Climbing Mount Everest: A critical reflection on mountain adventure tourism in Nepal using a population health approach

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Abstract

On April 18th, 2014, one of the deadliest accidents in the history of mountaineering occurred on Mount Everest when a large piece of ice broke away and fell from a hanging glacier in the Khumbu Icefall, triggering an avalanche that claimed the lives of 16 mountain workers. Following the disaster, many mountain workers were angered by the inadequate compensation provided by the Government of Nepal, bringing to light the controversial nature of mountaineering expeditions on Mount Everest. In this paper I examine the population health implications of high-altitude mountaineering on mountain workers in Nepal. Specifically, I consider how the absence of accountable governance, in combination with the actions of commercial expedition companies, have contributed to significant problems surrounding mountain worker compensation, safe working conditions, and enforcement of mountaineering regulations. Examining Mount Everest mountaineering through a population health approach permits critical reflection on how private, public, voluntary sectors, and mountaineering clients can come together to address the large-scale health and social issues faced by mountain workers

to ensure not only improved mountain worker wellbeing, but also the long-term sustainability of the adventure tourism industry in Nepal.

Keywords: Adventure Tourism, Mountaineering, Mount Everest, Population Health

Introduction

In order to improve overall health and tackle health inequity—unfair and avoidable differences in health outcomes—there is recognized utility in employing a population health approach (Szreter, 2003). The population health approach focuses on the interconnected conditions and factors that influence the health of populations, and then applying this knowledge to develop and implement policies or actions to improve the health at the population level (Public Health Agency of Canada, n.d.-a). In the current paper, I apply the population health approach to the mountaineering industry in Nepal in light of the 2014 disaster that occurred on Mount Everest; doing so permits critical reflection on how private, public, and non-governmental organizations, and mountaineers themselves, can come together to implement large-scale actions that address the health and social issues experienced by mountain workers. First, I will provide an overview of adventure tourism in Nepal, including trends in mountaineering expeditions on Mount Everest over time. Next, I will provide a brief overview of one of the deadliest events that occurred on Mount Everest in 2014, which killed 16 mountain workers and exposed the controversial realities of mountaineering expeditions on Mount Everest. Finally, in light of the 2014 disaster, I will use a population health approach as a framework to critically examine the negative implications of

mountaineering expeditions on Mount Everest as it relates to mountain worker compensation, health and safety.

Adventure tourism in Nepal: a brief overview

Tourism has seen significant growth over the past six decades (World Trade Organization, 2016), and can provide employment, opportunities for promoting international cultural awareness, and economic diversification for developing countries (Honey & Gilpin, 2009). Adventure tourism in particular is one of the fastest-growing categories of the tourism industry. According to the United Nations World Tourism Organization (2014), in order for an activity to be considered as adventure tourism, the trip must contain at least two of the following three components: physical activity, the natural environment, and some form of cultural immersion. Tourism is an essential industry in the country of Nepal, accounting for 6.7% of the Gross Domestic Product in 2019, and 6.9% of total employment (World Travel & Tourism Council, 2020).

Nepal is located in Southern Asia, situated between China and India. Approximately 75% of Nepal is covered by mountains and rugged hills, with eight peaks above 8,000 meters, including the tallest in the world, Mount Everest (Government of Nepal, n.d.; Library of Congress, 2005). Since the country of Nepal opened its borders to foreign expeditions in the mid-20th century, Mount Everest has attracted people from all over the world, hundreds of whom attempt to reach the summit each year (Salisbury & Hawley, 2007). This trend is part of an important industry for Nepal, namely, adventure tourism.

Mountaineering, a type of adventure tourism activity, has become increasingly popular, though the majority of individuals who engage in the activity are physically and technically trained mountaineers (Beedie & Hudson, 2003). Mountain climbing itself began to increase in popularity following the first successful ascents of notable mountains such as the Matterhorn, Annapurna, and Mount Everest in the mid-1950s (United Nations World Tourism Organization, 2014). The popularity of Mountaineering has provided an increasing source of revenue in Nepal, with the government collecting over $3 million USD annually from Mount Everest climbing permits alone (Nyaupane, 2015).

Mount Everest is located in the Khumbu region of the Himalayas on the border of the Tibet Autonomous Region of China and Nepal (Spoon, 2011). Though attempts by humans to climb Mount Everest started in 1921, the summit of the mountain was not successfully reached until 1953. Edmund Hillary and Tenzing Norgay Sherpa were the first humans to reach the top of Mount Everest (Gardner, 2016). Through the development of better equipment, improved route-finding abilities, and the use of guides, there has been increasing success of reaching the summit since 1921 (Huey & Salisbury, 2003). In the 1990s, economic motives by Western climbers started the spike in adventure tourism and commercial guiding on Mount Everest through the creation of organized Mount Everest expedition groups (Harris, n.d; National Geographic, 2014.; Salisbury & Hawley, 2007). Commercial mountain guides began to make a profit by bringing people from all over the world to attempt to climb Mount Everest under their guidance, making the mountain more accessible to less experienced climbers (Harris, n.d.; Palmer, 2002). Presently, hundreds of climbers attempt to climb and summit Mount Everest each year with the

support of local mountain workers, such as porters, guides, basecamp staff, and icefall doctors (Miller & Mair, 2020; Stokes, Koirala, Wallace & Bhandari, 2015).

Many Mount Everest expeditions are paid for by corporations and television companies (Salisbury & Hawley, 2001). However, when expeditions are not sponsored, clients can expect to pay large sums of money to climb Mount Everest, typically from $60,000 to $65,000 USD (Gardner, 2016; Harris, n.d.; Nepal & Mu, 2015; Palmer, 2002; Salisbury & Hawley, 2001). Climbers often hire a commercial expedition company to plan, guide, and direct Mount Everest climbs by providing both physical (e.g., transportation of equipment, food, and oxygen tanks) and technical support (e.g., trained guides, mountain workers and camp doctors, expert supervision, and safety equipment) to their clients. Historically, Western guiding companies hire a number of local support climbers who carry heavy loads up the mountain and ensure that supplies are adequately stocked at each camp (Gardner, 2016; Salisbury & Hawley, 2001; Stevens, 1991).

Mountaineering has helped Nepal economically, especially in the Khumbu region, by providing employment and community infrastructure development initiatives to build public schools and hospitals (Spoon, 2011). The commercialization of Mount Everest has created employment opportunities for many Nepali, some of whom have worked as professional mountain guides, porters, low-altitude guides, and cooks (Stevens, 1991). The seasonal wages for a high-altitude mountain workers are significantly higher than the average national wage in Nepal (Cadwalladr, 2015; National Geographic, 2014). Despite the reported benefits of mountaineering, there are

some negative implications as well. In particular, tourism has been responsible for the exploitation or unfair treatment of employees hired by private tourism companies (Khadka, 2014), as was highlighted by local mountain workers in the wake of the 2014 avalanche disaster on Mount Everest.

Avalanche on Mount Everest: highlighting a need for change

The Khumbu Icefall is situated at the head of the Khumbu glacier on the southwest face of Mount Everest and has been identified as one of the deadliest sections of the South Col Mount Everest climbing route (Chambers, 2016), with more fatalities occurring in the icefall than anywhere else on the route (Mount Everest the British Story, n.d.; Nuwer, 2015; Salisbury & Hawley, 2007). The Khumbu Icefall continuously moves, exposing dangerous hazards to climbers, such as deep crevasses and falling blocks of ice.

The route through the Khumbu Icefall is fixed with ropes and ladders placed by high-altitude mountain workers, sometimes called "Icefall Doctors", in order to minimize hazards to climbers on Mount Everest (Sherpa, 2018; Nepal & Mu, 2015). As a result, high-altitude mountain workers spend more time above Mount Everest Base Camp (Nepal & Mu, 2015), and are often exposed to hazardous climbing and high-altitude conditions while adjusting, fixing, and setting these routes for up to six months per year (Macdonald et al., 2015; Schaffer, 2013).

On April 18th, 2014, one of the deadliest disasters in the history of Mount Everest mountaineering occurred when a large section of ice fell from the Khumbu Icefall, triggering an

avalanche that would ultimately kill 16 high-altitude workers and injure nine others (National Geographic, 2014; Nyaupane, 2015; Stokes et al., 2015). The mountain workers had been setting the climbing routes in preparation for the upcoming climbing season (Nepal & Mu, 2015).

Immediately following the 2014 tragedy, mountain workers protested to shut down Mount Everest for the remainder of the season (National Geographic, 2014; Schaffer, 2014). Mountain workers demanded greater insurance coverage, more pay for families with relatives who had been injured or killed on the mountain, and that some of the total money from Mount Everest permit fees be donated towards a relief fund (National Geographic, 2014; Nyaupane, 2015; Schaffer, 2014).

Following the protest, ethical debates surrounding the business practices of hiring mountain workers to assist Western climbers to summit Mount Everest ensued worldwide (Burke & Rauniyar, 2014; Schaffer, 2014). In the next section, I will examine the criticisms toward the adventure tourism industry that were brought forward by mountain workers following the 2014 disaster through the lens of a population health approach.

Mountaineering expeditions: utilizing a population health approach

The population health approach refers to strategies that address the wide range of factors that determine health at the population level, as opposed to the focus on individual risk and clinical factors related to diseases (Federal, Provincial and Territorial Advisory Committee on Population Health, 1994). Population health considers the health outcomes of a population, including

geographic regions, nations, communities, and population subgroups, such as employees or ethnic groups (Kindig & Stoddart, 2003).

Mountaineering is an inherently individual activity, with Western mountaineers often climbing for self-serving reasons, such as obtaining recognition or self-fulfillment, or for leisure (Cadwalladr; 2015; Nepal & Mu, 2015); yet the implications of this activity on the health and well-being of local mountain workers is significant. Therefore, a population health approach permits greater understanding of the large-scale impacts that Mount Everest mountaineering expeditions have had on mountain workers.

The population health approach seeks to identify and address health inequities, or unfair and avoidable differences in the health status and outcomes of certain populations, and subgroups within it (Public Health Agency of Canada, n.d.-b). In the next section, I consider the health status and inequities that exist as a result of the mountaineering industry in Nepal by focusing specifically on the working conditions and incomes of local mountain workers, such as porters, icefall doctors, and guides.

Considering the social determinants of health: Mountain worker compensation and working conditions

The individual and collective factors that are correlated with population health status, often referred to as the social determinants of health, include (but are not limited to) income, social support, education, working conditions, health services, and gender (Public Health Agency of

Canada, n.d.-c; Mikkonen & Raphael, 2010). The overall aim of the population health approach is to identify variations in the patterns of occurrence of the social determinants of health and apply the resulting knowledge to develop and implement policies and actions to improve the overall health and well-being of entire populations (Public Health Agency of Canada, n.d.-c). In the current section, I examine the negative impact of mountaineering on two key determinants of health, namely working conditions and incomes of high-altitude mountain workers. Although other social determinants of health could be explored, for the purposes of this paper I have opted to focus only on income and working conditions, given that these are the main determinants that were criticized following the 2014 disaster on Mount Everest.

The working environment, including the type, availability, and conditions of work can significantly impact the health of employees (Commission on Social Determinants of Health, 2008). In high-income earning countries, such as Canada, actions have been taken in order to improve workplace safety, such as the implementation and enforcement of regulations and policies in the form of labour codes, leave and disability coverage, workers' compensation, and job site safety practices (Public Health Agency of Canada, 2008). Compared to higher income countries, workers living in low-income countries are at a greater risk of being exposed to precarious work conditions and hazards due to the absence of labour laws (Commission on Social Determinants of Health, 2008); and in circumstances where regulations do exist, there may not be adequate enforcement of such laws.

In terms of working conditions in Nepal, high-altitude mountain workers often undertake dangerous physical tasks (National Geographic, 2014), such as assisting inexperienced climbers in bad weather or in areas of high climber congestion, carrying heavy loads (20 kg or more) of equipment and supplies (Nepal & Mu, 2015), and removing the bodies of deceased climbers from Mount Everest. Removing human bodies is a dangerous and difficult task, particularly when the bodies are located in what many climbers refer to as the "Death Zone", or the area of a mountain that lies 8,000 meters above sea level (Quinlan, 2012). In the Death Zone, the human body is unable to acclimatize properly and begins to deteriorate due to the low levels of atmospheric oxygen (Quinlan, 2012). In areas of high-altitude, organic matter does not decompose and deceased climbers remain preserved (Nyaupane, 2015). Retrieving and carrying a deceased climber from higher on the mountain usually requires six to ten mountain workers (Nuwer, 2015). While carrying the human bodies, mountain workers are exposed to serious hazards, such as slipping from the weight of the body during descent (Quinlan, 2012).

The 2014 disaster on Mount Everest raised concern over mountain worker safety and fair compensation for the dangerous working conditions faced by these individuals. Indeed, work-related health problems are highly prevalent among high-altitude mountain workers, with respiratory and musculoskeletal issues being the most commonly reported (Macdonald et al., 2015). For example, in a study that sought to examine the work-related health conditions of mountain workers in Nepal, 60% of local high-altitude mountain guide participants (n=113) reported having respiratory problems, the majority of whom (96% of participants) considered their health problem to be work-related. In addition, data on climbing deaths in the Himalayas

reveal that the leading causes of death among hired mountain workers are avalanches and falling; this is likely the result of workers spending extended periods in high-risk areas, such as avalanche-prone terrain, while setting routes and establishing or supplying camps higher up the mountain (Salisbury & Hawley, 2007). Though climbers only travel through the Khumbu Icefall two to three times in an assent, mountain workers may travel through up to 30 times per season (Gardner, 2016; Schaffer, 2013), increasing their risk of injury and death (Nepal & Mu, 2015).

Another key determinant of health is income, as it influences living conditions, health-related behaviours (e.g., diet), food security, housing quality, and other prerequisites to health (Mikkonen & Raphael, 2010). Income can be considered at the individual, family, or population-level, with equal distribution of income being one of the best predictors of improved health of a population (Mikkonen & Raphael, 2010). A low income predisposes people to material deprivation, social exclusion, and shorter life expectancy (Mikkonen & Raphael, 2010). As such, income inequity is considered to be a key health policy issue in need of government and policy-maker attention.

Though seasonal wages for high-altitude mountain workers are significantly higher than the average national wage in Nepal (National Geographic, 2014), some have raised concern over the modest amount of money made compared to the millions of dollars collected by the government from expedition companies annually (Schaffer, 2014). News media reports suggest that a local mountain worker can earn about $5,000 USD during a climbing season (Khadka, 2014). However, expedition companies can earn up to $80,000 USD from a single client, and the total

earnings actually made from expeditions remains largely unknown to mountain workers (Khadka, 2014).

From the point of view of population health, inadequate working standards and income can significantly influence the quality of life and overall well-being of mountain workers. Despite the critical role of mountain workers to the adventure tourism industry in Nepal, some mountaineering expedition companies may have little incentive to maintain minimum mountain worker safety and income standards in the absence of strict enforcement of mountaineering regulations (Gardner, 2016; Williams & Soutar, 2007).

Applying a critical population health perspective to create sustainable solutions

The critical population health perspective seeks to examine and deconstruct specific social structures, economic relationships, and ideological assumptions that undermine the health of certain populations (Labonte et al., 2005). In the context of Mount Everest mountaineering expeditions, my aim is to identify the underlying drivers of insufficient mountain worker safety standards and compensation, and to suggest sustainable solutions.

Health status is embedded in social constructs of power (Labonte, 2005). Effective policy change to overcome pre-existing power relations that perpetuate dominant ideologies surrounding mountain workers, as well as insufficient safety standards and compensation, requires the collective action and engagement of policy-makers, civil society, community groups, and non-government organizations, as well as adventure tourism companies. The traditional view of the

relationship between Western climbers and local mountain workers is evidence of an important power imbalance, wherein hired mountain workers are sometimes viewed as hired help as opposed to indispensable contributors to Mount Everest summits (Mu & Nepal, 2016). For example, Mu & Nepal (2016) conducted in-depth interviews with international trekkers to understand emotional responses to both real and perceived hazards of high-altitude trekking. Interview participants consider well-known Western mountaineers, such as Scott Fischer and Rob Hall, to be courageous and fearless. Less attention, however, was paid to the occupational risks and fatalities associated with local mountain workers, such as guides and porters. Though interview participants were aware of the dangers of mountain work, such as guiding and offering porter services, some viewed the roles of local mountain workers to be more supportive in nature.

Both the local and international voluntary sector have played a fundamental role in improving local mountain worker advocacy, safety and success on Mount Everest expeditions (Alex Lowe Charitable Foundation, n.d.; Wilkinson, 2012). For example, the Nepal National Mountain Guide Association has worked in conjunction with the International Federation of Mountain Guides Association (IFMGA) to establish best practices and regulations for local mountain worker safety and training through globally standardized certification programs (Nepal National Mountain Guide Association, n.d.; International Climbing and Mountaineering Federation, 2020). An increasing number of mountain workers have earned high-altitude accredited international climbing certifications, such as the IFMGA, which permits work as a guide

internationally, and adds leverage for workers to demand a higher pay for the work they do (International Federation of Mountain Guides Associations, 2018; Schaffer, 2014).

Over time, Nepali mountain workers have received increasingly widespread recognition for their physical ability to withstand harsh mountain conditions and heavy workloads at high altitudes (Adams, 1996; Miller & Mair, 2020). Millar and Mair (2020) suggest that mountain workers seek to uphold this reputation and are often reluctant to report negative emotions or physical injuries and illness in fear of losing future job opportunities (Nepal & Mu, 2015). Given the dangerous nature of mountaineering, mountain workers may feel it is their job to mitigate the fear experienced by their clients by suppressing their own fears and anxieties (Miller & Mair, 2020). However, close encounters with death while exposed to hazardous mountain conditions can also lead to mountain workers viewing their lives differently and to exercise their individual agency more freely; such as when clients go against mountain worker recommendations (e.g., pushing to summit Mount Everest in unfavourable or dangerous conditions), the mountain workers have opted to take responsibility for their own personal safety, even in the presence of other powerful drivers such as money or client perceptions (Miller & Mair, 2020). On a larger, community scale, the 2014 disaster on Mount Everest demonstrated the true power of mountain worker agency in expedition decision-making, when the climbing year on Mount Everest was effectively shut down for the remainder of the climbing season following mountain worker protest (Miller & Mair, 2020).

In addition to advocacy movements of non-government agencies and mountain workers themselves, expedition companies and policy-makers in Nepal also have an important role to play in ensuring equity-focused policy solutions to change the status quo of mountaineering, and adventure tourism practices more broadly in Nepal. The government of Nepal has introduced new regulations such as minimum accidental insurance coverage and daily wages for local mountain workers, maximum allowable loads that workers can carry while climbing to higher altitudes, and the responsibility of expedition companies to provide adequate shelter and food to workers (Nepal Law Commission, 2002). However, the extent to which these regulations are enforced is uncertain (Arnette, 2017; Sharma & Schultz, 2019). For example, in order to ensure that government regulations are adhered to during Mount Everest expeditions, government employees called "Liaison Officers" are hired to accompany expedition teams to the Mount Everest Base Camp (Nepal Law Commission, 2002; Jenkins, 2013). The roles of the Liaison Officer are many as listed under the *Tourism Act*, but some of the duties include inspecting and monitoring weight loads carried out by workers involved with expedition teams, reporting progress of mountain expeditions, and resolving disputes between mountain guides, workers, expedition teams. In the Mountaineering Expedition Regulation section of the *Tourism Act* (Nepal Law Commission, 2002), Liaison Officers are required to have basic mountaineering training and must be physically capable of traveling to base camp as certified by a government-approved physician. In addition, Liaison Officers must have received certification from a recognized institution in English or other languages in order to be able to communicate with expedition teams. Unfortunately, the use of the Liaison Officer has been largely ineffective in enforcing existing regulations, as many officers are unprepared to sustain the cold and harsh

mountain conditions and do not make the trek to base camp (International Climbing and Mountaineering Federation, 2020; Pokhrel, 2017). For those officers who do make it to base camp, many do not stay for the duration of the climb undertaken by the expedition team, often as a result of the adverse weather (Jenkins, 2013).

As of 2019, new regulations have been formally proposed by Nepali government officials to improve mountain worker safety by reducing the number of inexperienced climbers on Mount Everest (Sharma & Shultz, 2019). For instance, individuals would be required to reach the summit of at least one mountain higher than 21,300 feet in elevation prior to obtaining a Mount Everest permit (Burke, 2015; Sharma & Shultz, 2019), and mountain expedition companies must have at least three years of experience in organizing high-altitude expeditions prior to leading a Mount Everest expedition (Sharma & Shultz, 2019). Though these regulations are reported to be a step in the right direction, enforcement continues to be a challenge in Nepal (Sharma & Shultz, 2019).

Mountaineering expedition and trekking companies play a large role in the Nepal economy by employing local guides, porters, cooks, and other high-altitude mountain workers. However, with an increasing number of new adventure tourism companies in the global market, competition has also risen (Williams & Soutar, 2007). The increasing market competition for tourism companies has resulted in company operators opting to cut costs by reducing employee wages and compromising worker safety, in order to maximize profit and continue to recruit clients (Williams & Soutar, 2007). These companies have been reported to be in violation of worker

rights and the safety of the locals they hire (Williams & Soutar, 2007). A preferable approach would be for expedition companies to include local mountain workers in company decision-making, and ensure that all party members agree upon wages, safety protocols and ascent plans. Doing so provides an opportunity to dismantle the traditional hierarchical relationship between expedition companies and mountain workers, and instead promote collaboration.

Finally, accountability measures must also be taken by commercial tour clients. More specifically, it is important for foreign climbers, trekkers, and backpackers to consider the impact of their purchasing decisions. Prior to booking expeditions, clients should reflect on their own technical and physical abilities, and perhaps more generally, consider the risks and potential costs involved in reaching the summit—not only personal risks, but also those faced by mountain guides, porters, ice-fall doctors, and other mountain workers.

Conclusion

Mountain adventure tourism has become an increasing source of revenue for the country of Nepal, changing the entire landscape of the country. A population health approach permits critical reflection on how historic mountaineering practices have contributed to inequities in access to the social determinants of health, specifically, inadequate work safety standards, lack of enforcement, and income inequities, resulting in negative implications on the health and well-being of mountain workers. Despite challenges faced by mountain workers, advocacy movements such as the response to the 2014 disaster create important opportunities for change in the industry. The extent to which these changes can be sustained in the long-term will, in part,

require the continued efforts of non-governmental organizations, as well as improved

enforcement of regulations by the government, and accountability measures from both

expedition companies and clients.

More in-depth, qualitative research that seeks to understand the lived experience of risk and

autonomy of those employed as mountain workers in Nepal is also warranted. Doing so may

continue to shed light on other processes and structures that perpetuate existing inequities and

key challenges in the adventure tourism industry. Research efforts should be placed on

empowering and engaging communities, such as local mountain workers, as active members of

the research process (Labonte, 2005).

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