidence that trees and clean air make people healthy. A

2015 study in the Canadian city of Toronto found that having an average of ten more trees per suburban block had the same health benefits as being seven years younger or $10,000 a year richer. (Yes, on average, the affluent are healthier than the poor, partly because they are less likely to be exposed to measurable health risks, partly because they are more likely to have a healthy diet, and partly because they can afford the best health care.) The study controlled for those other variables that affect health, like age and income. It found a statistically significant link between the number of trees in different parts of the city and the health of local residents. Analysis of the extent of tree cover in Australian cities by researchers from the University of Technology, Sydney found huge differences. Brent Jacobs of the Institute for Sustainable Futures at UTS found 'Hobart has really high tree cover, at about 59 per cent, but there are local government areas in Melbourne, Adelaide and Sydney where it is down below 20 per cent'. Jacobs said that there is 'very solid evidence that urban trees increase health and wellbeing', attributing this to their measurable impacts on air quality and ambient temperature. Natural vegetation also has intangible effects on our mental outlook. So we should be encouraging urban councils to plant more trees.

There are other things we can do to retain natural features of our cities. When I was a member of Brisbane City Council's environment advisory body, we did three things that made a significant difference. We stopped a plan to turn the city's creeks into concrete drains in the misguided belief that this would reduce flooding. In fact, concrete very efficiently moves large volumes of water downstream, so it does not prevent

flooding — it simply moves it to another area. Retention ponds and native vegetation are much more effective ways to prevent floods. Second, we developed a Brisbane conservation atlas, a listing of important natural assets. Integrating this into the town plan has steered development away from important natural areas toward places that were already degraded. Third, we persuaded the council to impose a bushland levy, which has raised funds to take important areas of native vegetation into public ownership and so prevent their destruction. Those measures have made a significant contribution to retaining bushland and urban wetlands in the greater Brisbane area.

The general health of city people would also be improved if we invested in better public transport and planned our urban areas to encourage people to be more active. Comparative studies show that most people are rational. If our urban areas have the facilities people use every day in walking or cycling distance, people tend to walk or cycle. If our poor planning puts those facilities further away, people are more likely to drive. It is obvious that people who walk or cycle get more exercise than those who drive. Interestingly, those who use public transport also get more exercise than those who drive because they typically need to walk further at the two ends of their journey, from home to the train or bus or tram and from the point where they leave the vehicle to their final destination. The trend toward car use in Australia is one of the factors causing us to have a growing health problem caused by people being overweight or obese. While we generally see the bicycle as a transport choice for young people until they can move on to motorised vehicles, there are quite civilised European cities in

which 30–40% cent of all journeys are made by bicycle. The trend of making it easier and less dangerous to use bicycles in our cities has both encouraged people to become fitter and also reduced the pollution they would otherwise contribute by driving.

We can still do a lot to improve the healthiness of our cities by better urban planning. The cities that have integrated living, working and recreation encourage people to walk, whereas the dormitory suburbs that were allowed in the second half of the 20th century condemn commuters to long journeys by car. There is a resulting increase in inequality. Those who can afford to live in compact inner suburbs are more likely to be able to walk or cycle, while those in the lower-cost accommodation on the peri-urban fringe are unlikely to have any of the facilities they need in their immediate neighbourhood.

Global environmental issues

The right to a healthy environment is being eroded by global factors, most obviously climate change and the loss of biodiversity. In the 20th century, the depletion of the ozone layer was recognised as a significant risk to human and environmental health, as it was measurably increasing the levels of ultra-violet radiation reaching ground level. In the only significant achievement of global action, the chemicals that were causing the problem have been phased out in many countries, with global use down to about 20% of the peak level. The depletion of the ozone layer has now peaked and it will gradually repair over the next 50 years or so. On the other hand, climate change is still accelerating because the driving force, the atmospheric

concentrations of so-called greenhouse gases like carbon dioxide and methane, is still increasing.

The ozone problem was easier to address than climate change, for three reasons. The first is that we did not actually need the chemicals that were damaging the ozone layer; by the time there was global agreement to phase them out, there were alternatives that did the same job for a similar price. By contrast, fossil fuels have been used in huge volumes because they have provided enormous amounts of energy comparatively cheaply, thus allowing us to live at a level of material comfort that no earlier generation has enjoyed. We have recently developed cleaner energy technologies, but they are less flexible and were, until quite recently, more expensive. So there were significant economic and social issues involved in phasing out the fossil fuels that are changing the global climate.

The second reason that depletion of the ozone layer was comparatively easy to address is that only a handful of companies produced the products that were doing the damage. The producers of fossil fuels like coal, oil and gas are probably numbered in the millions, scattered across all the inhabited continents. Many of the users are within the reach of national governments, but some like ocean freighters and international air travel are much more difficult to regulate.

A third complication is that a significant contribution to the amount of greenhouse gases in the atmosphere is the burning and decomposition of vegetation. This is going on all around the world, in rich countries and poor ones, often without the knowledge or approval of governments. To quantify the problem, the level of carbon dioxide in the atmosphere has

varied naturally over the last million years between about 180 and 280 parts per million. It is now over 410 ppm. As a result, the average global temperature is more than a degree higher, rainfall patterns have changed, sea levels have risen, terrestrial glaciers and Arctic ice have retreated, more frequent extreme events are happening, and habitat ranges for plants, animals and insects have changed significantly. The 2015 Paris conference on climate change was the largest ever gathering of world leaders, with over 190 countries adopting a call for action to keep the increase in average global temperature below 2° C, with an ambition of restricting the increase to 1.5° C. The maths is relatively simple. The Australian Academy of Science argues that global emissions of greenhouse gases need to peak by 2020 and then be reduced rapidly to have a 50:50 chance of keeping the temperature increase below 2° C. That effectively means there must be no new coal mines and those we are now using need to be phased out over the next 20 years or so, while at the same time rates of burning petroleum fuels and gas must also be reduced. Keeping the increase below 1.5° C would require stopping use of coal almost immediately and rapidly phasing out the other fossil fuels.

Change is already happening at the global level. In each of the years 2013 to 2015, more than half of all the new electricity capacity commissioned globally was renewables, mostly wind and solar. By 2019, about 70% of new generating capacity worldwide was renewables. There have been several studies that show we could lead the way in Australia. While the Abbott government slowed the rates of installing wind and solar

power, they picked up again after he lost office. There is now no economic barrier to cleaning up our electricity supply.

A 2018 study by CSIRO and the energy market operator found that new large-scale solar and wind power is now much cheaper than new gas or coal power, even when enough storage is added to smooth out the variations in sunlight and wind. Some two million Australian households now have solar panels on the roof, producing some or all of their electricity. In 2019, South Australia got the majority of its electricity from solar and wind.

Three separate large-scale studies have shown that all Australia's electricity needs could be met from a mix of renewables within a decade. One 2020 analysis of alternative futures concluded that 50% of grid power will come from renewables by 2030 if the national government continues to obstruct the transition, while the figure could be over 90% with positive policies. Despite the attractiveness of this clean future and the indications of public support, a few blinkered politicians still support the mining and burning of coal. They are actively contributing to the acceleration of climate change, which has a number of negative consequences for the human population. There are such direct effects as increasing levels of heat stress and the impacts of extreme weather events like storms, floods and catastrophic bushfires, the spread of vector-borne diseases like dengue fever as the habitat range of the insect vectors expands, and such indirect effects as the impacts on food production.

The Inter-governmental Panel on Climate Change (IPCC) conducted a major study of the effects of climate change on

food production. The most obvious impact was on cereals. In those parts of the world where cereal growing is constrained by temperature, the warming will increase production. This applies to Canada and Russia. In areas where production is constrained by water availability, such as sub-Saharan Africa, Latin America and Australia, climate change will reduce the amount of cereals produced. The global problem is obvious. While the overall impact on cereal production will be about neutral, with the increases in Russia and Canada cancelling out the reductions elsewhere, the changes mean less food in places where there are already shortages and little chance that food can be moved on the scale needed to redress the balance. To sum up, the human right to a safe environment is being undermined, literally as well as metaphorically, by those who are opposing concerted action to slow climate change.

Our values and identity are also significantly affected by the natural environment around us. Though most Australians rarely see a kangaroo, a koala, a wombat or platypus in the bush, they are important components of our identity. Each state and territory has floral emblems and animal species that are part of the local identity. So our human rights are being eroded by the loss of our biodiversity. The UN's Millennium Assessment concluded that we are now in the middle of the sixth major extinction event in the Earth's history, losing species at rates comparable with the five earlier episodes. The rates of loss of mammals, birds and amphibians are hundreds of times greater than the average extinction rates over the long term.

The 2017 World Scientists' Warning to Humanity found that the average abundance of species studied was down to 40% of the 1970 level. We know what factors are causing the extinction of species: destruction of habitat, introduced species and chemical pollution. Those factors are not slowing down. Actually, all are more or less proportional to the scale of the human population and our demands for resources, so those pressures are still increasing. They are now being compounded by climate change. The gloomy assessment of the Millennium report was that we could lose as many as one-third of all species of mammals, birds and amphibians this century. That would be a catastrophic loss of the biodiversity of the planet. The consequences for human society are not just unknown, they are unknowable. We are pulling random stones out of the wall of life without knowing when whole sections could collapse. We know that extinctions have flow-on effects up and down the food chain. When a species declines in number, it has a negative impact on its predators, but allows the expansion of species it preys on. We simply cannot predict the overall consequences of losing particular species. It is our responsibility to try to slow the alarming rate of biodiversity loss.

Conclusion

The Human Rights Commission notes that there are rights protected by international treaties for which it has local responsibility, as well as a broader range of human rights as understood by the community. Among those is the right to a healthy environment. Protecting the natural world has impacts on our health, our mental wellbeing, our ability to produce the food we eat and the water we drink, as well as the spiritual comfort we

draw from our surroundings. For that reason, activists have proposed that destruction of the environment, or ecocide, should be added to the breaches of human rights for which the International Court of Justice holds people and governments responsible.

Further reading

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