Perceived Life Satisfaction and Illegal Forest Use

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Understanding the direct and positive impact of conservation incentive programs in the tropics is essential. Typically, conservation incentive programs in the tropics aim to enhance residents' access to material resources, with the ultimate goal of improving human well-being. These programs are also intended to reduce human-induced threats to wildlife. However, access to material livelihood resources as a means to improved life satisfaction is a human-centered goal that may or may not benefit wildlife conservation.

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1. Introduction

Resources for wildlife conservation are limited, and the future for wildlife in the tropical regions of Africa is uncertain. Wildlife conservation in these regions requires investing scarce conservation resources where there is potential for the greatest conservation impact [1][2]. The worldwide conservation fraternity has advocated for human well-being improvement programs, arguing that such incentive-based conservation programs will indirectly benefit wildlife conservation [3][4][5]. However, research has challenged this narrative of incentive-based conservation programs [6][7][8]. Incentive-based conservation programs typically seek to address basic human needs such as employment and income [9][10][11]. They likewise expect human demand for forest resources, which arguably is detrimental to biodiversity, to decline if individuals are able to generate quantifiable economic benefits from forests.

There are two issues with the material-based conservation incentives argument. First, non-material aspects of human wellbeing have the potential to influence forest dependence [12][13][14][15]. For example, forests are sources of traditional medicine and other non-timber forest products that enable indigenous communities to maintain their cultural traditions and values [13][14][16]. Therefore, material-based conservation incentives programs may only partially address this conservation problem. Second, traditional medicine and non-timber forest products are means for humans to achieve life satisfaction. For example, financial resources such as income are means of meeting human needs [17][18]. Efforts to explore the conservation impact of incentive-based programs would be enhanced by an investigation of the links between perceived life satisfaction [19][20] and the illegal forest use practices of forest-adjacent residents.

The Virunga Landscape has received global attention for its conservation value [11][15][19]. Governmental and non-governmental conservation institutions in Uganda, Rwanda, and the Democratic Republic of Congo have invested substantially in programs that aim to improve the livelihoods of adjacent residents. These efforts are particularly

extensive in Uganda and Rwanda, where there is political stability. For example, community-based tourism enterprises such as the Kinigi Cultural Village and Gorilla Guardians in Rwanda and the Amajyambere Iwacu Community Camp in Uganda have emerged over the past 15 years. However, such conservation incentives programs have fallen short of expectations [4][7][19].

2. Perceived Life Satisfaction and Illegal Forest Use

Max Weber's theory of substantive rationality could explain motivations for illegal forest use in the Virunga Landscape. Commonly referred to as the Weberian theory, the theory of formal and substantive rationality explains an individual's motivation to engage in different forms of activity [21][22]. The Weberian theory argues that individuals are not driven exclusively by economic gain but rather by a combination of formal rationality (economic benefit) and substantive rationality (non-economic values and beliefs) [22]. The formal rationality dimension suggests that an individual's careful weighing of options to determine the end objective, such as to secure livelihoods, in quantifiable terms, drives their motivations and way of life [22]. Meanwhile, substantive rationality suggests that a cluster of values drives an individual's motives and way of life [22]. Most research exploring motivations for illegal forest use have paid more attention to formal rationality (i.e., economic gain), paying less attention to potential substantive rationality influences, such as cultural values and practices.

The formal rationality perspective would suggest that an individual's motivation to engage in illegal forest use activities is driven by the carefully reasoned and calculated action of gaining secure livelihoods. Research on livelihoods-driven forest use is extensive [23][24][25][26][27][28][29]. Some studies have attributed illegal and legal forest use to the need for increased income, improved food security, and increased human wellbeing. This body of knowledge has been influenced mainly by the sustainable livelihood framework introduced by [30] and advanced by other scholars [31][32][33]. Considering the Weberian theory's formal rationality perspective, some of the human needs attributed to forest use, such as increased income, food security, and secure livelihoods, can be considered functions of life satisfaction, a desired end goal of individuals.

According to Diener [34], life satisfaction is an individual's cognitive evaluation of their quality of life. The life satisfaction construct emphasizes the subjective perception of human well-being [34][35]. The formal rationality perspective would suggest that the end goal of illegal forest users is to be satisfied with their quality of life. Research shows that situational factors and temperament influence an individual's perception of improved quality of life [35]. Situational factors may include the loss of a job or the death of an income earner. Such situational events and changes influence an individual's perceived life satisfaction [35][36]. As such, the positive perceptions of life satisfaction could indicate positive changes in various domains of an individual's life. Temperament encompasses the ability of an individual to emotionally withstand and bounce back from the shock of losing an income earner. Indeed, Pavot and Diener [36] identify personality traits such as self-esteem and internality as some of the determinants of perceived life satisfaction. Diener [34] indicates that a person's temperament is more important to perceived life satisfaction than are external factors such as access or lack of access to resources.

Research exploring the substantive rationality perspective of illegal forest use is limited. The substantive rationality perspective would consider economic gain [22] to be only one of many motivations for illegal forest use. For example, a forest resident may be substantively motivated by the social and cultural value of forests to pursue illegal forest use [13]. Over the years, forests have been a source of goods and services for traditional communities in the tropics [12][14][37][38]. Therefore, to most of the traditional communities in the tropics, forests represent cultural and socioeconomic opportunities [39][40]. For example, forest communities have traditionally relied on the forest as a source of non-timber forest products (NTFPs) that are used for food, medicine, and household goods [37].

Forests historically have also been sites of spiritual and cultural ceremonies [14]. However, traditional practices of forest use create opportunities for individuals to harvest forest resources to support their livelihoods and generate income [40][41][42].

Finally, evidence indicates that there is a negative correlation between positive perception of quality of life and the negative perception of sociocultural changes [43]. Research has shown that economic development often results in a shift in cultural and societal values [44][45]. As income increases, individuals are more likely to forego their traditional norms, values, and practices, including those related to forest use.

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