

## Suicide and the natural environment: an Indigenous view



Suicide has recently emerged as a subject of discussion under the framework of planetary health. Helbich and colleagues<sup>1</sup> state that municipalities with more green space could reduce their suicide rates, and that exposure to natural environments lowers suicide mortality. Chang and Gunnell<sup>2</sup> echo the need for further research on informed land use and urban planning to reduce suicide rates. However, exposure to green space is not always a positive factor contributing to better mental health, since nature is perceived, accessed, and used differently by people of different socioeconomic and cultural backgrounds.

The rights and ownership of the state, and its governance over land, determine the accessibility of green spaces. A critique on the global environment stressed the importance of subjective and lived experiences perceived from within.<sup>3</sup> Suicide incidents encountered during our fieldwork in Taiwan represent the complex association between suicide and the natural environment. For example, in March, 2018, a 63-year-old Atayal farmer in an Indigenous township called Wufeng, where the Atayal people have long settled, died by suicide by swallowing pesticide. In August, 2017, the farmer reportedly violated the Soil and Water Conservation Act by digging in his own land illegally and was thus required to pay a fine of NT\$140 000 (approximately US\$4700). The farmer was illiterate and unfamiliar with the law. Having suffered from severe gout for 20 years, he could not work but had to rent out his land to others to be farmed at a very low price. He chose to take his own life because he could not afford to pay the fine.

Indigenous Atayal communities used to live in the mountains, lands that are now regulated by the state and have also become a popular leisure place for urbanites. Wufeng is one of the Indigenous townships with the highest density of campsites in Taiwan and is commonly used by residents of Hsinchu, a highly populated city known for its development of the Hsinchu Science Park. In 2017, the population of campers in Taiwan reached approximately 2 million, and the number of campsites has increased from around 800 to 1800 in the past 5 years. Exploitation of the mountains' natural resources has led to repeated landslides. The government has responded by encouraging local people to report illegal deforestation (figure).

Suicide should be studied from a social, historical, and ecological standpoint.<sup>4</sup> Nonetheless, dissimilar theoretical frameworks of suicide reveal varying degrees of applicability to Indigenous communities.<sup>5</sup> Unlike the image of a natural, enjoyable, and healthy environment assumed and consumed by urban people, Indigenous communities in Taiwan face a series of what Singer calls “pluralea interactions” concerning their relationship with the environment.<sup>6</sup> According to Singer, this new way of looking at the environment as a dynamic system helps explain the interwoven environmental crises and their effects on health.<sup>6</sup> Indigenous people in Taiwan have lived on the fringes of the country's rapid economic growth and remained poor, while Han-owned corporations continuously embezzle aboriginal land.<sup>7</sup> Although factors affecting mental health among Taiwanese Indigenous communities should be investigated,<sup>8,9</sup> the high prevalence of alcohol use, under-diagnosed depression, trauma-related mental disturbances, and looming suicides embedded in the history of the incessant destruction of the natural environment, which constitutes their dwelling sites and habitat, can only be understood through narratives that directly show the vulnerability of these Indigenous communities.

The Atayal farmer's suicide reminds us of the need for a comprehensive analysis of the worth of a human being's



Figure: Government campaign to encourage local people to report illegal deforestation, and a billboard of advertisements for land trade set up by real estate agencies, at the side of a road leading to Wufeng  
Source: Yi-Cheng Wu (December, 2017).

life within their geopolitical environment. It reflects the neglect and exclusion of Indigenous minorities alongside the state's developmental strategy to exploit natural resources. The ecology surrounding Wufeng epitomises the problems of our crowded and exploited planet. Health inequalities compel people to scramble for shrinking natural resources. There is a pressing need to systemically collect evidence in narrative form to develop a deeper and more robust understanding of why green spaces for urbanites are not necessarily beneficial for Indigenous communities, especially when it comes to suicide prevention.

Yi-Cheng Wu, Harry Yi-Jui Wu

Department of Psychiatry, Hsinchu Mackay Memorial Hospital, 30071, Hsinchu, Taiwan (Y-CW); Department of Anthropology, Durham University, Durham, UK (Y-CW); and Medical Ethics and Humanities Unit, University of Hong Kong, Hong Kong Special Administrative Region, China (HY-JW)  
 yi-cheng.wu@durham.ac.uk

We declare no competing interests.

Copyright © 2018 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY NC-ND 4.0 license.

- 1 Helbich M, de Beurs D, Kwan MP, O'Connor RC, Groenewegen PP. Natural environments and suicide mortality in the Netherlands: a cross-sectional, ecological study. *Lancet Planet Health* 2018; 2: e134–39.
- 2 Chang SS, Gunnell D. Natural environments and suicide. *Lancet Planet Health* 2018; 2: e109–10.
- 3 Ingold T. Globes and spheres: the topology of environmentalism. In: Dove M, Carpenter C, eds. *Environmental anthropology: a historical reader*. Oxford: Blackwell, 2007: 462–69.
- 4 Widger T. *Suicide in Sri Lanka: the anthropology of an epidemic*. New York, NY: Routledge, 2015.
- 5 O'Keefe VM, Tucker RP, Cole AB, Hollingsworth DW, Wingate LR. Understanding Indigenous suicide through a theoretical lens: a review of general, culturally-based, and Indigenous frameworks. *Transcultural Psychiatry* 2018; published online June 4. DOI:10.1177/1363461518778937.
- 6 Singer M. Pluralea interactions and the remaking of the environment in environmental health. In: Singer M, ed. *A companion to the anthropology of environmental health*. Hoboken, NJ: John Wiley & Sons, Inc, 2016: 435–57.
- 7 Simon S. Scarred landscapes and tattooed faces: poverty, identity and land conflict in a Taiwanese Indigenous community. In: Eversole R, McNeish JA, Cimadamore AD, eds. *Indigenous peoples and poverty: an international perspective*. London: Zed Books, 2005: 53–68.
- 8 Chen CS, Yang MS, Yang MJ, et al. Suicidal thoughts among elderly Taiwanese aboriginal women. *Int J Geriatr Psychiatry* 2008; 23: 1001–06.
- 9 Chen YL, Lai CS, Chen WT, et al. Risk Factors for PTSD after Typhoon Morakot among elderly people in Taiwanese aboriginal communities. *Int Psychogeriatr* 2011; 23: 1686–91.