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Governance, tourism and water: the complexity of maintaining water quality in the Sagarmatha National Park, Nepal.

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Access to potable drinking water in the Sagarmatha National Park (SNP) and its buffer zone in Nepal is controlled by the complex interplay between governance (resource management), economics (tourism), anthropogenic degradation (poor waste disposal), and climate change. The problems are further complicated by the 2015 earthquakes, rugged topography, altitude and limited accessibility. The SNP and SNP Buffer Zone area begins near the township of Lukla and extends beyond the township of Gorek Shep along the main trekking route to Mt. Everest base camp. It is mainly confined to the Dudh Koshi drainage basin. The SNP was established in 1976 and declared as a World Natural Heritage Site in 1979. Since the first ascent of Everest in 1953, the annual number of tourists in the region has risen from 20 in 1964 to peak numbers of >32,000 in 2010. In addition, a large number of people visit the SNP as porters and guides who accompany the tourists.

Currently there are approximately 6000 people living in the SNP and SNP Buffer Zone. The population primarily belongs to the Sherpa ethnic group, many of whom work in the SNP area during the tourist season but winter at lower altitudes. Healthy ecosystems and communities are interdependent and are the heart of community-based ecosystem management. Unfortunately, both the tourism industry's unchecked development and climate change are impacting the area's ecosystems and people's quality of life, particularly concerning water quality. The SNP, like governments around the globe, face significant financial and administrative challenges that limit the ability to regulate and maintain common natural resources. Understanding communities, residents, and other stakeholders' attitudes and perceptions of the social, economic, and environmental situations is necessary for community leaders to develop and sustain a useful governing framework that will support robust ecosystems and economies. These methods are generalizable to similar remote mountainous regions around the globe.

