Leadership in Ecohealth by First Nations people

Josie Atkinson, Mitch Gibbs, Tamara Riley

The 2021 NAIDOC theme 'Heal Country' highlights the connection and commitment to the environment that First Nations communities in Australia hold. The vast knowledge that has been passed down through generations has been used to Care for Country and protect the land, waterways, animals, plants, and communities for over 65,000 years. First Nations people lived in harmony with the land using environmentally sustainable practices to ensure Country is supported through intricate ways of being doing and knowing. This knowledge is deeply embedded in knowing the seasons and cycles of the land to support regeneration and the health of the waterways, land, and food resources. It is often said by Elders around Australia including Yuin Elder Uncle Paul McLeod;

> "We do own the land, we belong to the land, she is our Mother, and it is our responsibility to care for her".

The practice of Caring for Country is why Australia was a land of abundant resources and natural beauty in 1788 when Britain claimed the land and denied First Nations land ownership, sovereignty, and human rights. However, in the last 230 years of colonisation many of traditional practices have forcibly ceased as the custodians of the land experience genocide, removal from traditional lands and forced relocations. The land was used to create a Westernised society with minimal consideration of environmental sustainability or respectful of First Nations knowledges.

In 2021 the world is in a global crisis of over-population, decreased access to healthy water, land or food sources, and endangered or extinct animal species. Mother earth is still seeing the impacts of colonisation through mismanagement of resources impacting on future generation's quality of life. People in positions of power, particularly in Western Nations, are continuing to destroy habitats for profit for example, agricultural industries, fossil fuels or mining. Westernised knowledges are currently forming the basis of Australia's environmental practices and policies, not allowing the incorporation of traditional practices into land management to address the threat of environmental degradation (UMelb – Fletcher 2020). The lack of incorporation of First Nations knowledges has resulted in extreme levels of pollution in marine and terrestrial environments and the lack of willingness to apply both Western scientific expertise and First Nations knowledges to land and sea management nationally has resulted in unsustainable environments.

Globally, we can benefit from adopting a modern version of Caring for Country known as Ecohealth which refers to;

> "…the health of people, animals and ecosystems in the context of social and ecological interactions. Health is seen as encompassing social, mental, spiritual, and physical well-being and not merely the absence of disease." (Parkes et al, 2014)

First Nation knowledges are leading in some areas of environmental management around the world for example: Canada (Treseder and Krogman, 1999; Mascarenhas, 2007; Beckford et al, 2010; Tsuji et al, 2020; Chan et al, 2021), Kenya (Adams and Watson, 2003; Ponge, 2011; Mwangi 2017), New Zealand (Wehi et al, 2013; Paul-Bourke et al, 2018; Whaanga et al, 2018; Maxwell et al, 2020). However, there is opportunities for this leadership in Australia and for our First Nations knowledges to be given recognition, power, and incorporation to improve the health of Australia's waterways, land, and communities, which will benefit Mother earth and future generations. This report is a strength-based approach to incorporating First Nations knowledges into three facets of the environment; marine, terrestrial and community health. We will explore each facet highlighting

Ecohealth approaches and explore how First Nations knowledge's can be used to Care for Country and improve the health of the environment.

Waterways

The waterways are an invaluable resource that has been respected and used for over 65,000 years by First Nations people within Australia. Though over the past two hundred years we have seen the declining health of our waterways due to the actions of society. These actions either inadvertently or purposefully (for whatever reason) change the Ecohealth of our aquatic environments. Many of these systems are fragile and anthropogenic effects, whether they be small or large, can have drastic impacts on environments. One example of change that has occurred for aquatic environments is Damming. Although the main objective is to store water, putting a dam into a river has adverse effects. This includes the destructions of terrestrial habitats at the dam site and, continuing down river, there is a huge loss of vegetation primarily due to the lack of running water, the quality of that water, the increase of temperature, and organic matter decreasing the amount of oxygen. All of this has devastating effects on both marine and terrestrial environments for all animals (including people) who rely on this water source (Kingsford, 2000; Tahmiscioglu et al, 2007; Beck et al, 2012; Kirchherr and Charles, 2016). This is highlighted by the destruction of the Murray-Darling River.

Globally there is a resurgence of First Nations practices in Caring for Country, which are proving to have significantly positive outcomes. This highlights the strength of First Nations practices, for example within British Columbia, Canada, there was around 17 open net fish farms which were causing an increase in parasites and bacteria to the area, negatively affecting the natural salmon populations. This information was shown to the Canadian Government by 11 First Nations groups, and as a result, the Canadian government have planned to ban all open net fish farms by 2025 and have already closed 12. Since this closure and the continuation of traditional practices, the First Nations groups have seen a decrease of parasites and bacteria in the native salmon populations (Schreiber, 2006; Page, 2007; Heaslip, 2008; Moskowitz, 2020). This sentiment is also emphasized by the increased health of the shellfish in First Nations run traditional practices within Canada (Treseder and Krogman, 1999; Mascarenhas, 2007; Beckford et al, 2010; Tsuji et al, 2020; Chan et al, 2021) and New Zealand (Wehi et al, 2013; Paul-Bourke et al, 2018; Whaanga et al, 2018; Maxwell et al, 2020). This highlights the need for the incorporation of Australia's First Nations knowledge and practices in caring for our aquatic environments. These practices will prove to increase the Ecohealth into the future and aid environmental sustainability.

Bushfires

As Australia, and the world, continues the current way of developing, we continue to see the destruction of our environment which has led to extreme weather events. As a results we are seeing increased prevalence of natural disasters impacting on the health of people, animals, and the environment (CSIRO 2020). Natural disasters, such as bushfires, can disproportionately affect First Nations peoples through loss of environment and ecosystems, endangered or extinct animal species, and sacred sites. Within Australia, extreme bushfires are becoming more frequent with predictions that they will become even more severe and unpredictable (CSIRO 2020).

Following Australia's warmest year on record we saw the worst bushfire season, with the Eastern Australian bushfires of 2019-2020 one of the most catastrophic in history (CSIRO 2020). There were 15,000 fires burning over 19 million hectares, 3000 houses destroyed, many families displaced, and 33 people killed (Filkov et al 2020). A study that looked at the impacts of the bushfires estimated that 78.6% of Australians were affected in some way – either directly, through their family/friends, or through the physical effects of smoke (Biddle et al 2020). Also, approximately 2.9 million Australians had their property damaged, property threatened, or had to be evacuated (Biddle et al 2020). The bushfires saw a huge impact on wildlife with nearly 3 billion animals killed or displaced,

including 2.46 billion reptiles, 180 million birds, 143 million mammals, and 51 million frogs, making this one of the worst wildlife disasters in modern history (WWF 2020).

While impacts of the bushfires were devastating, it can be seen as a reminder of the significance of Caring for Country and using traditional practices as an integral part of Australia's land management (UMelb – Fletcher 2020). However, there is a lack of adoption of First Nation's practices into land management nationally. Following the 2019-2020 bushfires, a royal commission into natural disaster management was undertaken and it recommended incorporation of First Nations land and fire management into national policy and practice (Royal Commission 2020). While it is a positive step to see this recognised and supported at a national level, it can be argued that First Nations Peoples should not only be engaged, but should be leading in this space, incorporating cultural burning, and driving sustainable environmental management.

Cultural burning is a traditional practice that rejuvenates the environment, allows connection to the land, is a healing process and shows respect for country (Freeman et al 2021). This method is a management practice that takes time and patience causing minimal damage to ecosystems. It lets animals know fire is coming, avoids food sources, and protects parent trees and sacred sites (Freeman et al 2021). Environmental management is a state and territory responsibility and differs widely across Australia. In some parts of Australia, we are seeing First Nations Peoples leading in this space to manage the environment and avoid extreme bushfires. In Northern Australia, cultural burning has never ceased and is widely supported by policy. The Ranger programs have been nationally funded since 2007, and there is now over 850 Aboriginal and Torres Strait Islander Rangers across Australia (NIAA 2021). They are working to support the rehabilitation of the environment using traditional practices, such as cultural burning, as part of sustainable environmental management (Hill et al 2013).

Community Health

Indigenous populations globally were decimated by the Covid-19 pandemic, including the Navajo Nation. The BlackFeet Reservation in Montana, for example, lost many of their community members throughout the pandemic. Comparatively, the response of First Nations communities in Australia to Covid has been positive.

The Australian Academy of Science presented a webinar panel called 'Heal Country: Challenges in Indigenous Health and Medical Research' held in July 2021, comprising Professor James Ward and Professor Ngiare Brown, discussed the immense success of the First Nations led Covid pandemic response and crisis management. The key messages were:

- Ongoing near perfect pandemic response in Aboriginal communities; and,
- Indigenous leadership at all levels and at all stages through the Vaccine rollout in our populations.

The pre-emptive work of our Aboriginal and Torres Strait Islander National peak bodies in health research (such as NACCHO), allied health and social justice, as well as our local agencies and service providers were able to respond quickly. As a result of decades of primary care work and a national network of over 140 services, these bodies were able to help communities create the capacity to keep our most vulnerable well. Given our;

> "…high burden of chronic conditions, mental health issues, infectious diseases, morbidity, mortality….their work to quarantine communities, make decisions based on local needs, boost other health initiatives…" was crucial.

As Reilly et al (2011) argues;

> "…for health promotion to be effective with community, interventions and evaluation means working within a complex social environment and respecting Indigenous knowledge, culture and social systems."

Finlay and Wenitong outline the immense speed and success of many communities in remote areas, who created localised, culturally appropriate social media health promotion that targeted community prevention and safety strategies to manage infection and transmission of Covid. In three yarning circles discussing the indirect impacts of the pandemic (Follent, et al., 2021), three key themes were identified in the Covid pandemic: community supporting community, social determinants of health, and access to healthcare. Access was a challenge for remote communities who experienced extreme travel limitations and travel security measures (Kirby, 2020).

Eminent Australian epidemiologist Professor Fiona Stanley stated (lecture during 'Graduate Certificate in Indigenous Research & Leadership' Online Intensive) there were 150 cases, sixfold less than the non-Indigenous population, 15 hospital admissions and one person in intensive care, no deaths, no cases in remote communities and no cases after the Black Lives Matter marches. This has been the most outstanding Indigenous response in the world. As Dr Chelsea Watego expressed;

> "What is needed is an Australian health system that has a steadfast commitment to Black lives: not as in need of saving, but as deserving of care; one that matches the staunchness of grieving Black families marching the streets of our capital cities in the midst of a pandemic."

The COVID pandemic response and crisis management demonstrates that when Mob are given the genuine opportunity to practice self-determination without a doubt Mob will successfully address, solve, fix, and manage health threats and problems. The successful use of First Nations knowledge and practices in the Covid response should be reflected throughout environmental management to benefit community health.

Conclusion

Colonisation pushed First Nations practices to the background including Caring for Country, which pushed aside the importance of Ecohealth for future generations. Ecohealth is an incredibly important concept that is in line with First Nations cultural contexts and held very close to the hearts of all First Nations people. Ecohealth is more than the waterways, the destruction of bushfires and the impacts of Covid – Ecohealth encompasses everyday life from the way society interacts with each other in community, with animals, the land and sea, and the environment plays an integral part in the ecological framework. Ecohealth from a First Nations perspective will guide the way society moves forward, making changes to the way the environment and sustainability is understood.

As we have demonstrated, through many avenues of environmental destruction there is strength in First Nations knowledges, such as, the changes in our aquatic environments and the First Nations people of Canada highlighting their in-depth knowledge of their waterways and taking control for the betterment of that environment, to terrestrial natural disasters such as bush fires and the First Nations people of Australia and their fire practices that actively alert fauna to that fire, is not destructive and clears the land of "fuel" so there is minimal destruction from bush fires, commonly known as cultural burning, and to the ever changing global pandemic of Covid which the Australian First Nation peoples response to this global pandemic. This shines a light on the importance of First Nations led practices and procedures which have all demonstrated their leadership in Ecohealth in Australia and the world. This leadership should be reflected at a national level, and, supported through policy and programs throughout Australia to benefit the health of the environment.

There is much growth to be had in the Ecohealth leadership space and this group report, in the context of the Graduate Certificate of Indigenous Research and Leadership, is an example of First Nations people learning how to become agents of change. The group presentation and report has been a safe space to develop leadership skills and increase our knowledge within individual

disciplines, related to environmental sustainability, with a vision of the broader picture. We believe First Nations knowledge and practices should have a leading role in the management of Australia's environments, and through this, we will see benefits to the health of our waterways, land, and communities.

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