

**POTENTIAL FOR SUSTAINABLE DEVELOPMENT OF RURAL COMMUNITIES  
BY COMMUNITY-BASED ECOTOURISM  
A CASE STUDY OF RURAL VILLAGE PASTANGA, SIKKIM HIMALAYA, INDIA**

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**Abstract:** Poverty is one of the most pressing global problems of the world today. One promising option to provide employment opportunities for the inhabitants of underdeveloped rural areas is the development of ‘pro-poor tourism’. Poverty alleviation tourism can generate environmental benefits in addition to economic, social and cultural ones. This study aims to discuss the possibilities of poverty alleviation of rural communities through the development of community-based ecotourism. The introductory part of the study briefly defines the theoretical frameworks of the concept of poverty and ecotourism in the context of sustainable development. Using the specific example of the Mid-Himalayan Rural village of Pastanga (India), show the potential areas for developing community-based ecotourism with respect to the local development opportunities. In the same way that is draw on our own research as well as available statistical data from the East Sikkim and Questionnaire Survey-2021. The case study presents the current extent of adventure trekking tourism and highlights the trends, characteristics and significance of trekking in Pastanga-Khedi eco-trail. The paper also propose strategies for exploring the trekking potential through the emphasis on ecotourism in the study area. In conclusion, we propose solutions for the regulated development of the area in a participatory way by the concerned stakeholders by implementing activities related to the Community-Based Ecotourism.

**Key words:** Pro-poor tourism (PPT), ecotourism, sustainability, poverty, community-based ecotourism (CBET), Sikkim Himalaya

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## INTRODUCTION

Poverty is one of the most serious global problems in these days. It mainly affects developing countries. Research approaches to poverty have evolved from economic reductionism, according to which poverty is mono-dimensional in nature, to a generalist approach that emphasises poverty’s multidimensional nature. These approaches are subsequently

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reflected in the policy approaches to the poverty. The multidimensional approach also emphasises a multidimensional policy response, encompassing a variety of strategies supporting employment, health, housing, etc. At the same time, it favours the view that the implementation of solutions in one area (e.g. housing support) will not be sufficient to compensate deficits in other problem areas (Bodnárová et al., 2005; Cattarinich, 2001; Chigora et al., 2020).

Poverty is one of the most serious global problems today. It particularly affects developing countries. Research approaches to poverty have evolved from economic reductionism, according to which poverty is one-dimensional, to a general approach that emphasises the multidimensional nature of poverty. These approaches are subsequently reflected in policy approaches to poverty. The multidimensional approach also emphasises a multidimensional policy response, which includes various strategies to promote employment, health, housing, etc. At the same time, it favours the view that implementing solutions in one area (e.g. housing support) will not be sufficient to compensate for deficits in other problem areas (Ashley et al., 2000; Bodnarova et al., 2005; Cattarinich, 2001). The deficiency in question may relate to insufficient income, consumption or assets, status, rights or security. In this respect, tourism is one of the few sectors of the economy, has an impact on many of the aspects of living standards and is therefore a suitable mechanism for the socio-economic development of underdeveloped rural areas. In this context, many forms of tourism specifically aimed at supporting poor communities (especially in rural areas and in the hinterland of major tourist destinations) are being discussed (e.g. Ashley et al., 2000; Andereck and Vogt, 2000; Booyens and Rogerson, 2018, 2019; Chigora et al., 2020; Hoogendoorn et al., 2020; Mkono, 2016; Torabi et al., 2020).

UNWTO together with UNCTAD, in 2002 at the World Summit on Sustainable Development in Johannesburg, initiated the ST-EP Programme (Sustainable Tourism- Eliminating Poverty, or also PPT - Pro-Poor Tourism), which aimed to support the achievement of the Millennium Goals set by the United Nations (UNDP 2002). This project was supported by 44 projects in 31 countries with the aim of promoting socially, economically and environmentally sustainable tourism and supporting poverty reduction in the world's least developed countries. In 2004, with the objective of poverty reduction, UNDP implemented the programme "the Endogenous Tourism Project for Rural Livelihoods" in rural India (UNWTO, 2004). Another program, for example, was the TPRP, under the auspices of the ITC, which aims at creating linkages between local producers and the tourism market that can help export local products (Spenceley et al., 2009; Torabi et al., 2020).

The issue of supporting underdeveloped and poverty-stricken areas is thus also discussed in the context of the environmental unsustainability of economic activities. Therefore, recently also the discussion on ST-EP or PPT has shifted to the level of finding solutions that will not only benefit local communities economically but at the same time will be safe from other aspects of unsustainability as well. This has created a new branch of so-called alternative approaches to tourism development in peripheral areas. Alternative approaches have emerged as a critique of post-war development and modernisation strategies that they consider unsustainable (Ashley and Haysom, 2006; Telfer and Sharpley, 2002). They are a reaction to environmental degradation, the high cost of materialism and the loss of culture (De Kadt, 1990 in Scheyvens, 2011; Smith and Eadington, 1992 in Scheyvens, 2011). These approaches support tourism initiatives at the local level, aimed at helping poor communities, with an emphasis on minimizing negative impacts on the environment, which is part of economic systems (Barbier, 1989 in Telfer and Sharpley, 2002).

Good guest-host relationships and community participation in the development process are encouraged (Krippendorf, 1987 in Scheyvens, 2011; Whyte et al., 2011). Gradually, alternative forms of tourism such as green tourism, volunteer tourism, fair tourism, altruistic tourism, ecotourism or community-based tourism (CBT) have started to emerge (Ashley et al., 2000: 1). According to Jafari (2001), these forms represent a relatively small part of the interest because they are more difficult to manage, less profitable and less invasive (Scheyvens, 2011). According to Harrison (2008), a weakness of these forms of tourism risks diverting attention away from the question of the extent to which tourism can alleviate poverty, as it erodes the existing cultural and environmental base, which is at odds with alternative forms. This is where pro-poor tourism begins to emerge, as the impacts on the lives of the poor, their needs or interests have generally not been considered, and the human element has gradually been marginalised within responsible and sustainable tourism, as the vision of profit has been at the forefront (Ashley and Haysom, 2006; Chok et al., 2007; Mkono, 2016; Torabi et al., 2020).

In this context the study aims to suggest the conceptual frameworks of the poverty issues in local communities and the possibilities of their reduction through the development of sustainable forms of tourism. One of the promising options for employment opportunities to the inhabitants of underdeveloped rural areas is the development of 'pro-poor tourism' (the concept of pro-poor tourism - PPT). What is more, in line with a multidimensional policy response, poverty alleviation tourism can also bring environmental benefits in addition to the economic, social and/or cultural benefits (Booyens and Rogerson, 2018; Kuzyshyn, 2018). From this point of view, the study discusses the possibilities of poverty alleviation of rural communities through the development of community-based ecotourism (CBET).

The introductory part of the study briefly defines the theoretical frameworks of the concept of poverty and ecotourism in the context of sustainable development. Using the specific example of the Mid-Himalayan Rural village of Pastanga (India), we show the potential areas for developing community-based ecotourism with respect to the local development opportunities. We draw on our own research as well as available statistical data from the East Sikkim and Questionnaire Survey-2021. The case study presents the current extent of adventure trekking tourism and highlights the trends, characteristics and significance of trekking in Pastanga-Khedi eco-trail. We also propose strategies for exploring the trekking potential through the emphasis on ecotourism in the study area. In conclusion, we propose solutions for the regulated development of the area in a participatory way by the concerned stakeholders by implementing activities related to the Community-Based Ecotourism (CBET). The main motive is to find sustainable ways of developing forms of tourism that enable local communities to avoid mass tourism development and reduce pressure on the natural environment.

## **THEORETICAL BACKGROUND OF THE STUDY**

Defining poverty as a social phenomenon depends significantly on socio-historical conditions and the content of this concept changes in time and space (Ashley et al., 2000; Chigora et al., 2020; Filipová and Valná, 1995: 118). For these reasons, Townsend (1979: 28) considers poverty as a dynamic concept. While in early research (early 19<sup>th</sup> century) the poverty was associated with physical survival (lack of resources for basic food), along with the development of society it has been also understood as a cultural and social concept encompassing an increasingly broader range of living conditions. Throughout the historical cross-section of poverty, we see a shift from emphasising the poverty as an expression of the class-cultural stratification of society to the poverty as a deprivation of lifestyle and the need to secure the minimum income necessary for an adequate standard of living, which is characterised by the way of life in a given country (Michálek, 2000: 233).

At present, the concept of poverty is one of those that are largely controversial, both in theory and in practice, and have no exact, universally accepted objective definition yet. Different institutions apply different approaches to the defining poverty using very different quantitative dimensions of this phenomenon in society. The reason for this inconsistency is, among other things, the fact that poverty has not only its individually experienced form, but also social, national, international and global one (Ashley et al., 2000; Ondrejčovič, 2010: 31). In this respect, the concept of poverty takes on a spatial aspect. Consequently, as Michálek (2000: 233) also states, *“the content of the concept of poverty changes significantly due to the influence of spatial dimensions”*. Currently, there are significant differences between poverty in Third World countries, advanced economies and post-communist countries in transition. While the concept of absolute poverty (failure to meet basic needs necessary for survival) is a problem of developing countries, the content of poverty in economically developed countries is a relative concept, i.e. poverty determined in relation to the generally accepted standards of living in a given society (Michálek, 2000: 233). In general, the purpose of the definition of poverty is to provide an analytical tool to promote a better understanding of the issue, or to promote debate on theoretical and practical issues related to its measurement and policy strategies to address the problem. The most of economists promote the understanding of poverty as a one-dimensional concept based on the consideration that different individuals have different (lower or higher) standards of living. Statistics in the most of calculations also use a simpler one-dimensional concept based on the degree of access to the economic resources. Thus, people are considered poor if their access to the economic resources (compared to their needs) is significantly low (Bodnářová et al., 2005: 5).

Sociologists and some economists see living standards more than a multidimensional *“way of life”*. Consequently, they see poverty as a multidimensional disadvantage and find the one-dimensional concept incomplete. They understand poverty as a multidimensional phenomenon, a deficit of certain things on which a human health, well-being and autonomous functioning in society depend, including the ability to meet basic needs (food, housing, clothing, etc.; Cattarinich, 2001: 1; Chigora et al., 2020). The aforementioned deprivation may relate to an insufficient income, consumption or assets, status, rights or security. The ability of the poor to influence decisions that affect their lives, vulnerability or resilience to unexpected events, access to services and property, the strengthening or erosion of social ties, are all important factors that should and are taken into account when assessing poverty. Based on the above, it can be concluded that *“the poverty is not a result of the lack of one thing, but of a number of interrelated factors that cluster in the experiences of the poor and in definitions of poverty”* (Narayan et al., 2003 in Scheyvens, 2011: 20).

Other authors, Chambers and Conway (1992: 6) understand the reality of the poverty in relation to the various life strategies adopted, considering skills, assets and activities as the necessary means for living. The poor are particularly vulnerable to risks and strains if they do not possess a wide range of life strategies, capabilities and assets. The resilience of the poor to risks and stresses is generally determined by the diversity of life strategies, one of which may be the tourism we consider. Sustainable living approaches seek to enhance poor communities' resilience by focusing on community participation and activities. Sen (1999: 30) describes a similar multidimensional approach and emphasises freedom by explaining that the poor have limited access to the resources that enhance human well-being. People should have the freedom and opportunities to improve their life, uplift their living standards, and avoid lack of education, hunger, etc. (Payne, 2018). Also important in Sen's (1993: 30) views is the concept of capability, which refers to *“the actual ability of persons to achieve various valuable tasks as part of existence: therefore, what people can do is much more important than who can possess what”*. The rights-based approach to the development presented by UNDP (2000) is closely linked to Sen's views mentioned above. Its central idea is that the poverty represents a denial of fundamental human rights (a right to food, health, education, etc.). Consequently, the UNDP proposes ensuring the access to resources and opportunities as the best way to combat poverty, arguing that it is the right of every citizen. *“Human development is about expanding people's possibilities”*, and if we want to ensure development and empowerment, it is imperative to ensure opportunities and choice (Acharya et al., 2022; UNDP, 2002: 8; Torabi et al., 2020).

### **Poverty alleviation through the development of sustainable forms of tourism**

At the same time, the dominant approach to tourism use pursues regional economic growth as the primary objective, while poverty reduction is seen as only a partial objective or natural outcome of regional development (Acharya et al., 2021; Zhao and Ritchie, 2007). It is expected that once the whole region develops and reaches a higher level, through multiple channels, the effects of development will be felt by the local poor - e.g., increasing employment, building infrastructure, etc. (Zeng et al., 2005 in Zhao and Ritchie, 2007: 10; Susilo et al., 2021). Consistent with this philosophy is the conventional tourism system, which is based on the development paradigms of modernisation theory, dependency theory, and neoliberalism (Matlovič and Matlovičová, 2015, 2020; Stiperski et al., 2021; Zhao and Ritchie, 2007). It

focuses primarily on increasing visitation, assuming that the benefits will eventually ‘trickle down’ to the poor over time. In this case, policymakers usually pay more attention to the expansion of the tourism sector and not to the real issue, i.e. to the what extent tourism development contributes to poverty alleviation in practice (Chritie, 2002 in Zhao and Ritchie, 2007: 10; Kolesárová, 2014; Matlovičová et al., 2016a, 2016b; Saberifar and Mishra, 2022).

One of the promising options to provide employment opportunities for the inhabitants of underdeveloped rural areas is local development through the promotion of tourism (Saberifar and Mishra, 2022). In this case, we are primarily referring to a specific form of tourism management the most of income from the related activities, will be used for the support and development of poor communities. As Ashley et al. (2001a, 2001b) note, in the optimal case, the tourism aimed at poverty alleviation can generate other than economic benefits, which is consistent with the multidimensional approach to poverty alleviation discussed above. Concepts discussed in the literature in this context are the concept of pro-poor tourism (PPT) and the concept of community-based tourism (CBT) and based on this, the concept of community-based ecotourism (CBET). A comparison of the PPT and CBT concepts has been addressed by Saayman and Giampiccoli (2015). According to them, PPT differs from CBT in that it emerged in the 1990s and has accepted the current neoliberally oriented economic discourse (Harrison, 2008 in Saayman and Giampiccoli, 2015: 166). Thus, PPT remains a part of conceptualisation and practices controlled and guided by neoliberal logic and does not represent an alternative development process that seeks to transcend the boundaries set by neoliberalism (Saayman and Giampiccoli, 2015: 165). Unlike PPT, the concept of CBT has its roots in the 1970s paradigm of alternative local community development, which brought people-centred development to the fore. Thus, development meets the needs and expectations of local communities. Another feature is the participation of community members, i.e., development exploits the predominantly endogenous potential of local communities. The basic feature of CBT is that the Community owns, i.e. fully controls and manages, the local tourism business (Chigora et al., 2020; Giampiccoli and Mtapuri, 2012).

Ecotourism is a concept that integrates conservation and economic development (Baral, 2014; Dincă et al., 2012; Viturka et al., 2021; Tătar et al., 2017). Many resources attempts to formulate its definition (Fennell, 2001). Already Buckley (1994) defined four basic dimensions of ecotourism within his theoretical scheme: its base is nature, it promotes nature conservation, it is managed sustainably and it has an educational effect on environmental awareness. Wallace and Pierce (1996) added to these attributes two characteristics that relate to the local communities: ecotourism empowers them to make their own decisions and brings them direct economic benefits. From these considerations, the concept of community-based ecotourism (CBET) has evolved. It is a specific form of the concept of community-based tourism (CBT), in which the emphasis is on protecting the natural environment in line with the principles of ecotourism (Pookhao, 2014). CBET builds on access to the areas and sites of natural value that have hitherto been inaccessible to tourists. In this case, the products are usually of a local, regional or at most national character without any significant impact of the demand side.

However, this demand represents an interesting source of income for poor local communities, which can potentially have a major impact on the development of communities in tourist destinations. Given that most of the nature-valued areas are under the competence of the state, the eventual development of ecotourism cannot be achieved without its participation and support (Matlovičová et al., 2015). In terms of ecotourism organisation, its scope and seasonality should be adapted to the conditions of sustainable development, considering the territory’s possibilities and the adequacy of its resources. Regarding ecotourism trips, small groups of visitors are usually preferred, with minimal negative ecological and socio-economic impacts. The aim is not to develop mass tourism aimed at fast and comfortable travel and visits to areas of high natural value and inhabited by exotic ethnic groups (Ceballos-Lascurain, 1996). In this case, in terms of the authenticity of the experience, we can speak of a rather negative phenomenon, referred to as the commercialisation of wilderness. Indeed, the label “eco” is here narrowed down to a mere common stay in a natural environment (Matlovičová et al., 2015; Torabi et al., 2020). From the perspective of organising poor community-based ecotourism, it is important to sensitively adjust the intensity and nature of immediate contacts between tourists and local communities. CBET should be developed in the context of the principles of alternative approaches in tourism, either through external intermediaries (touroperators) or also directly through local community representatives. Examples include commercial trekking, ecotourism trips for cruise participants or even different forms of travel aimed at exploring and interacting with wildlife or exotic cultures.

## MATERIALS AND METHODS

### Study area

Pastanga-Khedi Eco-Trail (PKET) is located in the catchment of Taktsom Chu River, occupying an area of 35.42 km<sup>2</sup> in the East district of the Eastern Himalayan state of Sikkim, India. For PKET, Pastanga, Assam Lingzey is the starting point, about 30 km from Gangtok crossing Ranipool in East Sikkim District. It (PKET) extends from an altitude of 1,400 m - 2,800 m. It takes 8 hours of an adventure trek from Pastanga village uphill to Khedi Tar (Figure 2 and 3). The village is an very good place to witness Mt. Kanchendzonga (the third highest mountain in the world) renowned Rumtek monastery on the hill opposite to the village. Both of these are worth seeing from Pastanga (Lama, 2014). The Pastanga village is inhabited by three ethnic communities, namely Rai, Bhutias and Lepchas, with a total of 112 households constituting around 500 people (Primary survey, 2021). However, most of the population are predominantly farmers and earn the livelihood through traditional organic agriculture. Besides, horticulture practice and dairy farming are also practiced. The notable attractions of the village includes *Cymbidium* orchids, rhododendrons (*Rhododendron arboretum*; *R. grande* etc), and various species of birds such as Sikkim treecreeper (*Certhia discolor*), Blue-fronted Redstart (*Phoenicurus frontalis*) etc. The village has been one of the main producers of large cardamom (*Amomum Subulatum*) and ginger (*Zinziber officinale*) in the state of Sikkim (Primary survey, 2021).

Except for a few natives, the trail's historical significance of the village is that it served as a shortcut route for minor business people from Tibet and Sikkim before 1962. Before 1942, it was also a vital commerce route between Sikkim and Tibet (Arora, 2013). The area is serenely covered with dense virgin forest, verdant pastures at certain points, bamboos (*Bambusa nutans*; *Dendrocalamus sikkimensis* etc.) and is rich in trees diversity such as *Schima wallichii*, *Macaranga pustulata* etc. The NGO Khedi Ecotourism and Ecodevelopment Promotion Society (KEEP) was established to promote the protection of the local surrounding valuable environment. An important point from CBET's point of view was the fact that local residents participated in the establishment of the office (donated the land on which the office was built). In the initial phase (2004), a website (www.sikkimhomestay.com) was also set up to raise the profile of CBET's activities not only in Pastanga but also in the surrounding villages with similar programmes (focusing in particular on an initiative called Sikkim Himalayan Homestay). The success of the Sikkim Himalayan Homestay initiative is evident from the fact that nearly 47% of families in Pastanga participated (Peaty, 2009). It was an interesting form of assistance for the locals. They were not discouraged by the Rs. 100 per year fee and the membership fee of Rs. 500 that had to be paid (Peaty, 2009). This initiative was organised by the Ecotourism Conservation Society of Sikkim (ECOSS) with the support of UNESCO.

The design of the study was based on our own field research in the Pastanga-Khedi eco-trail situated in the Sikkim State of Eastern Himalayan, India. The study utilizes the primary field data which was also supplemented with data from the Forest and Environment Department, Government of Sikkim, <http://www.sikkimforest.gov.in/> and other publicly available sources. The base map was prepared after collecting Ground Control Points (GCP) using ArcGIS software. Standard processing methods using Geographical Information Systems tools were used at the preparation of the maps. The ancillary / collateral information was integrated with the primary data, and basic statistical analysis was done to derive the results. The flowchart of methodology is presented in Figure 1.

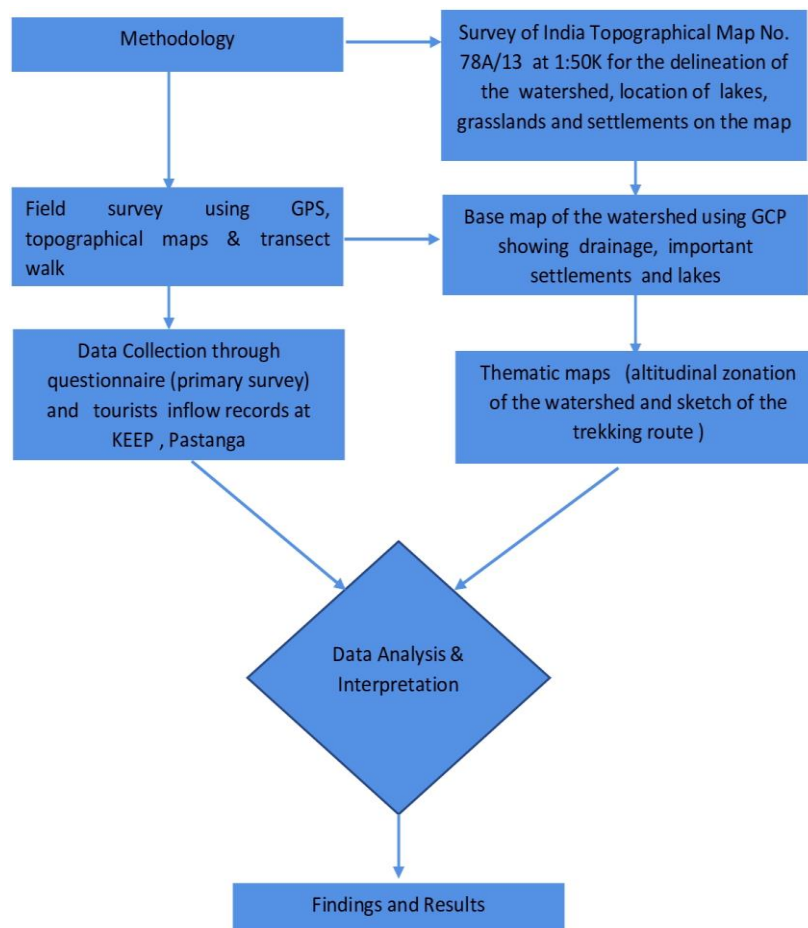


Figure 1. Methodology adopted for the present study

## RESULTS AND DISCUSSION

### Sikkim Case Study

The contribution of tourism to the mountain economy in the Indian Himalayan Region (IHR), is quite significant (Sharma et al., 2009) and increasing substantially. The diverse landscapes and rich cultural heritage of the Eastern Himalayan Indian state of Sikkim have attracted tourists, pilgrims, naturalists, explorers, trekkers, mountaineers and adventure travellers (Uprety and Sharma, 2012). Tourism in Sikkim mainly thrives on high-altitude landscapes, alpine lakes and biodiversity associated with the high-altitude geologically fragile area and sensitive habitats (Joshi et al., 2012). In other words, tourism in Sikkim is more or less natural or culture-oriented (Rai et al., 1998).

Nature-tourism is based on travels to relatively undisturbed or uncontaminated natural areas and constitutes about 15% of all tourism (Adams, 1995). The main goal of adventure tourism is to seek unusual tourist experiences, adventure associated with travelling to unusual, little explored places or visiting other cultures. Travel in this case is exploratory in nature. The key differentiating aspect is the emotional experience stimulated by the experience underpinned by intellectual activity (Buckley, 2007; Matlovičová et al., 2015; The Economic Planning Group of Canada, 2005).

It has been previously reported that the eco-tourism performance in Sikkim has achieved economic, social and ecological dimensions of sustainability (Bhattacharya and Kumari, 2004). There is an ever-increasing emphasis on ecotourism because of its relevance and imperative need for protecting fragile character of the environment in its specific mountain stations (Chakrabarti, 2009). In the 1990s, there was an increasing emphasis on the tourism in Sikkim, a number of village tourism sites was developed and they were entrusted to community control (Joshi and Dhyan, 2009). Subsequently, due to increasing importance of ecotourism, the Government of Sikkim has been taking pro-poor, pro-community and pro-environmental initiatives to develop adventure, cultural and pilgrimage tourism and

also rural and domestic tourism as part of a wider view of ecotourism (Dahal, 2015). As far as adventure tourism in Sikkim is concerned, it includes mountaineering, trekking, mountain biking and water rafting.

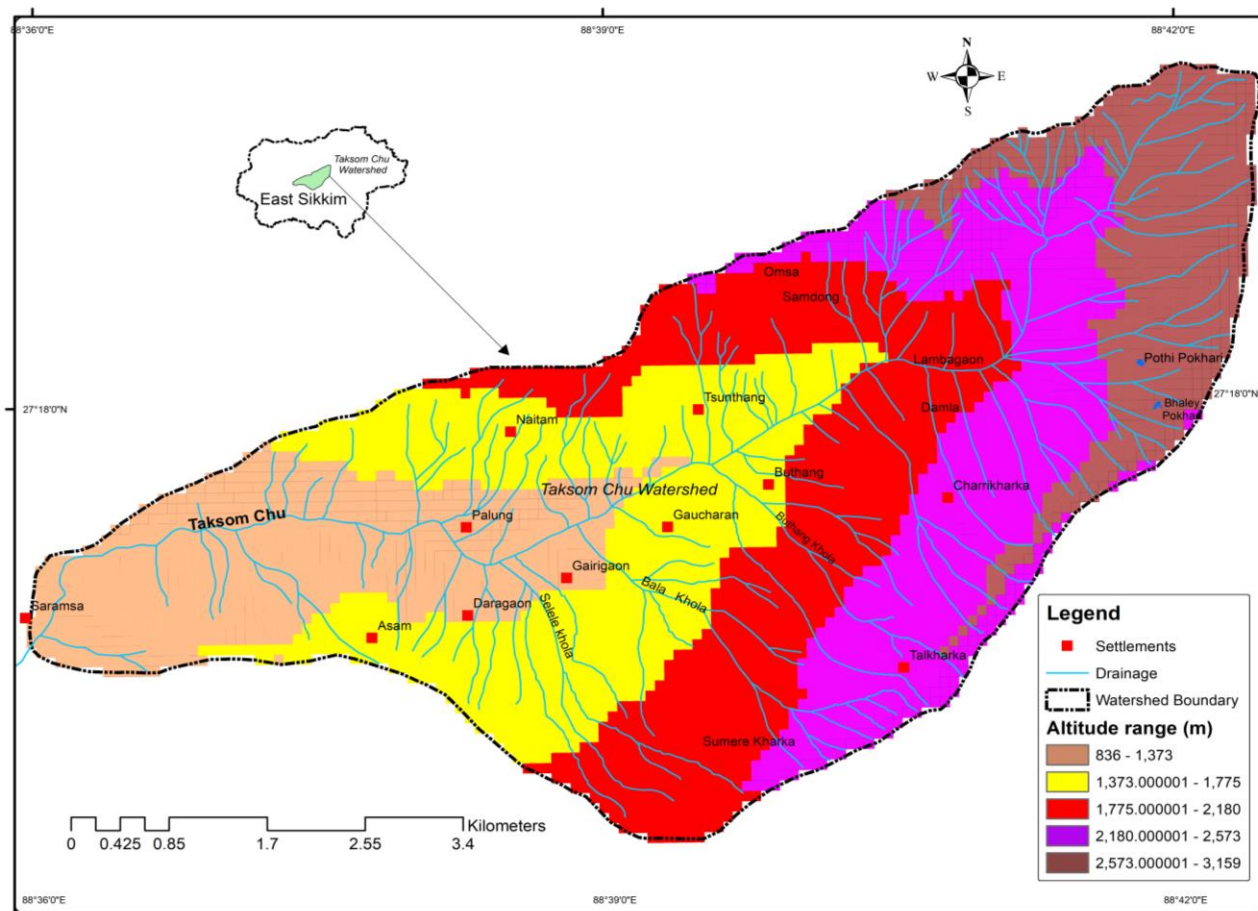


Figure 2. Location of Khedi Pokhori in Sikkim (Source: prepared by Dilli Ram Dahal)

For few decades in the past, many inhabitants of Sikkim have found a new opportunity to host tourists as guests in their homes. Such kind of tourism, commonly known as “Community Based Ecotourism” is gaining popularity and offers the opportunity to experience the local culture, cuisine and interaction with the Community for a reasonable price. Pastanga-Khedi eco-trail (alt. 1,400 m - 2,800 m) in Taktom Chu valley, East Sikkim is one of the ecotourism destinations for contributing and sustaining the Community based rural tourism. The Khedi Eco-Tourism and Eco-development Promotion Society (KEEP), Pastanga based non-governmental organisation has been maintaining and organising the eco-treks along the trail since its inception in 2000-2001.



Figure 3. Pastanga village (1,423 m) - Take off point to Khedi Pokhari (Source: Photo by Santosh Sharma, October 17, 2021)

### Trekking from Pastanga Village to Khedi Pokhari

The importance of PKET to domestic and foreign tourists has already been highlighted by researchers and the locals (Sharma et al., 2009; Verma, 2012). Khedi (2,700 m) is a huge undulating stretch of land on the top of a ridge. The five-day trek to Khedi Pokhari starts from Pastanga and after passing through multiple tourist destinations of halt such as Bothong, Damla, Chowri kharka (pasture land), Gorujuray, Rametay and Dobato, Dhungel Kharka (pasture land), Tal kharka (pasture land) and Dudiley Tar (pasture land) - finally Khedi Pokhari can be reached (Figure 4). This high forest near Gorujurey belt has been known for breeding ground of Red panda (*Ailurus Fulgens*) in Sikkim.

These multiple tourist destinations are yet to be registered in the tourism map of Sikkim. It is to be noted that from the Chowri Kharka the vegetation profile changes dramatically from subtropical to temperate forests. Between Gorujurey and Khedi Menla, there are two lakes located little away from each other. The end destination for any visitors

is reaching Khedi Menla which is close to Tsomgo Lake in East Sikkim from various pathways. Assam Lingzey, Gaucharan Pastanga and Parakha Rolep Rongli provide a takeoff point for the visitors foraying into the high forest trekking. Towards the Khedi Chawri kharka site, the river Taksom Chu originates; besides various other rivers such as Bala khola, Tharo Khola and Seleley khola emanate from these high forest areas and provides drinking and irrigation water sources for the villagers downstream such as Namrung, Pastanga, Lingzey etc.

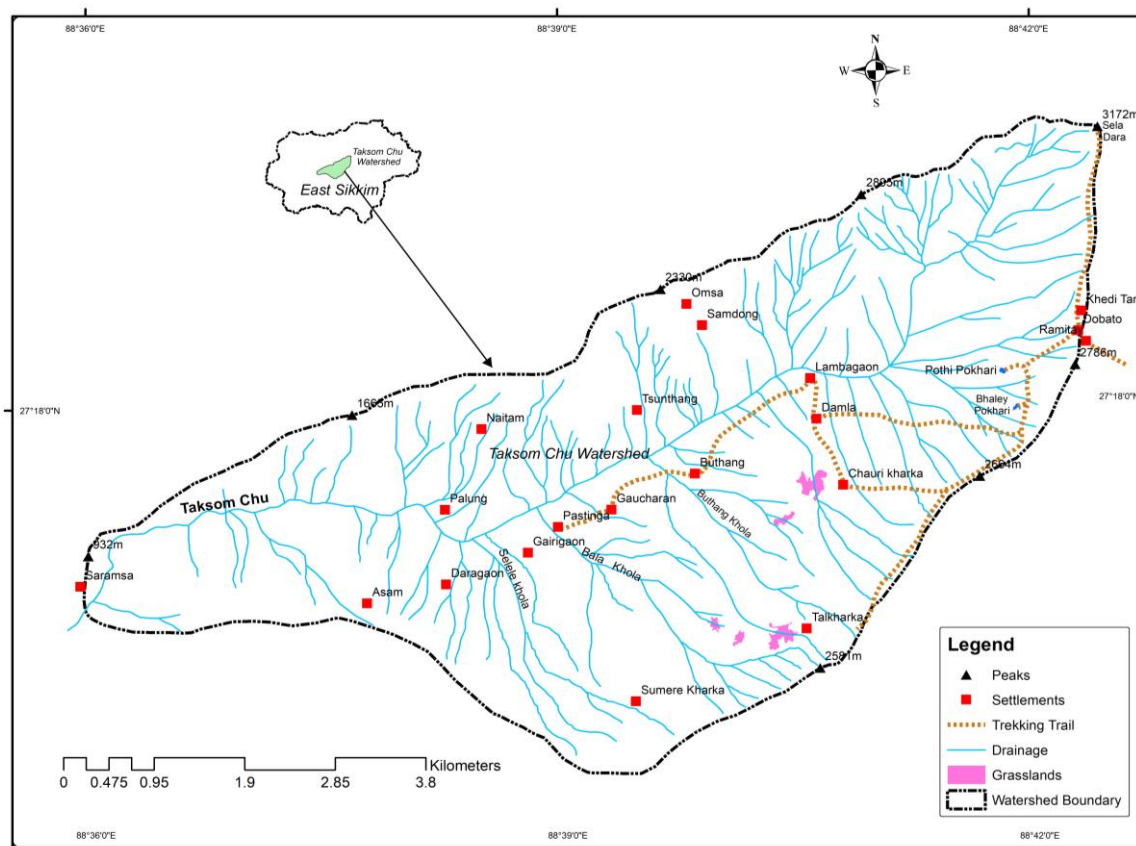


Figure 4. Trekking route of the Khedi Pokhari from the Pastanga Village (Source: prepared by Dilli Ram Dahal)

### Khedi Pokhari and its Significance

The Khedi Lake can be reached by an adventurous uphill trek of 8 hours from Pastanga village. Located in the midst of the dense bamboo forest at an altitude of 2,627 m above mean sea level (amsl) in the North Eastern corner of Taksom Chu Watershed (Figure 4), It consists of two lakes locally known as Bhalay Pokhari (male) and Pothi Pokhari (female) fed by natural streams and snow melt (Figure 5).

### Pattern of Trekkers Visiting Pastanga-Khedi Lake

Every year the local trekkers prefer to trek along Pastanga-Khedi Lake on the Hindu festival: "Ram Navami" to offer the prayers to fulfill their wishes. A temple of goddess Durga and a line of colourful prayer flags on the banks



Figure 5. Khedi Pokhori (Lake) – High-altitude natural lake, East Sikkim (Source: prepared by Santosh Sharma, October 17, 2021)

of the sacred lakes mark their sanctity. The water of both lakes has been feeding the turbulent Taksom Chu. Figure 5 shows that the trekking to Khedi is mainly of the domestic kind (Indian tourist). On an average, the foreign tourists who have trekked to Khedi comprise only 18.11% of the total trekkers from 2002-2021. An analysis of the tourist's data revealed a fluctuating trend from 2002 to 2009. There was a steep rise in the number of trekkers (both domestic and international) from 2002 to 2003 (83.15%). In the year 2004, 2005 and 2006 there was a declining trend (negative growth rate) of - 35.14%, - 32.02%, - 84.33% respectively. In 2007 and 2008 there was again a gradual rising pattern (21.69%, 23.74%) followed again by a sharp decline of - 54.44% in 2009. The number of visitors from 2010 to 2021 declined sharply with less than 25 visitors mostly domestic, while less than 5 visitors on annual basis (Figure 7).

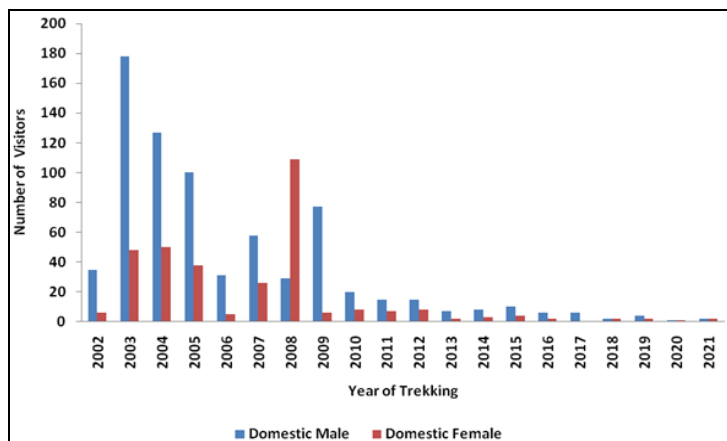


Figure 6. Domestic Tourist trekking to Khedi Pokhari, 2002-2021 (Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)

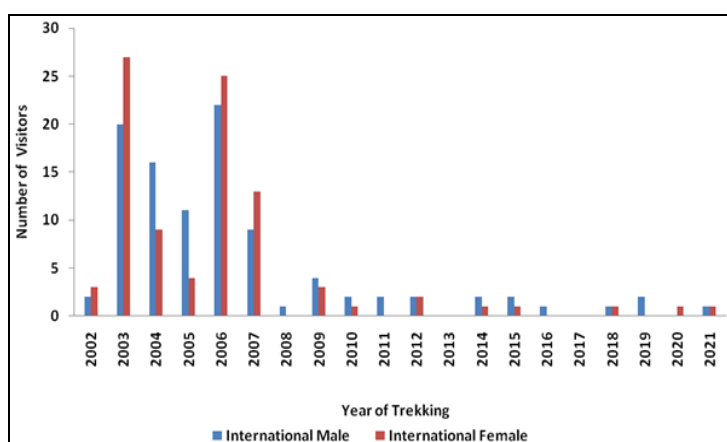


Figure 7. International Tourist trekking to Khedi Pokhari, 2002-2021 (Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)

Table 1. Domestic and foreign trekkers to Khedi Pokhari from 2002-2021 (Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)

Statistical Parameter	Trekkers statistics	
	Domestic	Foreign
Mean	53	9.6
S.D.	66.33	14.59
Min.	02	00
Max.	226	47

Almost all countries have been planning to promote Community Based Tourism, especially in rural areas, for the well-being of local people (Chaudhary and Lama, 2014). Tourism and Civil Aviation Department (T&CAD), Government of Sikkim (GoS) has identified and recognised several eco-treks in the state of Sikkim such as Yoksom-Dzongri-Goechela eco-treks West Sikkim, Tholung-Kishong in Dzongu Valley, North Sikkim, Golitar-Tinjurey and Pastanga-Khedi eco trails in Rongni and Taktsom Chu valleys, East Sikkim.

The Pastanga-Khedi adventure trekking was being managed in a sustainable way by increasing the awareness of conservation issues amongst domestic and foreign tourists. The visitors were accommodated in a home stay and treated as family members. They were able to understand the local traditions, and food habits, observe their lifestyle, and participate in the celebration of festivals, dances, rituals and other forms of cultural expression. Homestay was offered to serve the guest on rotation basis, so the economic benefits could be gained by every family. Apart from the pleasure of being amidst a

peaceful and serene environment, tourists could also enjoy the traditional folk dances and music presently the local men and women in their colourful traditional dresses. The highlights of this trek are that there are lush green thick rain forests and, thick bamboo vegetation, rich wildlife. There are altitudinal vegetation changes that take place from thick conifers to Rhododendron forests. Huge rock cliffs and caves are seen all along the way, and birds are found in every creek. Panoramic views of Third highest Peak Mount Khangchendzonga (8,598 m) and Paro Valley of Bhutan can be seen from Khedi.

From the Sela Pass (3,150 m) view of Chhangu glacial lake (3,780 m) and Kupup area (world's highest golf course, 3,980 m) can also be witnessed. The Khedi Ecotourism and Eco-development Promotion (KEEP) Society in the village facilitates the trekking of visitors in a responsible way by providing with all essential items, trained discipline guides and porters to extend all help to make journey memorable and environment safe. It has developed Home Stays with the help of the villagers. It is an ideal example of ecotourism in a small scale in which local Community is involved.

Khedi Pokhari with its surrounding watershed is pristine and has its longevity in terms of its health. There is no or very little fuel wood removal at various points along the trekking trail. The trekking trail has not disturbed and degraded the vegetation type, structure, species regeneration and bird and butterfly richness. There is no impact of tourism especially on the camping sites and the pastures by pack animals. Further, there is abundance of various species of flora and fauna, so it is the destination for naturalist and nature lovers. A migratory bird species Brahminy Duck (*Ruddy Shelduck*) and Red state animal of Sikkim Panda (*Ailurus fulgens*) could be sighted during the course of the trek. The presence of numerous species of rhododendrons such as *Rhododendron grande*, *R. arboretum*, *R. barbatum* and *R. vaccinioides* is special characteristics of the vegetation around the lake.

To accelerate the development of the Pastanga-Khedi T&CAD and GoS eco-route, a wide footpath has been constructed from Pastanga village to Khedi Tar. Mela (social gatherings) were organized to promote and increase awareness in the Khedi Tar eco-route. The promotional activities were successful (between 2002 and 2009 the eco-trail was able to attract numerous groups of domestic and foreign tourists). Pastanga village was identified as among successful case studies of rural tourism in the evaluation studies of the Government of India (Ministry of Tourism, Government of India, 2012). However, there was no trekking along Pastanga-Khedi Eco-trail during 2010-2020. It has been reported that an area's trekking status depends on the status of attraction, accommodation, accessibility, amenities and administration (Premangshu and Sadhukhan, 2018). Additionally, satisfaction of visitors with the ecotourism experience is essential to long-term viability of the ecotourism industry (Oommen, 2016). It needs to be noted that 80%



of the visitors to Sikkim come for general sightseeing, principally to see its nature and the spectacular mountain views and snow (Rizal and Asokan, 2014). They are specially the domestic tourists. Whereas foreign tourists visit Sikkim especially for river rafting, trekking, mountaineering and research, this is mainly possible in the winter season (Rizal and Asokan, 2014). The visitors travelling to Sikkim from various parts of India and abroad prefer the local sightseeing places such as Honey falls, Rajapokhari, Molaso viewpoint, *Cymbidium* Orchid Centre, Saramsa Garden etc. which are in close vicinity to the Pastanga village. It seems the main reason it seems, was lack of marketing on the part of KEEP and the decline of interest in trekking by the visitors. It is argued that community-based ecotourism enterprises are failing because of several obstacles, such as unequal allocation of economic benefits, little or insufficient marketing skills, and insufficient infrastructure (Regis and Matikiri, 2015). During 2010-2020, there has been the formation and development of many private home stays such as Malingo, Pahunaghar, Yakchiri, Streamland etc. Due to lack of international and domestic visitors trekking to Khedi from Pastanga, the role and significance of KEEP has declined during this period (2010-2020). However, during the survey it was found that the number of trekkers from the state of Sikkim has increased in the forest areas leading upto the Khedi. A lack of 'communities' capacity to take advantage of ecotourism development was the main reason for the declining /no visitor's trend in the study area.

## CONCLUSIONS

The tourists trekking to Khedi Pokhari presents a fluctuating trend during 2002-2009 and a declining trend from 2010-2021. On average, foreign tourists who trekked to Khedi comprise only 17.02% of the total trekkers during the study period 2002-2020. During the decade 2010-2021 the trekking to Khedi was insignificant. This could be attributed to various reasons (5As) regarding the trekking status of the study area. It needs to be that the ecotourism potential of the PKET has not been fully converted/developed for the economic, environmental and cultural sustainability point of view, especially considering its proximity to Gangtok, the capital city of Sikkim. Potential capacity barriers to ecotourism development within local communities are as (Strasdas et al., 2007):

- a. Potential Capacity Barriers Lack of formal education or literacy skills,
- b. Lack of language skills, national or foreign,
- c. Variation in ways of handling little, hygiene, and upkeep of infrastructure and buildings lack skills in food preparation catered towards tourists,
- d. Different concepts in time and time management,
- e. Lack of planning skills concerning possible consequences of tourism and inability to control tourism development.

Possible Causes of Lack of Visitation to Protected Areas and Tourism (Leung et al., 2015):

- a. Possible Causes for Lack of Visitation to Protected Areas and Tourism,
- b. Lack of market awareness among travellers and the tourist sector,
- c. Access to protected areas is difficult and costs significant time and money,
- d. Lack of tourism infrastructure,
- e. Lack of tourism support services and facilities, such as restaurants and transportation
- f. Lack of natural and cultural attractions,
- g. Lack of unique selling points compared to competing destinations elsewhere,
- h. Poor quality of tourism products,
- i. Tourism products not matched to market demand,
- j. External factors: political instability, war or conflict, terrorism threats or human rights issues.

Analysis of the survey questionnaire results shows that the Community of the study area is fully aware of the importance of ecotourism in sustaining their livelihood. According to them the visitors love to experience traditional Sikkimese village life in the area. Hence, they perceive Community Based Tourism as the only way which can provide mutual benefits to both the locals and the visitors. The CBT provides not only the employment to the local youths but also helps in generating adequate income sources (Koti, 2019; Nemethova, 2020). The CBT have made them see the value/importance of their locality after the arrival of a visitor from different parts of the world and India. It has made them to realise that apart from the Government Service, the CBT can also help them as a sustainable source of Income for the Community. The main strength of CBT in the study area is that the area is located close to Gangtok which can serve as a base point so that visitors can easily visit their area from /after visiting Gangtok. Secondly, the area is very rich in biodiversity components so that the visitors can also enrich their knowledge on the different biodiversity components of the study area. The study area has falls, ponds and many rivers where the various spots can be identified for renovation so that more and more visitors would be attracted to the place for photography, studying of biodiversity, sustainable fishing etc. As far as trekking is concerned, the main challenge is the lack of infrastructure such as medical aid on the way to Khedi which is the reason why the visitors have been avoiding the trekking from Pastanga to Trekking. According to the villagers, the trekking is meant only for the wildlife enthusiasts and not the common visitors who are with family and likes to cover some sightseeing places in a short span of time and return. The main challenge as has been highlighted by the residents is the lack of health facilities while trekking from Pastanga to Khedi Lake. The trekkers are afraid that in the absence of health facilities, they will be risking their lives while trekking. Besides, there is no place where they can take a safe halt. With tents the trekkers with family members do not feel safe at all.

It needs to be noted that the virginity of the high forest's areas of Gorujurey reaching Khedi Menla and joining the National Highway Road at Kyongnosla side near Tsomgo Lake is going to be lost due to the proposed construction of a

National high-way road being built by the National Highway Corporation of India Limited (NHIDCL) under the Ministry of Roads, Transport and Highways, Government of India, New Delhi for security reasons. Efforts need to be made so that minimum damage is caused to the ecological integrity of the area for sustaining the trekking and Community-based tourism activities in the study area. The villagers feel that the proposed construction of a National high-way road from Barapathing to Changu Lake via Khedi will pave the way for attracting more tourists in the coming years.

The Sikkim Ecotourism Policy (2011) is in place to be executed by the various stakeholders for achieving economic and environmental sustainability, KEEP can play a pivotal role in promoting PKET as it had done for one decade after its inception. The natural beauty of the Khedi Lake is yet to be explored fully in terms of natural wealth of flora and fauna and should be regulated by the State Government for regular tourism. If promoted properly, the PKET has the potential to provide continuous round-the-year sustainable incomes for everyone. In the recent past (2019), the T&CAD, GoS formulated 'Sikkim Home Stay 'Standard' which contains guidelines and parameters for offering quality homestay experience. It should provide much-needed impetus for revamping the Community based tourism and adventure tourism in terms of trekking the Pastanga-Khedi Eco-Trail. Among different forms of sustainable tourism that can address local reality and are based on Agenda 2030 of Sustainable Development Goals (SDGs), Community based eco-tourism is one such form of tourism that can be considered for this region.

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