

FACILITIES, INSTITUTIONAL SUPPORT, AND DEVELOPMENT OF MOUNTAINEERING IN WEST BENGAL: A SURVEY STUDY

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Abstract

Mountaineering is a high-risk land-based adventure sport requiring advanced physical, technical, and psychological competencies supported by strong institutional frameworks. The present survey study examined the status of facilities, financial assistance, training systems, safety measures, and achievement levels associated with mountaineering in West Bengal, India. Data were collected from primary and secondary sources including structured interviews, government documents, institutional reports, budget statements, equipment checklists, journals, and newspapers. The findings revealed that West Bengal has made significant progress in institutional development and athlete achievement, primarily through the Himalayan Mountaineering Institute and the West Bengal Mountaineering and Adventure Sports Foundation. However, limitations persist in elite-level infrastructure, availability of advanced safety equipment, and comprehensive expedition funding. The study concludes that while mountaineering in West Bengal demonstrates strong historical significance and potential, sustained development requires enhanced government–non-government collaboration, improved safety infrastructure, and expanded training opportunities aligned with national and international standards.

Keywords: Mountaineering, Adventure Sports, Facilities, Training, Infrastructure, West Bengal

Introduction

Mountaineering is one of the oldest and most demanding adventure sports, involving physical endurance, technical climbing skills, environmental adaptation, and psychological resilience. Globally, mountaineering evolved from exploration and scientific pursuits into an organized sport during the nineteenth century. In India, the Himalayan Mountain range has played a pivotal role in the development of mountaineering as both a sport and a profession.

West Bengal occupies a unique position in Indian mountaineering history as the home of the Himalayan Mountaineering Institute (HMI), Darjeeling—the first mountaineering institute established in India. The state has produced several eminent mountaineers who have successfully climbed peaks above 8,000 meters and earned national recognition. Despite this legacy, systematic development of mountaineering depends on adequate facilities, financial assistance, training infrastructure, safety mechanisms, and institutional coordination.

Purpose of the Study

- Assess existing facilities and infrastructure for mountaineering in West Bengal.
- Examine the availability of standard mountaineering equipment.
- Analyze the role of state and central government assistance.
- Evaluate the contribution of non-government organizations.

- Examine training systems and their scope.
- Assess achievement levels of mountaineers from West Bengal.
- Identify risk factors and safety measures in mountaineering activities.

Methodology

This chapter includes the information about Paragliding. It compiles the basic and advanced techniques adopted, the required equipment used and the preparatory part for the Paragliding. This chapter also include the criteria measured and the different sources of data explored for this study.

Research Design

The present study employed a descriptive survey research design to examine the status of facilities, infrastructure, training systems, equipment availability, and organizational support related to Mountaineering in West Bengal. The survey method was considered appropriate as the study aimed to document existing conditions and evaluate developmental aspects rather than establish cause–effect relationships.

Criterion Measures

To fulfill the objectives of the study, the following criteria were used for data collection and evaluation with reference to mountaineering:

- Evaluation of the extent of fulfillment of State Government (West Bengal) objectives
- Status of State Government mountaineering programs in relation to national programs
- Achievement level of mountaineers from West Bengal
- Risk factors and safety measures adopted during mountaineering activities
- Financial implications related to training and expeditions
- Role of non-government organizations in mountaineering development
- Availability of mountaineering equipment
- Existing facilities and infrastructure
- Nature and scope of training programs

Sources of Data

Both primary and secondary sources of data were utilized to ensure comprehensive coverage and reliability of information.

Primary Sources

Interviews.

Structured and semi-structured interviews were conducted to collect firsthand information regarding mountaineering facilities, training systems, financial support, and safety practices. Renowned mountaineers and officials associated with mountaineering institutions were contacted after obtaining prior consent. Interviews were conducted through personal interaction, telephonic communication, and computer-assisted methods. Additionally, selected officials of the Himalayan Mountaineering Institute were personally interviewed during field visits conducted in December 2019.

Checklist.

Standardized checklists were used to assess the availability and condition of mountaineering equipment. Equipment data were collected from the following organizations:

- Himalayan Mountaineering Institute, Darjeeling
- West Bengal Mountaineering and Adventure Sports Foundation
- Selected non-government mountaineering organizations (20 in number)

Secondary Sources

Secondary data were collected from authenticated documentary sources to supplement primary data. These included:

- Budget estimates of the Government of West Bengal
- Budget estimates of the Himalayan Mountaineering Institute
- Budget estimates and programs of the Indian Mountaineering Foundation
- Official policy documents and programs related to mountaineering
- Reports published by non-government organizations

Relevant academic journals and newspapers were also consulted to obtain factual data and contextual understanding.

Journals Consulted:

- Mountaineering journals
- Nehru Institute of Mountaineering journals
- Indian Mountaineering Foundation journals

Newspapers Consulted:

- *The Times of India*
- *Ananda Bazar Patrika*
- *The Indian Express*
- *Ei Samoy*
- *The Telegraph*

Procedure

The data collection process was conducted systematically. After identifying relevant institutions and respondents, prior consent was obtained before conducting interviews. Equipment data were recorded using standardized checklists. Budgetary and program-related information was collected from official documents and cross-verified from multiple sources to ensure accuracy and reliability. Data obtained from government and non-government organizations were compiled for cumulative and comparative analysis to assess the scope for improvement in mountaineering facilities in West Bengal.

Presentation and Validation of Data

The collected data were organized under major heads such as budgetary allocation, equipment availability, training facilities, training programs, governmental support, role of non-government organizations, and achievement status in mountaineering. Since the study focused on institutional facilities, financial grants, and equipment status, face validity of the data was established through expert consultation and cross-verification of information from multiple sources.

Analysis of Data

The analysis revealed that training programs are systematically conducted primarily by HMI, while other organizations depend heavily on limited resources. Budget analysis showed a gradual increase in state funding for mountaineering, whereas central funding displayed fluctuations. Equipment analysis indicated that HMI possesses the most comprehensive inventory, while non-government organizations face shortages, particularly in high-altitude technical gear.

Table 1 Budget Allocation for Mountaineering and Rock Climbing by the Government of West Bengal (2017–2020)

Financial Year	Allocation (Rs. in Crore)
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2017–2018	4.27
2018–2019	4.61
2019–2020	4.87

Note. Data compiled from Government of West Bengal budget publications.

Table 2: Comparative Availability of Mountaineering Equipment

Organization	Availability Level
Himalayan Mountaineering Institute	High
Government Agencies	Moderate
Non-Government Organizations	Low

Table 3: Summary of Mountaineering Achievements from West Bengal

Indicator	Observation
8,000 m Peaks	Multiple successful ascents
National Awards	Tenzing Norgay Award recipients
Gender Participation	Predominantly male

Results and Discussion

The results of the present survey study are discussed under predefined evaluative criteria to assess the status, effectiveness, and developmental challenges of mountaineering in West Bengal. The discussion integrates empirical findings with relevant literature on adventure sports development, institutional support, and risk management.

Fulfillment of State Government Objectives

The findings indicate that the Government of West Bengal has partially fulfilled its objectives in promoting mountaineering as a recognized adventure sport. The sustained functioning of the Himalayan Mountaineering Institute (HMI) and the West Bengal Mountaineering and Adventure Sports Foundation (WBMASF) reflects strong institutional commitment toward training, expedition support, and talent development. The steady increase in budgetary allocations for mountaineering and rock climbing further indicates policy-level prioritization by the state government.

However, the absence of fully state-sponsored expeditions to peaks above 8,000 meters highlights limitations in elite-level execution. Similar observations have been reported in earlier studies, which suggest that while state governments often support grassroots and training-level activities, comprehensive funding for elite expeditions remains limited due to high financial and logistical demands (James & Hudson, 1975; Prashar & Toor, 2009). Thus, the findings suggest a gap between policy intent and high-performance implementation.

State Programs in Relation to National Programs

The results reveal that state-level mountaineering programs in West Bengal are administratively aligned with national initiatives implemented by the Indian Mountaineering Foundation (IMF). While IMF operates at national and international levels through large-scale expeditions, instructor training, and international collaboration, state programs primarily focus on partial funding, scholarships, and logistical assistance.

Despite increased state expenditure in recent years, national programs continue to demonstrate greater operational reach and international exposure. This pattern supports previous research indicating that national apex bodies play a dominant role in elite sport development, while state agencies function largely as feeder and support systems (Barghchi, 2010). Nevertheless, the growing financial involvement of the state government reflects a positive trend toward decentralization of adventure sports development.

Achievement Level of Mountaineers from West Bengal

Mountaineers from West Bengal have demonstrated remarkable achievement levels, particularly in high-altitude mountaineering. The study recorded multiple successful ascents of peaks above 8,000 meters, including Mount Everest, Kanchenjunga, Lhotse, Makalu, and Annapurna. The conferment of the Tenzing Norgay National Adventure Award on several mountaineers from the state further signifies national recognition of excellence.

These achievements align with existing literature emphasizing the role of institutional training and exposure in producing elite mountaineers (Karen, 1988; Varley, 2011). However, participation was found to be predominantly male, reflecting a persistent gender imbalance. Previous studies have similarly reported limited female participation in high-risk adventure sports due to social, economic, and cultural constraints (Varley, 2011).

Risk Factors and Safety Measures

The findings confirm that mountaineering is associated with high levels of risk, including avalanches, altitude sickness, frostbite, falls, and extreme weather conditions. The recorded fatalities during high-altitude expeditions underscore the hazardous nature of the sport. Although institutional training programs at HMI incorporate safety protocols, rescue techniques, and acclimatization strategies, advanced rescue infrastructure and emergency response systems remain largely centralized.

This limitation increases vulnerability during expeditions organized by non-government organizations. Zuckerman's (1971) sensation-seeking theory supports the inherent risk-taking nature of adventure sports, while Dhondiyal (1986) emphasized that adequate safety equipment and systematic training are essential to minimize fatalities. The findings therefore highlight the urgent need for decentralized safety infrastructure and modern rescue facilities.

Financial Implications

The study identified mountaineering as a **capital-intensive sport**, requiring substantial investment in training, equipment, logistics, and expedition organization. Although the Government of West Bengal and IMF provide financial assistance for training programs and selected expeditions, such support is insufficient to meet the total cost of high-altitude expeditions.

As a result, climbers are often required to self-finance a significant portion of expedition expenses, limiting access for economically disadvantaged aspirants. Similar financial constraints have been documented in previous research on adventure sports development in India (Prashar & Toor, 2009). The findings suggest the need for structured sponsorship models and public-private partnerships to promote inclusive participation.

Role of Non-Government Organizations

Non-government organizations (NGOs) play a **critical grassroots role** in the development of mountaineering in West Bengal. These organizations actively conduct training camps, rock climbing courses, and preparatory expeditions, particularly at the district level. Their contribution is vital in talent identification and early-stage skill development.

However, the effectiveness of NGOs is constrained by limited financial resources and inadequate equipment availability. Barghchi (2010) emphasized that sustainable sports development requires coordinated support between government agencies and non-government organizations. The findings of the present study reinforce this view, highlighting the need for stronger institutional collaboration.

Facilities, Equipment, and Training

The Himalayan Mountaineering Institute was found to possess the most comprehensive inventory of mountaineering equipment and the most structured training programs in the state. In contrast, other government and non-government organizations lacked advanced safety and communication equipment. While West Bengal offers favorable natural terrain for mountaineering and rock climbing, the absence of international-standard artificial climbing walls and advanced training centers limits elite-level preparation.

Training programs at HMI were well structured, covering basic, advanced, instructional, rescue, and special

courses. However, similar training opportunities were limited outside HMI. This centralization of resources supports earlier findings that institutional concentration, while effective for quality control, can restrict broader access and participation (James & Hudson, 1975).

Overall Discussion

Overall, the results suggest that mountaineering in West Bengal has achieved significant progress in institutional development and mountaineer performance, supported by government initiatives and non-government participation. Nevertheless, challenges persist in the form of financial constraints, safety risks, equipment shortages, gender imbalance, and limited elite-level infrastructure. These findings are consistent with existing literature on adventure sports development, which emphasizes the need for systematic planning, equitable resource distribution, and integrated policy frameworks for sustainable growth.

Conclusion

The present study provides a comprehensive assessment of the facilities, institutional support, training systems, financial assistance, safety measures, and achievement levels associated with mountaineering in West Bengal. The findings demonstrate that the state possesses a strong historical foundation and institutional framework for mountaineering, primarily supported by the Himalayan Mountaineering Institute and state-sponsored organizations. Consistent government involvement and increasing budgetary allocations have contributed positively to training and grassroots-level development.

Despite these strengths, the study reveals several critical challenges that constrain the sustainable growth of mountaineering in the state. These include limited elite-level infrastructure, inadequate availability of advanced safety and technical equipment beyond premier institutions, partial expedition funding, and centralized access to high-quality training. Furthermore, the persistence of gender imbalance and the inherent risks associated with high-altitude mountaineering highlight the need for inclusive policies and enhanced safety governance.

Overall, the study concludes that while mountaineering in West Bengal has achieved notable progress and national recognition, its future development depends on systematic planning, equitable resource distribution, and stronger collaboration between government and non-government organizations. Addressing financial, infrastructural, and safety-related gaps will be essential to enhance participation, performance, and sustainability, thereby enabling West Bengal to strengthen its position as a leading center for mountaineering in India.

Practical Implications

The study provides actionable insights for policymakers and administrators. Enhanced funding, improved safety infrastructure, equitable equipment access, and expanded training facilities can significantly strengthen mountaineering development.

Limitations and Future Scope

The study was confined to West Bengal and relied on available official data. Future studies may adopt comparative approaches across states, include quantitative performance analysis, and examine gender participation trends.

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