

**IMPACT OF COVID-19 PANDEMIC ON TOURISM INDUSTRY:
A CASE STUDY OF DARJEELING DISTRICT, WEST BENGAL,
INDIA**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

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**DEPARTMENT OF GEOGRAPHY & RESOURCE
MANAGEMENT
SCHOOL OF EARTH SCIENCES & NATURAL RESOURCE
MANAGEMENT
APRIL, 2026**

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THE DEGREE
OF DOCTOR OF PHILOSOPHY DEPARTMENT OF GEOGRAPHY &
RESOURCE MANAGEMENT, AIZAWL**



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Certificate

This is to certify that Amit Biswas, registered under MZU/Ph.D./1790 of 23.08.2021, is a research scholar working under my supervision on a thesis entitled ‘Impact of COVID-19 Pandemic on Tourism Industry: A Case Study of Darjeeling District, West Bengal, India’.

The thesis incorporates the student’s bonafide research and that these have not been submitted for award of any degree in this or any other University or Institute of learning.

Dated:

**(SR. Prof. VISHWAMBHAR PRASAD SATI)
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DECLARATION
MIZORAM UNIVERSITY
APRIL, 2026

I **Amit Biswas**, hereby declare that the subject matter of this thesis is the record of the work done by me, and that the contents of this thesis did not form basis for the award of any previous degree to me or, to do the best of my knowledge, to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

The thesis is being submitted to the Mizoram University for the **Degree of Doctor of Philosophy in Geography**.

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TABLE OF CONTENTS

Contents	Page No.
Certificate	i
Declaration	ii
Acknowledgement	iii
Table of Contents	iv – vii
List of Tables	viii - xi
List of Figures	xii
List of Plates	xiii
Chapter 1: Introduction	1-51
1.1 <i>Introduction</i>	1
1.1.1 Evolution of the World Tourism Industry	1
1.1.2 Evolution of Tourism in India	6
1.1.3 Evolution of Tourism in Darjeeling	9
1.2 <i>Background of the Study</i>	12
1.2.1 History of Pandemics and Epidemics and their Impact on Global and Indian Tourism	12
1.2.2 COVID-19 and World Tourism	17
1.2.3 COVID-19 and Indian Tourism	20
1.2.4 COVID-19 and Tourism in West Bengal and Darjeeling	22
1.3 <i>Statement of the Problem</i>	24
1.4 <i>Scope of the Study</i>	25
1.5 <i>Objectives of the Study</i>	27
1.6 <i>Research Questions</i>	27
1.7 <i>Significance of the Study</i>	28
1.8 <i>Research Methodology</i>	30
1.8.1 Study Area	30
1.8.2 Research Design	31
1.8.3 Sampling Design	32

1.8.4 Data Collection	34
1.8.5 Data Analysis	36
1.8.6 Use of Software	39
1.9 Organizations of the Study	40
References	43
Chapter 2: Review of Literature	52-73
2.1 Introduction	52
2.2 International Literature	52
2.3 National Literatures	60
2.4 Regional Literature	66
References	70
Chapter 3: Geographical Background of Darjeeling	75-98
3.1 Introduction	75
3.2 Physiography	76
3.3 Drainage System	77
3.4 Soil Types	79
3.5 Climate	80
3.6 Land Use and Land Cover	82
3.7 Administrative Division	84
3.8 Demography	86
3.9 Transport Network	89
3.10 Tourism Resources	90
3.11 Conclusions	95
References	97
Chapter 4: Impact of the COVID-19 Pandemic on the Hospitality and Transport Sector in Darjeeling	99-151
4.1 Introduction	99
4.2 Results	104
4.2.1 Demographic Information of the Respondent	104
4.2.2 Enterprises Characteristics of the Respondents	106
4.2.3 Pandemic-Induced Enterprise Operational	109

Challenges Among Tourism Stakeholders in Darjeeling	
4.2.4 Enterprise Performance Index Analysis Amidst Pandemic	125
4.2.5 The Socioeconomic Repercussions of the Pandemic on Enterprise Stakeholders	129
4.3 Discussion	133
4.4 Conclusions	143
References	147
Chapter 5: Impact of the COVID-19 Pandemic on the Socioeconomic and Livelihood Status of Tourism Employees	152-209
5.1 Introduction	152
5.2 Results	155
5.2.1 Demographic Information of the Employees	155
5.2.2 Job Profile of the Employees	158
5.2.3 Income Pattern and Financial Dynamics of the Employees	159
5.2.4 Impact of the COVID-19 Pandemic on the Employment Status of the Employees	163
5.2.5 Employment Instability and Occupational Vulnerability	167
5.2.6 Socioeconomic and Livelihood Challenges of the Employees	172
5.3 Discussion	188
5.4 Conclusions	201
References	203
Chapter 6: Revival Plan and Strategies to Sustain Darjeeling Tourism from the Shock of the Pandemic	209-225
6.1. Introduction	209
6.2. Plans and Strategies for the Business Stakeholders	210
6.2.1 Governmental Liberation and Restructuring in the Pandemic Relief Scheme	210

6.2.2 Tax Exemption and Waivers for Tourism Stakeholders	212
6.2.3 Formalise the Informal Tourism Businesses	213
6.2.4 Formulate Long-term Recovery Measures	214
6.3 <i>Plans and Strategies for the Employees</i>	217
6.4 <i>Conclusions</i>	222
<i>References</i>	224
Chapter 7: Conclusions	226-235
7.1. <i>Introduction</i>	226
7.2. Stakeholders	226
7.3 <i>Tourism Employees</i>	229
7.4 <i>Conclusions</i>	233
<i>References</i>	235
<i>Bio- Data of the Candidate</i>	236
<i>Particulars of the Candidate</i>	239

LIST OF TABLES

Table No.	Table Title	Page No.
Table 1.1	Distribution of Sample	33
Table 3.1	Temperature Characteristics of Darjeeling	81
Table 3.2	Precipitation Characteristics of Darjeeling	82
Table 3.3	Land Use and Land Cover of Darjeeling	84
Table 3.4	Administrative Setup of Darjeeling District	85
Table 3.5	Population Profile and Demography	88
Table 4.1	Years of Association in the Tourism Industry	106
Table 4.2	Operational Impact on Tourism-Linked Enterprises	109
Table 4.3	Enterprise Challenges Faced by Stakeholders Due to the Pandemic	111
Table 4.4	Examine the Compelling Differences in Enterprise Performance Before and During the Pandemic: Paired t-test Analysis	113
Table 4.5	ANOVA: Enterprise Closure Duration Across Enterprise Types	114
Table 4.6	Variation in Closure Duration Across Enterprise Types	114
Table 4.7	ANOVA: Closure Duration Across the Entrepreneurship Types	115
Table 4.8	Variation in Closure Duration Across the Entrepreneurship Types	115
Table 4.9	ANOVA: Reduction in Operational Units Across Enterprise Types	116
Table 4.10	Variations in Operational Units Reduction Across Enterprise Types	117
Table 4.11	ANOVA: Reduction in Operational Units Across Entrepreneurship Types	118
Table 4.12	Variations in Operational Units Reduction Across Entrepreneurship Types	118
Table 4.13	ANOVA: Reduction of Monthly Revenues Across Enterprise Types	119
Table 4.14	Variations in Monthly Revenues Reduction Across the Enterprise Types	119
Table 4.15	ANOVA: Reduction in Monthly Revenues Across the Entrepreneurship Types	120
Table 4.16	Variations in Monthly Revenue Reduction Across the Entrepreneurship Types	120
Table 4.17	ANOVA: Estimated Economic Loss Across the Enterprise Types	121

Table 4.18	Variations in Estimated Loss Across the Enterprise Types	121
Table 4.19	ANOVA: Estimated Economic Loss Across the Entrepreneurship Types	122
Table 4.20	Variations in Estimated Loss Across the Entrepreneurship Types	122
Table 4.21	Correlation Among Key Economic Indicators Reflecting the Pandemic's Impact on Enterprise Performance	124
Table 4.22	Multiple Linear Regression Analysis for Estimated Economic Loss	125
Table 4.23	Model Fit Statistics	125
Table 4.24	Descriptive Statistics of Enterprise Performance Index	126
Table 4.25	Reliability Test of Enterprise Performance Index	127
Table 4.26	ANOVA: Enterprise Performance Index Across the Enterprise Types	127
Table 4.27	Variations in Enterprise Performance Index Among the Enterprise Types	127
Table 4.28	Multiple Linear Regression: Predictors of Enterprise Performance Index	128
Table 4.29	Model Fit Statistics	129
Table 4.30	Descriptive Statistics of Socioeconomic Resilience Index	130
Table 4.31	Reliability Test of Socioeconomic Resilience Index	130
Table 4.32	ANOVA: Socioeconomic Resilience Index Among the Enterprise Types	131
Table 4.33	Variations in Socioeconomic Resilience Index Across the Enterprise Types	131
Table 4.34	Influencing Factors of the Socioeconomic Impact Index	132
Table 4.35	Model Fit Statistics	133
Table 5.1	Age Structure of the Employee	155
Table 5.2	Family Structure of the Employees	157
Table 5.3	Work Experience of the Employees	158
Table 5.4	ANOVA: Salary Structure of the Employees Across	160

	Occupational Groups	
Table 5.5	Variations in the Salary Structure Across Occupational Groups	160
Table 5.6	ANOVA: Household Monthly Income Across Occupational Groups	161
Table 5.7	Variations in Household Monthly Income	161
Table 5.8	ANOVA: Household Per Capita Monthly Income Differences Across Occupational Groups	162
Table 5.9	Variations in Household Per Capita Monthly Income	162
Table 5.10	Employment Status of the Employees During the Pandemic	164
Table 5.11	Unemployment Durations of Employees	165
Table 5.12	Statistical Overview of OVI Indicators	168
Table 5.13	Reliability Test for OVI Indicators	168
Table 5.14	ANOVA: OVI Across the Occupational Groups	169
Table 5.15	Variations in OVI Among the Occupational Groups	169
Table 5.16	ANOVA: OVI Across the Employment Status During the Pandemic	170
Table 5.17	Variations in OVI Among Employment Status During the Pandemic	170
Table 5.18	Multiple Linear Regression for Predictors of OVI	171
Table 5.19	Model Fit Statistics	172
Table 5.20	Paired t-test: Pandemic Impact on the Family Compositions of the Employees	173
Table 5.21	Family Composition and Dependency Dynamics Across the Occupational Groups	174
Table 5.22	Changes in Family Composition and Dependency Dynamics Across Occupational Groups During the Pandemic	175
Table 5.23	Family Composition and Dependency Dynamics by Employment Status	177
Table 5.24	Changes in Family Composition and Dependency Dynamics Across Employment Status	178

Table 5.25	Paired t-test: Impact of the Pandemic on the Economic Stability	178
Table 5.26	Economic Instability of the Employees Across the Occupational Groups	180
Table 5.27	Changes in the Economic Instability of the Employees Across the Occupational Groups	180
Table 5.28	Economic Instability of the Employees Across Employment Status	182
Table 5.29	Changes in the Economic Instability of the Employees Across Employment Status	182
Table 5.30	Descriptive Statistics of the Socioeconomic Resilience Index Indicators	183
Table 5.31	Reliability Test for the Indicators of the Socioeconomic Resilience Index	184
Table 5.32	ANOVA: SRI Across the Occupational Groups	185
Table 5.33	Variations in SRI Across the Occupational Groups	185
Table 5.34	ANOVA: SRI Across the Employment Status of the Employees	186
Table 5.35	Variations in SRI Across the Employment Status of the Employees	186
Table 5.36	Multiple Linear Regression for the Predictors of SRI	187
Table 5.37	Model Fit Statistics	187

LIST OF FIGURES

Figure No.	Figure Title	Page No.
Figure 1.1	Location Map of the Study Area	31
Figure 3.1	Physiography of Darjeeling	77
Figure 3.2	Drainage Map of Darjeeling	78
Figure 3.3	Soil Map of Darjeeling	80
Figure 3.4	Land Use and Land Cover Map of Darjeeling	83
Figure 3.5	Administrative Setup of Darjeeling	86
Figure 3.6	Transport Network of Darjeeling	90
Figure 4.1	Age Group of the Respondents	104
Figure 4.2	Gender of the Respondents	105
Figure 4.3	Educational Qualifications of the Respondents	106
Figure 4.4	Types of Tourism Enterprises	107
Figure 4.5	Types of Entrepreneurships	108
Figure 4.6	Types of Ownership	109
Figure 5.1	Gender Distribution of the Employees	155
Figure 5.2	Educational Qualifications of the Employees	156
Figure 5.3	Marital Status of the Employees	157
Figure 5.4	Occupational Structure of the Employees	158
Figure 5.5	Workplaces of the Employees	159
Figure 5.6	Additional Income Sources of the Employees Apart from Tourism Jobs	163
Figure 5.7	Percentages of Salary Reductions of the Employees	165
Figure 5.8	Alternative Income Sources of the Employees	166
Figure 5.9	Types of Alternative Income Sources	167

LIST OF PLATES

Plate No	Plate Title	Page No
Plate 4.1	Restaurant Owner, Mirik	151
Plate 4.2	Transport Operator, Darjeeling- Pulbazar	151
Plate 4.3	Hotel Owner, Rangli-Rangliot	151
Plate 4.4	Handicrafts Artesian, Darjeeling- Pulbazar	151
Plate 5.1	Homestay Employee, Sukhiapokhari	208
Plate 5.2	Restaurant Employee, Mirik	208
Plate 5.3	Transport Employee, Mirik	208
Plate 5.4	Restaurant Employee, Matigara	208

Chapter 1

Introduction

1.1 Introduction

1.1.1 Evolution of the World Tourism Industry

The words “tour,” “tourist,” “tourism,” and “tourism industry” are now commonly used and well-recognized terms by everyone. However, according to the Oxford English Dictionary, the term “tourism” first appeared in 1881. Historically, the word “tourism” is derived from three words: the Old English “turian,” the Old French “torner,” and the Latin “tornate,” which means “to turn on a lathe.” Its origin can be traced back to the Greek word for a circular instrument, signifying the cyclical character of travel, in which people always end up back where they started (Leiper, 1983). However, the word “tourist” was first imprinted in the 17th century. The main drivers of travel in ancient Egypt, Greece, and Rome were politics, education, and religion. During the ancient Roman period, wealthy citizens spent the summer in their countryside villas in Athens during the summer to escape the heat. Furthermore, the great Olympic Games in ancient Greece attracted thousands of people from across the Mediterranean. Additionally, the development of the road network (Roman road network, Silk Road of China) and accommodation facilities, such as inns and transverse, allowed trade and cultural exchanges among different regions of the world and further facilitated ancient tourism.

Further, during the Medieval period, the development of tourism significantly declined due to political instability and feudalism (Blaydes & Chaney, 2013; Ralston, 2020). However, religious tourism flourished during this time due to the religious dominance of Christianity and Muslims (Christian pilgrimages to Santiago de Compostela or Muslim journeys to Mecca). However, several eminent travelers (Marco Polo, Ibn Battuta, John Mandeville, Hanzō, Xuanzang, Leif Erikson, etc.) made significant contributions to tourism during the Medieval period by describing their journeys, which further enriched the tourism geography and expanded the scope of tourism (Bein & Rea, 1992; Lanegran & Peter, 1993).

Interest in art and culture was rekindled during the Renaissance, which laid the groundwork for the development of modern tourism, following the end of the medieval era. During this time, tourism's expansion and development were significantly influenced by education (Bhatia, 1978). The "Grand Tour" was attended by young children from wealthy and aristocratic European families. Exploring the history, art, and culture of various locales is the goal of this educational journey. Typically, the journey took place throughout Europe, including in places like France, Germany, Greece, and Italy (Towner, 1985; Webster et al., 2015). Additionally, early tour guides and travel literature were other features of this era that helped organize travel and tourism. The prominent scholars of this period, such as Claudius Ptolemy, Martin Waldseemüller, Gerardus Mercator, Abraham Ortelius, Amerigo Vespucci, Sebastian Münster, Pedro Nunes, Giovanni Battista Ramusio, Willem Janszoon Blaeu, and Leonardo da Vinci, made valuable contributions to the field of geography. These contributions uncover new travel and tourism insights into the world.

The evaluation of tourism was also significantly changed by the Industrial Revolution in the 18th and 19th centuries. Railways and steamships were two major transportation innovations during this time (Simmons, 1978). These developments made it possible to significantly reduce travel costs and duration, allowing everyone to enjoy tourism. During this time, the development of hotels and other tourist infrastructure increased noticeably. This era is symbolised by well-known hotels such as the Grand Hotel in Brighton and the Ritz in Paris. In Britain, coastal towns such as Scarborough, Blackpool, and Brighton flourished (Buzard, 1993). This period saw the growth of spa resorts in France, Germany, and Great Britain. Middle-class families travelled more frequently as transportation was more accessible and economical. Tourists regularly travelled to Rome, Paris, and the Alps. Additionally, prominent tour operator Thomas Cook established his business during this period, offering more structured trips that included accommodation, transportation, and itineraries (Brendon, 1991). The founding of the Alpine Club also contributed to increasing mountain tourism (Hansen, 1995).

With the massive growth of transport and telecommunication right through the 20th century, the popularity and development of tourism took off (Cassar, 2009; Sezgin &

Yolal, 2012). Commercial flights were introduced after World War II, which brought about an unpredictable growth of both outbound and inbound tourism (Larrinaga & Strangio, 2023). In addition, international organisations established, such as UNWTO (1975), UNESCO (1945), IATA (1945), ICAO (1994), WTTC (1990), PATA (1951), ETC (1948), etc., provided tremendous improvements for tourism growth internationally. These organisations were primarily concerned with promoting the development of global tourism infrastructure, standardisation of travel protocols and safety measures, marketing campaigns promoting tourist destinations globally, encouraging sustainable and responsible tourism practices, facilitating cultural exchange and economic growth through tourism, etc. The tourism interest was also widely diversified among travellers during this period. The development of beach holidays, theme parks, cultural tourism, mountain tourism, etc, implies the diversification of interest. Tour guides, travel insurance, travel agencies, etc., emerged for economic value and to make travel easier and more efficient.

The nature of tourism is very dynamic, leaving behind all past ideologies, tourism was reborn in a new form in the 21st century. The tourism industry has become the largest economic sector in the world, generating enormous employment, boosting GDP, and becoming the most important economic pillar in many countries (Del P. Pablo-Romero & Molina, 2013; Dwyer et al., 2009; Naseem, 2021). Innovation and integration of digital technologies such as online booking platforms, mobile apps, artificial intelligence, etc., have made tourism easier, more convenient, and more personalized (Tandafatu et al., 2024). Additionally, the rapid growth of tourism was fuelled by globalisation as well as improved and advanced transportation and communication technologies (Mihajlovic & Krželj-Čolović, 2021; WEF, 2024; Westcott & Anderson, 2021). Moreover, remote destinations have become accessible due to the economical flight fares, high-speed rail system, and development of the expanded road network. Further, sustainable tourism practice is a major concern during this period. The government prioritises minimising the environmental and cultural impact of tourism (Budeanu et al., 2016). Therefore, to address the issues surrounding tourism, eco-tourism, community-based tourism, and sustainable travel practices have gained importance.

Tourism is now one of the most important and fastest-growing sectors in the world. Over the last few decades, it has shown amazing durability and steady expansion, making it one of the crucial drivers of the world economy (Cárdenas-García et al., 2024; Hu et al., 2023; WTTC, 2019b). The economic and socioeconomic importance of the tourism industry is immeasurable. The sector provided millions of jobs, significantly contributed to the global GDP, enhanced international trade, promoted infrastructural development all around, and much more. According to the World Travel and Tourism Council, the tourism sector alone contributed \$10.3 trillion to the world's GDP, which was 10.4% of the total GDP in 2019. Furthermore, the tourism sector accounted for one job among ten jobs in the world and generated 334 million jobs, which was 10.5% of total jobs in the world (WTTC, 2019b). The growth of tourism in a region not only enhanced the economic sustainability, but it also promoted the multiplier effects, such as retail, travel, hospitality, entertainment, cultural services, etc. Due to its employment-creating ability, the importance of this industry is more pronounced in developing nations. The industry offered a huge wider employment scope for every type of individual as per their age, sex, educational qualification, skills, race, religion, etc. While the tourism sector employs a large number of highly educated and experienced workers, it also has a large number of illiterate and less educated workers. The tourism industry's socioeconomic diversity is greatly impacted by this discrepancy. In addition, the female workforce in tourism rapidly increased to the male and attained 40% of the total employment in this sector in 2019 (WTTC, 2024). Furthermore, the international trade and foreign exchangeability of the tourism sector make it more economically important. The industry secured its rank at 3rd in the export category, after chemical, fuel, and automotive items (Rasool et al., 2021; World Bank, 2017). Many underdeveloped nations, such as South Africa and Sri Lanka, highly depend on tourism for foreign exchange earnings and necessary components of their export diversification plan (Damelin, 2024).

The growth pattern of the world travel and tourism sectors was rapid and steady in the last 20 years until the COVID-19 pandemic. The world tourist movement jumped to 1.5 billion in 2019 from 674 million in 2000 per year, reflecting very rapid growth

with an average yearly growth rate of 4% (UNWTO, 2021). Despite many world issues, including the economic downturn, geopolitical instability, and health crisis, the steady expansion proved the resilience of the industry and the growing global demand for travel. Several elements are responsible for the incredible growth of this sector. Rising middle-class demand in developing nations, especially in Asia, technological development in transit, and digital platforms make travel easier and less expensive for the world population. In Addition, low-cost airlines boosted international and domestic tourism, which introduced a new vision for this industry (IATA, 2018).

Furthermore, the expansion of the tourism industry is greatly influenced by the dynamic tastes of tourists. New types of tourism, such as ecotourism, cultural tourism, space tourism, virtual tourism, food tourism, agritourism, dark tourism, bubble tourism, etc., further expanded the scope of the industry (OECD, 2018). Many tourists have shifted their taste to the new trends instead of typical passive tourism. In addition, new travel services such as Ola, Uber, and Airbnb made travelling more individual and cheaper (Zervas et al., 2017). As a result, annual global tourist arrivals recorded approximately 122% growth in 2019 compared to 2000 (UNWTO, 2021). It can undoubtedly be said that this growth was achieved without much difficulty until the COVID-19 pandemic arrived.

With the growth and expansion of the tourism industry, several questions have been raised regarding the negative impact on the environment. The industry debate began to focus on issues such as excessive tourism in well-known locations, the environmental impact of mass tourism, and the need for more sustainable tourism practices (Amore, 2020). These problems and difficulties required a review of development plans and a transition to responsible and environmentally friendly travel. UNWTO has taken several initiatives to address these issues, such as the Global Code of Ethics for Tourism, the Tourism for SDGs platforms, and the One Planet Sustainable Tourism Programme (Chen et al., 2021; Shang et al., 2023). In addition, the Paris Agreement and Climate Action in Tourism apply, as well as UNESCO's World Heritage Guidelines for the preservation of heritage sites, etc (Scott et al., 2012; WTO, 2005). In addition, numerous nations have implemented

several plans, policies, and guidelines to overcome the environmental impact of tourism and promote sustainable tourism practices.

1.1.2 Evolution of Tourism in India

Tourism is not a new phenomenon in India; its roots can be traced back to ancient times, when tourism was driven primarily for religious and educational reasons (Mukherjee et al., 2020; A. Singh, 2005). The country's contemporary tourism landscape has witnessed a tremendous transformation from ancient spiritual travel to modern leisure, medical, and ecotourism. India, the "Land of the Gods", was famous in ancient times for its holy pilgrimage sites such as Varanasi, Haridwar, Puri, and Rameswaram (Arya, 2004; Bhardwaj, 1973; Singh, 2006). Many pilgrims from different countries have visited these places since that time. In addition, Nalanda and Takshashila were major educational centres worldwide and attracted many scholars from China, Southeast Asia, Greece, and other countries (Altekar, 1944; Kumari, 2015; R. S. Sharma, 2008). These ancient educational institutes are pure examples of educational tourism in ancient times. In addition, the construction of the Silk Road gave impetus to trade, which attracted many merchants from different parts of the world and turned them into centres for cultural and economic exchange.

Further, the construction of masterpieces of architecture and monuments by the different empires and dynasties in the medieval period marked the golden era of Indian tourism. A keen interest in the art of the Mughals is reflected in every historical architecture constructed by them. The masterpieces such as Taj Mahal, Red Fort, Fatehpur Sikri, Qutb Minar, Humayun's Tomb, etc made Delhi and Agra a tourism hotspot. Additionally, the Chola dynasty made a significant contribution to the evolution of tourism in India. The construction of the Chola dynasty was mainly in Southern India, including the Brihadeeswarar Temple, Airavatesvara Temple, Gangaikonda Cholapuram, Kailasanathar Temple, Nageswaran Temple, etc., making this part of India very popular with the world. Moreover, this period is accounted for by the eminent travellers like Marco Polo, Ibn Battuta, and Fa-Hien in India. Their writing documentation about India's wealth, cultural richness, and hospitality increases the country's reputation and motivates them to visit these places.

Indian tourism was more organised during the British colonial era, through the construction of the railway network, improved road network, and overall infrastructural development. The construction of the railway network, which was initiated in 1853, covered a distance of 34 km. Further, it was increased to 25000 km in 1900, and by the end of the British rule, the railway network spread over 65000km across the nation and connected almost all parts of the country. The development of road transport improved connectivity across the nation and made the movement of people easier and more convenient. Additionally, the construction of hill stations such as Darjeeling, Shimla, and Ooty reshaped leisure tourism in India. Furthermore, the British were the first to preserve historical monuments, which was an early example of heritage and historical tourism.

After the Independence government of India started to realise the potential of tourism for economic growth. After the establishment of the Ministry of Tourism in 1948, the growth and development of tourism found a real track. The Indian government unveiled its first tourism policy in November 1982. In addition to promoting sustainable tourism as a tool for social integration and economic growth, the First Tourism Policy aimed to enhance India's international reputation as a nation with a rich history, a dynamic present, and a promising future (K.C & Leelavathi, 2016). After that, tourism planning and policies were incorporated into five-year plans. Domestic tourism was encouraged through various government initiatives, such as Project Tiger (1973) and the Wildlife Protection Act (1972), which promoted ecotourism. Furthermore, the development of pilgrimage circuits like Char Dham Yatra and Vaishno Devi was a crucial step for religious and pilgrimage tourism. Additionally, the Incredible India Campaign (2002), Air connectivity, and Visa Reforms were excellent initiatives for the growth of international tourist arrivals. The way Indian tourism is planned and experienced has changed as a result of the growth of digital platforms and the Internet. Digital marketing, smartphone apps, and online travel agencies (OTAs) have all become popular tools for promoting Indian travel in the 21st century. Moreover, the government has launched different types of schemes to foster domestic and international tourism, such as Dekho Apna Desh, Swadesh Darshan, PRASAD, UDAN, Adopt a Heritage Program, and many more.

The tourism industry is now one of India's strong economic pillars, significantly contributing to the national GDP, creating millions of jobs directly and indirectly, and supporting millions of livelihoods. According to an estimation, the tourism industry contributed ₹17.43 trillion (\$211.1 billion) to the national economy in 2019, which was 6.9% of the total GDP of the country (PIB, 2024). In addition, this rising trend has been maintained for approximately the last three decades. Furthermore, the growth and sustainability of the Indian economy are significantly driven by Foreign Exchange Earnings (FEEs), and the tourism sector of the country has contributed a bulk of FEEs over the last two decades. The FEEs were only \$3,460 million in 2000, and rose to \$30,056 million in 2019, recording a growth of 768.73% (Ministry of Tourism, 2020). In addition, this remarkable growth was made possible by the rapid growth of international tourist arrivals. According to the report of the Ministry of Tourism, Foreign Tourist Arrivals rose to 10.93 million in 2019 from only 2.65 million in 2000 (Ministry of Tourism, 2020). Additionally, the crucial initiative "Incredible India" campaign by the Indian government was a Sharp step to draw a sizable number of foreign tourists, which resulted in the more than 16% growth of Foreign Tourist Arrivals in 2002 compared to the previous year (Pravena & Rani, 2019; S. Singh & Turan, 2008; WEF, 2017).

Furthermore, significant growth in domestic tourism is also an important indicator of the development of the industry. In addition, government schemes like Dekho Apna Desh, Swadesh Darshan, and PRASAD significantly promoted domestic tourism. The Ministry of Tourism in 2020 reported that the total domestic tourist visit was 2321.98 million, recording a significant growth from past years (Ministry of Tourism, 2020b). The industry's capacity to create jobs is also quite impressive. In 2019, the sector alone directly created 32673000 jobs, or 6.7% of all jobs in India (Ministry of Tourism, 2022). Furthermore, the figure is more significant when taking into account both direct and indirect jobs, supporting 87504000 people or 12.7% of the total employment (WTTC, 2019). Due to the labour-intensive character of tourism jobs, individuals who may have difficulties finding employment in other sectors can easily be employed in tourism. From entry-level jobs to highly educated managerial roles, tourism offers change spanning a broad spectrum of skill levels.

The industry promoted more balanced economic development by providing business and employment opportunities across the urban and rural areas of the region (Abhyankar & Dalvie, 2013). Moreover, the tourism industry significantly promoted women's empowerment by providing many job opportunities in the sector, from front-line jobs such as waiters and receptionists to entrepreneurship in the field, such as handicrafts and local cuisine. Furthermore, promoting entrepreneurship and helping small and medium-scale businesses in India highly depend on the travel and tourism sector. From a small homestay, guesthouses, and local tour companies to handcraft makers, and street food vendors, tourism generates a web of business possibilities and supports the local economy throughout the nation (Briedenhann & Wickens, 2004; Frederick, 1992; Wijijayanti et al., 2020).

Despite these positive developments, the Indian tourism and travel sector was still facing many obstacles and problems before the COVID-19 pandemic. Issue areas requiring attention included inadequate infrastructure, security forces, and security, and the need for skills development in the hospitality sector (Hole et al., 2019; Sujith & Jisha, 2017). Due to the informal nature of the sector, particularly in places such as street vendors and small hospitality businesses, the economic impact of tourism may also not be accurately reflected in government statistics. Against this background, it can be concluded that before the pandemic, the tourism sector had emerged as an important employer and contributor to the national GDP. The industry's ability to create employment opportunities and its growth trajectory made tourism a key tool for India's economic growth.

1.1.3 Evolution of Tourism in Darjeeling

Tourism development in Darjeeling has undergone significant changes since the 18th century. Darjeeling was conquered in 1780 by the natives of Darjeeling called "Gorkha" by defeating the King of Sikkim (Duff, 2015; Kotturan, 1983). In 1815, the British recaptured it from the Gorkha and gave it back to the King of Sikkim. Furthermore, the King of Sikkim gifted Darjeeling to the British to set up a sanatorium for their soldiers (Duff, 2015). The road connection from Calcutta to Darjeeling was established in 1835, which was the first step towards modern

communication with this region. In addition, the construction of the narrow-gauge railway in 1881 was a turning point for tourism. In addition, the British founded several other sanatoriums during this period, such as the Eden Sanatorium in 1882 and the Lewis Jubilee Sanatorium in 1887 (Bhattacharya, 2012, 2013). One of the main attractions of Darjeeling is the tea, which was opened in 1840, and the commercialization of tea began in 1856 (Koehler, 2015). As a result, several tea gardens started growing in different areas of Darjeeling. Originally, Darjeeling developed into a cantonment town. Gradually, various wealthy elite families built their houses to escape the scorching summer heat. Consequently, the “Queen of Hill Stations” enjoyed great popularity across the country. In addition, infrastructure such as schools, clubs, and missionaries was developed at the end of the 19th century. One of the notable initiatives of the British was the construction of government bungalows and dak bungalows in the various regions of Darjeeling, Kalimpong, and Kurseong to accommodate the VIPs.

After independence, the Indian government took several initiatives to promote tourism. The establishment of various organisations such as the Ministry of Tourism (1948), the Federation of Hotel and Restaurant Associations of India (1955), the India Tourism Development Corporation (1966), and the Indian Association of Tour Operators (1982) significantly promoted the growth of tourism across the country, including Darjeeling tourism. Furthermore, the establishment of the Tourism Department of the Government of West Bengal in 1958 further promoted Darjeeling tourism. However, before 1975, this organisation had little involvement in Darjeeling until it was transformed into the West Bengal Tourism Development Corporation (Madanmohan, 2019). Additionally, the organisation significantly increases the tourism industry in Darjeeling by promoting the region’s various locations in the country and around the world. Additionally, the establishment of the Darjeeling Gorkha Autonomous Hill Council (DGHC) in 1988 led to further growth in tourism in the region. However, the West Bengal government continues to monitor. Due to extensive infrastructure development in the region, accessibility has improved, and the region has emerged as a major recreational and commercial centre in the country. In addition, tea and timber tourism have also become a significant economic activity.

Several hotels, restaurants, and guest houses were established in three subdivisions of the district - Darjeeling, Kalimpong, and Kurseong. Rapid urbanisation is taking place in the region (N. Bhattacharya, 2013). In the post-independence period, various forms of leisure and adventure tourism have been popularised in the region, including trekking, rafting, rock climbing, etc. The Government of India, West Bengal, and the local authority of Darjeeling have taken several notable initiatives to promote tourism. During the post-independence period, there were significant setbacks. Several phases of the “Gorkhaland Movement” had significantly affected the tourism landscape in the Darjeeling Himalayas (Besky, 2017). Additionally, the region remained closed to foreign tourists for almost 25 years due to the Indo-China War in 1962 (Maxwell, 1970).

Although initiatives by the British before independence and initiatives by the Indian government during the post-independence period opened a wider avenue for tourism in Darjeeling, real growth was noted from the end of the 20th century. Furthermore, tourism development in the region was given a step forward when UNESCO declared the Darjeeling-Himalayan Railway a World Heritage Site on December 5, 1995 (Lama, 2024). Additionally, from 2002, international tourist arrivals in the region were significantly boosted with the announcement of Bagdogra as an international airport in Siliguri (Bhutia, 2015; Paul, 2013). The unprecedented growth of transportation and communications in the 21st century led to rapid growth in tourism in the region. Consequently, well-known places are popular destinations in Darjeeling for both domestic and foreign tourists. The places are Tiger Hill, Darjeeling Himalayan Railways, Batasia Loop, Padma Naidu Himalayan Zoological Park, Himalayan Mountaineering Institute, Darjeeling Tea Garden, Chowrasta and Mall Road, Rock Garden, Mahakal Temple, Sandakphu and Phalut, Singalila National Park, Ghoom Monastery, Lepchajagat, Sukhia Pokhri, Tinchuley, Lamahatta, and many more. The number of foreign tourist arrivals increased from 11,000 in 2000 to about 28,000 in 2010, a growth of about 150%. At the same time, the number of domestic tourist visits was nearly 243,000 in 2001 and increased to about 373,000 in 2010, a growth of about 53%. Additionally, political instability in the region, particularly the periods of the Gorkhaland Movement in 2007, 2010, and

2017, significantly impacted tourism growth in Darjeeling (Besky, 2017; Subba, 1992). As a result, foreign tourist arrivals have declined considerably. According to the Department of Tourism, Government of West Bengal, the number of foreign tourists arriving in Darjeeling increased from 28,000 in 2010 to about 42,000 in 2019. However, domestic tourists increased from 370,000 in 2011 to about 750,000 in 2019. Furthermore, the lack of infrastructure facilities, the emergence of alternative travel destinations in Sikkim, Bhutan, and Nepal, environmental degradation issues, limited marketing and promotion, etc., are the major causes of Darjeeling's decline as a tourist attraction. However, homestay development in rural Darjeeling has recently gained popularity (P. Bhattacharya, Mukhopadhyay, et al., 2023; Dutta & Mukhopadhyay, 2024; Pradhan, 2024).

1.2 Background of the Study

1.2.1 History of Pandemics and Epidemics and their Impact on Global and Indian Tourism

Tourism is one of the most sensitive sectors to global crises, especially pandemics and epidemics. The sector entirely depended on the movement of people, so it was found that in history, when the movement of people was affected, tourism also impacted significantly. In addition, according to historical evidence, the recession period in the tourism industry was mainly caused by pandemics and epidemics. The world has experienced several periods of crisis since ancient times, but the health crisis was the most dangerous of them. These health crises have had significant impacts on tourism, including travel patterns, economic activities, and social dynamics of destinations, etc. Various pandemics and epidemics have significantly changed the travel behaviour of people and are responsible for changes in the tourism landscape in world history.

I. The Black Death

The Black Death was the most deadly and destructive pandemic in human history, sweeping through Europe in the fourteenth century (DeWitte, 2010). The bubonic

plague pandemic known as the “Black Death” occurred in 1347 and was brought to Sicily by ships from Asia and Crimea, where rats and fleas spread the disease (Bowsky, 1971; Cohn, 2003; Gottfried, 1983; Ziegler, 1998). The pandemic has been responsible for 25-50 million deaths in Europe, which accounts for approximately 30-50% of the total population (Cohn, 2003; Poos, 1991; Wood et al., 2003). Tourism growth suffered greatly as a result of this pandemic’s devastating effects. In the 14th century, however, the idea of tourism and the modern tourism sector did not exist. Nonetheless, the pandemic had a major impact on religious tourism since it halted travel. Trade was also rendered inaccessible due to closures of seaports and road transport (Cossar, 1994).

The virus of the Black Death pandemic reached India via the major seaports of the Western Ghats from Central Asia and Europe (Orent, 2004; Ranger & Slack, 2011). The important trade routes Silk Road and the Indian Ocean maritime trade routes, are primarily responsible for the rapid movement of this pandemic. Gujrat and Maharashtra seaports were the most accessible and commonly used ports at that time; therefore, it can be assumed that the plague virus came through these ports, around 1347-1349. The major populated areas, such as Delhi, Bombay, and Bengal, were affected most and took the lives of 12 million people across India (Orent, 2004). However, the concept of tourism was not very pronounced during medieval India; a huge number of pilgrims visited the holy places of the country, such as Varanasi, Haridwar, Puri, and Rameswaram. Ancient universities such as Nalanda and Takshashila are famous educational centers that have attracted many scholars from across the world. Therefore, it can be said that due to the pandemic, religious and educational tourism were affected significantly.

II. Spanish Flu

One-third of the world’s population was infected by the pandemic between 1918 and 1919. Between 50 and 100 million people died from the Spanish flu in just two years, making it the biggest pandemic in history (Taubenberger & Morens, 2006). Millions of jobs were lost, the GDP fell, poverty skyrocketed, and there was a food crisis as a result of the pandemic (A. Sharma et al., 2021). The pandemic had a significant

effect on the travel and tourism industry as well, though it is hard to pinpoint the precise number due to a lack of adequate documentation. However, prior studies calculated a current economic loss of \$3 trillion and a reduction of roughly 5% of GDP (Bishop, 2020). Several studies also demonstrate that the transportation industry was negatively impacted, particularly steamship and railroad transportation (Rodrigue, 2024). The severe effects of the Spanish Flu pandemic on the hospitality industry were further demonstrated by the notable revenue reductions experienced by well-known hotels in America, Australia, New York, London, and Paris (Bishop, 2020). Furthermore, the most impacted industry during this time was religious tourism.

The Indian subcontinent marked the acute impact of the Spanish Flu, with the death of 16.7 million people accounting for 5.2% of the total deaths (Maas, 2020). Due to the massive spread of the pandemic, the travel and transport sectors were severely affected across the country. As a result, although tourism was only starting to grow, its potential had been smothered.

III. SARS

The severe acute respiratory syndrome (SARS) was first reported in Guangdong Province in China in February 2002. Further, the disease was spread over 26 countries of the globe, resulting in the death of 774 people among 8000 infectious (Wilder-Smith, 2006). However, the most infectious countries were China, Hong Kong, Singapore, and Vietnam. (McKercher & Chon, 2004). Though the outbreak region and mortality rate of this disease were quite lower than the Black Death and Spanish Flu, the travel, transport, hospitality, and tourism sectors were significantly affected. According to an estimation, the world tourism industry has experienced a loss of \$30-50 billion (Qiu et al., 2018; Wang et al., 2022). However, the Asian tourism sector observed the severe impact of this pandemic. According to the World Travel and Tourism Council (WTTC), the continent of Asia recorded approximately a 70% reduction in tourist arrivals in 2003 compared to the previous year, which caused about a 20% GDP reduction (McKercher & Chon, 2004). Additionally, three

million tourism jobs were lost in China, Hong Kong, Singapore, and Vietnam (Pine & McKercher, 2004).

The tourism and hospitality sectors of many nations were severely affected by the SARS pandemic outbreak, but the Indian tourism industry was barely affected. Most of the studies concentrated on areas that were severely affected. Therefore, it is challenging to determine the direct effects of this pandemic on the Indian subcontinent due to a lack of literature and data. Additionally, the pandemic's worldwide reactions may have some indirect effects.

IV. H1N1 Influenza

The H1N1 Influenza virus, popularly known as Swine Flu, was first reported in California in 2009, with infection rapidly traced back to Mexico (Ali et al., 2013). The virus rapidly spread to 214 countries within a few months and took 284400 lives worldwide (Mice Report, 2009). Though the mortality rate was low, the rapid spreading ability of the virus caused significant fear among people across the globe. Therefore, the World Health Organization (WHO) declared it a pandemic in August 2010. The pandemic severely impacted all types of businesses, and tourism was one of them. According to the UNWTO, international tourism declined by 2-3% in 2009, resulting in a loss of \$89 billion, accounting 5.7% decline compared to the previous year (UNWTO, 2010). However, the regional economic damages of the pandemic were more pronounced. The decline in millions of visitors, the 80% decline in tourism sales, and the 90% cancellation rate of hotel and transportation reservations all had a significant impact on Mexico's tourism industry. Consequently, Mexico's tourism industry suffered a \$3.04 billion loss (Rassy & Smith, 2013). Additionally, the European region recorded a decline of about 26 million tourists, resulting in an economic loss of \$ 61 billion, and the Asia-Pacific region saw a decline of 3 million tourists and experienced a loss of \$6 billion. (Škare et al., 2021). In addition, almost all countries have implemented travel restrictions and protocols to prevent infection, which directly and indirectly hamper the tourism industry.

Throughout India, the Swine Flu pandemic had a significant impact. Furthermore, the nation suffered the most from this pandemic due to its extensive reach. The

pandemic killed 8,543 people and infected 11,4667 people nationwide between 2009 and (Chatterjee et al., 2020). Even though the pandemic affected all 22 states, it had the greatest impact in the country's northwest and south. Furthermore, Delhi, Gujarat, Punjab, Rajasthan, and Maharashtra had the worst effects, and together, these states accounted for over half of all fatalities (Sekhani, 2015). There were multiple phases to the pandemic. Nonetheless, the most severe phase was noted in India in 2015. During the various pandemic waves, the Indian tourism and hospitality sectors suffered severe setbacks. A study by Jyotsna Singh claims that the H1N1 pandemic cost the Rajasthani and Maharashtra tourism and aviation industries about ₹5500 crore (Singh, 2015). The pandemic also resulted in a sharp drop in hotel occupancy rates, the cancellation of reservations for international flights, social distancing, preventative measures, etc., all of which seriously hampered the expansion of the Indian tourism industry.

V. *Ebola Virus Disease*

The Ebola virus disease was the most devastating epidemic in world history due to its high death rate. Although the virus first appeared in Guinea in December 2013, it was first identified in the Democratic Republic of Congo and Sudan in 1976 (Maphanga & Henama, 2019). In addition, the disease began to spread rapidly in the neighbouring countries of Sierra Leone and Liberia. The virus peaked from September 2014 to May 2015, while the disease began to disappear in late 2016. Within two years, the epidemic spread to about 10 countries around the world and caused 11,325 deaths (Kyobe Bosa et al., 2024). However, the majority of transmission was concentrated in West Africa. Additionally, the countries of Guinea, Sierra Leone, and Liberia accounted for 99% of confirmed cases and deaths (UNDG, 2015). The epidemic has severely impacted the travel, tourism, and hospitality industries in West Africa, particularly in the most affected countries. The majority of airlines froze flight routes, and several neighbouring countries closed their borders to the affected country, including Senegal and Côte d'Ivoire. As a result, Sierra Leone experienced a 50% decline in tourist arrivals in 2014 compared to the previous year (WTTC, 2018). Additionally, Guinea and Sierra Leone's direct tourism GDP fell by 0.9% and 1.6%, respectively (WTTC, 2018). Meanwhile, tourists from various

countries avoided the Ebola-infected region, resulting in a 7.7% decline in tourist arrivals across West Africa (WTTC, 2018). In addition, the epidemic significantly impacted the socioeconomic status and livelihoods of people in West Africa, including tourism workers, due to job losses and reduced incomes (UNDG, 2015).

The Ebola virus disease had no impact on the Indian tourism industry due to its remote location from the region of origin. However, some minimal indirect impact might be found on international tourism.

1.2.2 COVID-19 and World Tourism

The COVID-19 pandemic outbreak in the second decade of the 21st century had the most catastrophic effect on the global tourism industry. The virus was first reported in Wuhan, China, in December 2019. The World Health Organization (WHO) declared it a world pandemic on 11 March 2020, when the virus rapidly traveled to 114 countries around the world, resulting in an infection of 118,000 people and 4,291 deaths. By July 2020, the virus had spread to 213 countries worldwide and infected 11,200,000 people, causing 530,000 deaths (Zhou et al., 2020). In addition, as per the report of the WHO in January 2024, the pandemic caused more than seven million deaths among more than 774 million confirmed cases in the world (WHO, 2024). Moreover, the estimation of this organization reveals that the confirmed cases increased to over 760 million in January 2025 (Peter, 2025). However, the studies published by Nature Journal documented that the total number of deaths due to the COVID-19 pandemic was more than 14.83 million, which was approximately over 2% greater than the official figure (Msemburi et al., 2023; Petrić Howe & Thompson, 2022). The pandemic created a world panic through its higher spread and mortality rate. The pandemic spread all over the world within a couple of months. However, there were significant variations in the total number of cases and deaths among the different regions of the world. The highest number of confirmed cases was found in the European region (281 million) followed by the Western Pacific (209 million), the Americas (193 million), South-East Asia (61.3 million), Eastern Mediterranean (23.4 million), and Africa (9.6 million) between December 2019 to December 2024 (WHO, 2025). However, the highest number of deaths was recorded in the region of

Americas (3 million) followed by Europe (2.3 million), South-East Asia (0.81 million), Western Pacific (0.42 million), Eastern Mediterranean (0.35 million), and Africa (0.18 million) (Du et al., 2024; WHO, 2025).

In addition, the pandemic caused severe panic worldwide due to the massive spread of the virus and the large number of deaths. As a result, all types of travel and transportation were completely stopped for a long period. Although almost all types of businesses were significantly affected, the global tourism industry experienced the greatest negative impact of the COVID-19 pandemic. In other words, the global tourism industry has collapsed. According to UNWTO, international tourist arrivals fell 72% in 2020 compared to 2019 (WTO, 2024). In addition, 2021 only recorded a 1% annual growth in international tourist arrivals, or it was -71% compared to pre-pandemic levels (WTO, 2024). Additionally, international tourist arrivals were still 33% behind pre-pandemic levels in 2022 and 11% behind in 2023. By the end of 2024, it had almost reached pre-pandemic levels but was still lagging by 1%. In addition, significant variations were there in international tourist arrivals among the different regions of the world. The Asia Pacific region (-93%, -77%) observed the lowest international tourist arrivals in 2021, and 2022, followed by Africa (-72%, -35%), Middle East (-66%, -17%), Americas (-63%, -35%), and Europe (-59%, -21%) (UNWTO, 2024). However, by the end of 2024, the international tourist arrivals had crossed only in the Middle East region compared to the pre-pandemic level. Therefore, it can be said without argument that COVID-19 was the worst pandemic for the growth and development of the global tourism industry. In addition, according to the UNWTO, the pandemic has set the global tourism industry back by 30 years (UNWTO, 2020).

The pandemic resulted in unprecedented economic losses for the global tourism industry due to the sharp decline in tourist arrivals. In 2019, the average direct contribution of tourism to global GDP was \$3.3 trillion, accounting for 4% of the world's GDP (UNWTO, 2021). However, the onset of the COVID-19 pandemic dramatically changed this landscape. The combined loss in tourism direct GDP for the years 2020, 2021, and 2022 reached \$4.4 trillion (UNWTO, 2023). Additionally, the global tourism industry experienced a loss of \$2.5 trillion in export revenue

during the same period (UNWTO, 2023). Furthermore, the loss in tourism export revenue in 2020 was \$1.1 trillion, which was 10 times greater than the tourism revenue loss during the 2009 global economic and financial crisis. The global tourism industry was in the 3rd position among all export industries in the world before the pandemic, but the pandemic dragged it down to 9th in 2021 (World Tourism Organization (UNWTO, 2021). The economic impact of the COVID-19 pandemic was severe and incalculable. Furthermore, the impact of the pandemic was more acute for the underdeveloped and developing nations, where tourism is a major economic source. The regional disparity in the economic impact of the pandemic will give a clear perception. The European region experienced a loss of \$0.8 and \$0.6 trillion in export revenue and tourism direct GDP, respectively, between 2020 to 2023 (UNWTO, 2024). In addition, the Asia Pacific region saw the highest loss in both export revenue (\$1 trillion) and tourism direct GDP (\$2.4 trillion) during the same period (UNWTO, 2024). During the same period, export revenue and tourism direct GDP of the Americas region were \$560 billion and \$930 billion, respectively (UNWTO, 2024). In addition, the export revenue and tourism direct GDP of the Middle East region were \$70 billion and \$120 billion, respectively (UNWTO, 2023). However, comparatively lower losses in export revenue (\$63 billion) and tourism direct GDP (\$95 billion) were experienced by the African region (UNWTO, 2024).

The global tourism industry provides millions of jobs, which constitute a significant portion of the total employment of the world. Due to the severe impact of the pandemic, millions of tourism jobs were lost and significantly affecting the livelihood of the people. According to the WTTC, more than 121 million jobs were lost in the travel and tourism sector within a few months of the outbreak of the virus, and by the end of 2020, the figure reached about 200 million (Sun et al., 2022; Wymen, 2021). According to the report of Statista, the maximum number of jobs were lost by the Asia Pacific region (63 million) in 2020 compared to 2019, followed by America (14 million), Europe (13 million), Africa (7.6 million), and the Middle East (3 million) (Statista, 2024). Moreover, many tourism jobs were lost due to the pandemic, and employees of all private sectors also significantly lost their jobs.

1.2.3 COVID-19 and Indian Tourism

The Indian subcontinent was significantly affected by the COVID-19 pandemic. The first COVID case was reported in Kerala on 30 January 2020, a student who had returned from China. However, the first death was reported in Karnataka on March 12, 2020, a 76-year-old man who had returned from Saudi Arabia. Furthermore, by the middle of this month, India recorded more than 500 positive cases and 9 deaths. Consequently, the Government of India announced the first lockdown on March 25, 2020. Despite that, the virus was rapidly spreading across nations, including all the states and union territories. By mid-September 2020, India experienced the peak period of the first wave of the pandemic with approximately five million confirmed cases and more than 80000 deaths (MHFW, 2024). Further, the second wave of the pandemic came with more devastating consequences in mid-March 2021. By early May 2021, the country recorded daily more than 400000 new cases and over 4000 deaths per day (Chinnaswamy, 2021; S. Kumar, 2021; Vig et al., 2022). However, by the end of June of the same year, the infection started to significantly decline as a result of lockdowns, safety protocols, and vaccination. By the end of 2022, the government of India lifted all restrictions such as social distancing, mask mandates, travel bans, etc. In addition, the World Health Organization declared the end of the global emergency on 5th May 2023. However, according to the Worldometer, the pandemic infected 45,035,393 people and took 533,570 lives across India. The states/UTs of Maharashtra (148,561), Kerala (72,043), Karnataka (40,359), Delhi (26,666), Uttar Pradesh (23,712), West Bengal (21,555), Tamil Nadu (15,000), Andhra Pradesh (14,731), Gujrat (11,079), and Haryana (10,756) experienced the most devastating effects of the pandemic, with the highest death tolls (S. U. Kumar et al., 2020; MHFW, 2024).

The Indian tourism industry was severely affected by the emergence of the COVID-19 pandemic. Moreover, the effects were severe due to the longer duration of about 2 years. The pandemic caused complete travel restrictions of approximately more than one year, from March 2020 to June 2021. Additionally, the emergence of the Omicron variant of the pandemic further increases the period. The movement of the people was standstill across the nation. As a result, domestic and international

tourism were both completely closed. Foreign Tourist Arrivals (FTAs) fell dramatically in 2020, dropping to 2.74 million, which represents a 74% decrease compared to 10.93 million in 2019. In 2021, the FTAs declined further to 1.52 million, marking an 86% drop from pre-pandemic levels (Ministry of Tourism, 2022). Although FTAs increased to 6.44 million in 2022, this figure was still 41% lower than in 2019. However, the year 2023 recorded more than 18 million FTAs, reflecting a record-breaking year (Ministry of Tourism, 2023). The tourism industry provides a significant portion of the Foreign Exchange Earnings (FEEs) of India. Due to the significant decline in international tourist arrivals, the FEEs also declined significantly. The tourism FEEs fell to \$6958 million in 2020 from \$30721 million in 2019, marking a growth of -77.35% (Ministry of Tourism, 2022). In addition, 26% and 100% yearly growth was observed in FEEs in 2021 and 2022, but it was -71% and -42% lower than the pre-pandemic level (Ministry of Tourism, 2023). Furthermore, due to the travel restrictions and safety protocols, the Domestic Tourist Visits (DTV) in India also sharply declined. The total DTV in 2019 was 2322 million, which declined to only 610 million in 2020, recording a decline of -73%. In addition, DTV observed a slight rise in 2021 and marked an annual growth of 11%, but it was much lower than the pre-pandemic figure. Furthermore, the DTV in 2022 rose to 1731 million, but it was -25% lower than in 2019 (Ministry of Tourism, 2023).

The Indian tourism sector is a major contributor to the national GDP. Before the start of the COVID-19 pandemic, the sector contributed 6.8% directly and 5.2% indirectly to the nation's total GDP. However, these direct and indirect contributions of the sector contracted to 3.7% and 2.7% respectively, in the financial year 2020-21 (NCAER, 2021). According to an estimation by the Ministry of Tourism, Government of India, the tourism sector lost approximately ₹15 lakh crore during the pandemic. Furthermore, the socio-economic impact of the pandemic has been unprecedented. Millions of job losses, employee salary cuts, reduction in household income, etc., have been the common features of the pandemic. Out of 34.8 million active jobs, 14.5 million jobs were lost as a result of the pandemic and the resulting lockdown in the first quarter of 2020-21, representing 41.7% (NCAER, 2021). The

picture is more serious for self-employed people or business owners. While employees' income fell by 41.6%, business owners' income fell by 124.4% in the first quarter of 2020-21 (Choudhury & Saha, 2022). Furthermore, job losses would be much higher if all informal jobs were considered. In addition, the pandemic led to an 8.4% increase in the unemployment rate in 2020 (Chatterjee & Dev, 2023; Gupta et al., 2024).

1.2.4 COVID-19 and Tourism in West Bengal and Darjeeling

Among the top ten hardest-hit states by the COVID-19 pandemic, West Bengal stood in 6th position with a total of 21,18,744 positive cases and 21,555 deaths (DHFVGWB, 2023). An 18-year-old boy who had returned from the UK was the first person in Kolkata to report having the virus on March 17, 2020. However, the first COVID-related death occurred on 23rd March, was a 57-year-old railway employee. Consequently, the infection rapidly spread over the state, and by early April, the death toll reached 1000 across the state, with over 50000 positive cases (DHFVGWB, 2020a). Furthermore, by the end of the year 2020, the total positive cases reached 5,52,063 with 9,712 deaths (DHFVGWB, 2020). Consequently, as a result of lockdowns, travel restrictions, and safety protocols, all kinds of transport networks were suspended. Further, the arrival of the second wave of the pandemic death toll crosses the border of 20000 by the end of 2021. There were significant variations in the number of deaths and positive cases among the different districts of West Bengal. The maximum number of deaths experienced by the districts of South Bengal. However, COVID-related deaths were much lower in North Bengal. In addition, the five districts of the state, namely Kolkata, North 24 Parganas, South 24 Parganas, Howrah, and Hooghly, recorded more than more than 50% of deaths in the state.

The travel sector of West Bengal has been significantly impacted by the pandemic. The three main aspects of tourism are the ocean, the mountain, and urban tourism, which have made the state very famous to the world. According to the report of the Ministry of Tourism, West Bengal ranked 5th in terms of foreign tourist arrivals and 7th in terms of domestic tourist arrivals in 2019 (Ministry of Tourism, 2020). In

addition, due to the pandemic, tourist arrivals in the state have significantly declined. The foreign and domestic tourist visits had fallen by -92.48% and -15.66% in 2020-2021 (Ministry of Tourism, 2022). Furthermore, the lifting of the travel restriction significantly increased the number of domestic tourist visits in 2023; however, foreign tourist visits did not show substantial improvement. Additionally, the COVID-19 pandemic led to significant reductions in state GDP and resulted in thousands of job losses. Due to the lack of specific information, it is difficult to estimate specific figures, but according to a study, the state experienced a non-health GDP loss of approximately \$0.92 billion due to the pandemic (Bhattacharya et al., 2023).

Darjeeling is one of the most popular tourist destinations in West Bengal. Darjeeling, the Queen of Hills, gained international recognition for its rich colonial history, world-class tea, evergreen pine forest, and vibrant flora and fauna. It has continuously maintained its glory to this day. In addition, beautiful landscapes, diverse cultures, warm hospitality, and UNESCO-recognized heritage sites attracted a large number of tourists from different parts of the country and the world. Before the onset of the COVID-19 pandemic, Darjeeling recorded 550,000-600,000 tourists annually (Das, 2020). According to the Department of Tourism, Government of West Bengal, the number of foreign tourists visiting Darjeeling was over 42000 in 2019 in Darjeeling. Further, due to the onset of the pandemic, the district experienced a significant decline in tourist arrivals. The year 2020 received only 180,000 tourists, which accounted for more than an 80% drop from the previous year. Additionally, the figure further declined to 167,000 in 2021 (The India Watch, 2019). However, the total tourist arrivals in Darjeeling were 360,000 in 2022, but it was much lower than the pre-pandemic level.

As the number of visitors increases, the region's tourism infrastructure is expanding quickly as well. The number of hotels, restaurants, lodges, homestays, travel agencies, etc., is rapidly growing across the district. According to a study, there were only 280 active hotels in 2010, which rose to 1350 in the recent year, indicating a growth of 382% (The India Watch, 2019). Furthermore, the travel and tourism sector of the district provides thousands of jobs, from small front-line jobs such as waiters

and receptionists to managerial posts (Bhutia, 2015). In addition, small stakeholders such as roadside vendors, small restaurants, and homestays, to the 4-star and 5-star hotels, were also found in Darjeeling. Therefore, a significant portion of Darjeeling's population is dependent on the tourism sector (Dutta & Mukhopadhyay, 2024). According to the business research of India Watch, the estimated total tourism market of Darjeeling is \$100 million (The India Watch, 2019). However, due to the pandemic, thousands of people lost their jobs. Further, longer business closing durations compelled stakeholders to choose alternative businesses; as a result, several small and medium-sized hotels, restaurants, and homestays were permanently closed. Consequently, the livelihood of these people was significantly hampered (Nagarale et al., 2025). As per the report by The Economic Times, the Darjeeling tourism sector saw a loss of ₹350 crore during the first wave of the pandemic (Sarker, 2020).

1.3 Statement of the Problem

The tourism industry is one of the hardest-hit sectors of the COVID-19 pandemic. The impact was severe in areas like Darjeeling, which depends heavily on tourism and is an important economic activity for a large number of the population. The outbreak of the COVID-19 pandemic caused a sudden stop to all kinds of tourism activities in the district. The Darjeeling tourism sector consists mainly of small and medium enterprises, and numerous studies have shown that the most significant effects of the pandemic were felt by self-employed individuals and small stakeholders, who experienced the highest percentage of income loss. Additionally, many employees in the hospitality and transport sectors in Darjeeling lost their jobs or faced substantial pay cuts. Therefore, with an eye toward the difficulties faced by the stakeholders and employees, the study seeks to investigate the multiple effects of the pandemic on Darjeeling tourism.

The challenges faced by the tourism workforce were multifarious and complicated. First and most importantly, due to the pandemic and lockdowns significantly decline the number of visitors. Therefore, it caused significant financial loss for those who were directly engaged in the tourism industry, such as hotels, restaurants, lodges, homestays, travel, and transport operators. In addition, the employees who worked

there had also experienced significant financial strain due to layoffs and salary reductions. Furthermore, the influence of the pandemic went beyond the direct and front-line tourism businesses. Many ancillary sectors like handicrafts, food, beverages, tea, etc., have also been impacted significantly.

In addition, the impact of the pandemic was not only limited to financial challenges but also significantly affected the socioeconomic and livelihood statuses of the stakeholders and employees. Moreover, layoffs and income reductions may change family structure, such as the dependency ratio, family income, and dependent members, etc. So, a details study can aggregate all these aspects of Darjeeling. Moreover, the pandemic has made clear the weaknesses of too much dependence on one sector. The abrupt decline of the tourism economy has exposed the need for economic diversification and resilience-building techniques to prepare for the future.

The study's problem statement encapsulates the necessity of compiling all available information regarding the pandemic's effects on the various facets of the Darjeeling tourism industry, such as the financial, demographic, sociocultural, and livelihood difficulties. This information is essential for creating realistic plans to reduce the negative effects, supporting recovery efforts, and building a more resilient and sustainable tourism sector for future generations.

1.4 Scope of the Study

The current study on the impact of the COVID-19 pandemic on the Darjeeling tourism industry has relevance in academics, pragmatics, and policy-making respects. The tourism stakeholders, the local community of a tourism-dependent region, legislators, business leaders, and scholars in the tourism domain can enhance the practical knowledge from this work.

First of all, the study adds a crucial piece of work to the existing academic void. Although lots of research has been done on the impact of the pandemic on the tourism and hospitality industry worldwide, the present study offers insightful information that covers the wide aspects of the tourism sector in a small region.

The thorough approach of the study not only focused on the financial impact but also provided detailed pictures of the socioeconomic and livelihood consequences for the local community and business stakeholders. This increases the significance and scope of the study in the real world.

Additionally, the study concentration was beyond the direct tourism-dependent economy; rather, it also incorporates the linked economy with tourism in Darjeeling. This can create a ground for the next research.

Additionally, the study included detailed information on different business types, including hotels, restaurants, homestays, transportation providers, and locals from various occupational groups. Therefore, the study's findings may be highly beneficial to Darjeeling's stakeholders and the local population, who currently work in the tourism sector and are interested in joining it. The outcomes can also serve as a guide for creating recovery plans for individuals.

The relevance of this work also relates to the domain of policy-making. The empirical evidence of the study is very much appreciated by the regional and local governments to better understand the situation and to create development plans. Furthermore, the research findings expose the weaknesses of the tourism sector in Darjeeling. Thus, it will help to overcome these gaps shortly and enhance resilience.

In addition, the study presented insightful information about the impact of the pandemic on the family dynamics of the local people. Such information can guide them to draw a better future.

Within the frame of sustainable development, this research has great scope and significance. The pandemic has highlighted the vulnerability of the tourism economy in Darjeeling and raised questions about the sustainability of the Darjeeling tourism sector. Therefore, the study contributes to a broader discussion on sustainable tourism development and economic diversification in Darjeeling and similar regions in the world.

Furthermore, the findings of the study can be fruitful lessons for other underdeveloped and developing nations whose economies mostly depend on tourism.

This work also has instructional value. Its comprehensive analysis of the impact of the pandemic on a specific destination can serve as a case study for the students and educators of tourism management, economics, and related fields.

From an industry perspective, the study's significance lies in its potential to inform future risk management and crisis preparedness strategies. By analyzing the vulnerabilities exposed by the pandemic and the effectiveness of various response measures, the research can help tourism businesses and destinations develop more robust contingency plans for future crises.

The study also holds significance for the non-governmental organizations that work for tourism and community development. The insight provided can help these organizations tailor their support programs and interventions to better address the needs of tourism-dependent communities in the face of global crises.

Finally, the significance and scope of the study extend to the broader field of pandemic and recovery. While focused on the tourism sector, the research touches upon issues of public health management, economics, and safety nets relevant to general pandemic response strategies. The findings could contribute to our general understanding of effective crisis management in the face of global health emergencies, even though they might have implications outside the tourism industry.

1.5 Objectives of the Study

1. To examine the impact of the COVID-19 pandemic on the hospitality and transport sectors of the tourism industry in the Darjeeling district.
2. To analyze the impact of the COVID-19 pandemic on the livelihood of local people engaged in the tourism industry.
3. To suggest recovery strategies to revive the Darjeeling tourism industry.

1.6 Research Questions

1. How has the pandemic impacted the hospitality and transport sectors of Darjeeling's tourism industry?

2. What has been the effect of the pandemic on business performance, stakeholders, and their socio-economic conditions?
3. How did the pandemic affect the job roles, livelihoods, and socio-economic status of local tourism workers?
4. What strategies can help revive Darjeeling's tourism sector and ensure future resilience?

1.7 Significance of the Study

The rationale behind conducting this study on the impact of the COVID-19 pandemic on the Darjeeling tourism industry is based on a number of compelling arguments that emphasize the study's significance and potential to advance both academic understanding and practical policymaking.

First of all, the timing of the study is crucial as the pandemic has been a severe global issue since its origin, and the COVID period is not over yet. The COVID-19 pandemic significantly hit the world's tourism. Hence, implementing focused recovery plans depends on knowing their effects in certain situations. Therefore, concentrating on tourism in Darjeeling, an iconic tourist destination of the nation, the study adds comprehensive information to the existing pieces of evidence on how the pandemic has impacted the tourism economies in developing nations.

In addition, the selection of the study area as Darjeeling, is very important considering its special qualities. Darjeeling has been an important destination since tourism gained importance in the world. Its rich colonial past, unique hill station, world-class tea, diverse culture, and breathtaking Himalayan scenery made Darjeeling a world-famous tourist destination. The results of the study can give an insightful analysis of other regions of the world that deal with similar issues, therefore, increasing the relevance of the study outside the immediate geographical location.

Furthermore, due to the close entwine of the study with the local economy and social fabrics of Darjeeling tourism, the analysis of the study can provide a more concise and general socioeconomic and livelihood impact of the pandemic in the area. Understanding the entire scope of the crisis and developing recovery plans that not

only address the tourism sector but also the larger population that depends on it relies on this integrated approach.

Additionally, as the study encompasses the different types of stakeholders and employees of various occupational groups, the results of the study give specific information about the specific groups. The findings can therefore help policymakers create distinct policies based on the extent and scope of the pandemic's effects.

Although several studies have been conducted about the impact of the pandemic on tourism sectors worldwide, most of them are concentrated in big cities. However, there is a shortage of in-depth research focusing on smaller and regionally important locations like Darjeeling. Hence, the current study advances a more varied and concrete knowledge of the impact of the pandemic on various tourism regions.

Furthermore, another important rationale of the study is its focus on recovery plans and strategies. The practical ramifications of the study for local people, business stakeholders, and legislators by not only evaluating the effects of the pandemic, suggesting revival strategies from the clutch of the crisis. Therefore, the study can help the decision-making procedure and support the development of evidence-based policies.

In addition, by combining qualitative data analysis with quantitative insights from the stakeholders and salaried employees, the study's methodological approach offers a strong framework for comprehending the intricate dynamics under consideration. The mixed methods approach captures both the quantifiable economic impact and the lived experience of people impacted by the pandemic, therefore enabling a more complete and sophisticated examination of the circumstances.

The study also has the chance to support the more general conversations about sustainable tourism development and economic diversification in regions heavily dependent on tourism. Uncovering the weaknesses of the region during the pandemic can help guide the creation of plans for a stronger local economy and to survive the next crisis.

Finally, the possibility of the research forming a basis for the next studies on this ground strengthens the rationale of the study.

Ultimately, the timelines, relevance, and possibility of significantly influencing both the scholarly domain and practical policy-making define the justification of the research. By providing a thorough investigation of the pandemic's impact on the Darjeeling tourism industry, this study meets a crucial demand for empirical research that can help formulate future tourism development planning. The knowledge acquired by this study could help not only Darjeeling but also other similar areas dealing with identical difficulties following the worldwide pandemic.

1.8 Research Methodology

1.8.1 Study Area

Darjeeling is a beautiful region in West Bengal and India, located in the lap of the Himalayas. The name Darjeeling was derived from the Tibetan word “Dorje” meaning Thunderbolt, the weapon of the God Indra, and “ling or glin” meaning land (Everett-Heath, 2018). Therefore, Darjeeling is the land of thunderbolts. Darjeeling is the northernmost district of West Bengal, located between 26°27' N to 27°13' N and 87°59' E to 88°30' E, at above 2100 meters from the mean sea level. The northern expansion of the district is blocked by the state of Sikkim, and the Southern part of the district is surrounded by the Uttar Dinajpur district and the state of Bihar. In addition, the district shares its Western boundary with the neighboring country of Nepal. Further, the Eastern extension of the district is surrounded by the districts of Kalimpong, Jalpaiguri, and the neighboring country of Bangladesh. The North-South length of the district is 29 km, and the East-West length is 26 km. Administratively, Darjeeling is divided into four subdivisions (Darjeeling Sadar, Kurseong, Mirik, and Siliguri), nine development blocks (Darjeeling Pulbazar, Jorebunglow Sukhiapokhri, Rangli Rangliot, Kurseong, Mirik, Matigara, Khoribari, Naxalbari, and Phansidewa), and 92 villages which cover a total area of 3,149 sq km. Darjeeling town is the district headquarters of Darjeeling. Kurseong, Mirik, and Siliguri are the other major towns of the district. According to the topographic character, the district is divided into two parts: the mountain and the plains. The subdivision of Darjeeling, Kurseong,

and Mirik comes under the mountain region. However, the foothill of the Darjeeling Himalaya is part of the Siliguri sun division called Terai.

The present study is focused on the five developmental blocks, namely Darjeeling Pulbazar, Rangli Rangliot, Jorebunglow Sukhiapokhri, Mirik, and Matigara. Further, three villages from each of the blocks have been selected based on tourism activity. Finally, the study captures responses from the different types of stakeholders and local people employed in the different sectors.

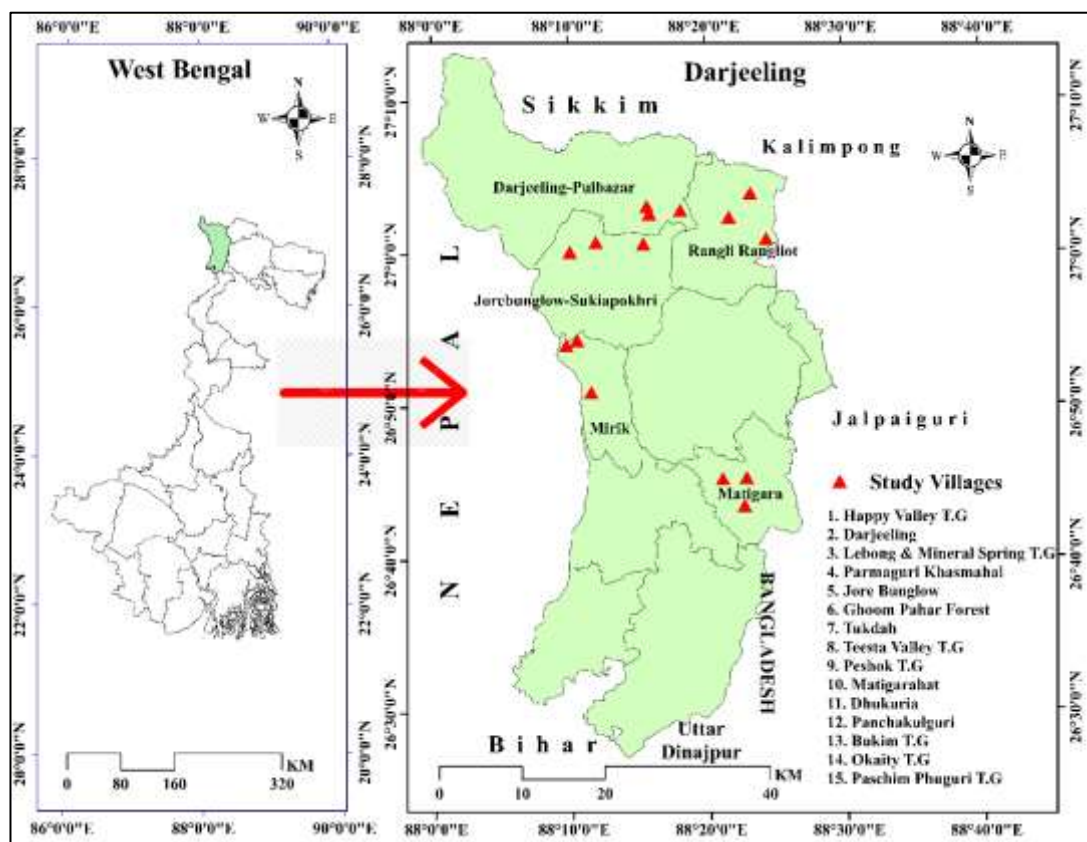


Figure 1.1 Location Map of the Study Area

1.8.2 Research Design

Research design is the structured research framework. In general, research design is a roadmap that includes all steps of research from the collection of the data to interpreting and concluding the study (Bloomfield & Fisher, 2019; Dulock, 1993). There are several types of research designs based on the research types. The present study employed the descriptive research design to analyze the impact of the COVID-

19 pandemic on the Darjeeling tourism industry. Based on the objectives of the research, two semi-structured questionnaires have been designed to measure the pandemic's impact on business performance, employment vulnerability, socioeconomic status, and livelihood vulnerability of the stakeholders and salaried employees of the Darjeeling tourism sector. Further, various statistical tools and techniques have been used to analyze the collected data.

1.8.3 Sampling Design

Target Population

The present study is focused on the impact of the COVID-19 pandemic on the tourism industry in Darjeeling. Based on the objectives of the study, the population was targeted. The concentration of the study is on the two key groups.

- The stakeholders or business owners engaged in various businesses such as hotels, restaurants, homestays, transport, and other related tourism service providers.
- The local people are employed in tourism-related businesses such as hotel staff, restaurant workers, homestay employees, travel agency staff, and other related jobs.

Sampling Techniques

For this study, a multi-stage sampling technique was utilized to systematically identify the targeted respondents. The sampling process was conducted in three stages.

- First, out of the nine developmental blocks in the Darjeeling district, five were purposively selected based on their concentration of tourism activity, the density of tourism businesses, and the local population's economic dependence on tourism.
- In the second stage, three villages were chosen from each selected block, resulting in a total of 15 villages, again based on the same criteria.
- Finally, within each village, targeted respondents were identified based on the study's relevance and their availability. Purposive and convenience sampling

techniques were employed to ensure the direct involvement of respondents in the tourism sector. A total of 480 respondents were surveyed, comprising 231 stakeholders and 249 employees.

Table 1.1 Distribution of Sample (n= 480)

Blocks	Villages	Sample Size		Total
		Stakeholders	Employees	
Darjeeling Pulbazar	Happy Valley	15	20	35
	Darjeeling	31	28	59
	Lebong & Mineral Spring Tea Garden	11	14	25
Jorebunglow Sukiapokhri	Parmaguri Khasmahal	18	21	39
	Jore Bungalow	12	18	30
	Ghoom Pahar Forest	10	13	23
Rangli Rangliot	Tukdah	20	21	41
	Teesta Valley Tea Garden	18	14	32
	Peshok Tea Garden	12	8	20
Matigara	Matigarahat	14	16	30
	Dhukuria	14	14	28
	Panchakulguri	15	18	33
Mirik	Bukim Tea Garden	13	10	23
	Okaity Tea Garden	12	14	26
	Paschim Phuguri Tea Garden	16	20	36
Total		231	249	480

Determination of Sample Size

Tourism is a strong economic pillar in Darjeeling and provides thousands of employment opportunities to the residents of the district and outsiders as well. Additionally, the number of tourism businesses and employed workers is increasing rapidly in the sector. The character of the study population is very dynamic, and it isn't easy to keep records of the stakeholders and employees in the tourism sector in Darjeeling. In such cases where the size of the population is unknown or infinite, Slovin's sample size determination technique is best suited (Ryan, 2013; Tejada & Punzalan, 2012). Therefore, due to the unknown or infinite population sizes, the

study used Slovin's formula with a 95% confidence level and a 5% margin of error when determining the sample size. Slovin's formula is as follows.

$$n = \frac{N}{1 + Ne^2}$$

Where, n = Required Sample Size, N = Population Size, and e = Margin of Error

Calculation of the sample size

$$n = (z^2 * p * (1 - p)) / e^2$$

$$n = (1.96^2 * 0.5 * (1 - 0.5)) / 0.05^2$$

$$n = (3.84 * 0.25) / 0.0025$$

$$n = 384.16$$

Where, n = Sample size, Z = Z-score corresponding to the desired confidence level, p = Estimated proportion of the population, and e = Margin of error

For a 95% Confidence Level,

$$Z = 1.96$$

$$p = 0.5$$

$$e = 0.05$$

According to Slovin's formula, with a 95% confidence level and a 5% margin of error, the minimum number of samples required for the study is 385. However, 480 samples were collected for the present study, which enhanced the reliability of the results.

1.8.4 Data Collection

Due to the timing and nature of the research, it wasn't easy to find any secondary information about the study region. Moreover, secondary data about the impact of the COVID-19 pandemic on the business, socioeconomic, and livelihood of the stakeholders and local people in Darjeeling was completely unavailable. Therefore,

the present research completely depends on the primary source of data. Additionally, the period of COVID-19 is not over yet. Hence, it was necessary to set a time limit for the study. Therefore, the study focused on the peak period of the pandemic from March 2020 to December 2021. However, the survey was conducted between November 2022 and April 2023.

The data collection was done with the help of the semi-structured questionnaires. Two separate questionnaires were designed for the two groups of people, the stakeholders or the business owners, and the employees or workers employed in the different tourism businesses. The survey was conducted with face-to-face interviews.

To measure the impact of the COVID-19 pandemic on the stakeholders in the Darjeeling tourism sector, different types of closed-ended and open-ended questions were incorporated into the questionnaire. Initially, to gather information about the demographic and business characteristics of the respondents, different questions were incorporated such as age, sex, education level, business types, year of tourism involvement, types of ownership, types of entrepreneurship, etc. Further, information was gathered about the business impact with the help of questions like business closing duration, working hour reduction, number of employees pre-pandemic, number of employees during pandemic, percentage salary cuts of employees, etc. In addition, to measure the financial strain as a result of the pandemic questions were put such as average monthly revenues in the pre-pandemic period, monthly revenues during the pandemic, number of operational assets pre-pandemic, number of operational assets during the pandemic, estimated total loss, etc. Furthermore, to estimate the degree of the pandemic's impact on customer decrease levels, supply chain, resource availability, business operational costs, morale and motivations, long-term business goals, and future business sustainability the Likert scale was used. Similarly, the Likert scale was employed to measure the socioeconomic and livelihood impact. The questions added regarding the socio-economic and livelihood impact of the pandemic were the impact on daily expenses, family basic needs, children's education, future savings, family relations, mental health wellbeing, etc.

Furthermore, to measure the impact of the COVID-19 pandemic on the socioeconomic and livelihood statuses of the local people employed in the different tourism businesses as salaried employees another questionnaire was designed. The questions were begun with the demographic characteristics and job profile of the employees such as age, sex, educational qualification, marital status, family size, number of earning members in the family, tourism workforce in the family, number of dependents, workplace, occupation, and work experience. Further, information was gathered about the monthly salary of the respondent, monthly family income, and per capita income. Additionally, to measure the pandemic on the family dynamics various questions like employment status during the pandemic, unemployment duration, job losses of the family member, number of earning members during the pandemic, number of dependents during the pandemic, etc were incorporated in the questionnaires. To measure the financial impact, incorporated questions were personal income during the pandemic, average family income during the pandemic, per capita income during the pandemic, alternative income source, etc. Further, different Likert scale questions were also added to the questionnaire to measure the degree of the pandemic's impact on the occupational vulnerability of the employees such as the impact on service demand, job uncertainty, work-life balance, long-term job opportunity, job satisfaction, and relationship with owners and colleagues. In addition to measuring the degree of the pandemic's impact on the socio-economic and livelihood status of the employees, the Likert scale questions impacted on income, financial obligations, food and nutrition, children's education, family relation, family basic needs, future savings, future optimism, and mental health.

Both questionnaires have incorporated enough questions regarding the impact of the COVID-19 pandemic on the various aspects of the tourism workforce in Darjeeling. the questionnaires covered a diverse dimension of the pandemic's effect on the Darjeeling tourism sectors. Therefore, this information has led to well-documented pandemic scenarios of the Darjeeling tourism industry which increases the credibility and reliability of the present research.

1.8.5 Data Analysis

The proper analysis of the collected data is the backbone of any research. Suitable and understandable data analysis techniques not only enhance the research quality but also develop the research esteem. Before proceeding to the analysis of the data, tabulation is necessary. The collected primary data were tabulated with the help of statistical software SPSS. Further, the software STATA was used to analysis of the tabulated data. Different types of statistics have been used to document the findings of the study, including descriptive and inferential statistics for both study objectives. Details of the employed statistics are given below.

Descriptive Statistics

In order to present the demographic characteristics, the business profile of the stakeholders, the professional character of the employees, and many other variables of the study, descriptive statistics such as percentage distribution, frequency distribution, mean, median, standard deviation, etc., have been employed.

Paired t-test

The paired t-test is a common and effective statistical technique to measure the mean differences between two related groups. it is commonly used when the same subjects are measured under two different conditions. For the present study, the paired t-test was employed to show the mean differences in income, family dynamics, and business operational assets of the stakeholders and employees induced by the COVID-19 pandemic.

$$t = \frac{\bar{d}}{S_d/\sqrt{n}}$$

Where,

$\bar{d}$ = Mean difference between paired observations.

S_d = Standard deviation of differences.

n = Number of pairs.

Analysis of Variance (ANOVA)

ANOVA is a common inferential statistic widely used in social science research to compare the means of two or more groups. In this research work, One-way ANOVA has been used multiple times to compare the mean of various variables such as income, loss of revenues, business closure duration, unemployment duration, Business Performance Index (BPI), Socioeconomic Resilience Index (SRI), etc. among the different business types, occupational groups and employment statuses of the employees and stakeholders.

$$F = \frac{MS_{between}}{MS_{within}} = \frac{\frac{SS_{between}}{df_{between}}}{\frac{SS_{within}}{df_{within}}}$$

Where,

$SS_{between}$ and SS_{within} = Sum of squares between and within groups.

df = Degree of freedom of each group.

Chi-Square Test

The study employed a chi-square test to determine the association between the employment status of employees during the pandemic and their occupational groups.

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where,

O = Observed frequency.

E = Expected frequency.

Pearson Correlation Coefficient

The Pearson correlation coefficient measures the linear relation between two continuous variables, and it is widely used in science and social science research. This statistical technique was used in the study to show the relationship between some key economic variables, such as business closure duration, business operation

unit reduction, average monthly revenue reduction, and total estimated loss by the pandemic.

$$r = \frac{\sum(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum(X_i - \bar{X})^2 \sum(Y_i - \bar{Y})^2}}$$

Where,

r = Correlation coefficient.

X_i = Individual value of X variable.

Y_i = Individual value of Y variable.

$\bar{X}$ = Mean of X variable.

$\bar{Y}$ = Mean of Y variable.

Multiple Linear Regression

The Multiple Linear Regression model has been employed in the study to identify the significant independent variable against different dependent variables. To identify the significant influencing factors of different dependent variables such as economic loss, Business Performance Index (EPI), Occupational Vulnerability Index (OVI), and Socioeconomic Resilience Index (SRI) of the stakeholders and employees.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \epsilon$$

Where,

Y = Dependent variable.

β_0 = Intercept term (the value of Y when all X variables are zero).

$\beta_1, \beta_2, \beta_3, \dots, \beta_n$ = Regression coefficients for each independent variable $X_1, X_2, X_3, \dots, X_n$, indicating the change in Y for a one-unit change in the corresponding X variable, holding all other variables constant.

$X_1, X_2, X_3, \dots, X_n$ = Independent variables.

ϵ = Error term.

1.8.6 Use of Software

- Initially, the collected data were tabulated in the SPSS software.
- Further, the data were analysed with the help of STATA.
- In addition, different graphs and tables were created using MS Excel.
- Last but not least, the location map of the study area was created with the help of QGIS and ArcGIS software.

1.9 Organizations of the Study

Chapter 1: Introduction

The chapter includes a succinct overview of the global tourism industry and how the pandemic has affected it. It began by outlining the development of the global tourism sector. The development of the Indian and Darjeeling tourism industries follows. An overview of the history of pandemics and epidemics, as well as how they have affected the travel and tourism industries globally, in India, and Darjeeling, is also included. Following that, a description of the problem statement, scope, research questions, objectives, and significance was given. The chapter then went on to discuss the research methodology, which included the study area, sample size calculation, data collection strategies, and tools and techniques for analysis.

Chapter 2: Review of Literature

This chapter offers a comprehensive review of existing studies that focus on the relationship between pandemics and the tourism industry. It aims to establish a chronological framework based on past research regarding the impacts of pandemics and epidemics on the tourism industry worldwide. Meanwhile, the chapter examines 74 pieces of literature, including 33 international studies, 25 national studies, and 16 regional studies.

Chapter 3: Geographical Background of Darjeeling

The chapter contains detailed descriptions of the geography, demography, political, and administrative features of the Darjeeling district. It starts with the political and administrative setup of the districts, which includes the number of subdivisions,

blocks, Gram Panchayats, and Villages. Further demographic characteristics of the district were highlighted. Furthermore, physiographic characteristics, drainage pattern, soil types, land use and land cover, transportation network, climate, and tourism resources across the district were discussed.

Chapter 4: Impact of the COVID-19 Pandemic on the Hospitality and Transport Sector in Darjeeling

The primary focus of this chapter was to examine the impact of the pandemic on the hospitality and transport sector of Darjeeling tourism across the different study blocks and villages. The chapter starts with the general descriptions of the tourism stakeholders. Additionally, it provides information about the pandemic-induced challenges in the business and socioeconomic conditions across the different sectors. Challenges including closing durations, monthly revenues decline, reduction in operational units, employee layoffs, estimated economic loss, business performances, and socioeconomic resilience etc.,

Chapter 5: Impact of the COVID-19 Pandemic on the Socioeconomic and Livelihood Status of Tourism Employees

This chapter provided information on the impact of the pandemic on the employment status, job profile, socioeconomic and livelihoods of the local people, who are the salaried employees in the Darjeeling tourism industry. The chapter starts with the general information about the employees. Further, with the suitable analysis impact of the pandemic was examined in the different dimensions of their occupation, socioeconomic status, and livelihoods during the pandemic. These include employment status, salary deductions, household income patterns, changes in the family compositions, occupational vulnerability, socioeconomic resilience, etc.

Chapter 6: Revival Plan and Strategies to Sustain Darjeeling Tourism from the Shock of the Pandemic

In this chapter, various plans and strategies have been proposed to expedite the recovery process and promote future sustainability. Initially, the study outlines recovery plans and strategies for stakeholders in the hospitality and transport sectors.

Additionally, different plans have been developed for salaried employees in the tourism industry to facilitate a swift recovery and enhance future sustainability. Overall, these strategies emphasize the inclusive development of the tourism sector in Darjeeling.

Chapter 7: Conclusions

The conclusion chapter well summarised all of the findings of the study. Initially, it summarised the impact of the pandemic on the hospitality and transport sectors of Darjeeling tourism. Additionally, examined the pandemic's impact on the business operations and socioeconomic conditions. Further, it summarised the challenges faced by the salaried employees in their occupation, socioeconomic and livelihoods. Finally, the most suitable revival plans and strategies have been explained for the holistic and inclusive development of the Darjeeling tourism industry.

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Chapter 2

Review of Literature

2.1 Introduction

The COVID-19 pandemic posed the biggest threat to the global tourism industry. It had a significant impact on all forms of tourism, affecting everyone from small, self-owned businesses to large tourism companies. As a result, countless employees within the sector lost their jobs or faced substantial pay cuts. This led to serious repercussions for the socioeconomic status and livelihoods of tourism entrepreneurs and workers alike. In light of these challenges, numerous studies have been conducted to assess the pandemic's impact on the tourism industry worldwide. To establish a foundation for the current research, we have reviewed various existing literature, which is categorized into three groups: international, national, and regional. These are presented below.

2.2 International Literature

Tourism has a rich history that dates back to the 17th century. As the transport and hospitality sectors developed, the tourism industry evolved alongside them, gradually becoming one of the major service sectors in the world. The tourism industry has faced several challenges during recession periods, with pandemics and epidemics being the most significant causes. The impact of the COVID-19 pandemic on the tourism industry was particularly devastating. We outline a timeline of the tourism industry's development, highlighting its contributions to the global economy and the support it provides for millions of livelihoods. Additionally, we examine the recent pandemic's effects on worldwide tourism. Numerous studies have been conducted on this topic, and the sections of this chapter present these studies in chronological order.

Leiper (1979) discussed the historical development of the world tourism industry. The author wonderfully defines the terms tourist, tourism, and tourism industry, which are frequently used in the modern tourism industry. In addition, the study presented three important definitions of tourism, such as the economic, technical, and holistic definitions of tourism.

Pearce (1979) tried to explain the wider scope of tourism geography by reviewing lots of previous studies on the origin and development of tourism geography. The study set the base for tourism geography by identifying six major areas, viz, spatial aspects of supply, spatial aspects of demand, the geography of resorts, movement, patterns of tourist inflows, tourism impact, and tourist space models. The study has synthesized the abrupt knowledge of tourism geography into a compact and comprehensive form.

Papson (1979) stated that tourism will be the largest industry in the world in the 21st century. The researcher collected information about the growth of the tourism industry, such as tourist flows, economic contribution, and social and environmental impact of tourism from the different published and unpublished works. Therefore, depending on the collected information and trends of tourism growth, he concluded his arguments.

Towner (1985) represented in his paper on the development of tourism in the Western world. The author argued that the “Grand Tour” of the aristocratic European family was a great contributor to tourism knowledge during the 17th and 18th centuries. Generally, young children from elite and wealthy families were sent to explore the European and adjacent regions to acquire educational knowledge about the different places of the world. The author stated that the writings of these young tourists provided various insights about the places they visited, including the age of the visitors, social status, lengths of the tour, and spatial patterns. Moreover, the findings of the study indicated that though the wealthy and aristocratic family was part of the “Grand Tour”, gradually the professional middle-class people such as clergy, lawyers, persons in office, naval officers, military officers, sea merchants, and land merchants took significant parts of the tour.

Towner & Wall (1991) investigated the evolution of tourism research in North America and Europe. The study provided a thorough overview of the literature on tourism studies. According to the authors, the growth of spas and coastal resorts in Britain has drawn a lot of tourists and drawn the attention of historians and geographers to the subject of tourism. Additionally, several studies on leisure tourism

in Britain during the 19th century were included in their research. The authors also covered many studies regarding the value of North American national parks and wilderness areas for tourists. Additionally, the paper covered the evolution of tourism literature about other regions of the world.

Poon (1993) mentioned that the tourism industry in the 4th quarter of the 20th century became the fastest-growing sector in the world. The author analyzed how advanced transport and communication technology increased the international journey of the middle-class population in the study. In addition, the study showed that increasing demand for tourism increased mass tourism in the 1970s and 1980s. In addition, the study has highlighted the flourishing tourism businesses around the world due to the growing importance of tourism.

Brohman (1996) carried out a study entitled “New Direction in Tourism for Third World Development”. The study was based on secondary data from the International Monetary Fund (IMF), the World Tourism Organization (WTO), and the World Bank on various underdeveloped nations' tourist arrivals, tourism expenditures, tourism exports, and tourism GDPs. The study results showed that the economy of third-world countries was considerably driven by tourism. In addition, the author raised his voice about the different negative effects of tourism, such as over-tourism, excessive dependence on tourism, regional imbalance, environmental deterioration, etc.

Sinclair (1998) showed that the tourism industry had significantly bloomed worldwide at the end of the 20th century. The industry significantly supported the economy of several countries through foreign exchange earnings. Additionally, the sector provided a large number of income opportunities and employment. The findings of the study reveal that the tourism industry shared a significant portion of the total exports of middle-income and newly industrialized countries. Furthermore, the study depicted that the number of world tourist arrivals was 567,033 in 1995, recording an annual growth of 3.8%. However, approximately three-fourths of the total arrival (71%) and foreign exchange earnings (69%) were limited to Europe, the United States of America, and Canada. In the year 1995, the world tourism industry saw total foreign exchange earnings of \$422745.

Williams & Shaw (2000) argued that tourism was one of the most important phenomena in the 21st century because of its rapid growth and wider scope. The author argued that the development of information technology and globalization reshaped the world tourism landscape and reshaped itself. Information technology connects the whole world in a single thread and every remote place in the world, making the world a global village. According to the authors, this information technology has promoted the unpredictable development of tourism and led to unprecedented growth in tourism capital.

UNWTO (2001) reported that international tourist arrivals increased to 689 million in 2000 from 650 million in 1999, recording an annual growth of 7.4%. Although all regions recorded significant growth in international tourist arrivals, the East Asia and Pacific regions recorded the highest annual growth in 2000. In addition, international tourism receipts increased by 4.5% in 2000 compared to the previous year and reached a total receipt of \$475.8 billion.

McKercher & Chon (2004) conducted their study on the impact of the severe acute respiratory syndrome pandemic on the tourism industry in the Asian Region. The study was based on secondary information from various governmental data such as WTTC, UNTWO, and WHO. The authors stated that although the pandemic infected 26 countries around the globe, a severe impact was found in the Asian region. Consequently, the tourism sector of this region was severely impacted. The study results indicated that over three million tourism jobs were lost due to the pandemic. Additionally, the study found that the tourism sectors of China, Hong Kong, Singapore, and Vietnam almost collapsed as a result of the SARS pandemic. According to the estimations of the study, these four countries had experienced a loss of \$20 billion. Furthermore, tourist arrivals in the Asian region dropped by 75% in 2003.

Wilder-Smith (2006) carried out a study entitled “The Severe Acute Respiratory Syndrome: Impact on Travel and Tourism”. The author stated that the world travel and tourism industry was significantly impacted by the pandemic. According to the findings of the study, tourist arrivals dropped by 1.2% in 2003 compared to the

previous year. In addition, the economic contribution of tourism contracted to 2.9% in 2003 from 5% in 2002. The author also mentioned that the most significant impact was observed in the Asia-Pacific region with a 41% decline in tourist arrivals comprising about 12 million tourist arrivals. Additionally, regional tourism was severely impacted in Asia, such as Beijing saw a loss of approximately \$1.3 billion, a 10% drop in hotel occupancy in Vietnam, and 28,000 tourism jobs were lost in Ontario.

Dwyer et al. (2006) mention that in their study the SARS pandemic had significantly impacted the Australian tourism industry. The pandemic significantly reduced the inbound and outbound tourism in 2003.

Mice Report (2009) published a detailed picture of the global tourism industry and the H1N1 influenza or swine flu pandemic. According to the report, the world travel sector was affected due to the swine flu pandemic. In addition, significant travel restrictions have been imposed in Mexico, Canada, China, India, Indonesia, Japan, Kenya, Singapore, South Korea, Thailand, Great Britain and the United States. As a result, the sharp decline in the airline's share, international tourist arrivals, the fall in hotel occupancy, and all tourism-related activities were significantly affected.

UNTWO (2010) reported that world tourist arrivals declined by 2-3% in 2009 and resulted \$89 billion loss due to the H1N1 pandemic.

Rassy & Smith (2013) conducted a study on the economic impact of the Swine flu on the tourism sector and the pork industry of Mexico. The study was based on the secondary data gathered from the different governmental sources of Mexico. The results of the study found that the Mexican tourism sector saw a loss of \$2.8 billion and pork industries experienced a \$27 million loss due to the H1N1 pandemic.

World Bank (2016) published a report on the economic impact of the Ebola Virus Disease in West Africa. The report comprises two major scenarios of the epidemic, Low Ebola and High Ebola effects. According to the findings of the report, Guinea, Liberia, and Sierra Leone were the most impacted regions. The findings of the reports noted that during the Low Ebola periods, the GDP of West Africa dropped by

\$2.2 billion in 2014 and \$1.6 billion in 2015. However, the High Ebola period caused a GDP reduction of \$7.4 billion in 2014 and \$25.2 billion in 2015 in West Africa.

WTTC (2019) reported that the travel and tourism sector accounted for 10.4% of the global GDP. The sector accounted for 1 job out of 5 jobs in the world and supported 319 million tourism jobs worldwide. Additionally, the sector supported billions of livelihoods by providing indirect income opportunities.

UNWTO (2020) report accounted for the world tourism scenario of 10 years up to 2019. According to the report, tourism is one of the largest and fastest-growing industries in the world. The international tourist arrivals reached 1,460 million in 2019, reflecting 4% growth compared to the previous year. Additionally, total international tourism receipts recorded a 3% growth rate in 2019, reaching \$1481 billion. According to the report between the years 2009 to 2019, the world tourism GDP rose by 44%. Furthermore, UNWTO reported that the world tourism industry generates more than \$5 billion daily in exports

Luković & Stojković (2020) estimated that the COVID-19 pandemic has led to a decline of 65% in international tourist arrivals in the first half of 2020 compared to the same period in 2019 and a loss of \$300 to \$400 billion in tourism revenue. Additionally, according to the authors, approximately 120 million people lost their jobs in the tourism industry.

Hoque et al. (2020) conducted a study on “Global Economics and Tourism After COVID-19 Pandemic”. The study was based on the secondary data collected from various governmental sources, journal articles, and research. The findings of the study depicted that due to the COVID-19 pandemic, the per capita GDP of the world was contracted by 92.9%. Furthermore, due to travel restrictions, border closures, and all kinds of flight cancellations, the world tourism industry faced significant setbacks.

Kumudumali (2020) stated that the COVID-19 pandemic has severely affected the world tourism industry, including tourist arrivals, revenues, and employment losses. The study’s findings reveal that the pandemic caused a 1.1 billion decline in

international tourists, a \$910 billion to \$1.1 trillion loss in tourism export revenues, and approximately 120 to 130 million job losses.

Karsokienė & Dromantienė (2021) measured the pandemic impact on the world's tourism sector with the help of a relatively unstructured document analysis approach. The study found that in the 10 months of 2020, international tourist arrivals fell by 70% compared to 2019. The main focus of the study was on the impact of the COVID-19 pandemic on the cruise ship industry, which is one of the major parts of tourism. The analysis showed that the cruise ship sectors experienced a loss of \$110 million and thousands of job losses.

Harchandani & Shome (2021) The study stated that the COVID-19 pandemic had imposed unpredictable challenges on the world tourism industry and significantly affected the socioeconomic and livelihood status of the tourism workforce. According to their findings, international tourist arrivals declined by 60-80% in 2020. Further, the study tried to measure the regional impact of the pandemic and depicted that the worst-affected region was Asia-Pacific, followed by Europe and America.

Popsa (2021) described that tourism is one of the prime drivers of the world economy. It contributed 10.4% of the world's GDP in 2019 and generated 334 million direct tourism jobs worldwide. However, the COVID-19 pandemic severely damaged all kinds of tourism activity. The author stated that tourism GDP decreased to 5.5% in 2020, recording a loss of \$4.5 trillion. Additionally, approximately 62 million people lost their jobs representing a decline of 18.5% in 2020 compared to 2019. In the meantime, the study presented tourism GDP losses of different regions of the world. The findings of the study demonstrated that the Caribbean region recorded the highest decline in tourism GDP, which was \$1,645 billion, and recorded a 58% decline, followed by Asia-Pacific (-53.7%), and Europe (-51.40%).

Sun et al. (2021) tried to find out the employment vulnerability of tourism workers in Indonesia during the COVID-19 pandemic with the help of a multi-regional input-output model. The study found that the spending of visitors fell by \$14 billion in 2020 compared to the previous year which took 1.8 million direct tourism jobs in the

country. Additionally, the author stated that if the supply chain and indirect jobs were taken into account, approximately 3.4 million jobs would be at risk in the Indonesian tourism industry. Furthermore, the study indicated that very high employment vulnerability was found among women, youth, and low-educated workers. The employment vulnerability of these groups was five times more than the national average.

Kimbu et al. (2021) carried out a study to measure the impact of the pandemic on the socio-psychological well-being of tourism employees in Ghana. The study found that the pandemic had significantly affected the psychological and social well-being of the employees engaged in tourism. Meanwhile, the findings of the study highlighted that marital status, education level, employment status, and types of organizations significantly influenced the psychological well-being of the employees. At the same time, marital status, age, education level, and rank of the organizations influenced the social well-being of the employees.

Williams (2021) stated that the socioeconomic status of the unrecognized tourism employees was severely affected by the outbreak of the COVID-19 pandemic. The work was based on the secondary information collected from the Eurobarometer survey of Europe. The author argued that the reason behind the vulnerable socioeconomic condition of the unrecognized tourism employees was that they were deprived of government support. Contrary to those who recognized that tourism employees got sufficient short-term support from the government.

Hyasat (2022) conducted a study to examine the impact of the COVID-19 pandemic on the employment status of tourism employees in Jordan. The study results depicted that tourism employees faced significant challenges as a result of the pandemic, including job loss, salary reductions, and reduced job satisfaction. The study was based on the primary survey, and the analysis was done primarily with descriptive statistics.

Claudio-Quiroga et al. (2023) demonstrated the employment vulnerability of tourism employees of all genders in the Spanish tourism industry. The study's results

indicated that women employees were affected more by the pandemic than men, including the number of job losses, salary reductions, and overall employment status.

UN Tourism (2025) reported that international tourist arrivals have not fully recovered till now compared to the pre-pandemic level. While several regions of the world have recovered to their pre-pandemic levels, the Asia-Pacific region remains 13% below that level. Additionally, the report noted that in January 2025, foreign tourist receipts had just returned to their pre-pandemic level.

2.3 National Literatures

Since the ancient and medieval eras, the Indian subcontinent has been a major destination for tourists. However, religious and educational endeavors were the primary drivers of tourism during that time. Tourists from all over the world were drawn to famous religious sites like Varanasi, Vaishno Devi Temple, Rameshwaram, Kedarnath, etc., as well as the educational significance of Takshashila and Nalanda. In addition, the historical monuments built by the Rajput, Khalji, Lodi, Mauryan, Pal, Sen, Chauhan, Chola, Mughal, and British dynasties are still equally important today. In addition to its cultural and physical significance, India is a must-see destination worldwide. Since the Middle Ages, the Indian tourism industry has flourished, and during the British era, it gained economic significance. One of the main forces behind the country's economy today is tourism. The Indian tourism industry's development path, however, was not entirely straightforward. Several events, including war, famine, economic crises, political unrest, etc., hampered the industry's expansion. Furthermore, historical evidence indicates that pandemics and epidemics were among the main obstacles to the growth of the Indian tourism sector. Although numerous pandemics and epidemics have caused significant harm to the Indian tourism industry, the COVID-19 pandemic has posed a bigger threat.

Numerous studies have been conducted on the Indian tourism industry, ranging from assessing the industry's history to contemporary and digital tourism. Furthermore, the Indian tourism industry and the recent COVID-19 pandemic phenomenon were the focus of thousands of studies. This chapter's section gives a thorough analysis of

the literature on the Indian context. The research is arranged in chronological order. These are as follows.

Travernier (1889) was a well-known French explorer who visited India in the 17th century; his trip was chronicled in the book “Travels in India.” Important facts about well-known religious sites, trade, the economy, travel infrastructure, history, geography, flora, and fauna were all included in the book. The books also included insightful information about the state of tourism at the time.

Bhardwaj (1973) argued that “tirtha yatra” has been one of the prime motivations for the growth of pilgrim tourism in India since the ancient period. The author surveyed 5,454 pilgrims from the various secret pilgrim sites of Himachal Pradesh, Madhya Pradesh, and Uttar Pradesh in 1968. The study contained valuable information about the tourists and different tourism destinations.

Bhatia (1978) noted in his book that India’s varied topography, wide-ranging mountain ranges, rich cultural legacy, and historic buildings, all serve as significant draws for foreign visitors. The book incorporated valuable insights about tourism development in India and its history. Further, the author incorporated significant discussion about the efforts of the government to foster tourism. The author also discussed how tourism serves as a vital platform for global understanding and cross-cultural exchange with India.

Pavaskar (1982) pointed out that tourism was a key economic engine of India in the 4th quarter of the 20th century. In addition, the sector generated a large part of employment across the country at that time. According to the results of the study, the tourism sector provided 370,542 people with direct employment in 1981. Apart from that, thousands of livelihoods were financed indirectly by tourism. In addition, the author argued that India employed about 1.7 million people in the tourism industry, accounting for 0.66% of the country’s total employment. In addition, the sector contributed 1.5% to Gross National Product in 1981.

Sen (1997) mention that India has unpredictable potential for the further growth of the tourism industry. Though domestic tourist tourism widely flourished throughout the country, international tourism still lags behind the several Southeast Asian

countries. The lack of infrastructural development was one of the main reasons behind it. Additionally, the lack of emphasis on the new tourism trends such as eco-tourism, cultural tourism, and ethnic tourism also played a significant role in the low international tourist arrivals in India.

Roy & Tisdell (1998) stated that though the words tourism and tourism industry have been very popular in India for a long period, however, the actual growth of tourism began in the mid-1980s. Consequently, the sector showed rapid growth and became one of the major economic pillars of the nation. Furthermore, the authors argued that though India recorded only 0.4% of the world's tourists in 1995, the country earned foreign exchange earnings of ₹9000 crore. Moreover, the sector provided more than 7.8 million jobs across the nation which accounted for 2.4% of the total employment in the same period.

Ministry of Tourism (2006) reported that India received 44,47,167 international tourists in 2006, representing an annual growth of 13.5%. The country recorded 0.52% of total world tourists, which represents significant growth over the previous decade, and India was 42nd in the world. In addition, in the same financial year, the industry generated foreign exchange income of \$8934 million, which accounted for 1.21% of the world's exchange earnings, thus securing its 21st place. In addition, according to the report, the number of domestic tourist visits in 2006 was 461.7 million.

Amutha (2011) tried to show the connection between India's economic growth and the tourism industry. The author explained that tourism is a significant sector of the country's economy and has developed into the largest service industry in the country. In 2009, India received 880 million international tourists from various parts of the world and recorded foreign exchange income of \$852 million. In addition, the results of the study showed that the sector alone accounted for 6.23% of the country's total GDP and 8.78% of total employment in 2008. In addition, the author mentions that India's tourism industry generated \$100 billion in 2008 and is expected to increase by 275 billion US dollars in 2018.

Mishra et al. (2011) used time series analysis to find the relationship between the nation's GDP, arrivals of foreign tourists, and foreign exchange earnings. The results of the study show that there is a significant positive relationship between GDP growth and foreign tourist arrivals in India. In addition, a significant positive relationship was found between the arrival of foreign tourists and foreign exchange earnings. The study concluded that nations' GDP growth was largely dependent on foreign tourist arrivals and foreign exchange income from tourism.

Kaur & Sharma (2012) mentioned in their study that tourism is the fastest-growing industry in India. The foreign tourist arrivals were more than 5 million in 2011 and domestic tourist visits were 740 million. Additionally, the industry contributed \$34.01 billion to the national economy and supported millions of livelihoods by accounting for 7.4% of the total employment in 2011.

Sati (2013) noted that tourism shared approximately 10-15% of the state economy of Uttarakhand. The development of roadside tea stalls, dhabas, and other shops along the roadsides of Haridwar and Rishikesh was mainly driven by tourism. According to the study's findings, tourism created a bulk of job opportunities in Uttarakhand. Additionally, the author claimed that in 2012, the Uttarakhand government spent ₹169.78 crores on the tourism industry, generating an estimated 132428 jobs across the state.

Malik & Nusrath (2014) depicted the growth of the Indian tourism industry from the end of the 20th century to the first decade of the 21st century. The study found that domestic tourist visits in the country grew by approximately seven times from 1997 to 2012 and international tourist arrivals grew by approximately four times. Furthermore, the study reveals that the foreign exchange earnings generated by the tourism industry grew by 16.28% during the same period and reached \$17.737 million in 2012. Moreover, the study incorporated the significance of the tourism sector in job creation and national and regional economic development.

Ministry of Tourism (2020) reported that international tourist arrivals reached 10.93 million in 2019 with an annual growth rate of 3.5%. At the same time, domestic tourist visits recorded a 25.3% growth than the previous year and the figure rose to

2321.98 million. The report also depicted that the foreign exchange earnings rose to \$30.06 billion in 2019, recording an annual growth rate of 5.1%.

Sati (2020) conducted a study to examine the nature of tourism and tourists in the Uttarakhand Himalaya. The study depicted the crucial picture of Himalayan tourism in India. The author argued that though the Uttarakhand Himalayas provided different types of tourism activity, natural and cultural/pilgrim tourism is the most prominent. The region is blessed with numerous pilgrim sites. However, the highest tourist inflows are concentrated in a few places such as Badrinath, Kedarnath, Gangotri, and Yamunotri. Furthermore, the author discovered that Haridwar and Rishikesh drew over half of the pilgrim tourists. In addition, the study pointed out five important natural tourist places such as Mussoorie, Dehradun, Nainital, Joshimath, and Almora. It has been found that the highest domestic and international tourist inflow was found in Dehradun.

Kumar et al. (2020) found that regional tourism businesses were severely impacted by the COVID-19 pandemic, along with the whole tourism industry in India. The pandemic had a major effect on the financial and business stability of the 60% stakeholders in Haridwar and Dehradun, according to the findings of the study.

Ministry of Tourism (2021) reported that the COVID-19 pandemic significantly impacted the Indian tourism industry. According to the report, the foreign tourist arrivals were only 2.74 million, registered an annual growth of -74%. In addition, the foreign exchange earnings declined by 76.90% compared to 2019.

NCAER (2021) found that in their research, due to the pandemic, direct tourism GDP was contracted to 3.7% in 2021 compared to 6.8% in 2019. In addition, the indirect GDP declined to 2.7% compared to 5.2% in 2019. Furthermore, the report says that out of 34.8 million tourism jobs, 14.5 million jobs were lost across the country. Moreover, significant income reduction was observed among all the tourism workforce. Tourism workers experienced a 40% income reduction. However, the income reduction of the self-employed tourism businesses was 42%.

Singh (2021) showed the devastating effects of the pandemic in his research. The study found that about 38 million tourism employees lost their job during the

pandemic. In addition, significant income reductions severely impacted their livelihoods throughout the nation.

Jaipuria et al. (2021) mentioned that the pandemic significantly impacted the regional tourism economy of India due to the drastic decline in foreign tourist arrivals and foreign exchange earnings. The local community that engages in the tourism has experienced income reduction throughout the country.

Sandhya (2021) examined how the pandemic affected India's transportation and hospitality sectors. The study discovered that the aviation, hospitality, and cruise industries were most severely impacted by a sharp drop in visitor arrivals and tourism revenue. The two most prevalent aspects of the impact were revenue reductions and employee layoffs.

Maiti (2022) stated that the average household income of all types of tourism workforces declined by 3.12% to 6.39% and individual income was reduced by 3.21% to 5.29% in India. Additionally, the study found that the employees who lost their jobs experienced a 59% income reduction.

Yadav (2022) found that the tourist arrivals and foreign exchange earnings of the Indian tourism industry were declined by 90% to 95%. Additionally, millions of jobs were in danger throughout the nation.

Choudhury & Saha (2022) pointed out that, while the pandemic had affected all Indian businesses, the tourism sector had been hit particularly hard. This disastrous impact has resulted in 50 million jobs being lost in the tourism sector.

Sharma & Rai (2023) examined that about 90% of the micro, small, and medium-sized tourism businesses were experiencing a 25% revenue reduction across India due to the pandemic. Additionally, comparatively younger small businesses were severely impacted.

Panwar et al. (2024) analysed the impact of the COVID-19 pandemic on the micro, small, and medium enterprises in the Uttarakhand state of India. The study found that the impact of the pandemic was more severe than in other businesses, including financial downturn, employee layoffs, and livelihood disruptions.

2.4 Regional Literature

Darjeeling, often referred to as the queen of hill stations, is a significant tourist destination in West Bengal, India. The region is rich in tourism resources, attracting a large number of visitors each year. Tourism plays a crucial role in the local economy, contributing to the region's growth. As a result, numerous tourism-related businesses have developed throughout the district, supporting thousands of livelihoods. However, the COVID-19 pandemic has had a profound impact on the tourism landscape in Darjeeling. In this study, we present several previous investigations that explore the economic impact of tourism as well as the effects of the pandemic on the tourism sector in Darjeeling.

Kotturan (1983) Darjeeling was once part of the Sikkim Empire. In 1780, the native people of Darjeeling captured the region from the king of Sikkim. A few decades later, the British recaptured it and returned it to the king of Sikkim in 1815. Subsequently, the king of Sikkim gifted Darjeeling to the British to establish sanatoriums for their soldiers.

Bhattacharya (1986) explained about the growth of Darjeeling as a tourist destination in his study. The author stated that Darjeeling started gaining tourism importance after establishing the hill station in the second quarter of the 19th century. According to the author, it was an important health resort of India. Further, the tea plantation by the British and the establishment of the railway made this region more accessible to the country. The study's findings indicated that 96,400 Indian and 10,200 foreign tourists visited Darjeeling in 1981.

Bhattacharya (1992) highlighted the importance of urbanization for the growth of urban tourism in Darjeeling. The author mentioned that the establishment of sanatoriums in the first half of the 19th century and the unrivalled natural beauty of Darjeeling attracted significant responses from the tourists across the world. Gradually, Darjeeling emerged as the queen of the stations to the world.

Ghose (1992) outlined how different kinds of tourism enterprises sprang up around well-known tourist destinations like Darjeeling, Mirik, Kurseong, and Kalimpong as a result of the area's explosive tourism growth. The author reiterated that thousands

of direct and indirect job opportunities have been created as a result of the growth of these tourism-related businesses.

Sen (1993) tried to explain the socioeconomic condition of the local people of Dudhia village in Darjeeling. The study found that due to the development of tourism activities in Darjeeling, the demography and occupational patterns of the local people significantly improved.

Tirkey (2005) mentioned that the tourism sector of Darjeeling helps to develop the local community by providing employment opportunities. Moreover, the author argued that semi-skilled and unskilled workers easily found jobs in the tourism sector.

Datta (2005) explained the importance of the tea tourism in the Darjeeling Himalayan region. The study found that tea tourism has significantly boosted the economic growth of Darjeeling by enhancing the tourist inflow. The author further mentioned the importance of the Darjeeling Himalayan Railway as a heritage tourism.

FAO (2010) found that tourism is one of the main economic drivers in the Darjeeling area. Although tea and tourism have had a separate economic importance for the region's development, they are now mutually supportive. Tourism has created many jobs and supported thousands of livelihoods.

Bhutia (2014) argued that the human resource development in Darjeeling is significantly driven by the tourism. The author mentioned that one of the major socioeconomic activities of people of Darjeeling was tourism. Development of the tourism industry in Darjeeling significantly decreased the unemployment rate across the district.

Bhutia (2014a) explained that tourism generates the same income as tourism today. The study found that every year Darjeeling is visited by 3.5 lakh domestic and 50000 foreign tourists. Tourism in Darjeeling generates an annual revenue of around 350 crores. Moreover, due to multiplier effects of the tourism, a huge number of local people benefited.

Paul (2014) He highlighted the importance of a community-based approach to tourism for the development of the local community in Latpanchar in Darjeeling. The author stated that the economic development of the local community in this village had been significantly improved by this approach.

Kannegieser (2015) depicted the role of tourism in socioeconomic development of the rural women in Darjeeling. The study presented that due to the development of the homestay tourism throughout the district, the rural women benefited significantly. Direct involvement in the tourism business as an entrepreneur and workers significantly uplifted their social wellbeing by generating consistent income. Additionally, the number of women benefited by the indirect impact of the homestay tourism.

Rawat (2019) highlight the value of tourism to the rural development of the Darjeeling villages of Tukdah and Mineral Spring. The author stated that homestays, restaurants, guesthouses, and other associated activities were examples of how rural tourism began to expand in the study villages. Consequently, the local community's unemployment rate and economic crisis both declined. According to the author, tourism scenarios can be drastically altered by effective management, practical planning, and infrastructure development of these areas.

Sarker (2020) explained that due to the pandemic, the number of tourists visiting Darjeeling had dropped to almost zero during the first phase of the lockdown. As a result, the Darjeeling tourism industry suffered losses of around 350 crores. The author also stated that the occupancy rates of the various hotels, lodgings, and guesthouses were empty.

Ghosh (2022) mentioned that the livelihoods of the tribal women in Darjeeling were severely affected by the COVID-19 pandemic. According to the findings of the study, about 23% of women tourism employees permanently lost their jobs, and 24% of women experienced a significant salary reduction.

Nagarale et al. (2024) stated that the COVID-19 pandemic has significantly impacted the income of the local community, hospitality, and tour operators. The entrepreneurs of tourism in Darjeeling saw significant income reductions. Moreover, the study's findings suggested that many people lost their jobs, which directly affected the socioeconomic well-being of the tourism workforce across the district.

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Chapter 3

Geographical Background of Darjeeling

3.1 Introduction

The land of “thunderbolt”, Darjeeling, is the northernmost district of West Bengal. It is located between 26° 27' N and 27° 13' N and 87° 59' E and 88° 30' E in the foothills of the Darjeeling Himalaya. The district is well-known for its world-class tea and hill stations. Darjeeling's fascinating natural beauty and rich culture are among its unique characteristics. The entire district is divided into two main parts: hills and plains. A major part of the district falls under the hilly region, with only the Siliguri subdivision in the plains. Due to the physiographic and soil characteristics, agricultural land is quite limited across the district, with only a small amount of agriculture practiced in the plains area. The people of Darjeeling primarily rely on three 'T's: Tea, Tourism, and Timber (Bhutia, 2014a). With the rise of environmental concerns, the timber trade is declining sharply, while horticulture and floriculture are gaining popularity in the hilly parts of the district. Consequently, tea and tourism have become the main economic activities in the region (Bhutia, 2014a, 2014b). A significant portion of the hilly area in Darjeeling is covered by tea gardens, providing livelihoods for thousands of people involved in various activities related to tea cultivation, including primary, secondary, and tertiary economic activities. On the other hand, due to the abundance of tourism resources, it has become one of the major economic pillars of the region.

The entire North Bengal, including Darjeeling, has been a backward region, and to this day, the region lacks proper and improved infrastructure and facilities (Jana, 2016; Narain et al., 2011; B. Paul, 2021; Sam & Chakma, 2016). The road network in Darjeeling is not well developed and is poorly connected throughout the district (Nag et al., 2018; Sarkar & Ray, 2021). The main town of Darjeeling is accessible by only two major roads, which are very narrow. During the peak tourism season, severe traffic jams occur on these roads every year. Moreover, the lack of alternative routes makes it more difficult to address the situation. Although the toy train service connects to Darjeeling, its high-ticket fare and time-consuming journey render it

unfeasible for most people. Despite these challenges, millions of tourists visit Darjeeling each year due to its stunning physiographic characteristics, rich tourism resources, and chilly climate. A detailed geographical background and population characteristics of the district are provided below.

3.2 Physiography

The physiographic characteristics of the Darjeeling district are very complex and distinct (Cajee, 2018). A combination of hills, Terai, and plains characterizes the physiography of Darjeeling. The blocks of Darjeeling-Pulbazar, Rangli-Rangliot, Jorebunglow-Sukhiapokhri, Kurseong, and Mirik are characterized by parts of the Eastern Himalayas. On the other hand, the Matigara, Naxalbari, Kharibari, and Phansidewa blocks are characterized by the Terai and plains. The Darjeeling Himalayas are composed of two Himalayan ranges: the Singalila range in the west and the Dongkya range in the east. These hill ranges rise abruptly from the plains, increasing from 150 meters to 3,636 meters. The highest mountain peak in the state, Sandakphu, is located in the northwest part of the district. The region is characterized by varying degrees of slope. Figure 3.1(a) represents the steepest slope in the Singalila range's northwestern part. Similarly, Figure 3.1(b) shows that the darker area, or light shadow zone, is found in the northwestern part of the district. On the other hand, due to the flat topography, the southern part of the district is light grey, indicating flat plains. Additionally, Figure 3.1(c) highlights the irregularity of the topography, as very high rough terrain is found in the northern and northwestern parts.

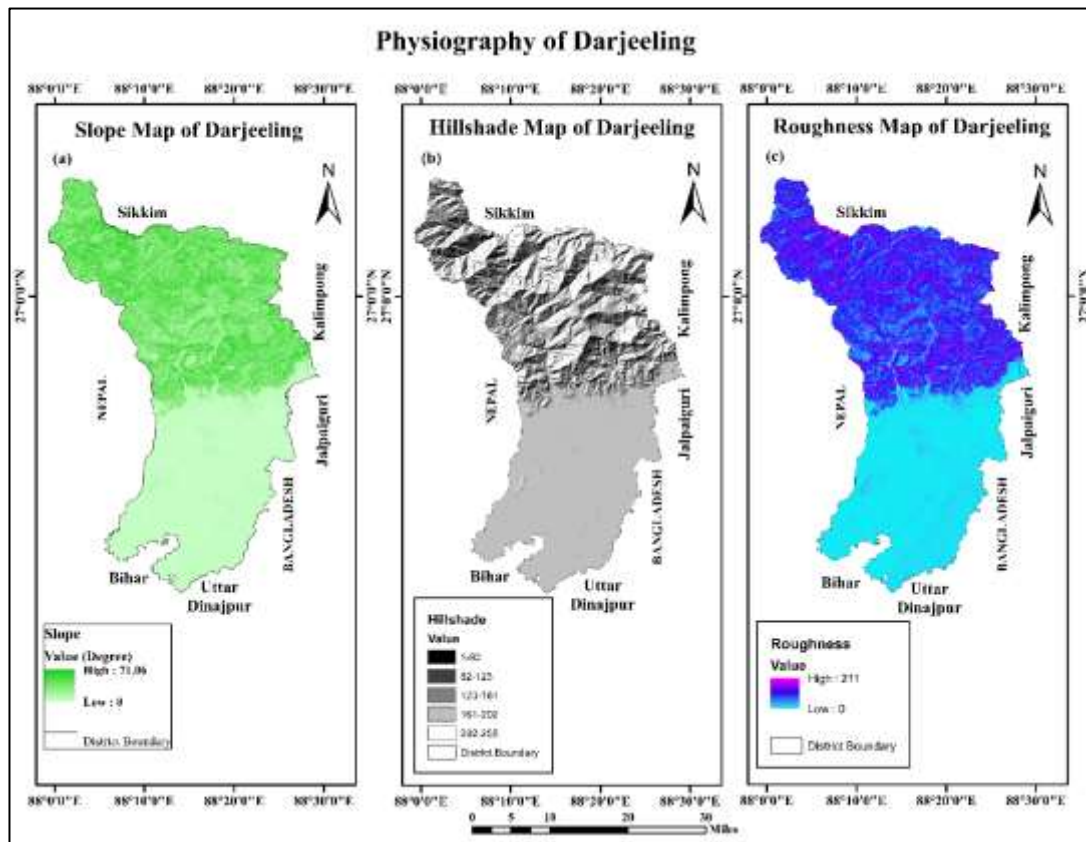


Figure 3.1 Physiography of Darjeeling, Source: USGS Earth Explorer (Landsat 8 OLI/TIRS Imagery, 2021)

3.3 Drainage System

The majority of the Darjeeling district is part of the eastern Himalayas and is characterized by steep slopes and rugged topography. The rivers flowing in the region are in their youthful stage. Most of the rivers in the region are perennial. Figure 3.2 shows that the river Teesta, a tributary of the Brahmaputra, is the most important river in the district, flowing from north to south. It originates from Tso Lahmo Lake in Sikkim and enters the district near Kalimpong. Additionally, the eastern boundary of the district is defined along the Teesta River. The Rangeet River, another significant river in the district, is a tributary of the Teesta. It originates in the Sikkim Himalaya, flows through Jorethang, Pelling, and Legship, and meets the Teesta at Triveni, which is a famous river rafting site in Darjeeling. The Rangeet flows from west to east, forming a natural boundary between Darjeeling and Sikkim.

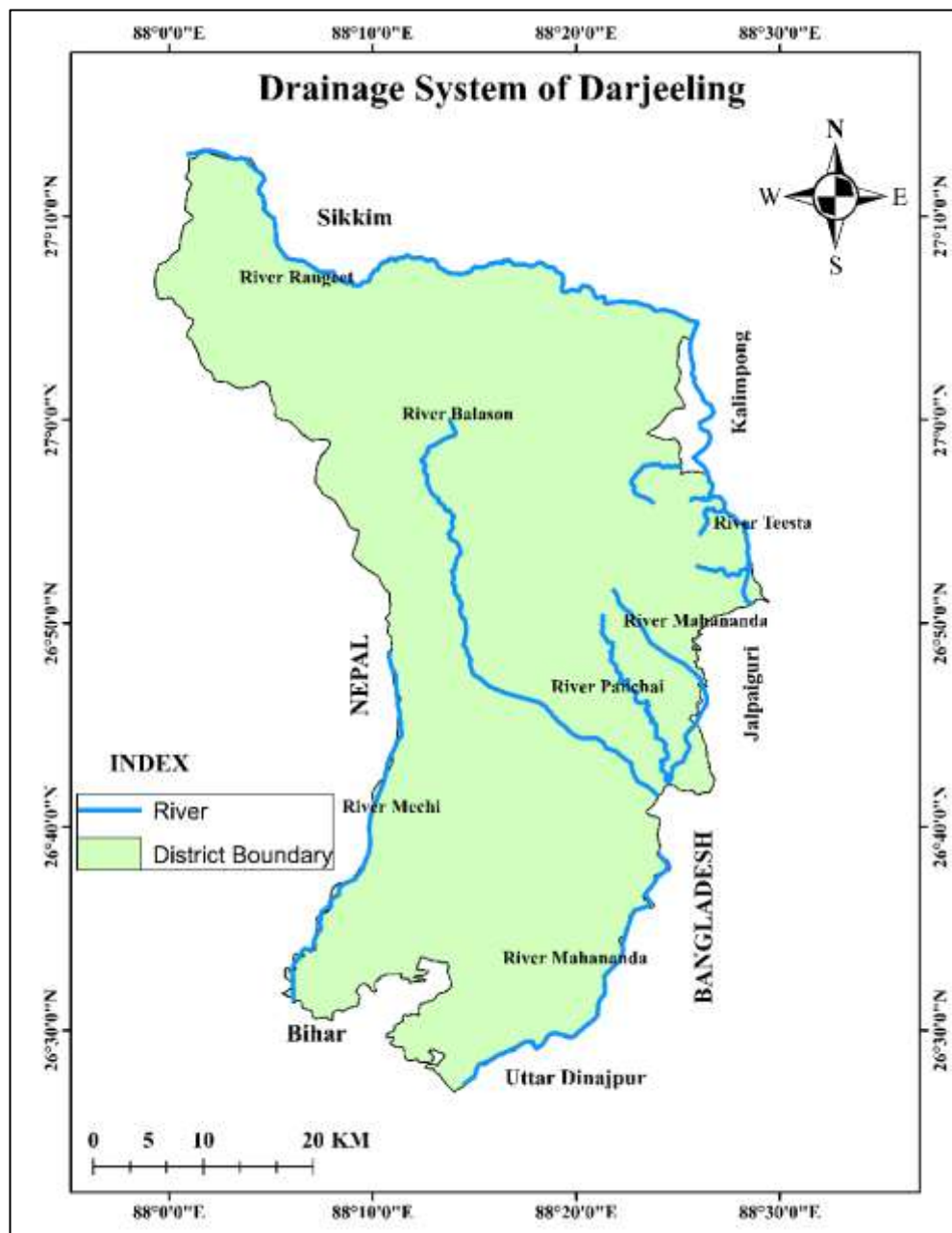


Figure 3.2 Drainage Map of Darjeeling, Source: USGS Earth Explorer (Landsat 8 OLI/TIRS Imagery, 2021)

The Mahananda, a tributary of the Ganga, is another major river system in the region, originating from the eastern side of Kurseong. The river flows along the western and southwestern boundaries of the district. The rivers Balason, Panchai, and Mechi are other important rivers in the district and tributaries of the Mahananda. All of these rivers create a dendritic drainage pattern in the region.

3.4 Soil Types

The soil types and properties of any region depend on several factors, such as topography, climate, altitude, vegetation, parent rock materials, and more. There is a wide variation in all these factors across the Darjeeling district. Among the four subdivisions, Darjeeling, Pulbazar, Mirik, and Kurseong are located on hilly, rugged, and undulating topography. While Siliguri is situated on the plain. Similarly, the average altitude of the southern part of the district is about 150 meters above the mean sea level, while the highest point in the district reaches 3636 meters (Sandakphu), located in the northern Darjeeling. Additionally, there is significant variation in vegetation cover; the hilly areas are almost entirely covered with vegetation. In contrast, the plain or flat region of the district is characterized by minimal vegetation cover. Moreover, the northern portion of the district receives more precipitation than the southern part. Consequently, all of these factors lead to diverse soil types in different parts of the district. However, the major soil types found in the district are sandy loam, loamy, and clay soils (Majumdar et al., 2014).

The soil maps of Darjeeling also highlight that the major soil types range from loam to sandy loam. However, there is some variation in particle composition and colour. The soil in the Darjeeling-Pulbazar area predominantly consists of brown forest soils and red-brown soils, which developed on schists and shales. The colour of the soil in this block is yellow, brown, to dark brown when dry. Due to high rainfall and leaching, the soil in this block is acidic and moderately fertile.

Similarly, the soil types and characteristics of Rangli-Rangliot, Jorebunglow-Sukhiapokhri, Mirik, and Kurseong are largely similar. Sandy loam and clay loam textures are predominant in these blocks. With high organic matter, high water holding capacity, and good drainage, it supports tea cultivation and horticulture.

On the other hand, Matigara, Phansidewa, Naxalbari, and Kharibari are primarily composed of alluvial soils (Wiejaczka, 2016). The riverbanks of Mahananda, Mechi, and Balason contribute to the fertility of this plain area. The soil texture in these regions is mainly sandy loam. This well-drained and fertile soil supports intensive agricultural practices in the area.

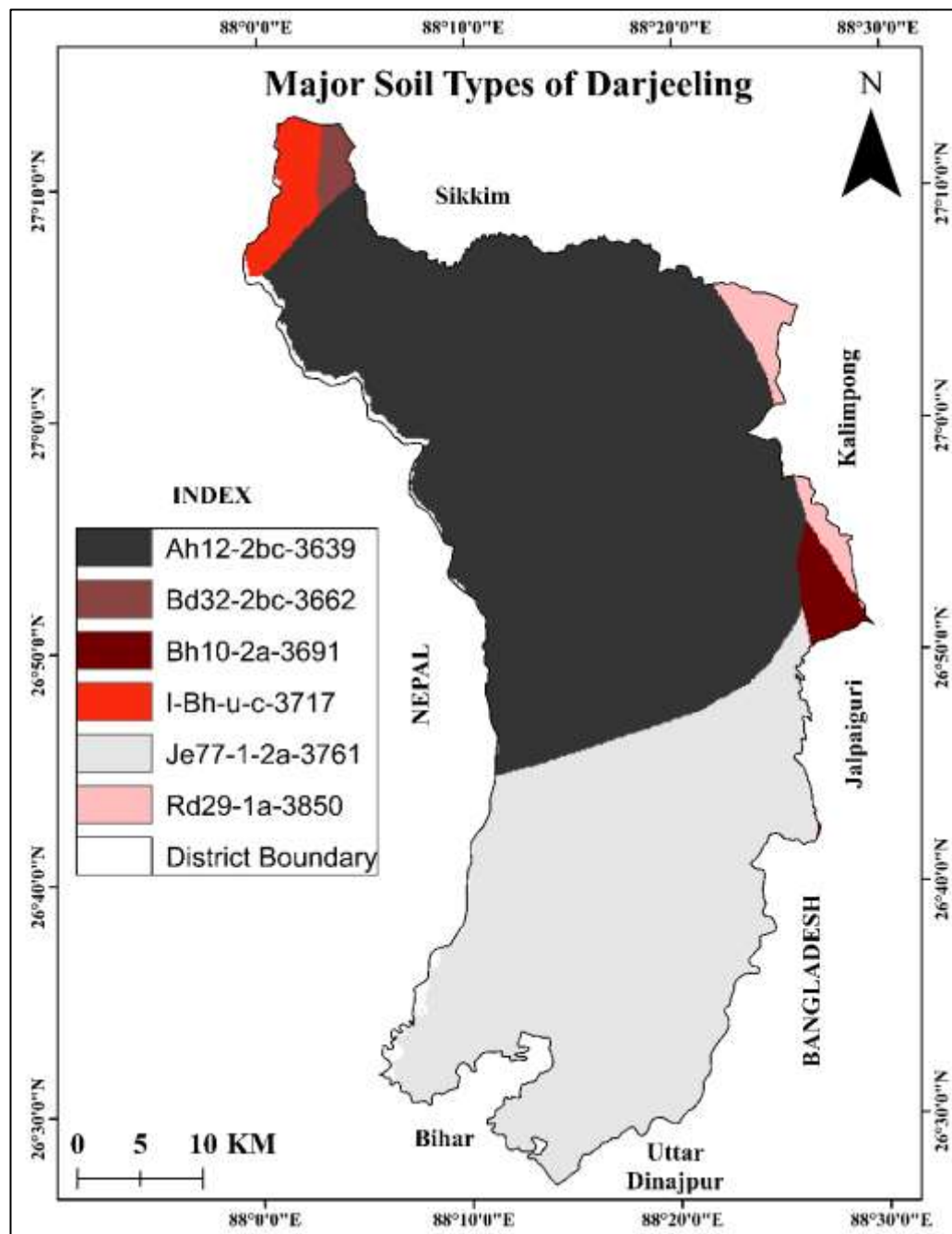


Figure 3.3 Soil Map of Darjeeling, Source: USGS Earth Explorer (Landsat 8 OLI/TIRS Imagery, 2021)

3.5 Climate

According to the latitudinal extension, the Darjeeling region falls within the sub-tropical climatic zone. However, the altitudinal differences create varied climatic conditions in different parts of the district. Due to these variations in altitude, average

temperature and precipitation also vary widely throughout the district. Therefore, based on elevation, three types of climatic zones are present in Darjeeling: tropical, temperate, and sub-alpine (Cajee, 2018; Patra et al., 2013).

Altitude plays a crucial role in determining temperature across the district. Table 3.1 depicted that the hilly areas record comparatively lower temperatures throughout the year. In contrast, the plain and terai regions are relatively warm (Thapa, 2022). During winter, the minimum temperature in Darjeeling blocks drops to 3-4° Celsius, whereas the average minimum temperature in the plains falls to 7-8° Celsius. The fluctuation of temperature between day and night is greater in the plains than in the hilly regions. The months of June, July, August, and September are the hottest throughout the district, with the plains being the warmest. Additionally, temperatures start to drop rapidly after November.

Table 3.1: Temperature Characteristics of Darjeeling

Month	Darjeeling-Sadar (°C)	Mirik (°C)	Kurseong (°C)	Siliguri (°C)
Jan	11.06	11.91	11.98	11.65
Feb	13.75	14.17	14.23	14.05
March	16.22	16.89	16.97	16.70
April	18.95	20.30	20.37	19.87
May	20.90	22.09	22.16	21.72
June	23.17	24.25	24.32	23.91
July	23.49	24.38	24.44	24.10
Aug	23.45	24.52	24.59	24.19
Sept	23.42	24.50	24.57	24.16
Oct	19.69	20.86	21.00	20.52
Nov	16.07	17.27	17.41	16.92
Dec	16.00	14.50	14.53	15.01
Annual	18.85	19.64	19.71	19.40

Source: <https://www.visualcrossing.com> (January-December, 2023)

The south-west monsoon is the main cause of rainfall throughout the Darjeeling district. Thus, the highest rainfall occurs from June to September. Table 3.2 suggested that the winter season is dry across the district. However, very small rainfall occurs in the hilly Darjeeling in the winter. Though there is not much difference in rainfall throughout the district, the hilly parts receive comparatively

higher amounts. The average annual rainfall of the Darjeeling-Sadar, Mirik, and Kurseong subdivisions is more or less equal (3465 mm). However, the average annual rainfall in the Siliguri subdivision is comparatively lower (2602 mm). The lowest rainfall occurs from November to February. In addition, March, April, and May receive some occasional rainfall.

Table 3.2: Precipitation Characteristics of Darjeeling

Month	Darjeeling-Sadar (mm)	Mirik (mm)	Kurseong (mm)	Siliguri (mm)
Jan	6.60	6.60	6.60	7.675
Feb	78.60	78.60	78.60	7.375
March	281.70	281.70	281.70	86.9
April	219.10	219.10	219.10	52.375
May	324.80	324.80	324.80	112.55
June	711.60	711.60	711.60	522.55
July	637.50	637.50	637.50	569.73
Aug	619.20	619.20	619.20	578
Sept	319.40	319.40	319.40	458.33
Oct	202.40	202.40	202.30	195.25
Nov	45.60	45.60	45.70	1.175
Dec	18.40	18.40	18.40	10.425
Annual	3464.90	3465	3465	2602.3

Source: <https://www.visualcrossing.com> (January-December, 2023)

3.6 Land Use and Land Cover

Darjeeling, the queen of the hills, is renowned for its captivating physiography, climate, and world-class tea gardens. As part of the Eastern Himalayas, more than 50% of the district's area is hilly and undulating. The land use and land cover map of Darjeeling (fig 3.4) indicates that the region's land use pattern is dominated by vegetation cover, agriculture, and built-up areas. An area of 1237.83 sq. km is covered by vegetation out of the total area of 2058.92 sq. km, accounting for 60.12% of the total area. A significant portion of the vegetation cover in the region consists of tea gardens, while the remainder is natural vegetation.

Due to its undulating and unfavourable topography, built-up areas and settlements are quite limited in hilly Darjeeling. Although a significant portion (14.41%) of the land cover is occupied by built-up areas, most of these areas are located in the plains.

Only small settlements and built-up areas are found along the national and state highways in hilly Darjeeling. However, the majority of the built-up area in hilly Darjeeling is concentrated near three major towns: Mirik, Kurseong, and Pulbazar.

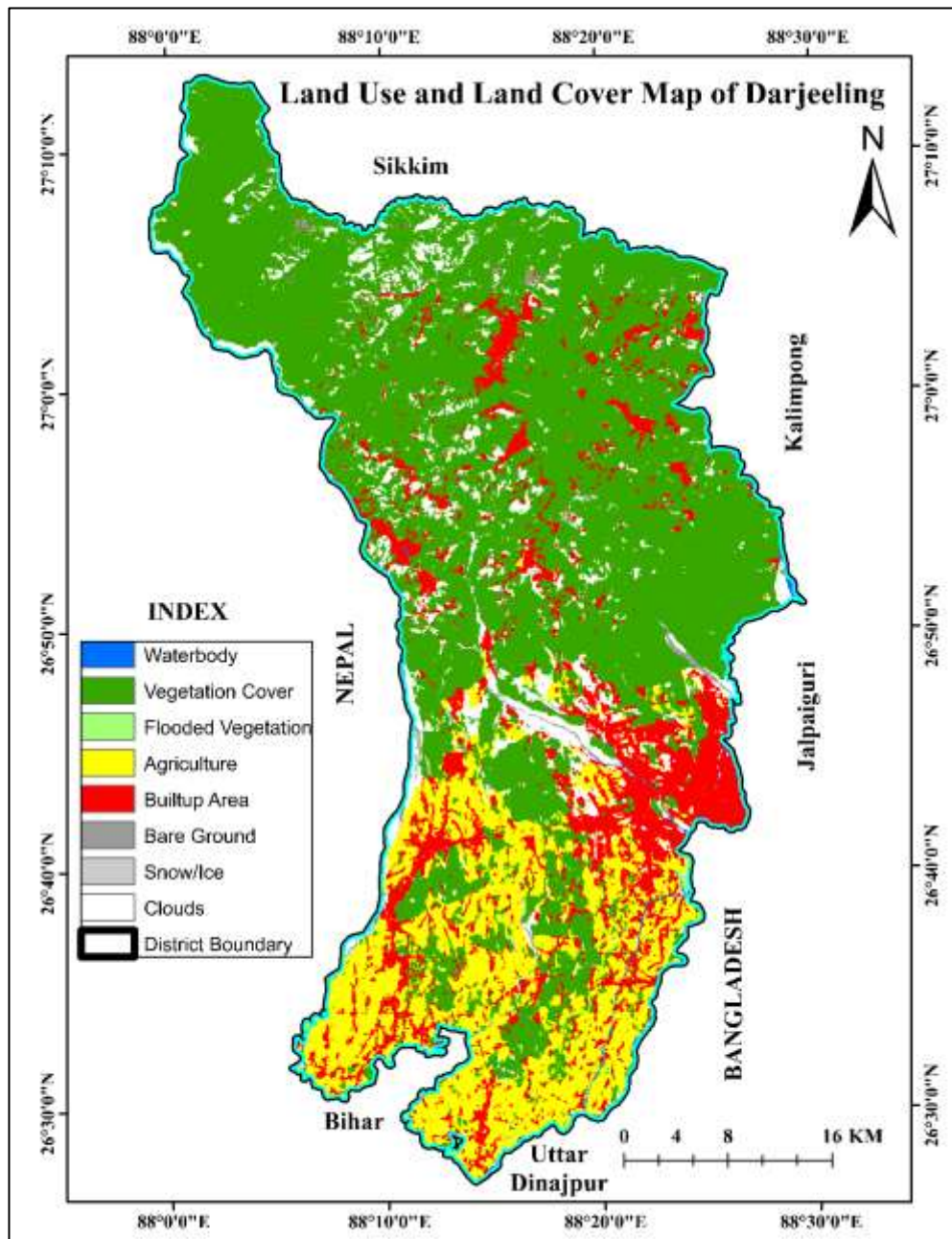


Figure 3.4 Land Use and Land Cover Map of Darjeeling, Source: USGS Earth Explorer (Landsat 8 OLI/TIRS Imagery, 2021)

Table 3.3 highlighted that the agricultural land is another important aspect of the land use and land cover in the district. Approximately 17% of the total land, equivalent to

333.38 sq. km, is designated for agriculture. Due to the topographic, climatic, and soil characteristics, most parts of the district are not conducive to agricultural practices (Pramanik, 2016). More than 90% of agricultural land is located in the plain areas of the district. The entire Siliguri subdivision is particularly suitable for agriculture due to its flat topography and alluvial soil. On the other hand, except for some terrace farming, there are no significant agricultural practices in hilly Darjeeling. However, with the aid of new technology, crops like oranges, pineapples, ginger, and cardamom are cultivated in Mirik, Kurseong, and the lower altitudes of the Pulbazar blocks.

In addition to vegetation cover, built-up areas, and agricultural land, there are other aspects of land use and land cover in the Darjeeling district, such as water bodies, flooded vegetation, bare ground, and cloud cover. There are many rivers in Darjeeling; while most of them, except for a few, are perennial, there are few significant stable water bodies aside from Mirik Lake. Flooded vegetation can be found along the rivers of Mechi, Panchai, Mahananda, Teesta, Balason, and Rangeet. Additionally, most of the cloud coverage is spotted in the middle and northern parts of the district. Bare land is found along the banks of non-perennial rivers.

Table 3.3: Land Use and Land Cover of Darjeeling

Land Use	Area (Sq. Km)	Area (%)
Waterbody	10.78	0.52
Vegetation Cover	1237.83	60.12
Flooded Vegetation	0.95	0.05
Agriculture	333.88	16.22
Built-up Area	296.75	14.41
Bare Ground	12.01	0.58
Snow/Ice	2.07	0.10
Clouds	164.65	7.00
Total	2059.92	100.00

3.7 Administrative Division

Table 3.4 and figure 3.5 shows that the district of Darjeeling is administratively divided into four subdivisions: Darjeeling Sadar, Kurseong, Mirik, and Siliguri.

Within these subdivisions, there are nine blocks: Darjeeling-Pulbazar, Rangli-Rangliot, Jorebunglow-Sukhiapokhri, Kurseong, Mirik, Matigara, Naxalbari, Kharibari, and Phansidewa. Collectively, these blocks encompass a total of 92-gram panchayats. Notably, the Darjeeling-Pulbazar block has the highest number of gram panchayats at 23, followed by Jorebunglow-Sukhiapokhri with 16 and Kurseong with 14. In contrast, Kharibari (4) and Matigara (5) have the fewest gram panchayats. Among all the blocks in the district, Darjeeling-Pulbazar is the largest, covering an area of 416 sq. km, followed by Kurseong at 372 sq. km and Phansidewa at 312.15 sq. km. The smallest block is Mirik, with an area of just 122.28 sq. km, followed closely by Matigara at 143 sq. km and Kharibari at 144.88 sq. km.

Table 3.4: Administrative Setup of Darjeeling District

Sub-division	Block	Number of GP	Area (sq. km)
Darjeeling Sadar	Darjeeling-Pulbazar	23	416.00
	Rangli-Rangliot	11	272.99
	Jorebunglow-Sukhiapokhri	16	222.12
Kurseong	Kurseong	14	372.30
Mirik	Mirik	6	122.28
Siliguri	Matigara	5	143.00
	Naxalbari	6	181.88
	Kharibari	4	144.88
	Phansidewa	7	312.15

Source: Census of India, 2011

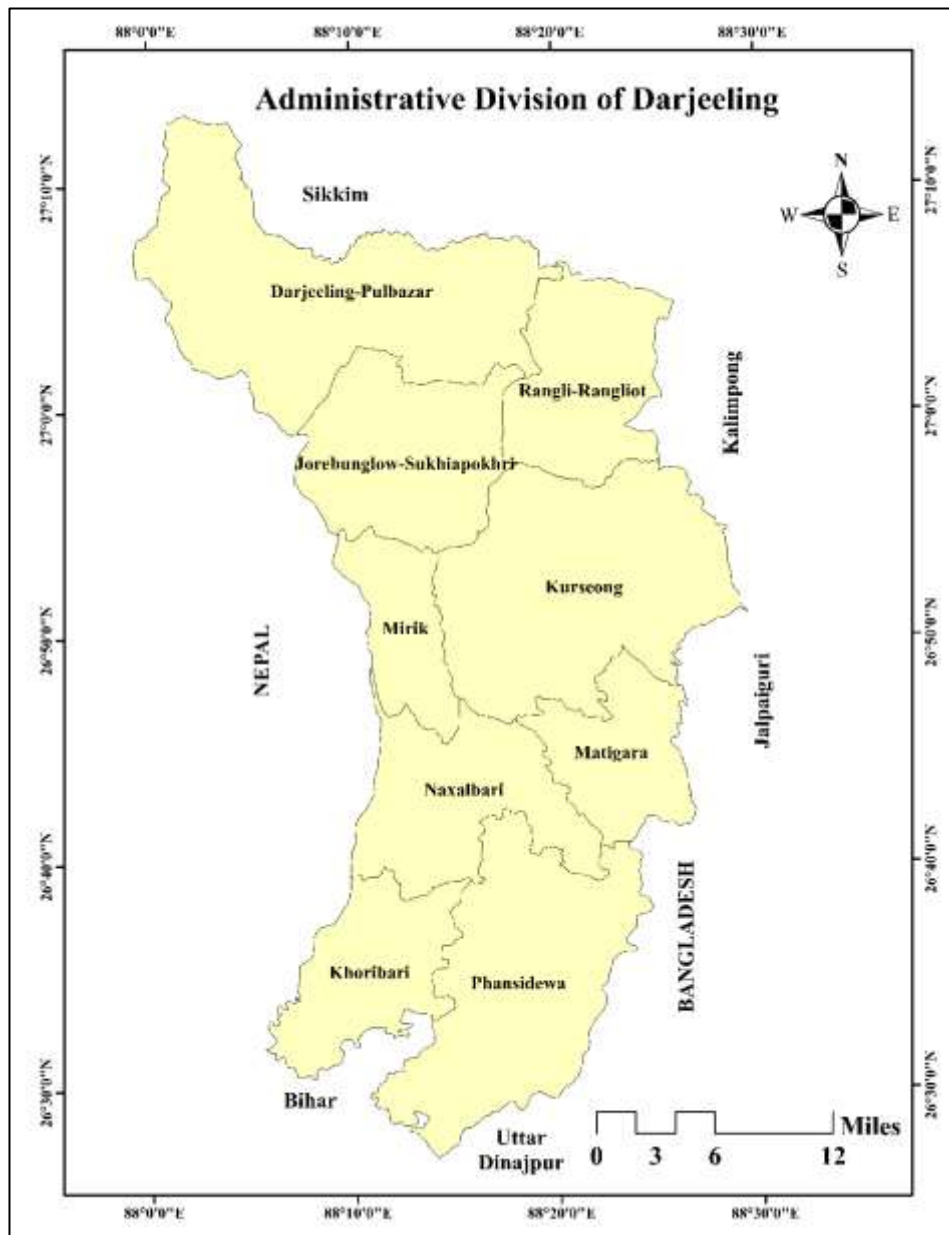


Figure 3.5 Administrative Setup of Darjeeling

3.8 Demography

According to the 2011 Census of India, Darjeeling had a total population of 1846823, consisting of 937259 males (50.74%) and 909564 females (49.25%). The district was ranked 18th out of 19 districts in West Bengal and 257th among the 640 districts in India. It is important to note that the Kalimpong district was included with Darjeeling until its separation in 2017. Previously, Kalimpong was one of Darjeeling's subdivisions. After the separation, Kalimpong became its distinct district within West

Bengal. With the division of Kalimpong, the demographic characteristics of Darjeeling changed as well. No further census has been conducted by the Government of India since 2011, so we have organized the demographic information for Darjeeling by subdivisions and blocks. As mentioned, only the Kalimpong subdivision was separated from Darjeeling in 2017, while the other four subdivisions—Darjeeling Sadar, Kurseong, Mirik, and Siliguri remain part of Darjeeling. Table 3.5 shows that over 60% of the population of Darjeeling lives in the Siliguri subdivision. Among the hilly areas of the district, Darjeeling Sadar has a significantly higher population. The table indicates that the Phansidewa block of Darjeeling has the largest population, followed by Matigara and Naxalbari. In contrast, a comparatively small number of people reside in Mirik and Kurseong. As an important town in Darjeeling, 126935 people live in the Darjeeling-Pulbazar blocks. One notable demographic characteristic of Darjeeling is that the male and female populations are almost equal across the district. According to the 2011 census, the rural and urban populations of the district are 60.58% and 39.42%, respectively. However, this varies among different blocks. The highest percentage of the urban population is found in the Naxalbari and Matigara blocks, while urban population is absent in the Rangli-Rangliot, Mirik, and Phansidewa blocks.

The average population density of Darjeeling is 586 people per square kilometer, which exceeds the national average of 382 people per square kilometer and varies significantly across the district. The Matigara block has the highest population density at 1379 people per square kilometer, followed by Naxalbari, Kharibari, and Phansidewa. One primary reason for the higher population density in these blocks is the flat topography. Additionally, the importance of the Siliguri towns in North Bengal and West Bengal contributes to this higher density. Furthermore, the well-developed infrastructure of these blocks serves as a crucial pull factor. In contrast, the overall population density of Darjeeling is below the national average, except in the Jorebunglow-Sukhiapokhri block. The physiographic characteristics are the primary reason for this low density.

The Darjeeling district of West Bengal is known for having a comparatively higher sex ratio than other districts in the state. According to the 2011 census, the sex ratio

in Darjeeling was 970 females per 1000 males, which exceeds the state average of 950 and the national average of 943. Additionally, Darjeeling represents a balanced sex ratio in the country. Furthermore, the blocks of Jorebunglow-Sukhiapokhri, Rangli-Rangliot, and Kurseong recorded more than 1000 females per 1000 males, surpassing both the state and national averages. Notably, the hilly parts of the district show a more balanced sex ratio compared to the flat areas.

The district of Darjeeling also boasts a favourable literacy rate; the average literacy rate in Darjeeling was 79.56% in 2011, exceeding the state rate of 76.26% and the national average of 74.04%. There is considerable variation in the literacy rates among different blocks in the district. All the hilly regions, including the subdivisions of Darjeeling Sadar, Kurseong, and Kalimpong, recorded literacy rates of over 80%. In contrast, all the blocks within the Siliguri subdivision displayed comparatively lower literacy rates.

Table 3.5: Population Profile and Demography

Sub-division	Block	Total Population	Male (%)	Female (%)	Rural (%)	Urban (%)	Population Density (sq. km)	Sex Ratio	Literacy Rate (%)
Darjeeling Sadar	Darjeeling-Pulbazar	126935	50.28	49.72	82.84	17.16	305.13	988.70	80.78
	Rangli-Rangliot	70125	49.95	50.05	100.00	0.00	256.88	1002.14	80.50
	Jorebunglow-Sukhiapokhri	113516	49.54	50.46	76.32	23.68	511.06	1018.71	82.54
Kurseong	Kurseong	94347	49.85	50.15	84.69	15.31	253.42	1006.10	81.15
Mirik	Mirik	46374	50.45	49.55	100.00	0.00	379.24	982.30	80.84
Siliguri	Matigara	197278	51.21	48.79	68.73	31.27	1379.57	952.80	74.78
	Naxalbari	165523	51.99	48.61	59.03	40.96	910.07	935.10	75.47
	Kharibari	109251	50.96	49.04	89.15	10.85	754.08	962.44	64.46
	Phansidewa	204522	50.07	49.29	100.00	0.00	655.20	971.21	67.37

Source: Census of India, 2011

3.9 Transport Network

The important hill station, Darjeeling, is suffering a serious problem of transportation due to narrow roads and traffic jams during the peak tourism season (Nag et al., 2018). Moreover, inadequate public transport service makes it more difficult (Paul et al., 2023). The transportation system of the entire Darjeeling district primarily relies on the road network and partially on the rail system. The central city of Darjeeling is connected to Siliguri by two major roads. National Highway 110 is the shortest route, covering approximately 75 km via Kurseong. Another popular route to Darjeeling is State Highway 12, which passes through Mirik, spanning a distance of approximately 80 km. The primary modes of transportation in the district are buses and four-wheeled vehicles. In addition to these highways, several major and minor roads connect to various tourist destinations in the district.

Darjeeling town is linked by the 80-km-long Darjeeling Himalayan Railway, another popular mode of transport in the region. This narrow-gauge railway, with a track width of 60 cm, runs from Siliguri railway station to Darjeeling station via Kurseong, Batasia Loop, and Ghoom. The Darjeeling Himalayan Railway, often referred to as the Toy Train, is well-known among tourists. The approximately 8-hour journey of the Toy Train begins at 110 meters in Siliguri and ascends to 2200 meters in Darjeeling, allowing passengers to explore the beauty of Darjeeling while seated comfortably. The Darjeeling Himalayan Railway gained worldwide attention after being designated a UNESCO World Heritage Site in 1999 (Baker, 2014; Roy, 2010; Roy & Hannam, 2013).

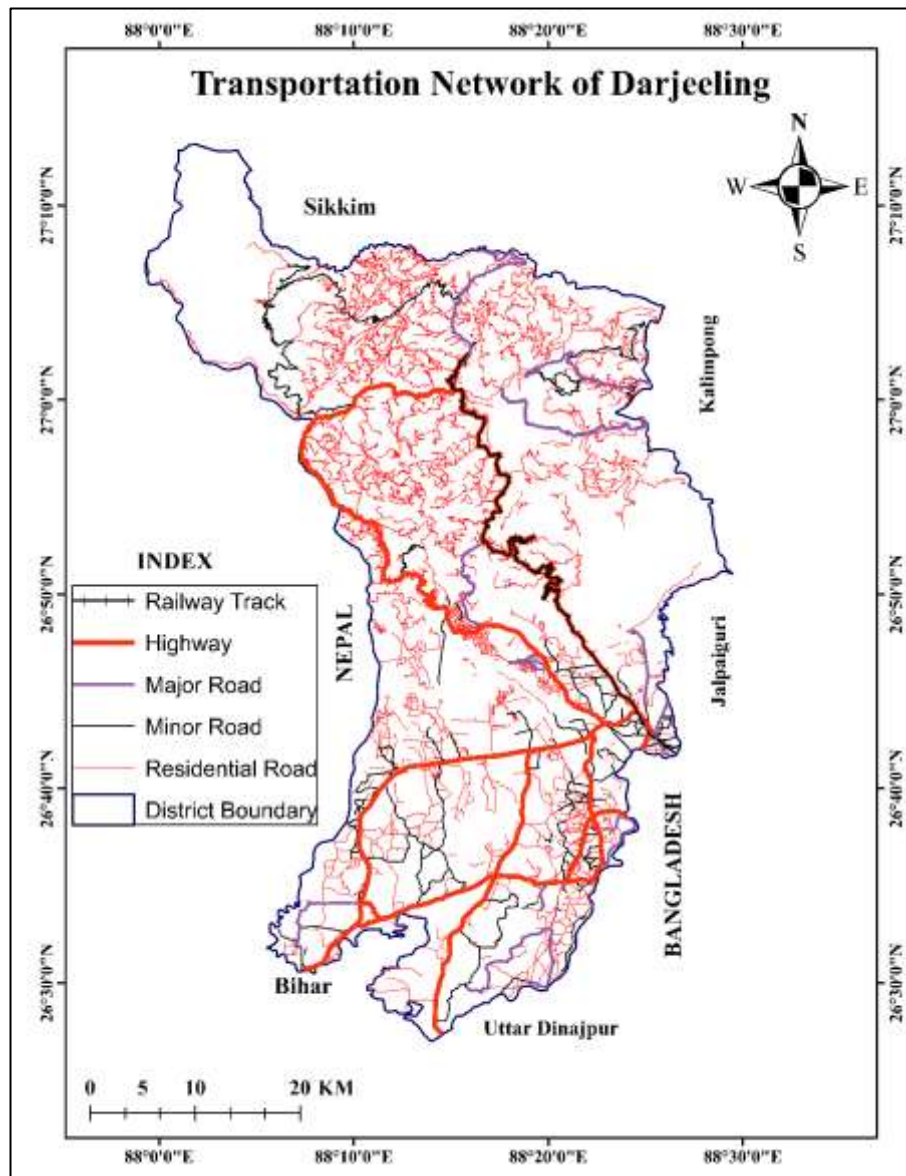


Figure 3.6 Transport Network of Darjeeling, Source: <https://www.openstreetmap.org>, 2025

3.10 Tourism Resources

Darjeeling has been a popular tourism destination for India and the world since the colonial period due to its location, physiography, and climate (Bhattacharya, 2013). During the British colonial period, it was an important soldier sanatorium and a summer retreat place for the elite British and their family (Bhattacharya, 2012). Due to its chilly climate, it was a favourable escape place during the hot summer season. Gradually, with the development of transport and communication technology and the

growing importance of tourism, Darjeeling has become one of the important tourism destinations in India. It has plenty of tourism resources across the district. The most popular tourist attraction points of each block of the district are given below.

Darjeeling-Pulbazar

Pulbazar block is the most important block in the district. It is the main town of hilly Darjeeling. The block has numerous food, lodging, and transport facilities, which help tourists explore the nearest tourist attractions during the day and return to the city at night.

Tiger Hill is the most famous attraction in both the block and the district. It is located at a height of 2, 2590 meters, offering a splendid view of the sunrise where tourists can experience the panoramic view of Mount Everest and Kanchenjunga. The hill is situated about 35 km away from Pulbazar.

Batasia Loop is another popular tourist attraction in this block, located between the main city of Darjeeling and Ghoom. It offers a 360-degree panoramic view of Kanchenjunga and other snow-capped mountains of the Himalayas. Additionally, a war memorial stands at the center of the loop, commemorating the sacrifices of brave Gorkha soldiers.

Padmaja Naidu Himalayan Zoological Park, popularly known as Darjeeling Zoo, is famous for breeding and conserving Red Pandas, Snow Leopards, and Tibetan Wolves. Every year, a large number of domestic and international tourists visit the zoo to see the rare species of animals.

The Himalayan Mountaineering Institute (HMI) is one of the renowned mountaineering institutes in India and the world. It was established in 1954 by the first Prime Minister of India, Pandit Jawaharlal Nehru, to honor the memory of the late Tenzing Norgay Sherpa and Sir Edmund Hillary, who completed the first successful ascent of Mt. Everest. The institution has trained thousands of students from around the world in mountaineering and allied adventure activities. It is often referred to as the Mecca of Indian Mountaineering.

Apart from these world- famous attractions, there are numerous popular tourist sites in the block, such as Jeannies Peace Pagoda, famous for its Buddhist significance and panoramic views of Darjeeling; the Happy Valley Tea Estate, the second oldest tea estate in the district; Observatory Hill and Mahakal Temple, which are famous Hindu religious sites with mountain views of Kanchenjunga; and Chowrasta and Rock Garden, which are other celebrated attractions in this block.

Jorebunglow-Sukhiapokhri

Lepchajagat is a small village of the Lepcha tribe, located between Ghoom and Mirik, about 19 km away from Darjeeling town, one of the famous places of Darjeeling. The stunning beauty of the Himalayas and different species of birds attracted nature lovers from across the world.

Singlila National Park is a popular destination for its stunning natural beauty, diverse wildlife, and adventurous trekking path to the Sandakphu and Phalut. The wide range of flora, fauna, and panoramic view of the Himalayan Gangetic plain make it a major tourist destination of West Bengal. The home of the Red Pandas and the Himalayan Black Bear attracts thousands of animal lovers every year.

Another popular spot in the neighbourhood is Jore Pokhri. The Himalayan Salamander is a rare and endangered species that can be found there, and the area's natural beauty drew many tourists. Situated roughly 19 kilometres from Darjeeling's main city, the location is roughly 2000 meters above sea level.

Sandakhphu, Tonglu, Tumling, Sukhiapokhri, Gairiabas, Meghma, etc, are the other major attractions of the blocks.

Rangli-Rangliot

One of the beautiful off-beat tourism destinations of Darjeeling is Tukdah, situated at an altitude of 1550 meters and about 25 km away from Darjeeling town. Beautiful landscape, tea gardens, and the colonial British cantonment are the key attractions of the area. Additionally, it is one major orchid centres of Darjeeling.

Tinchuley is another rising tourism destination of Darjeeling, located in the Rangli-Rangliot block. It is a small village surrounded by three ovens or chullas, that why

the area is called Tinchuley (three ovens). This hilly, beautiful village offers a panoramic mountain view of the Himalayas and warm homestay hospitality facilities. The village is gaining attention due to its silent and peaceful location, which is quite away from the crowd.

Chhota and Bara Mangwa village of Darjeeling is another off-beat destination of the block, located very near to the Tinchuley. Tourists can enjoy a heavenly experience thanks to the stunning hilly landscape, the Teesta River, the majestic view of Mount Kangchenjunga, and the welcoming locals. Additionally, the place is popular for its organic farming and variety of orchids.

Lahmahata Eco Park, Peshok Tea Garden, Teesta Valley Tea Estate, Gielle Tea Estate, etc, are other major attractions of Rangli-Rangliot.

Kurseong

Mahananda Wildlife Sanctuary is the most important tourist attraction of Kurseong. It is an important conservation area for the Royal Bengal Tiger and the Indian Bison. Additionally, the natural beauty of the place, diverse types of flora and fauna, and various types of migratory birds make this place more attractive to tourists.

The Pubang Hanging Bridge is a significant tourist attraction in Darjeeling. The bridge was constructed during the British period to allow both people and horses to cross the Chota Rangeet River. Additionally, it served as a crucial link between Pulbazar and Balabas, facilitating trade and travel. Due to its importance for tourism, the bridge has been transformed into a glass-bottomed bridge, allowing tourists to experience a skywalk. Furthermore, the natural beauty of this place is undeniable.

The Kurseong block of Darjeeling is full of cultural heritage sites. The Netaji Subhash Chandra Bose Museum, Egal's Crag, the Forest Museum, Dowhill Park, Ambootia Tea Estate, and others are popular tourism attractions in this block.

Mirik

A most popular attraction of Mirik is Sumendu Lake, or popularly known as Mirik Lake. located about 40 km away from Siliguri. During the summer time, the Mirik lake becomes one of the most crowded places of Darjeeling due to natural beauty,

chilly climate, and a plethora of recreational opportunities. Tourists can enjoy boating in the lake, pony driving, and a 4 km curvy foot path along the bank of the lake. Moreover, beautiful tea gardens in Mirik, a famous Buddhist learning centre (Bokar Monastery), added the extra favour for the tourists.

Tingling View Point is a beautiful place located near Mirik Hill town. It offers a beautiful panoramic view of the different tea gardens of Darjeeling and a majestic Himalayan view. Tingling has become a famous stoppage for travellers who want to experience and enjoy the undulating physiography of Darjeeling.

Devi Sthan Temple is another important place in Mirik. The place is famous for its religious value and natural beauty as well. The Temple is located beside the main tourist roads.

Other popular attractions of Mirik are Orange Orchid, Bunkulung, Rameetay Dara, Pashupati Market, and many more.

Phansidewa

Phansidewa, located in the Terai region of Darjeeling, the block has many tourist attractions. Simana Viewpoint, Balason River Valley, Sevoke Coronation Bridge, Salugara Monastery, Gajoldoba Wetland, Dudhia Riverside, Chapramari Wildlife Sanctuary, etc, are major ones.

Matigara

Rohini Viewpoint, North Bengal Science Centre, ISCON Temple of Siliguri, Surya Sen Park, Madhuban Park, and Sed-Gyued Monastery are popular attractions of the Matigara block of Darjeeling.

Naxalbari

Naxalbari and Manjua Historic Tea Estate, Naxalbari Kali Temple, Revolution Memorial, Mechi River Valley, Balason River Valley, Hatighisa Forest, and Sukhani Memorial are the important tourist attractions of the block.

Kharibari

There are no other recognized tourist attractions in the block. However, the local attractions include the tea gardens, the local market, various temples, and the India-Nepal border. Moreover, it is a valuable lesson for an outsider who wants to study the culture of the local people.

3.11 Conclusions

The above discussion depicted that administratively, the Darjeeling district is divided into four subdivisions and nine community development blocks. However, the district has two broad physiographic divisions: Hill and Terai. The hilly portion covers approximately 60% of the total area, and the rest of the area is on the terai or plain. Additionally, demographic characteristics highlighted that about 60% of the total population resides in the plain region, while the other 40% resides in the hilly Darjeeling. The most populous block of the district is Phansidewa, followed by Matigara and Naxalbari. The Darjeeling-Pulbazar block is the most populous block of hilly Darjeeling. according to the census of India, 2011, the sex ratio of the district was more than the national and state average. Furthermore, about 80% of the population was literate as per the 2011 census.

Being a part of the Eastern Himalaya, the topography of the district is very undulating and ragged. The elevation of the district starts from 150 metres in Siliguri and ends at the height of 3636 meters at Sandakphu, the highest peak of West Bengal. Additionally, many rivers and streams drain the land of Darjeeling. The Teesta River, a tributary of the Brahmaputra, and the Mahananda River, a tributary of the Ganga, are the major rivers of the district. However, Rangeet, Mechi, Balason, and Panchai are also important rivers of Darjeeling. In addition, the Major soil types found in the district are loam, sandy loam, and clay loam. The elevation, slope, vegetation cover, and precipitation determined the types of soil. According to the texture of the soil, it was found that most of the soil is low to moderately fertile. However, due to the areas of Siliguri subdivision are fertile due to the alluvial soil of the River Mahananda.

Due to its physiographic characteristics, 60% area of the district is covered by vegetation. Approximately 17% of the district is under built-up area. Additionally, it is found that the maximum built-up area is in the Siliguri subdivision. The agricultural land occupied about 16% of the land use of the district. There is almost no agricultural land in the hilly parts of the district; all the agricultural fields are found in the plain region. Due to high elevation, high slope, and water scarcity maximum area of Darjeeling is not suitable for agriculture (Pramanik, 2016).

The transport network is well developed and connected throughout the district. The main city of Darjeeling is connected through two main roads. The national highway 110 runs through Kurseong, and the state highway 12 runs through Mirik. One important transportation system of the district Toy Train, which connects Darjeeling town by a 60 cm narrow gauge. However, there is a lack of other roads that connect different tourist destinations. The footway is the most used and popular way to get to the different tourism spots in the district.

Due to its strategic geographical location, the entire district is blessed with plenty of tourism resources, making it a popular destination worldwide. Its varied topography, cool climate, cultural heritage, and historical significance attract visitors from across the world. Each block within the district boasts several well-known attractions. Additionally, the diverse preferences of tourists and the evolving nature of tourism create further opportunities for new destinations across the district.

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Chapter 4

Impact of the COVID-19 Pandemic on the Hospitality and Transport Sector in Darjeeling

4.1 Introduction

Tourism is a multifaceted industry that boosts economic development while fostering cultural exchange for millions of people worldwide (Rasool et al., 2021). Its significance is always multidimensional and resonates within various industries. Hospitality and transportation constitute two of the most interdependent elements of the tourism framework. First, there is hospitality: hotels, restaurants, and beverage services. Then, there is all that transportation-related multitasking: different ways to travel and all related logistics. The sectors develop complementary yet mutually reinforcing characteristics in areas like Darjeeling, especially when tourism forms the fundamental element of the regional economy. The COVID-19 Pandemic has disturbed this interconnection significantly, with dire consequences for enterprise operations, individual livelihoods, and overall socioeconomic stability.

Tourism catalyses the development of the hospitality and transportation sectors, facilitating and sustaining the economy. The hospitality industry provides essential services to tourists in terms of lodging, eating outlets, and entertainment, which opens market opportunities for local entrepreneurs and their clients. Similarly, the transport sector ensures effective connectivity among various destinations, making it possible for tourists even to reach remote places, thereby increasing the geographical spread of tourism (Nguyen, 2021; Sampaio et al., 2024). Tourism growth was consistently accompanied by the expansion of hotels, homestays, restaurants, and services such as taxis and private car rentals in the picturesque town of Darjeeling, renowned for its unique cultural offerings (Dutta & Mukhopadhyay, 2024; Sharma & Chettri, 2023). The relationship between tourism and these sectors is manifested in the series of benefits they generate. The growth in tourist arrivals increases the demand for accommodation and transportation services, and increases income levels and job opportunities for all kinds of stakeholders in this enterprise, including

homestay proprietors, hotel operators, restaurateurs, tour agents, and hundreds of other entrepreneurs in all shapes and sizes. (Nguyen, 2024; Pellegrino, 2021).

The COVID-19 pandemic has become an unprecedented global crisis, causing significant disruptions to economies and industries worldwide, among which tourism, hospitality, and transport have experienced the most negative repercussions. (Erol et al., 2024; Rodousakis & Soklis, 2021). According to the United Nations World Tourism Organization (UNWTO), in 2020, international tourist arrivals decreased by 73% compared to the previous year, resulting in a loss of over 1.3 trillion US dollars globally in tourism income. The magnitude of the economic losses exceeds the global financial crisis of 2008 (Goldstein et al., 2021; World Economic Forum, 2020). Countries like Thailand, Italy, and Spain, which are highly dependent on international tourism, faced critical economic ruin. (Thaicharoen et al., 2023; Uzuner & Ghosh, 2021). The hospitality sector suffered most badly, with mass cancellations and prolonged inactivity (Mohammed Said Al-Mughairi et al., 2022). Globally, the pandemic caused a sharp decline in hotel occupancy rates. During the height of the crisis, occupancy rates dropped to 50 percent worldwide. The countries' occupancy rates fell into the single digits due to their heavy reliance on tourism (Fowler, 2022). In a similar vein the transportation industry, which is a crucial component of tourism, saw equally disastrous outcomes. The International Air Transport Association's (IATA) report states that the aviation industry saw a less than 60% decrease in passengers in 2020. To avoid further losses, airlines and other transport providers are compelled to discontinue routes, bring their fleets back to the ground, and implement massive layoffs (Garrow & Lurkin, 2021). Many operators saw fleet reduction, maintenance costs, and asset depreciation as a result of idle fleets. Ridership on urban public transportation and long-distance coaches utilized for intercity travel dropped by as much as 80 percent during the height of the lockdowns (Qi et al., 2023; Zeb et al., 2024). Most of the region recorded a very slow recovery in the international markets, rather than some domestic travel, especially in regions like North America and parts of Asia, where government stimulus packages supported the industry to survive during this critical period (World Bank, 2024; World Tourism Organization (UNWTO), 2023). However, the overall consequences

on employment and economic security in these sectors represent interdependence among tourism, transport, and hospitality industries worldwide (Baloch et al., 2022; Su, 2022).

According to the World Bank, nearly 100 million jobs were lost in tourism and related sectors worldwide. Accordingly, pandemic-related challenges are placing great strain on the livelihoods of low-income workers, particularly in emerging markets. In addition to low-income workers, the pandemic impacted a wide range of corporate stakeholders, including small family-run hotels, homestays, restaurants, transportation companies, and other related Enterprises (Kumar & Ekka, 2023). Furthermore, it was difficult for them to survive as the impact of the pandemic caused many of them to permanently close their Enterprises due to high costs, including rent and loan obligations (Rastegar et al., 2023).

The transportation and hospitality industries in India have grown significantly over the past few decades and accounted for 9.20 percent of the nation's GDP in 2019. According to reports from the Indian Hotel and Restaurant Association (IHRA), millions of livelihoods were impacted in 2020 due to an estimated 75 percent decline in tourism revenue (NCAER, 2021). Small and medium-sized companies were particularly affected by the crisis, especially those that were dependent on foreign tourists from abroad (Maiti, 2023). Restaurants, lodging facilities, homestays, and resorts have been forced to either shut down completely or significantly reduce their operations. As a result, approximately 38 million jobs related to tourism were lost across the country, with many employees either furloughed or permanently laid off (Ijar & Dogra, 2020; C. Singh, 2021). Even luxury hotel chains reported occupancy rates falling below 20 percent as the crisis continued to escalate. The country's transportation sector also saw a huge decline, especially in the region that relies heavily on tourism. The use of intercity transport services, shared vehicles, and tourist taxis fell by 80 percent in 2020 (Dayananda, 2021; Sharma & Chettri, 2023). Transport operators faced increasing challenges such as idle fleets, depreciating assets, and high maintenance costs. The decline in fuel consumption and toll revenue during this period further highlights the significant decline in tourism-related transportation activities (Sahu et al., 2023; Sudan & Taggar, 2021). Regional

operators in hill stations, pilgrimage sites, and beach destinations, where travel largely depends on the tourism calendar, were especially impacted.

The state economy of West Bengal is heavily reliant on tourism, particularly in areas like Darjeeling, which draws both domestic and foreign tourists. In 2021, the tourism industry alone accounted for 12.60 percent of the state's GDP (BGBS, 2023). The pandemic has significantly disrupted tourism activities, leading to severe economic consequences for the state. The hospitality industry in Darjeeling, which includes a range of establishments from luxury hotels to small lodges, restaurants, homestays, and local handicrafts, largely ceased operations during the lockdowns. Many small-scale enterprise owners were forced to sell their assets or permanently close their enterprises due to the adverse effects of the pandemic (Rawal et al., 2024). Similarly, transportation providers, such as shared taxis and tourist car services, necessary for the hill reported sharp declines in businesses, with some reporting months-long fleet suspensions. Without income, fixed expenses like auto loans and hotel stays became unaffordable, exacerbating the financial crisis for all parties involved. Likewise, transportation providers, such as public bus services, shared taxis, and tourist car services, essential for mountain travel, reported sharp declines in enterprise, with some reporting months-long fleet outages. Without income, fixed costs such as car loans and hotel accommodations became unaffordable, exacerbating the financial crisis for everyone involved.

Darjeeling tourism provides ample room for different stakeholder groups, including hoteliers, homestay operators, restaurant owners, transport service providers, handicraft artisans, and shopkeepers. Besides, auxiliary services such as tour guides, event organizers, and cultural performers benefit from tourism-related activities (Ghosh & Mondal, 2024). A significant number of the population derives their primary or supplementary income from tourism. The tourism industry in Darjeeling supports thousands of livelihoods by providing employment opportunities directly or indirectly related to tourism (Bhutia, 2016). The transport sector is represented by private car operators, taxi drivers, and shared jeep services, playing a crucial role in giving accessibility to the attractions of Darjeeling. In a similar light, hospitality-with its varying establishments from luxury hotels to family-run homestays-hosts nearly

all tastes of travelers. In combination, these sectors create a value chain that supports the livelihoods of a broad network of stakeholders (Basak et al., 2021; Bhutia, 2015). Therefore, tourism generates direct revenue for various stakeholders and stimulates the economic activity of the associated sectors, thus creating a direct multiplier effect. For example, the income that the hotel generates gets into the hands of local farmers (who supply vegetables and fruits to the hotel), artisans (who sell souvenirs), and blue-collar employees (who build and maintain the hotel (Mathouraparsad & Maurin, 2017). Historical evidence indicates that the flow of income arising from tourism has uplifted local communities in Darjeeling from poverty and given a push toward the development of the area (Bhutia, 2016; Rodousakis & Soklis, 2021).

The above discussion clearly shows that the pandemic has had a negative impact on the hospitality and transportation sectors worldwide, especially in regions that are heavily dependent on tourism. Darjeeling, a popular tourist destination in West Bengal and India, has faced severe impacts due to the pandemic. Every tourism-related stakeholder faced significant negative impacts on their Enterprises, affecting their livelihoods and social lives. Therefore, the main objective of this work is to investigate the impact of the pandemic on stakeholders in the tourism industry in Darjeeling.

4.2 Results

4.2.1 Demographic Information of the Respondent

I. Age Group

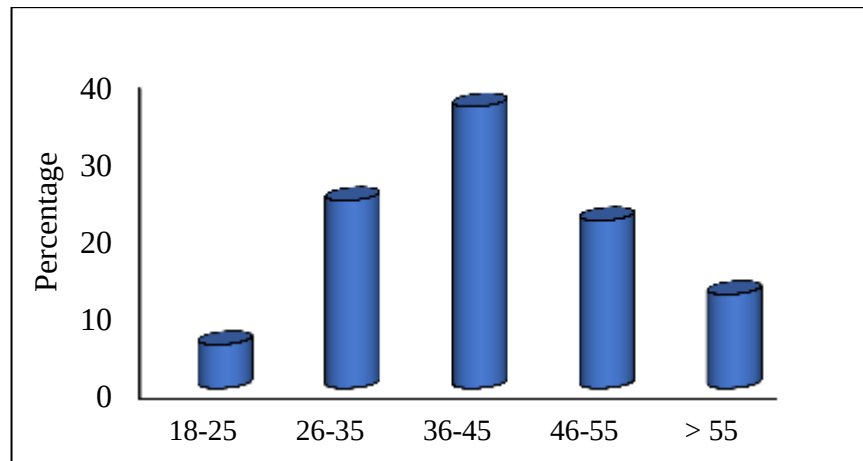


Figure 4.1 Age Group of the Respondents

Figure 4.1 shows that the majority of the stakeholders are (36.36%) in the 36-45 age group, followed by the 26-35 (24.24%), 46-55 (21.65%), > 55 (12.12%), and 18-25 (5.63%) age groups. The age distribution of stakeholders in the transportation and hospitality industries in Darjeeling indicates that middle-aged individuals are the most prevalent. This trend suggests that they possess a wealth of knowledge and experience, allowing them to effectively run and manage enterprises. Their maturity often leads to improved enterprise management and decision-making skills, essential for navigating these sectors' challenges. In contrast, the smaller percentage of younger respondents may reflect their relatively recent entry into these fields, suggesting that they are still learning the intricacies of entrepreneurship and gaining industry experience.

II. Gender

Figure 4.2 shows that the gender distribution among stakeholders in Darjeeling tourism exhibits a notable male predominance, with 72.73% male and only 27.27% female participants. While female participation is significantly lower than that of males, it is still higher than both the national average (23.30%) and the state average

(17.50%) (MoSPI, 2024). Therefore, it can be concluded that female participation in Darjeeling tourism is relatively significant compared to these averages.

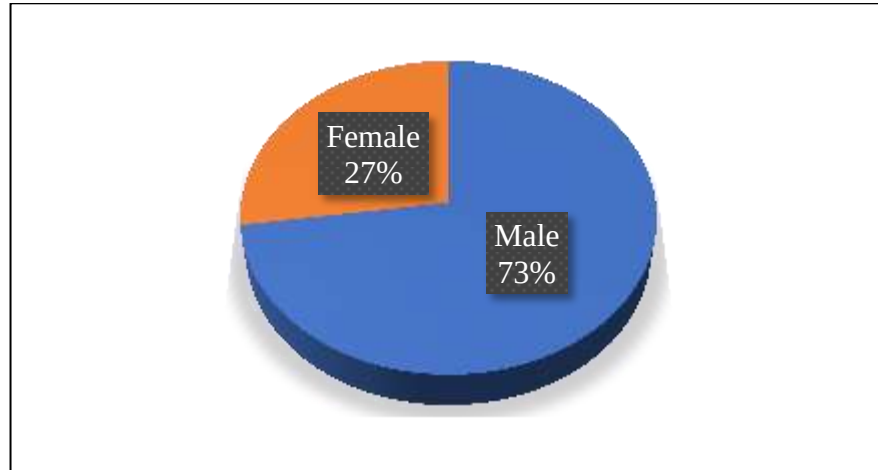


Figure 4.2 Gender of the Respondents

III. Education Qualification

The hospitality and transport sectors of Darjeeling's tourism industry comprise a mix of medium- and small-scale Enterprises, including hotels, homestays, restaurants, lodges, and transportation operators. Many stakeholders in the region depend on these Enterprises for their livelihoods, and most operate on a small scale. There is a positive relationship between the size of a tourism Enterprise and the educational qualifications of its owner. Generally, higher levels of education are associated with more sophisticated management strategies and access to broader industry networks, which can foster Enterprise growth and sustainability (R. Singh & Bansal, 2021; WTO, 2018). It is found from Figure 4.3 that the educational qualification of most of the respondents is high school level (52.38%), followed by primary school (23.81%), graduation (13.85%), illiterate (5.19%), and post-graduation (4.76%).

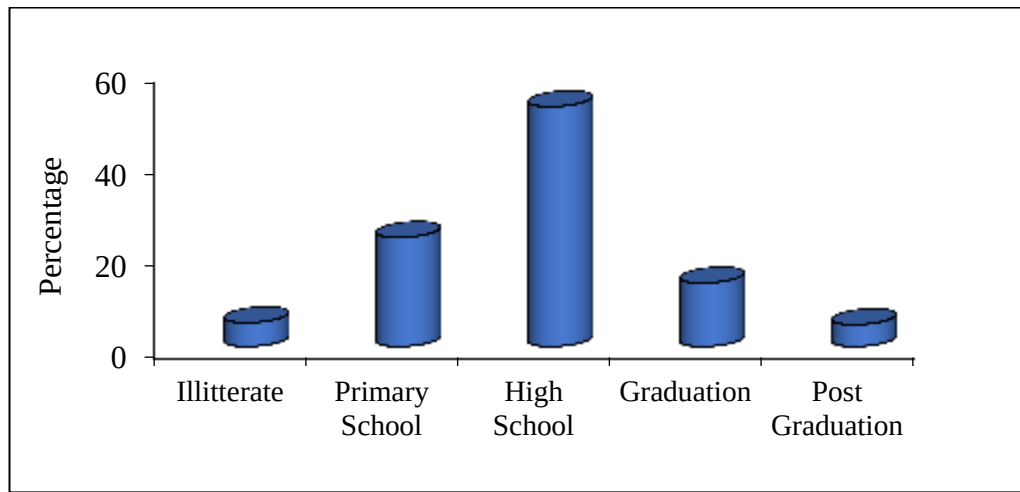


Figure 4.3 Educational Qualifications of the Respondents

4.2.2 Enterprises Characteristics of the Respondents

I. Years of Association in the Tourism Industry

The results from Table 4.1 indicate that the average number of years of experience in the tourism Enterprise is 14.67, with a standard deviation of 8.93 years. The reported minimum experience is 3 years, while the maximum is 35 years. This wide range of variation reflects a diverse experience level among the respondents in Darjeeling, encompassing both newcomers and seasoned professionals.

Table 4.1 Years of Association in the Tourism Industry

Observation	Mean	Std. Dev.	Min	Max
231	14.671	8.93	3	35

II. Types of Enterprises

The results from Figure 4.4 indicate that stakeholders in Darjeeling's tourism sector are involved in various types of Enterprises. Among these, homestays make up the largest segment at 26.84%, reflecting rapid growth in this area. Hotels account for 17.32%, while restaurants contribute 23.38%, both representing significant proportions of the market. Lodges have a much smaller share, at just 2.16%. The transport sector also plays an important role, accounting for 23.38%. Additionally,

the “Others” category, which includes handicrafts, local product sellers, and beverages, makes up 6.93%. Notably, three-fourths of the stakeholders are engaged in the hospitality sector, while one-fourth are involved in transport services.

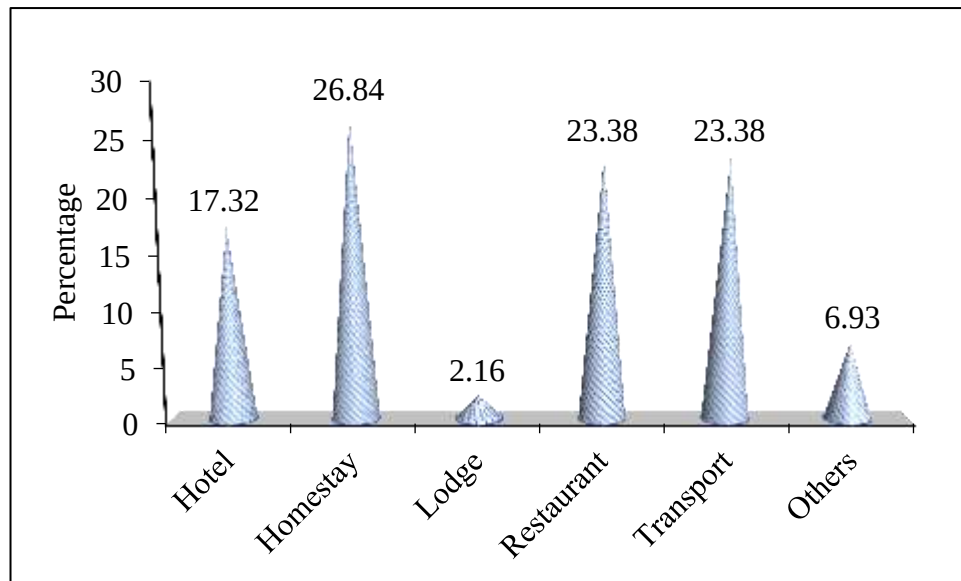


Figure 4.4 Types of Tourism Enterprises

III. Types of Entrepreneurships

Figure 4.5 illustrates the distribution of entrepreneurship among stakeholders in the Darjeeling district. The analysis reveals that the most common form of entrepreneurship is represented by

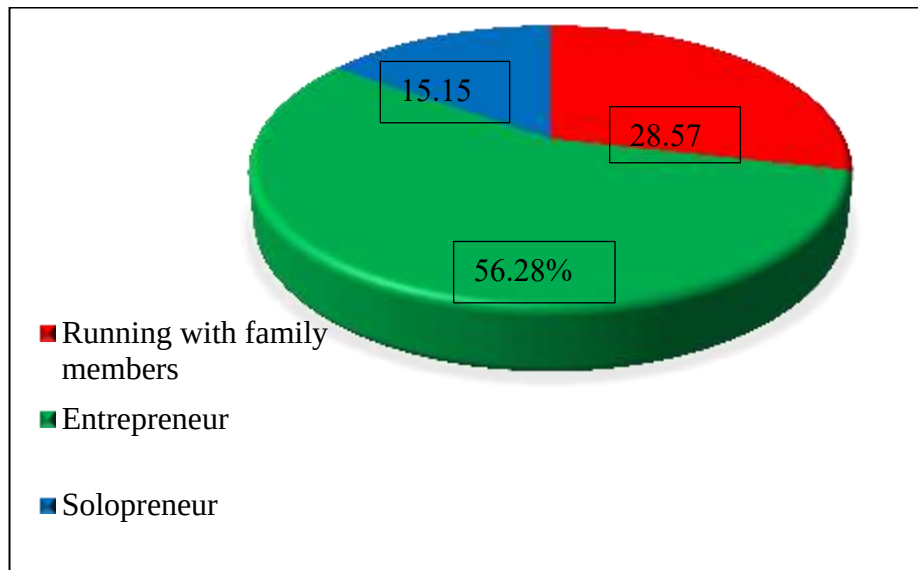


Figure 4.5 Types of Entrepreneurships

entrepreneurs who employ salaried workers (56.28%). This is followed by those who run their Enterprises with family members (28.57%), and finally, solopreneurs account for 15.15%. This indicates that a significant portion of stakeholders manage their Enterprises either independently or with the assistance of family members. Although the number of tourism Enterprises in Darjeeling is considerable, a substantial portion of these Enterprises falls into the medium to small category.

IV. Types of Ownership

Figure 4.6 shows that the majority of Enterprises are privately owned (67.53%). This suggests a strong preference for individual control and autonomy in Enterprise operations. Furthermore, a significant proportion of stakeholders operate their Enterprises in rented premises (29.00%), which may indicate limitations in capital investment. Only a small percentage of Enterprises are structured as partnerships (3.46%), indicating a limited number of collaborations in the region's tourism sector.

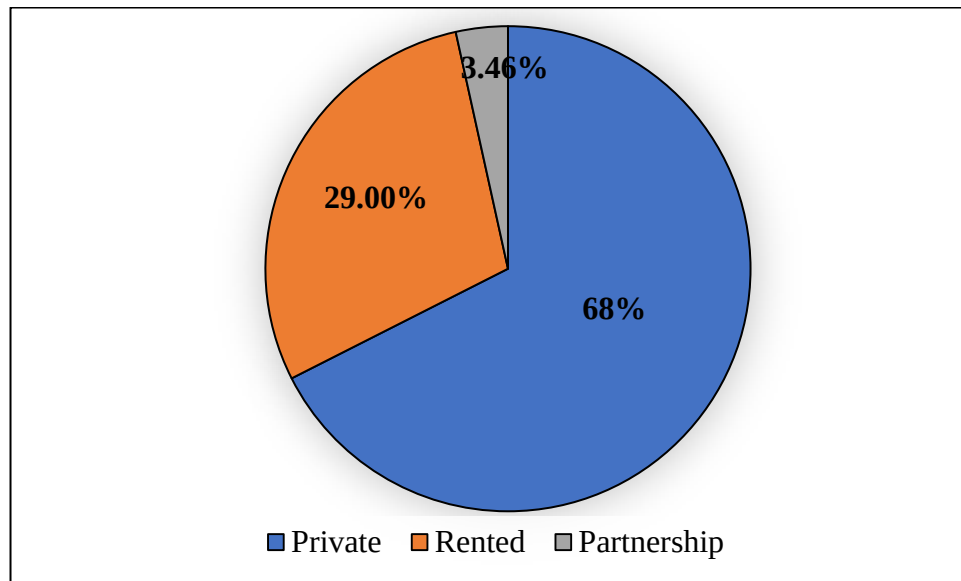


Figure 4.6 Types of Ownership

4.2.3 Pandemic-Induced Enterprise Operational Challenges Among Tourism Stakeholders in Darjeeling

I. Impact of the Pandemic on Enterprise Operations

The data presented in Table 4.2 indicates that nearly all tourism Enterprises in Darjeeling (97.40%) were temporarily and partially closed during the peak periods of the pandemic, with only a few exceptions. This led to a significant reduction in working hours for 97.84% of stakeholders. Among them, 67.11% reported a reduction of 75-100% in their working hours, while 20.44% experienced a reduction of 25-50%.

Table 4.2 Operational Impact on Tourism-Linked Enterprises

Parameter		No. of Observations	Percent
Enterprise Close	Yes	231	97.40
	No		2.60
Working Hour Reduction	Yes	231	97.84
	No		2.16
Percentage of Reduction	> 25	226	5.78
	25-50		20.44
	50-75		6.67
	75-100		67.11
	Yes		77.86

Employee Layoff	No	131	22.14
	Yes		89.77
Salary Reduction	No	88	10.23
	Yes		89.77
Percentage of Paid Salary	< 40		37.97
	40-50	79	40.51
	50-60		7.59
	> 60		13.92

Additionally, 6.78% recorded a decrease of 50-75%, and only 5.78% reduced their hours by less than 25%. Furthermore, the results show that 77.86% of entrepreneurial stakeholders were forced to lay off employees, although a small number of entrepreneurs managed to retain their staff throughout the pandemic. Additionally, 89.77% of stakeholders reduced their employees' salaries, while 10.23% did not. Among those who reduced salaries, 40.51% paid their employees 40-50% of their normal wages, 37.97% paid less than 40%, 7.57% offered 50-60%, and only 13.92% paid more than 60% to the employees they retained.

II. Economic and Operational Effects of the Pandemic on Enterprises

The analysis reveals that nearly all tourism Enterprises in Darjeeling experienced partial or complete closures during the pandemic. However, the duration of these closures varied based on the type, size, and Enterprise location. Evidence from Table 4.3 indicates that the average closure lasted 7.61 months, ranging from 2 to 15 months. The standard deviation of 3.67 months suggests a moderate variation in closure durations across different Enterprises.

The prolonged closure of the Enterprise has led to a significant decline in stakeholders' monthly revenues. The results indicate an average decrease in monthly income of ₹-58.54 thousand compared to the pre-pandemic period, and the high standard deviation suggests considerable variation among different types of Enterprises based on their sizes. The minimum recorded loss was ₹-700 thousand, while the maximum was ₹0, further illustrating this substantial variance. While some Enterprises experienced a dramatic drop in monthly revenues, a few managed to maintain their income without any loss, although numerically this number is very small. The pandemic has adversely impacted stakeholders' monthly revenues, with

the average decline reaching 65.30% compared to pre-pandemic figures. Additionally, a standard deviation of 25.62% suggests moderate variation among the various Enterprises. The recorded minimum decline of 100% underscores the fact that some stakeholders faced a complete loss in their monthly revenue.

Table 4.3 Enterprise Challenges Faced by Stakeholders Due to the Pandemic

Variable	Obs.	Mean	Std. Dev.	Min	Max
Enterprise Closure Duration (Month)	225	7.61	3.67	2	15
Decline in Monthly Revenue (Thousand)	231	-58.54	91.13	-700	0
Decline in Operational Units	231	-0.21	1.01	-10	0
Decline in Number of Employees	130	-2.79	3.16	-20	0
Decline in Average Monthly Revenues (%)	231	-65.30	25.62	-100	0
Decline in Operational Units (%)	231	-4.06	15.41	-100	0
Decline in Number of Employees (%)	130	-54.25	37.18	-100	0
Estimated Economic Loss (Lakh)	231	7.80	10.47	0	80

The pandemic not only led to a significant decline in the monthly revenues of stakeholders in the tourism industry in Darjeeling, but it also negatively impacted their operational units. Evidence from Table 4.3 indicates that the average decrease in operational units was -0.21, compared to the pre-pandemic levels, with an overall average decline of -4.06% in these units. Further analysis reveals that some stakeholders experienced a minimum decline of 100% in their operational units, resulting in the permanent closure of their Enterprises and a transition to alternative ventures.

Due to the lockdown and the extended closure of Enterprises, stakeholders were compelled to lay off employees to alleviate further losses. As discussed earlier, most stakeholders with employees in their Enterprises faced layoffs. Table 4.3 further examines the average decline in the number of employees, which stands at -2.79. Additionally, the standard deviation of 3.16 indicates a significant variation in the data. The minimum decline recorded was -20, while the maximum was 0, suggesting that in some cases, up to 20 employees were laid off from a single Enterprise. Furthermore, the analysis reveals that the average layoff percentage was 54.25%,

with some Enterprises losing their entire workforce. The high standard deviation of 37.18% emphasizes the variability in workforce reductions.

To assess the impact of the pandemic on the hospitality and transport sectors in Darjeeling, the estimated economic loss serves as a crucial criterion. The analysis presented in Table 4.3 shows that the average estimated loss among stakeholders involved in various tourism sectors is ₹7.80 lakhs, with figures ranging from ₹80 lakhs. The standard deviation of ₹10.47 lakhs highlights significant variation in the estimated economic losses across different Enterprises.

III. Enterprise Performance Comparisons Before and During the Pandemic

The pandemic has had a considerable negative effect on the Enterprise performance of stakeholders, as previously discussed. However, Table 4.4 illustrates the results of a paired t-test for several key aspects of Enterprise performance, providing a comprehensive view of the pandemic's impact on these areas. The paired t-test results indicate a significant decline in key performance metrics—Enterprise operational Units, average monthly revenues, and the number of employees—from the pre-pandemic period to the pandemic period.

The average operational units decreased from 1.62 before the pandemic to 1.41 during the pandemic, resulting in a mean difference of 0.21 ($t = 3.18$, $p < 0.005$). While the decline in operational units was moderate, the average monthly revenue experienced a substantial drop, falling from ₹79.85 thousand to ₹21.31 thousand, with a mean difference of ₹58.53 thousand ($t = 9.76$, $p < 0.001$). Additionally, the number of employees across various Enterprises decreased from an average of 5.68 before the pandemic to 2.88 during the pandemic ($t = 10.07$, $p < 0.001$), reflecting a significant reduction in the workforce across different Enterprise types.

Table 4.4 Examine the Compelling Differences in Enterprise Performance Before and During the Pandemic: Paired t-test Analysis

Variable		Mean	Mean diff.	t	df	p-value
Operational Units	Pre-pandemic	1.62	0.21	3.18	230.00	0.002
	During Pandemic	1.41				
Average Monthly Revenue	Pre-pandemic	79.85	58.53	9.76	230.00	0.000
	During Pandemic	21.31				
Number of Employees	Pre-pandemic	5.68	2.79	10.07	129.00	0.000
	During Pandemic	2.88				

IV. Variation in Enterprise Closure Duration Across Enterprise Types

The significant variation among the different types of Enterprises is explained by the ANOVA results presented in Table 4.5. The F-statistic is reported at 21.84, with an associated p-value of 0.00. This p-value is considerably lower than the conventional significance threshold of 0.05, leading us to reject the null hypothesis. Therefore, we can conclude that the group means have statistically significant differences. The Sum of Squares (SS) values reveal that most of the data variation (2013.57) occurs within groups, while the variation between groups (1004.01) accounts for the observed differences. The Mean Squares (MS) show that the average variation between groups (200.80) is significantly larger than the average variation within groups (9.19), reinforcing the conclusion that the group means differ. Additionally, Bartlett's Test for equal variances (chi-square = 1.067, p-value = 0.957) fails to reject the null hypothesis that there are equal variances across the groups. This result indicates that the assumption of equal variances for the ANOVA test is satisfied.

The results in Table 4.6 indicate that the average duration of Enterprise closures in Darjeeling is 7.60 months, but there is significant variation among different types of Enterprises. Hotels experience the longest closure duration, averaging 10.23 months, followed by homestays at 9.67 months, and other Enterprises at 6.75 months. The closure durations for lodges (5.80 months), restaurants (5.35 months), and transport services (5.75 months) are nearly equal. This evidence suggests that the hospitality

sector experienced longer closures than the transport sector. Additionally, Homestay Enterprises also recorded significantly prolonged closure periods. In contrast, lodges did not show significant differences in closure durations compared to other types. Restaurants and transportation Enterprises had the shortest closure periods, while hotels and homestays were the most adversely affected due to the pandemic.

Source	SS	df	MS	F	Prob > F
Between groups	1004.01	5	200.80		
Within groups	2013.57	219	9.19	21.84	0.00
Total	3017.58	224	13.47		

Table 4.5 ANOVA: Enterprise Closure Duration Across Enterprise Types

Table 4.6 Variation in Closure Duration Across Enterprise Types

Enterprise Types	Mean	Std. Dev.
Hotel	10.23	2.79
Homestay	9.67	3.03
Lodge	5.80	3.03
Restaurant	5.35	2.97
Transport	5.75	3.26
Others	6.75	3.02
Total	7.60	3.67

V. Variation in Closure Duration Across the Entrepreneurship Types

The types of entrepreneurship give an overview of the sizes of the Enterprise, as it is categorized into three divisions: entrepreneurs, run with family members, and solopreneurs. Entrepreneurs are individuals who employ salaried staff, and their Enterprises tend to be larger than others. Examples in Darjeeling include luxurious hotels, travel agencies, and large restaurants. Family-run Enterprises, on the other hand, do not employ salaried workers; instead, they rely on family members. This

category typically includes medium-sized restaurants, homestays, and beverage shops. Finally, solopreneurs are individuals who operate their Enterprises independently. These generally small enterprises include fruit shops, local handcrafted goods sellers, single-car owners, tea shops, and small vendors.

The duration of Enterprise closures varies significantly among these different Enterprise types. The ANOVA results, as presented in Table 4.7, confirm a significant difference in Enterprise closure duration across the various types of entrepreneurship, indicated by an F statistic of 6.89 and a p-value of 0.001. Additionally, the results of Bartlett's test for equal variance further validate the ANOVA findings.

Table 4.8 further validates the ANOVA results, indicating that the longest Enterprise closure duration is experienced by the entrepreneurs (8.18 months) due to the pandemic. On the other hand, solopreneurs experienced comparatively shorter (5.56 months) closure duration. The stakeholders who are running their Enterprises with their family members have also observed a longer Enterprise closure duration due to the impact of the pandemic.

Table 4.7 ANOVA: Closure Duration Across the Entrepreneurship Types

Source	SS	df	MS	F	Prob>F
Between groups	176.37	2	88.19	6.89	0.00
Within groups	2841.21	222	12.80		
Total	3017.58	224	13.47		

Table 4.8 Variation in Closure Duration Across the Entrepreneurship Types

Entrepreneurship Types	Mean	Std. Dev.
Running with Family Members	7.50	3.30
Entrepreneur	8.18	3.86
Solopreneur	5.56	2.88
Total	7.60	3.67

VI. Variations in Operational Units Decline Across the Enterprise Types

The term “Operational Units” refers to active, functioning Enterprise entities that are managed by individuals or organizations. It was previously noted that the average number of operational units per stakeholder is 1.62; however, this number varies by Enterprise type. In particular, the transport sector in Darjeeling reported the highest number of operational units. Due to the effects of the pandemic, many stakeholders had to reduce their operational units, making it important to examine which types of Enterprises experienced the most significant declines.

The ANOVA results presented in Table 4.9 indicate that the reduction in operational units is not uniform across different Enterprise types. The F statistic of 3.47, combined with a p-value of 0.00, demonstrates a significant difference among the various groups. Furthermore, Bartlett’s test for equal variance shows a significant result ($p < 0.05$), confirming that at least one group differs from the others. Descriptive statistics from Table 4.10 reinforce the ANOVA findings, revealing that the transport sector experienced the highest decline in operational units (-0.69) with a -8.11 % decline compared to the pre-pandemic period. Additionally, the hotel (-0.83%) and homestay (-7.53%) sectors also reported significant decreases in operational units. The standard deviations further support the ANOVA results, indicating considerable variation within each group. While the pandemic led to a notable reduction in operational units for the transport, hotel, and homestay Enterprises, other types, such as lodges and restaurants, reported no decline at all.

Table 4.9 ANOVA: Reduction in Operational Units Across Enterprise Types

Source	SS	df	MS	F	Prob > F
Between groups	16.93	5	3.39	3.47	0.00
Within groups	219.67	225	0.98		
Total	236.61	230	1.03		

Table 4.10 Variations in Operational Units Reduction Across Enterprise Types

Enterprise Types	Operational Units		Operational Units (%)	
	Mean	Std. Dev.	Mean	Std. Dev.
Hotel	-0.03	0.16	-0.83	5.27
Homestay	-0.18	0.53	-7.53	22.72
Lodge	0.00	0.00	0.00	0.00
Restaurant	0.00	0.00	0.00	0.00
Transport	-0.69	1.95	-8.11	18.81
Others	0.00	0.00	0.00	0.00
Total	-0.21	1.01	-4.06	15.41

VII. Variations in Operational Units Decline Across the Entrepreneurship Types

The reduction of operational units among the various types of entrepreneurship in Darjeeling varied significantly. The ANOVA results presented in Table 4.11 indicate that there is considerable variation in the decline of operational Enterprise units, both between and within the different groups of entrepreneurship types. The Sum of Squares (SS) is notably higher within groups (229.95) compared to between groups (6.66), suggesting there is substantial variation among entrepreneurs within each group. The significant findings of the ANOVA are supported by an F statistic of 3.30 and a p-value of 0.04.

Table 4.12 highlights which types of entrepreneurs were most affected by the reduction of operational units due to the negative impacts of the pandemic. The results show that entrepreneurs experienced the highest reduction in operational units, with a decline of -0.36 units recording a -6.58 % reduction compared to the pre-pandemic level. Stakeholders operating their Enterprises with the help of family members reported a decline of only 0.03 (-1.26%) operational units. In contrast, solopreneurs did not experience any reduction in their Enterprise operational units.

Table 4.11 ANOVA: Reduction in Operational Units Across Entrepreneurship Types

Source	SS	df	MS	F	Prob > F
Between groups	6.66	2	3.33	3.30	0.04
Within groups	229.95	228	1.01		
Total	236.61	230	1.03		

Table 4.12 Variations in Operational Units Reduction Across Entrepreneurship Types

Entrepreneurship Types	Operational Units		Operational Units (%)	
	Mean	Std. Dev.	Mean	Std. Dev.
Family-run Enterprise	-0.03	0.17	-1.26	7.34
Entrepreneur	-0.36	1.33	-6.58	19.53
Solopreneur	0.00	0.00	0.00	0.00
Total	-0.21	1.01	-4.06	15.41

VIII. Variations in Monthly Revenue Reduction Across the Enterprise Types

The ANOVA results (Table 4.13) showed significant differences in the reduction in monthly revenue between Enterprise types due to the impact of the pandemic ($F = 11.00$ $p < 0.001$), meaning that the extent of revenue loss varies significantly depending on the Enterprise type. Bartlett's test for equal variances confirmed that the assumption of homogeneity of variances was met ($\chi^2(5) = 245.47$, $p = 0.07$), confirming the robustness of the ANOVA results. The descriptive statistics from Table 4.14 further illustrate these differences, showing that the hotel Enterprise experienced the highest absolute decline in monthly revenue (-143.55 thousand), with a decline of -82.18%. The homestay Enterprise also recorded an equal percentage decline (-82.67%), with a lower absolute amount (-53.15 thousand). The transportation and lodge Enterprise recorded a moderate decrease with a percentage decline of -56.52% and -60.81%. Although the transportation Enterprise recorded a fairly high absolute loss (-45.46 thousand) in monthly sales, the percentage decline (-45.69%) of the Enterprise is much smaller. Therefore, from the results, we can

conclude that the average decline percentage (65.30%) in the monthly revenue of all Enterprise types is quite high, with an absolute loss of ₹-58.54 thousand.

Table 4.13 ANOVA: Reduction of Monthly Revenues Across Enterprise Types

Source	SS	df	MS	F	Prob > F
Between groups	375042.65	5	75008.53	11.00	0.00
Within groups	1534866.79	225	6821.63		
Total	1909909.44	230	8303.95		

Table 4.14 Variations in Monthly Revenues Reduction Across the Enterprise Types

Enterprise Type	Monthly Revenue (Thousand)		Monthly Revenue (%)	
	Mean	Std. Dev.	Mean	Std. Dev.
Hotel	-143.55	167.95	-82.18	14.57
Homestay	-53.15	29.51	-82.67	15.38
Lodge	-23.00	9.75	-60.81	20.58
Restaurant	-28.89	31.84	-45.69	22.25
Transport	-45.46	78.36	-56.52	25.31
Others	-22.19	11.97	-53.08	24.24
Total	-58.54	91.13	-65.30	25.62

IX. Variations in Monthly Revenue Reduction Across the Entrepreneurship Types

Depending on the size of the Enterprises, there are big differences in monthly income. The types of entrepreneurship provide direct and indirect information about the size of the Enterprises. Therefore, it is natural that the monthly revenue of larger Enterprises is higher than that of smaller Enterprises. The ANOVA results presented in Table 4.15 show that there is a significant difference in the reduction in monthly income between the types of entrepreneurship ($F = 11.40$ $p < 0.001$). The results also illustrate the significant variation between groups (173562.02) and within groups (1736347.44) of the SS score compared to the overall SS score (1909909.44). Bartlett's test for equal variances confirmed that the assumption of homogeneity of variances was met ($\chi^2(5) = 276.87$, $p = 0.06$), confirming the robustness of the ANOVA results. The extent of these differences is further presented in Table 4.16. It shows that entrepreneurs recorded the highest absolute decrease in monthly income

(82.50 thousand), with a percentage decrease of -67.68%. The stakeholders who run their Enterprises with the help of family members show an average decline of ₹-31.55 thousand per month. Solopreneurs saw the smallest decline (-20.43 thousand) in their monthly income. Although the absolute number of monthly sales declines for family Enterprises and solopreneurs is much lower than for entrepreneurs, their percentage decline (-65.82% and -55.51%, respectively) is not significantly different. The average percentage decrease (-65.30%) also proved that every company with all types of entrepreneurs experienced a significant decrease (-58.54 thousand) in their monthly revenue as a result of the pandemic.

Table 4.15 ANOVA: Reduction in Monthly Revenues Across the Entrepreneurship Types

Source	SS	df	MS	F	Prob > F
Between groups	173562.02	2	86781.01	11.40	0.00
Within groups	1736347.44	228	7615.55		
Total	1909909.44	230	8304.95		

Table 4.16 Variations in Monthly Revenue Reduction Across the Entrepreneurship Types

Entrepreneurship Types	Monthly Revenue (Thousand)		Monthly Revenue (%)	
	Mean	Std. Dev.	Mean	Std. Dev.
Family-run Enterprise	-31.55	18.86	-65.82	24.23
Entrepreneur	-82.50	115.14	-67.68	26.01
Solopreneur	-20.43	9.41	-55.51	25.10
Total	-58.54	91.13	-65.30	25.62

X. Variations in Estimated Loss Across the Enterprise Types

The total estimated economic loss depends on many aspects, e.g. duration of Enterprise closures, dependence on tourism, reduction of operating Enterprise units, etc. There are significant differences in the estimated loss between different Enterprise types, as shown by the ANOVA results ($F = 10$) shown in Table 4.17 .62 ($p < 0.001$). The value within and between groups indicates the significant

differences between different types of Enterprise. The results of the Bartlett test for equal variances ($\chi^2(5) = 189.70$ Prob> $\chi^2 = 0.078$) also supported the ANOVA assumptions. The descriptive statistics presented in Table 4.18 showed that the hotel Enterprise (17.48 Lakhs) suffered the highest estimated economic loss with a standard deviation of 19.01 Lakhs. The homestay company reported an average estimated economic loss of ₹7.18 lakhs due to the pandemic. The recorded economic losses of the other types of Enterprise considered are almost equivalent. The average economic loss of ₹7.80 lakhs indicates that the pandemic has significantly affected the economic stability of the stakeholders in Darjeeling tourism. Although ₹7.80 lakh is not a very high amount for large Enterprises, it is very high for medium and small Enterprises, and small and medium Enterprises mainly support the tourism industry in Darjeeling.

Table 4.17 ANOVA: Estimated Economic Loss Across the Enterprise Types

Source	SS	df	MS	F	Prob > F
Between groups	4808.59	5	961.72	10.62	0.00
Within groups	20384.25	225	90.60		
Total	25192.84	230	109.53		

Table 4.18 Variations in Estimated Loss Across the Enterprise Types

Enterprise Type	Mean	Std. Dev.
Hotel	17.48	19.01
Homestay	7.18	3.83
Lodge	3.80	1.48
Restaurant	4.44	4.65
Transport	6.13	8.84
Others	4.25	2.59
Total	7.80	10.47

XI. Variations in Estimated Loss Across the Entrepreneurship Types

The ANOVA results (Table 4.19) indicate significant variations in estimated economic losses among different types of entrepreneurship due to the pandemic ($F = 14.50$, $p < 0.001$). This suggests that the economic impact of the pandemic varied

considerably across these groups. The sum of squares (SS) value between groups (2842.99) represents a substantial portion of the total SS value (25192.84), reflecting the magnitude of the losses experienced by entrepreneurs. Additionally, Bartlett's test for equal variances ($\chi^2(2) = 246.17$, $p > \chi^2 = 0.85$) confirmed the reliability of the ANOVA results.

Table 4.20 further illustrates the significant disparities in estimated economic losses. Entrepreneurs experienced the highest economic loss, averaging ₹10.85 lakhs, which highlights their greater financial exposure and operational scale. Family-run Enterprises reported moderate losses, averaging ₹4.48 lakhs, while solopreneurs faced the lowest losses, with an average of ₹2.71 lakhs, consistent with their smaller operational footprints. These results highlight how entrepreneurs bear a disproportionate amount of the financial burden when compared to other groups, indicating the need for tailored support programs to adequately address their greater vulnerabilities.

Table 4.19 ANOVA: Estimated Economic Loss Across the Entrepreneurship Types

Source	SS	df	MS	F	Prob > F
Between groups	2842.99	2	1421.49452	14.50	0.00
Within groups	22349.85	228	98.0256613		
Total	25192.84	230	109.534086		

Table 4.20 Variations in Estimated Loss Across the Entrepreneurship Types

Entrepreneurship Types	Mean	Std. Dev.
Running with family Members	4.48	2.40
Entrepreneur	10.85	13.03
Solopreneur	2.71	1.36
Total	7.80	10.47

XII. Correlation Among Key Economic Indicators

From the above analysis, it can be seen that the pandemic has adversely affected the tourism Enterprise in Darjeeling. The stakeholders of the hospitality and transport sectors are affected differently as per their Enterprise types, entrepreneurship types, size, and location of the Enterprises. It was also discussed that the key Enterprise performance indicators, such as Enterprise closure durations, operational units reduction, monthly revenues decline, and estimated economic losses are different across the involvement of stakeholders in various sectors. The correlation analysis in Table 4.21 highlights the significant interrelation among these indicators. The indicators analysed influenced one another. A significant negative correlation is found between estimated economic loss and monthly revenue reduction (-0.96), suggesting that a higher reduction in monthly revenue leads to greater economic losses, i.e. the stakeholders who have recorded higher monthly revenue reduction have their estimated total economic losses. Similarly, Enterprise closure duration is significantly negatively correlated with monthly revenue (-0.40) reduction and estimated economic loss (-0.35). Though there is a moderate correlation found between these indicators but it indicates that longer Enterprise closure duration exacerbated financial hardships among the stakeholders and vice versa. Additionally, a weak correlation was found between operational unit reduction and estimated economic loss (-0.31), suggesting that Enterprise unit reduction leads to financial losses. Contrary, a positive correlation is found between the operational unit reduction and monthly income (0.30), indicating that a decrease in operational revenue reduction may lead to a reduction in operational unit reduction or less operational unit reduction can reduce the monthly revenue reduction. These results highlight how the pandemic's economic disruptions were interconnected, with closures, fewer operations, and financial losses on Enterprises having a domino effect.

Table 4.21 Correlation Among Key Economic Indicators Reflecting the Pandemic's Impact on Enterprise Performance

Variable	Enterprise Closure Duration (Month)	Operational Unit Reduction	Monthly Revenue Reduction (Thousand)	Estimated Economic Loss (Lakh)
Enterprise Closure Duration (Month)	1			
Operational Units Reduction	0.08	1		
Monthly Revenue Reduction (Thousand)	-0.40*	0.30*	1	
Estimated Economic Loss (Lakh)	-0.35*	-0.31*	-0.96*	1

Note: * Significant at <0.05 Confidence Interval

XIII. Influencing Factors of Economic Loss in the Darjeeling Tourism Industry

Economic stability is one of the best indicators of the extent of the pandemic's effects. The lockdowns, a sharp drop in visitor numbers, and government restrictions brought on by the pandemic caused significant financial losses for the stakeholders in the transportation and hospitality sectors of the Darjeeling tourism industry. The multiple regression in Table 4.22 is an attempt to find out the significant predictors of economic loss in the tourism industry in Darjeeling. The regression results identified several key predictors of estimated economic loss in the hospitality and transportation sectors during the pandemic. Year of association in tourism is a significant predictor ($p = 0.04$) of the estimated economic loss, meaning that one more year of engagement in tourism results in an increase in economic loss of ₹0.04 Lakhs. Similarly, the duration of Enterprise closure is also a significant factor (0.03), which shows that the extended duration of Enterprise closure by one month increased the economic losses by ₹0.92 Lakhs. On the other hand, an increase of one thousand in monthly revenue indicates an estimated economic loss of -0.11 lakhs. Similarly, a greater reduction in operating units reduces the estimated economic loss by -2.80 lakhs. Meanwhile, the increase in tourism reliance and supply chain impact reduced the economic loss by -0.36 and 0.35 lakhs, respectively. The analysis further shows that the economic loss does not vary significantly between age groups ($p = 0.69$) and educational qualifications ($p = 0.88$).

The model fit statistics (Table 4.23) demonstrate the model's significance. The high F-statistic (440.98) and p-value (0.00) confirm the model's significance and highlight its ability to capture the key determinants of economic losses effectively. The R-squared and adjusted R-squared value (0.94) also explain 94% of the variance in the estimated economic loss.

Table 4.22 Multiple Linear Regression Analysis for Estimated Economic Loss

Estimated Economic Loss	Coef.	Std. Err.	t	p > t
Age Groups	-0.08	0.20	-0.39	0.69
Educational Qualifications	0.03	0.21	0.15	0.88
Year of Association with Tourism	0.04	0.02	1.82	0.04
Monthly Revenue Reduction (Thousand)	-0.11	0.00	50.55	0.00
Operational Unit Reduction	-2.80	0.66	-4.27	0.05
Enterprise Closure Duration (Month)	0.92	0.06	0.33	0.03
Tourism Reliance	-0.36	0.20	0.34	0.03
Supply Chain Impact	-0.35	0.20	-1.78	0.02
Constant	1.70	1.29	1.32	0.09

Table 4.23 Model Fit Statistics

Number of Observations	225
F (8, 216)	440.98
Prob > F	0.00
R-squared	0.94
Adjusted R-squared	0.94
Root MSE	2.57

4.2.4 Enterprise Performance Index Analysis Amidst Pandemic

The COVID-19 pandemic has severely affected the tourism industry in Darjeeling in all forms. The pandemic impacted various Enterprise operational aspects, such as customer decline, supply chain, resource availability, equipment maintenance cost, motivation, long-term Enterprise goals, gross annual revenue confidence level, etc. The Enterprise Performance Index (EPI) was calculated in this chapter's section to assess the impact of the pandemic. Nine different Likert scale variables are used to calculate the EPI. Each variable assesses a specific aspect of Enterprise performance.

The variables are coded on a scale of 1 to 5, with higher numbers indicating no impact of the pandemic and lower values indicating severe impacts. This section examines how EPI varies by Enterprise type. Additionally, key EPI predictors were also identified using the appropriate statistical model.

The descriptive statistics presented in Table 4.24 illustrate a mean EPI is 2.80, highlighting the significant to moderate pandemic impact on Enterprise performance. The standard deviation (1.04) of EPI signifies the wide variation among the indicators being considered. Among the different aspects of Enterprise performance, impact on revenue (1.67) and customer decline (1.65) recorded the lowest mean because 59% and 54% of respondents rated them as severely impacted, respectively. On the other hand, the Enterprise expansion plan observed the highest mean (3.33), demonstrating that the respondent Enterprise expansion plan is not much affected by the pandemic, as 27% of stakeholders reported no impact. In the meantime, supply chain, resource availability, equipment maintenance cost, motivation, long-term Enterprise goals, and confidence level were moderately affected by the pandemic, as most of the respondents observed moderate to slight effects of the pandemic. The Reliability Test (Table 4.25) conducted among the considered variables to evaluate the internal consistency reflects the high level of reliability ($\alpha=0.83$).

Table 4.24 Descriptive Statistics of Enterprise Performance Index

Variable	Mean	Std. Dev.	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Customer Decline	1.67	0.84	54.11	27.27	16.02	2.60	0.00
Supply Chain	2.86	0.96	9.52	23.81	39.83	25.11	1.73
Resource Availability	3.29	0.95	4.33	13.42	38.96	35.50	7.79
Equipment Maintenance Cost	3.13	1.10	5.63	24.68	34.20	22.08	13.42
Motivation and Morale	3.19	1.07	5.63	19.91	36.80	25.11	12.55
Long-term Enterprise Goal	2.92	1.17	10.39	29.44	28.87	18.61	11.69
Enterprise Expansion Plan	3.33	1.33	7.79	25.54	20.35	18.61	27.71
Impact on Revenue	1.65	0.95	59.74	23.38	10.39	5.19	1.30
Confidence Level	3.20	0.96	8.66	28.57	39.83	19.91	3.03
EPI	2.80	1.04					

Note- 1= Severe, 2= Significant, 3= Moderate, 4= Slight, 5= No Impact

Table 4.25 Reliability Test of Enterprise Performance Index

Variable	Number of Items	Cronbach's Alpha (α)	Interpretation
EPI	9	0.83	High Reliability

The ANOVA results (Table 4.26) demonstrate a significant difference in EPI among the Enterprise types. The F-statistic (21.02) and the p-value (0.00) suggest that the results are highly significant. Bartlett's test ($\chi^2(5) = 18.70$, $p = 0.53$) for equal variance again supported the ANOVA results. Though the ANOVA test identified significant differences in EPI among the Enterprise types, the results from Table 4.27 presented the magnitudes of differences. The hotel (2.40) and homestay (2.45) sectors observed the lowest mean, indicating the highest negative impact experienced by these sectors. Contrarily, restaurants (3.34) and other (3.10) types of Enterprises recorded the highest mean value, portraying the comparatively lesser impact of the pandemic. In the meantime, lodge and transport Enterprises recorded a moderate mean, illustrating the medium impact of the pandemic on Enterprise performance.

Table 4.26 ANOVA: Enterprise Performance Index Across the Enterprise Types

Source	SS	df	MS	F	Prob > F
Between groups	31.54	5	6.31	21.02	0.00
Within groups	67.51	225	0.30		
Total	99.05	230	0.43		

Table 4.27 Variations in Enterprise Performance Index Among the Enterprise Types

Enterprise Types	Mean	Std. Dev.
Hotel	2.40	0.58
Homestay	2.45	0.38
Lodge	2.67	0.52
Restaurant	3.34	0.66
Transport	2.90	0.58
Others	3.10	0.46
Total	2.80	0.66

The multiple linear regression model in Table 4.28 identifies the key predictors of EPI during the pandemic. The model identified five statistically significant predictors of EPI: duration of Enterprise closure (0.02), monthly decline in sales (0.00), estimated economic loss (0.00), reliance on tourism (0.00), and government support and response (0.00). The coefficient value of Enterprise closure duration indicated that an additional month of closure decreases EPI by -0.40. Similarly, a one-unit increase in the estimated economic loss reduced the EPI value to -0.20. In addition, it was found that the positive coefficient value of monthly revenue reduction implies that a percentage increase in monthly revenue leads to an increase in EPI by 0.30. Again, the model shows that greater reliance on tourism leads to a smaller decline in the EPI value and vice versa, as lower values indicate severe impacts and higher values indicate no impact of the pandemic. So, it can be said that a one-unit increase in tourism reliance can increase the EPI value to 0.30. In addition, the government's response and support played a crucial role in the EPI value, meaning that a one-unit increase in poor government support can lead to a decrease in the EPI by -0.20. The model also revealed that age groups (0.01), educational qualifications (0.02), year of association with tourism (0.01), and reduction in operating units (0.01) do not influence EPI as they are statistically not significant. The model fit statistics in Table 4.29 show that the overall model is statistically significant ($F = 48.58$, $p = 0.00$). The adjusted R-squared value of 0.66 suggests that the model explains approximately 66% of the variability in EPI by the predictors included in the model.

Table 4.28 Multiple Linear Regression: Predictors of Enterprise Performance Index

EPI	Coef.	Std. Err.	t	P
Age Group	0.01	0.03	0.30	0.77
Educational Qualification	0.02	0.03	0.56	0.58
Year of Association with Tourism	0.01	0.00	0.33	0.74
Enterprise Closure Duration (Month)	-0.40	0.01	-2.31	0.02
Monthly Revenue Reduction (%)	0.30	0.00	6.23	0.00
Operational Unit Reduction (%)	0.01	0.00	1.20	0.23
Estimated Economic Loss (Lakh)	-0.20	0.00	-5.70	0.00
Tourism Reliance	0.30	0.03	3.01	0.00
Govt. Support	-0.20	0.03	-3.02	0.00

Table 4.29 Model Fit Statistics

No of Observation	225
F (9, 215)	48.58
Prob > F	0.00
R-squared	0.67
Adjusted R-squared	0.66
Root MSE	0.37

4.2.5 The Socioeconomic Repercussions of the Pandemic on Enterprise Stakeholders

The negative impact of the COVID-19 pandemic is not only limited to the Enterprise performance of those involved; the causes of the pandemic also have a significant impact on the socioeconomic status of every individual working in the tourism industry in Darjeeling. It has already been mentioned that the tourism industry in Darjeeling is dominated by medium and small Enterprises, and the pandemic has significantly affected every aspect of Enterprise operations. Since stakeholders' livelihood depends on their Enterprise, it goes without saying that the socioeconomic status of stakeholders depends entirely on Enterprise performance. To examine the impact of a pandemic on individuals' socioeconomic conditions, the Socioeconomic Resilience Index (SRI) was calculated from the average of six Likert scale variables. The variables are coded on a scale of 1 to 5 and measure the degree of pandemic impact on various aspects of socioeconomic conditions. Lower values indicate significant negative impacts, and higher values indicate no impact of the pandemic on this specific aspect. In addition, the analysis aims to illustrate variations in the SRI across different types of Enterprises and to identify influential factors affecting the SRI by employing an Ordered Logistic Regression Model.

The results presented in Table 4.30 illustrate the moderate (3.30) negative impact of the pandemic on the respondents' socioeconomic status. The analysis found that future savings (1.28) were the most affected, with 80% of respondents rating the severe impact of the pandemic as severe, meaning more than three-quarters of stakeholders were unable to save money for the future, but instead used it to ensure their survival during the pandemic. Mental health and well-being (2.27) were also

significantly impacted, with more than half of people rated as experiencing significant to severe impacts. It became clear that the pandemic has significantly affected the mental health of those involved in Darjeeling tourism. In addition, the mean of daily expenses (3.73) and children's education (3.95) indicate moderate effects of the pandemic. Although the observed impacts are moderate, it can be said that some of those involved have felt significant impacts on these aspects. Meanwhile, basic family needs (4.30) and family relationships (4.24) were less affected, although about 5% and 10% of respondents observed a significant impact of the pandemic on basic family needs and family relationships, respectively. The reliability test ($\alpha = 0.83$) results in Table 4.31 confirm the internal consistency and indicate high reliability of the considered variable for the analysis.

Table 4.30 Descriptive Statistics of Socioeconomic Resilience Index

Variable	Mean	Std. Dev.	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Mental Health and Well-being	2.27	1.06	22.51	45.45	19.91	6.49	5.63
Daily Expenses	3.73	0.95	0.43	9.52	30.74	35.50	23.81
Children Education	3.95	1.02	0.43	7.36	29.44	22.08	40.69
Family Basic Needs	4.30	0.86	0.43	4.33	11.69	32.03	51.52
Family Relation	4.24	1.06	1.30	10.39	8.23	23.38	56.71
Future Savings	1.28	0.69	80.09	10.82	3.46	3.46	2.16
Socioeconomic Resilience Index	3.30	0.94					

Note- 1= Severe, 2= Significant, 3= Moderate, 4= Slight, 5= No Impact

Table 4.31 Reliability Test of Socioeconomic Resilience Index

Variable	Number of Items	Cronbach's Alpha (α)	Interpretation
Socioeconomic Resilience Index	6	0.83	High Reliability

The magnitude of the pandemic impact on stakeholders' socioeconomic conditions, which differ significantly between different types of Enterprises, is confirmed by the ANOVA results presented in Table 4.32 ($F = 20.08$, $p = 0.00$). The SS values between the groups (34.20) indicated the large differences in SRI depending on the Enterprise type. Likewise, a significant difference in SRI was found within groups (76.65) and as a result of the pandemic. Bartlett's test for equal variances ($\text{Chi}^2 = 3.18$, $p = 0.67$)

again proved the validity of the ANOVA results. The results from Table 4.33 show that the socioeconomic status of stakeholders engaged in homestay (2.76) and lodge (2.77) Enterprises was the lowest. On the other hand, the SRI of restaurant owners (3.81) is quite easy to observe compared to the other types of Enterprises. In the meantime, the SRI of hotels (3.32), transportation (3.41), and other (3.38) industries were moderately affected by the pandemic. Meanwhile, the pandemic has significantly worsened the socioeconomic status of Darjeeling tourism industry stakeholders.

Table 4.32 ANOVA: Socioeconomic Resilience Index Among the Enterprise Types

Source	SS	df	MS	F	Prob > F
Between groups	34.20	5	6.84	20.08	0.00
Within groups	76.65	225	0.34		
Total	110.84	230	0.48		

Table 4.33 Variations in Socioeconomic Resilience Index Across the Enterprise Types

Enterprise Type	Mean	Std. Dev.
Hotel	3.32	0.52
Homestay	2.76	0.54
Lodge	2.77	0.56
Restaurant	3.81	0.60
Transport	3.41	0.63
Others	3.38	0.69
Total	3.30	0.69

From the above discussions, it is clear that the pandemic has significantly affected the various aspects of the livelihood of the stakeholders involved in the different types of tourism Enterprises. The multiple linear regression model shown in Table 4.34 illustrates the main influencing factors of SRI. The model suggests that lower reliance on tourism indicates a lower impact of the pandemic on socioeconomic status, as a one-unit increase in reliance on tourism leads to a rise in SRI of 0.31. Additionally, family member job loss was a significant predictor of SRI, suggesting

that one additional unit in family member job loss increased SRI by 0.45. Furthermore, an additional month of Enterprise duration significantly reduced the SRI by -0.07. Similarly, an increase in the estimated economic loss significantly decreased the SRI by -0.06, suggesting that a higher estimated loss leads to a deterioration in the socioeconomic status of stakeholders involved in tourism. In addition, an increase in the monthly revenue reduction percentage can increase the SRI value by 0.05, which means that a decrease in the gap between the monthly revenue before the pandemic and the monthly revenue during the pandemic leads to an increase in the socioeconomic status of the respondents. The regression results also show that age groups, educational qualifications, and professional experience in tourism have no significant relationship with the socioeconomic status of respondents involved in tourism. In other words, there are no differences in the socioeconomic conditions of the respondents depending on their age, educational qualifications, and year of involvement in tourism. The model fit statistics in Table 4.35 confirm that the model is statistically significant ($p = 0.00$). The Adjusted R-squared value suggests that the model explains approximately 43% of the SRI variability by the model's included predictors.

Table 4.34 Influencing Factors of the Socioeconomic Impact Index

Socioeconomic Impact Index	Coefficient	Std. Error	t	P
Age Group	0.00	0.04	0.03	0.98
Educational Qualification	0.06	0.04	1.36	0.18
Year of Association in Tourism	0.00	0.00	0.42	0.68
Tourism Reliance	0.31	0.04	2.99	0.00
Job Loss of Family Member	0.45	0.11	3.03	0.00
Enterprise Closure Duration (Month)	-0.07	0.01	0.89	0.02
Monthly Revenue Reduction (%)	0.05	0.00	6.52	0.00
Operational Unit Reduction (%)	0.00	0.00	0.97	0.34
Estimated Economic Loss (Lakh)	-0.06	0.00	4.75	0.00

Table 4.35 Model Fit Statistics

No of Observation	225
F (9, 215)	19.74
Prob > F	0.00
R-squared	0.46
Adjusted R-squared	0.43
Root MSE	0.50

4.3 Discussions

Although all types of Enterprises have been significantly affected by the pandemic, it has been a nightmare for the growth and development of the tourism industry worldwide. Global lockdowns closed all kinds of borders and stopped people's freedom of movement. As a result, the influx of tourists fell sharply and nearly ceased, and all types of tourist activities were halted for an extended period. Regions heavily dependent on tourism suffered the most, but regions with moderate to low tourism dependence were not spared from the pandemic's impact. Regions like Darjeeling, which rely heavily on tourism, have seen the worst impact of the pandemic. About 70% of people in Darjeeling were, directly and indirectly, dependent on tourism for their livelihood (Roy, 2023). So, the roots of the impact of the pandemic have been recognised in all forms of tourism enterprises and all professions in Darjeeling. The main objective of the study is to examine the impact of the COVID-19 pandemic on the hospitality and transportation industries in the Darjeeling district of West Bengal. Findings from the study provide critical insights into the impact of the pandemic on Enterprise operations, livelihoods, and socioeconomic characteristics of stakeholders.

The results of the study show that the middle-aged population engaged in the various types of Enterprises in Darjeeling dominates compared to the young and elderly population. The proliferation of this group is consistent with the requirement that tourism and hospitality Enterprises have experienced and mature decision-makers. Furthermore, based on the sex distribution, it was found that although the participation of the male population dominates in the various types of Enterprises,

women also recorded significant participation in Darjeeling tourism. Without the transport sector, the participation rate of women would have been higher. In general, women in many Himalayan communities participate equally with men in various types of economic activities, including tourism (Rai, 2020). The study also found that the proportion of women is almost equal to that of men throughout the district, except in the transport sector. In addition, the study shows that the educational qualifications of most participants are limited to secondary school. Although graduates and postgraduates were found, the number is minimal. A significant number of Enterprises in Darjeeling are small to medium-sized Enterprises, and these types of Enterprises do not require advanced educational skills but rather rely on practical knowledge. The tourism enterprises, such as restaurants, homestays, transportation services, and other small Enterprises, require interpersonal skills, service skills, and local knowledge rather than academic qualifications. Our results also suggest that the educational attainment of small and medium-sized enterprises is limited to school and uneducated education. Respondents with higher educational qualifications are involved in quite large Enterprises.

The respondents' average years of tourism involvement are notably high, according to their Enterprise characteristics. Stakeholders' average experience of 14.67 years shows a mix of newcomers and seasoned professionals, demonstrating the sector's capacity to draw and keep talent over time. The British established Darjeeling as a hill station in the 19th century, which planted the seeds for tourism. The groundwork for the growth of tourism in the area was established by this initiative. The Darjeeling Himalayan Railway's (DHR) construction further boosted the region's tourism industry (Joseph, 2011). By the 20th century, Darjeeling's tourism sector had become well-known both domestically and internationally, turning the town into a popular travel destination. This suggests that Darjeeling's tourism industry has established itself over the years. As a result, the area is home to both newcomers actively engaged in the tourism sector and a variety of long-standing enterprises. Additionally, the study revealed that there were a variety of Enterprises in Darjeeling. Among them, homestays, hotels, restaurants, and transportation companies have made significant contributions. Different types of Enterprises

predominate in different regions of the district. In general, there are hotels, restaurants, and transport companies around the main city of Darjeeling. In contrast, homestay Enterprises are being developed in rural areas of the district. The study findings illustrate the rapid growth of rural tourism in Darjeeling and highlight that the unique attractions of various remote areas, the discovery of community-based tourism, sustainable tourism practices, etc., are the key driving factors for the rapid growth of homestays in Darjeeling in recent years (Bhutia, 2016; Limbu & Chettri, 2014). Entrepreneurs run most Enterprises in the tourism industry, but family Enterprises are also common. But there aren't that many solopreneurs. In the main town of Darjeeling, most Enterprises are medium to small, except for a few hotels and travel agencies. The majority of the entrepreneurs operated restaurants, hotels, and transportation companies. Additionally, homestays and restaurants are usually linked with family-run Enterprises. On the other hand, most solopreneurs are self-drivers who work in the transportation industry. According to the study results, most stakeholders run their companies themselves, and many of those surveyed also rent space for their companies. Conversely, a low percentage of partnerships indicates low collaboration. Most Enterprise types in Darjeeling are small homestays, restaurants, and hotels; These Enterprises typically require little infrastructure and funding, making them accessible to local Enterprise owners. Additionally, families and individuals often start such Enterprises.

The pandemic has created significant Enterprise challenges for all stakeholders associated with the various tourism Enterprises. Due to the lockdowns and Enterprise restrictions, almost everyone involved was forced to close their Enterprises completely or partially for a longer period. The high proportion of Enterprise closures indicates the region's high level of tourism reliability. Only a few government and private Enterprises remained open, which were converted into quarantine centres and government service providers during the peak of the pandemic. After the main phase of lockdowns, when Enterprises were partially opened, almost everyone involved was forced to significantly reduce their working hours due to the sharp drop in tourist arrivals. About one-third of entrepreneurs in Darjeeling reduced their working hours by up to 70%. The forced layoffs reflect the

tourism industry's broader economic crisis, with many companies finding it difficult to pay salaries or even retain a small workforce to avoid further losses. The employees who were taken over received very low salaries. The pay cuts are a sign that Enterprise owners were trying to cope with falling revenue while retaining their employees. Nevertheless, the fact that a significant proportion of companies paid less than 40% of regular salaries shows how severe these cuts were.

The analysis revealed that the average duration of Enterprise closures was over seven months, highlighting the severe impact of the pandemic. This extended closure period contributed to significant economic losses, affecting monthly revenues and overall estimated financial damage. Moreover, many stakeholders were forced to reduce their operational units to cut maintenance costs. On average, Enterprises laid off approximately 2.79 employees each, resulting in significant workforce reductions. The pandemic's impact varied considerably across different types of Enterprises, entrepreneurial models, sizes, and geographical locations. While the average Enterprise closure lasted 7.60 months, hotels and homestays experienced the longest closures due to their reliance on tourist inflows, staying durations, and domestic and international tourists. Following the easing of travel restrictions, most visitors to Darjeeling were local tourists, primarily day-trippers. Overnight and short-term tourists began returning only after all restrictions were lifted. In contrast, restaurants and transport Enterprises faced shorter closure durations, allowing them to reopen sooner as local and day tourists resumed their activities. The study also indicated notable differences in closure durations among various entrepreneurial types. Entrepreneurs tended to keep their Enterprises closed longer than family-run operations and solopreneurs. This distinction reflects the sizes of the Enterprises: entrepreneurs typically represent larger establishments, followed by family-run Enterprises and solopreneurs. Bigger hotels, upscale restaurants, and major travel agencies fall into the entrepreneurial category, while homestays, medium-sized restaurants, and beverage shops are examples of family-run Enterprises. Small roadside fast-food outlets, single-owned transport services, and local craft shops are typically operated by solopreneurs. As tourist activities restarted, solopreneurs were able to resume their Enterprises earlier than both entrepreneurs and family-run

establishments. In contrast, larger hotels, restaurants, and travel agencies remained on standby, awaiting a return of substantial tourist traffic.

The COVID-19 pandemic has had a significant negative impact on tourism in Darjeeling, forcing many stakeholders to reduce their Enterprise operational units. A t-test analysis conducted in the study indicated that operational Enterprise units decreased by approximately 13%. As a result, some stakeholders permanently closed their Enterprises, while others were compelled to sell their operational units to avoid financial instability. The average decline in operational units was recorded at -0.21, but this varied across different types of Enterprises and entrepreneurs. The transport sector experienced the highest reduction in operational units, followed by homestays and hotels. Due to decreased tourist inflow, travel restrictions, and other pandemic-related challenges, larger travel agencies, medium-sized tour operators, and owners of multiple hotels in Darjeeling chose to keep their units non-operational. The study also revealed that many Enterprises were burdened by loans. To manage loan repayments and other financial and socioeconomic issues, stakeholders reduced their operational units. While owners of homestays, hotels, and transportation services faced substantial losses, those operating lodges, restaurants, and similar Enterprises did not experience any decline. Generally, Enterprises with only one operational unit were not significantly affected; however, a loss or reduction of this unit would disconnect them from the tourism industry. Significant differences in the reduction of operational units were also noted among various types of entrepreneurs. The results showed that entrepreneurs faced the greatest declines, whereas solopreneurs did not report any losses. Additionally, stakeholders with multiple Enterprise operational units observed a substantial reduction, in contrast to those with fewer units.

The above discussion highlights that the tourism enterprise in Darjeeling has been closed for a significant time, leading to a notable reduction in operational units. This prolonged closure has resulted in a considerable decrease in the number of employees, reductions in working hours, and salary cuts, indicating that the region's tourism sector has faced substantial economic losses. These losses have affected everyone involved in the tourism industry, both directly and indirectly. However, the extent of the losses varies based on the type of Enterprise, entrepreneurship types,

size, and location. The study suggests that the pandemic has caused a monthly revenue decline of approximately 60000 rupees, averaging more than a 65% reduction. Stakeholders in the hotel Enterprise reported a much higher decline in monthly revenue, followed closely by homestay operators. While the absolute monthly revenue reductions differ, both sectors experienced similar percentage declines. Factors contributing to these sharp revenue reductions include prolonged Enterprise closures, heavy dependence on tourism, high maintenance costs, and a limited local client base. In contrast, Enterprises such as restaurants, transport services, and lodges experienced relatively lesser monthly revenue reductions due to shorter closure durations and a greater reliance on local customers. The study also found that entrepreneurs and family-run Enterprises experienced nearly equal percentage reductions in monthly revenues, whereas solopreneurs recorded comparatively lower reductions in their average monthly income. The variations in Enterprise size, operational costs, and labour costs rendered entrepreneurs more vulnerable than solopreneurs during the pandemic.

The overall estimated economic loss, measuring the financial deficit caused by the crisis, is a crucial metric for assessing the pandemic's impact on Enterprises. The study indicates that the average estimated economic loss per stakeholder in Darjeeling's tourism industry was 7.80 lakh rupees, with hotel Enterprises experiencing significantly higher losses. In contrast, lodges, restaurants, and other Enterprise types saw comparatively lower economic losses. Moreover, homestays and transport operators reported moderate losses. The disparities in economic losses can be attributed to factors like longer Enterprise closure periods, a lack of both international and domestic tourists, reductions in operational units, high maintenance costs, and heavy reliance on tourism. Additionally, entrepreneurs faced significantly greater estimated economic losses compared to family-run Enterprises and solopreneurs. This trend can be explained by the fact that entrepreneurs typically enjoyed higher gross incomes before the pandemic, making the total shutdown of their Enterprises result in more substantial economic losses.

The previous discussions have highlighted that multiple factors contribute to the economic losses experienced by stakeholders in the tourism sector. The study

employed a multiple regression model to identify significant predictors of the estimated economic loss. The results indicated that Enterprises with longer associations in tourism tend to face greater economic losses. Established and older Enterprises typically incur higher operational costs, and the pandemic disrupted their traditional revenue streams, rendering their longevity a liability in this context. Furthermore, the duration of Enterprise closures was positively correlated with economic loss; specifically, each additional month of closure increase of 0.92 lakh rupees in economic loss. The analysis also revealed that a decline in monthly revenue and a reduction in operational units correspondingly decreased the estimated losses for stakeholders. Notably, Enterprises with a higher reliance on tourism faced an economic loss of 0.32 lakh rupees per unit. Generally, Enterprises that were more dependent on tourism experienced a significant decline in customer footfall, leading to greater economic loss. Moreover, the regression results indicated that minimal disruption to the supply chain was associated with reduced economic losses during the pandemic. Stakeholders who relied on the local supply chain observed significantly lower economic losses compared to those who did not.

The correlation analysis illustrated the interdependencies of these crucial economic factors. This analysis provided valuable insights into the interconnected dynamics of the economic disruptions faced by the tourism sector in Darjeeling during the pandemic. Strong interrelationships were evident among key performance indicators, including the duration of Enterprise closures, the reduction in operational units, the decline in monthly revenue, and the estimated economic losses. Notably, a strong negative correlation between the reduction in monthly revenue and the estimated economic loss indicated that Enterprises experiencing substantial declines in monthly revenue also faced significant estimated economic losses. This finding aligns with our earlier discussion. Additionally, a moderate negative correlation was observed among Enterprise closure durations, monthly revenue reductions, and estimated economic losses, highlighting the cascading impact of prolonged closures on financial stability. The weak negative correlations between operational unit reductions and estimated losses suggest that while Enterprises that scaled back operations experienced financial strain, the effect was less pronounced compared to

other indicators. It is worth noting that only a minimal number of stakeholders reduced their operational units during the pandemic, as most had only one operational unit and chose to retain it. Finally, weak positive correlations between operational units and monthly revenue reductions indicate that the monthly revenue losses of stakeholders were not significantly dependent on the reduction of operational units.

The pandemic has significantly affected every aspect of the tourism Enterprise in Darjeeling. To evaluate this impact on Enterprise performance, the study utilised the Enterprise Performance Index (EPI). The EPI is a comprehensive metric designed to assess and compare an organisation's or Enterprise's performance over time or against industry standards. It typically incorporates various financial and non-financial indicators to provide a holistic view of an Enterprise's operational effectiveness and overall health (Franco-Santos et al., 2007; Jenatabadi, 2015; Van De Ven et al., 2023; Van Looy & Shafagatova, 2016). For this study, multiple financial and non-financial indicators were considered in calculating the EPI. The measures that demonstrated the most severe pandemic impact were customer decline and gross revenue, which recorded the lowest scores compared to other indicators. Additionally, the pandemic's effects on the supply chain and long-term Enterprise goals were assessed as moderate to significant. The remaining indicators were impacted moderately to slightly. Overall, the study found that the pandemic had a moderate to significant negative effect on the Enterprise performance of stakeholders within Darjeeling's tourism industry. The average EPI was determined to be 2.80, indicating a moderate to significant impact; however, substantial variations existed among different types of Enterprises, as evidenced by ANOVA results. Stakeholders involved in hotel and homestay Enterprises experienced the lowest EPI due to the severe impact of the pandemic on all considered indicators. Key reasons for their low EPI included a significant decline in customer levels, prolonged closure durations, and a high dependence on domestic and international tourists rather than local tourists. Conversely, stakeholders in restaurants and other Enterprise types recorded comparatively higher EPI scores, despite experiencing only moderate to slight pandemic impacts. Increased local tourism and shorter closure durations helped these

Enterprises quickly recover from the pandemic's effects. Furthermore, the study employed a multiple regression model to identify the significant factors influencing the EPI. The analysis revealed that the negative coefficient values for Enterprise closure durations and estimated economic losses significantly lowered the EPI. In contrast, a reduced reliance on tourism positively influenced the EPI, indicating that Enterprises dependent on local tourists were less affected by the pandemic. Additionally, a decrease in the percentage of monthly income loss correspondingly increased the EPI for stakeholders. The study also discovered that inadequate government support significantly decreased the stakeholders' EPI. Conversely, increased government support played a crucial role in mitigating the pandemic's impact on Enterprise performance. It is important to note that the age group, educational qualifications, and work experience of the respondents showed no significant relationship with the EPI.

The COVID-19 pandemic has profoundly impacted the socioeconomic status and livelihoods of Enterprise stakeholders in the tourism industry (Vărzaru et al., 2021). This impact has been particularly pronounced for small and medium-sized Enterprises, especially in emerging regions (Gössling et al., 2021; Huynh et al., 2021; Jiang & Wen, 2020; Uğur & Akbıyık, 2020). In tourism regions like Darjeeling, a significant number of stakeholders in the hospitality and transport sectors are small to medium-sized enterprises. As these regions heavily rely on tourism, the sudden cessation of travel during the pandemic led to a dramatic decline in income and employment opportunities, severely affecting Enterprise performance and leaving many owners struggling to sustain their livelihoods. The socioeconomic conditions of these stakeholders were significantly impacted by the pandemic's adverse effects. The current study reveals that many stakeholders faced difficulties covering their daily family expenses. Moreover, the pandemic created substantial challenges for their children's education, forcing families to reduce educational expenditures due to decreased income. Additionally, future savings were considerably affected; many Enterprise owners were compelled to use these savings to support their families instead of saving for the future. The pandemic also strained relationships among family members and significantly harmed the mental health and

well-being of the stakeholders. Results from the Socioeconomic Impact Index (SRI) indicate that, while the overall socioeconomic impact of the pandemic was moderate, there was considerable variation across different types of Enterprises, as evidenced by ANOVA results. Interestingly, although the Enterprise Performance Index (EPI) for hotels was the lowest among all Enterprise types, the SRI for hotel owners was relatively high. This is because most stakeholders in the hotel sector were financially stable, allowing them to maintain their socioeconomic status during this challenging period. In contrast, transport and restaurant Enterprises experienced a moderate to slight pandemic impact on their socioeconomic status. Factors such as shorter closure durations, a dependency on local tourists, and lower maintenance costs during the pandemic helped these Enterprises mitigate economic losses, which in turn supported their socioeconomic standing. On the other hand, homestay and lodge Enterprises recorded the lowest SRI, indicating the most severe impact of the pandemic. Contributing factors included longer closure durations, significant reliance on domestic and international tourists, high maintenance costs, and disruptions in the supply chain. Additionally, many homestay Enterprises are family-run, which means that most family members lost their jobs during the pandemic, further contributing to the low SRI. Additionally, the regression model demonstrated that a lower reliance on tourism considerably increased SRI. Furthermore, it was discovered that the socioeconomic status of the respondents who reported that a family member had lost their job during the pandemic had been significantly impacted. Many people working in the tourism industry lost their jobs as a result of the widespread layoffs in the private sector during the pandemic. It was also discovered that many respondents had experienced the job loss of a family member in Darjeeling. Furthermore, the SRI of the stakeholders was greatly impacted by the lengthening of the Enterprise closure period and the estimated financial loss. Additionally, the respondents' socioeconomic standing has considerably improved as a result of the increase in the monthly revenue percentage. Furthermore, Age, the year of tourism participation, and educational background were also found to have no bearing on the socioeconomic standing of the participants during the pandemic. Because the pandemic's effects were nearly the same for all these socioeconomic indicators. In addition, a few stakeholders had gone

through their operational unit decline, and the SRI was not well explained by the Enterprise operational unit reduction.

4.4 Conclusions

It is clear from the above discussion that the COVID-19 pandemic has profoundly impacted the Darjeeling tourism industry. As the growth and development of the region are highly dependent on tourism, Darjeeling experienced severe Enterprise and socioeconomic challenges. The stakeholders who are engaged in the hospitality sector in Darjeeling, the cascading effects of the pandemic have significantly impacted their Enterprise performances and their livelihoods as well. Sharp decline in tourist arrivals, and prolonged Enterprise closures have significantly reduced the economic stability of the region. These disruptions demonstrated the complex vulnerabilities of a tourism-driven economy by having a cascading effect on workforce stability, Enterprise operations, and the personal lives of individuals who depend on tourism. About seven months of longer closure duration not only diminished the monthly income of the stakeholders but also forced them to reduce their Enterprise operational units. The stakeholders of the transport sector witness the highest reduction of operational units, followed by the hotel and homestay. On the other hand, hotel and homestay stakeholders closed their Enterprises for approximately ten months. Many stakeholders were compelled to lay off their employees to minimize further loss. On average, each stakeholder had laid off more than two employees, with up to 60% of salary reductions. The pandemic caused approximately 8 lakhs rupees of average estimated economic loss for the stakeholders.

The impact of the pandemic was different depending on the types of entrepreneurship. The longest closures and greatest economic losses occurred among larger entrepreneur, as they were more vulnerable due to their higher operating costs and greater reliance on tourism. In contrast, family Enterprises and solopreneurs demonstrated significantly better resilience. Among the first to reboot were solopreneurs who ran small Enterprises like transportation services or local stores; Their lower overhead costs and ability to target local customers worked to their

advantage. The local and day tourist dependency of the restaurants and small transport operators helped them to manage better Enterprise performance than hotels and homestays, which were highly dependent on domestic and international tourists.

In addition to Enterprise performance, the pandemic also had a significant impact on the socioeconomic circumstances and living standards of those involved. Due to the sharp decline in savings and spending on children's education, it became increasingly difficult for people to meet their daily expenses. Mental health problems were widespread, reflecting the emotional and financial stress caused by the crisis. According to the Socioeconomic Impact Index (SRI), homestays and lodges were the most affected by the socioeconomic impact, while restaurants and transport Enterprises were comparatively less affected. The main determinants of socioeconomic outcomes were the extent of revenue and operational losses, family job losses, and dependence on tourism. Finally, it can be concluded from the study that comparatively larger Enterprises were financially most affected than small enterprise types. As a result, stakeholders associated with bigger hotels, homestays, and travel agencies observed much higher economic losses. In contrast, restaurants, lodges, and small shop owners have recorded comparatively less economic loss.

In order to escape the clutches of the pandemic, those involved need a sensible coping strategy. Although many stakeholders responded immediately by reducing Enterprise units and laying off employees, these are not long-term solutions. The adaptability and resilience of small Enterprises and the importance of regional, sustainable tourism practices were also highlighted. Supporting stakeholders, particularly small and medium-sized enterprises, will require targeted policy interventions. The recovery can be supported through financial support, infrastructure development, and capacity-building initiatives. The government will strengthen its support networks to rebuild a strong and sustainable tourism economy while promoting local travel and diversifying revenue sources.

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In order to escape the clutches of the pandemic, those involved need a sensible coping strategy. Although many stakeholders responded immediately by reducing Enterprise units and laying off employees, these are not long-term solutions. Moreover, the significance of local, sustainable tourism practices and the flexibility and tenacity of small enterprises were emphasized. Specifically designed policy interventions will be needed to support stakeholders, especially small and medium-sized Enterprises. Infrastructure development, capacity-building programs, and financial assistance can all aid in the recovery. The government will strengthen its support networks to rebuild a strong and sustainable tourism economy while promoting local travel and diversifying revenue sources.

In conclusion, the COVID-19 pandemic taught us important lessons about resilience and adaptability, even as it exposed serious weaknesses in Darjeeling's tourism industry. Darjeeling can become stronger by tackling systemic issues and utilizing the assets of its stakeholders, resulting in a more sustainable and inclusive tourism industry that can withstand.

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Plate 4.1 Restaurant
Owner, Mirik



Plate 4.2 Transport Operator,
Darjeeling-Pulbazar



Plate 4.3 Hotel Owner,
Rangli-Rangliot



Plate 4.4 Handicrafts Artesian,
Darjeeling-Pulbazar

Chapter 5

Impact of the COVID-19 Pandemic on the Socioeconomic and Livelihood Status of Tourism Employees

5.1 Introduction

The period from 2020 to 2022 was a nightmare for the growth and development of all businesses worldwide due to the COVID-19 pandemic. The tourism industry was first and hardest hit by the pandemic. The world tourism business experienced a loss of \$1.3 trillion in 2020 compared to 2019 due to a 74% decline in international tourism (UNTWO, 2021). This unpredictable decline leads to job loss for millions of employees, particularly in the hospitality, transport, and ancillary sectors. According to the World Travel and Tourism Council (WTTC), 62 million tourism jobs were lost globally in 2020. Further, countries like Thailand, the Maldives, Seychelles, Macau, Croatia, Greece, Barbados, etc., which are mostly dependent on tourism, have experienced huge economic strain due to the pandemic. According to a study, about 90% of resorts had decided to send their workers on unpaid leave in the Maldives during the crisis period (Shafiya Adam et al., 2020). Additionally, the picture was more severe in underdeveloped and developing countries due to the lack of social safety and an informal employment structure (Aronica et al., 2022; ILO, 2021). According to the United Nations Conference on Trade and Development report, a significant proportion of total layoffs of the tourism workforce were from the developing and underdeveloped world, which resulted in the steepest GDP reductions for the developing countries (UNCTAD, 2022). The developing nations, the Caribbean and Ghana, are well-known eco-tourism destinations, and have suffered extreme layoffs of employees and severe socioeconomic effects due to the pandemic (Moore & Pascal, 2024; Soliku et al., 2021).

The pandemic also made disparities in the global tourism workforce worse, with women, young people, and migrant workers, who make up a sizable portion of the sector, being disproportionately affected. According to the World Economic Forum report, women's layoff rate was higher than men's during the period of 2019-2020 due to the pandemic (WEF, 2023). Similarly, younger workers experienced greater

unemployment rates because they frequently worked in industries like retail and hospitality that were severely affected by the pandemic. In addition, younger people are more likely to be laid off because they usually have less experience and job security (Gould & Kassa, 2020; O'Higgins & Verick, 2020). Further, individuals with lower educational levels experienced higher unemployment rates. Due to the unemployment and income reduction, cascading effects were observed on food security, education, mental health and well-being of the workers (Fang et al., 2021; Huang et al., 2016). Although there was some growth in local travel and digital tourism in 2021, the recovery is still uneven and uncertain, with low-income areas continuing to face long-term difficulties (OECD, 2020).

The Indian tourism industry is an important economic pillar of the national economy. The sector contributes approximately 7% to the GDP and experienced a significant pandemic impact. According to the Ministry of Tourism report, the Indian tourism sector observed about a 75% decline in international tourist arrivals in 2020. Additionally, due to lockdowns and government restrictions, domestic tourist movement was also totally suspended. The Confederation of Indian Industry (CII) reported that about 21.5 million tourism jobs were lost in FY 2020-21 due to the COVID-19 pandemic (Dash & Sharma, 2021). Additionally, a study found that about 38 million tourism employees lost their jobs directly and indirectly all over the country due to the pandemic (Khan, 2021).

The unorganized workforce, which makes up a sizable portion of India's tourism industry, and small and medium-sized businesses were especially hard hit (M. Maradi, 2021; Rani, 2022). The workers engaged in transport, tour guides, tour operators, handicrafts, and artisans experienced severe economic distress due to job loss and income reductions, reflecting the high vulnerability of small jobs (Schubert, 2021). Furthermore, the pandemic highlighted the industry's lack of resilience by exposing weaknesses like seasonal employment patterns, excessive reliance on a small number of important markets, and insufficient worker social security measures (NITI Aayog, 2021).

According to the West Bengal Tourism Development Corporation, Darjeeling, a popular hill station and area renowned for its scenic landscapes, was disproportionately affected by the pandemic, where tourism is a vital component of the state economy. The local economy of Darjeeling depends heavily on tourism, which supports thousands of jobs in the hospitality and transportation industries (Nagarale et al., 2025). Due to the abrupt stop in tourism-related activities, many households experienced financial difficulties as a result of widespread unemployment and income reductions (Choudhury et al., 2023; Roy & Ghosh, 2022).

The Darjeeling tourism industry is characterized by small and medium enterprises across the district, and these types of enterprises experienced an acute pandemic impact worldwide. The employees are employed in the homestays, small hotels, restaurants, transport sector, and other related tourism jobs. Due to the pandemic, all kinds of tourism businesses remained closed for a long time. As a result, all the employees employed there were either laid off or retained with minimal salaries. Moreover, workers faced challenges in accessing alternative livelihoods, as their skills were primarily tourism-centric (Chhetri & Lepcha, 2022). Furthermore, as earning members lost their jobs, the region's household dependency ratios also increased, resulting in long-term socioeconomic vulnerabilities. The crisis also brought to light systemic problems like insufficient insurance coverage for employees, a lack of government assistance for small-scale tourism entrepreneurs, and inadequate healthcare infrastructure. Although government programs like Swadesh Darshan and efforts to promote rural tourism have shown promise, their execution has been inconsistent, depriving a sizable section of the workforce of real benefits.

The study aims to explore the impact of the pandemic on the socioeconomic and livelihood statuses of tourism employees in Darjeeling. It primarily focuses on employees working in hotels, homestays, restaurants, and the transportation sector. Additionally, the research seeks to uncover employment vulnerability and socioeconomic resilience patterns among these workers. The findings aim to provide valuable insights into the effects of the pandemic on job profiles, family compositions, income dynamics, and other livelihood challenges employees face.

5.2 Results

5.2.1 Demographic Information of the Employees

I. Age

Table 5.1 shows that the average age of employees is 35.75 years with a standard deviation of 10.26, indicating that the tourism sector employees in Darjeeling are predominantly young and middle-aged workers. Additionally, the maximum age of 65 and the minimum age of 19 suggested a mix of new and experienced workers. Furthermore, the results indicate the economic necessity of the respondents, as some stakeholders continue to work beyond their retirement age.

Table 5.1 Age Structure of the Employee

Mean	Std. Dev	Min	Max
35.75	10.26	19	65

II. Gender

The findings from Figure 5.1 demonstrate the dominance of the male workforce in Darjeeling tourism, with 72% of the workforce being male and 28% female. Furthermore, Darjeeling has a much higher percentage of women in the workforce than many other parts of India and is also higher than the national average. As a result, it can be claimed that Darjeeling women engage in a wide range of economic activities alongside men.

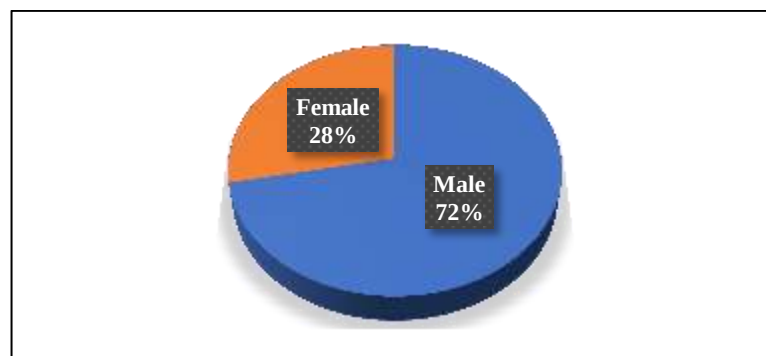


Figure 5.1 Gender Distribution of the Employees

III. Educational Qualification

The educational backgrounds of the workers in the Darjeeling tourism sector are highlighted in Figure 5.2. The employees with the highest level of education are those who have completed high school (45.80%), followed by those who have only completed primary school (28.90%). Additionally, 12.90% of employees are found to be illiterate. Conversely, employees with more education are less prevalent; they are postgraduate (0.80%) and graduate (11.60%). According to the findings, the majority of Darjeeling Tourism employees have a moderate level of education.

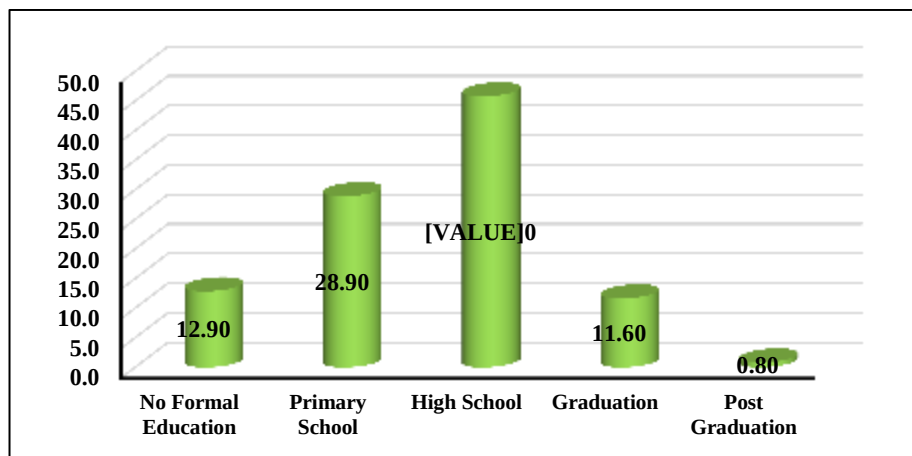


Figure 5.2 Educational Qualifications of the Employees

IV. Marital Status

The majority of workers in the tourism industry in Darjeeling were married (73.90%), reflecting the family responsibilities of workers. Approximately 21.70% of workers were unmarried, indicating a single and young workforce. Additionally, it was found that a small proportion of employees were widowed (3.20%) and divorced (1.20%).

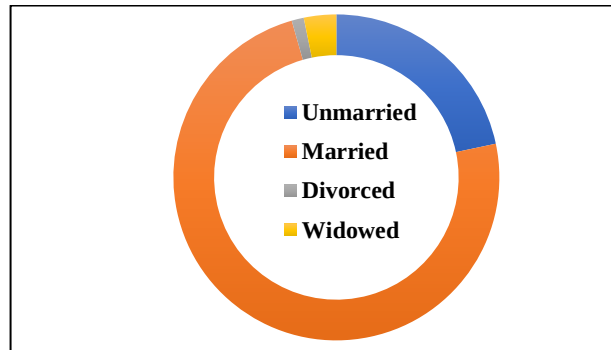


Figure 5.3 Marital Status of the Employees

V. Family Structure

The family structure of the employees is shown in Table 5.2 and reflects a rather disappointing picture of tourism workers in Darjeeling. The average family size of the employees is 4.48 people, with 1.73 working members per family. Furthermore, the results indicate that about 88.59% of the employed members of each family are engaged in tourism (1.45%). The average dependent member observed was 2.73 per family. The general dependency ratio (195.21) indicates that each earner had to support almost two people. The results further show that around 60% of family members are not economically active.

Table 5.2 Family Structure of the Employees

Variable	Mean	Std. Dev.	Min	Max
Family Member	4.48	1.28	1.00	8.00
Earning Member	1.73	0.75	1.00	4.00
Earning Member in Tourism	1.45	0.59	1.00	4.00
Earning Member in Tourism (%)	88.59	20.41	33.33	100.00
Dependent Member	2.73	1.20	0.00	6.00
General Dependency Ratio	195.21	127.78	0.00	600.00
Family Dependency Ratio	59.35	17.65	0.00	85.71

5.2.2 Job Profile of the Employees

I. Work Experience

The findings from Table 5.3 indicate that the employees' average work experience is 10.24 years, with a standard deviation of 6.26, suggesting a moderate degree of career duration variability. Professional experience ranges from a minimum of 2 years to a maximum of 31 years, as demonstrated by new employees and experienced employees.

Table 5.3 Work Experience of the Employees

Mean	Std. Dev	Min	Max
10.24	6.26	2	31

II. Occupation

The Darjeeling tourism industry offers a variety of occupations to its employees. The results of Figure 5.4 show that drivers (16.06%) and waiters (15.66%) are the most common jobs in Darjeeling, followed by managers (12.85%) and receptionists (11.65%). The job types travel agency staff (9.24%), conductor (8.84%), and housekeeping (8.84%) are also noticeable. However, very small proportions work as cooks (7.63%) and kitchen helpers (5.62%). The "Other" category observed only 3.61% of employees. Meanwhile, it was discovered that about 60% of the workers were employed in the hospitality industry, with 35% working in transportation.

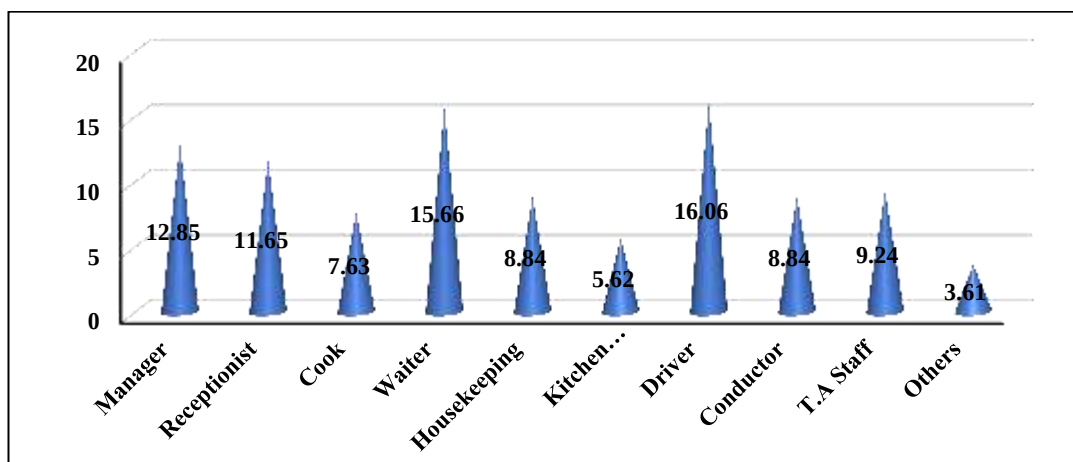


Figure 5.4 Occupational Structure of the Employees

III. Workplace

The workplaces of the employees in Darjeeling are depicted in Figure 5.5, which shows that the majority of the workers were employed in the transportation industry (34.10 percent), restaurants (20.90 percent), and hotels (20.50 percent). However, homestays made up 16.10% of the workforce, whereas government lodges (4.00%) and “Others” (4.40%) categories only made up a very small percentage of the workforce.

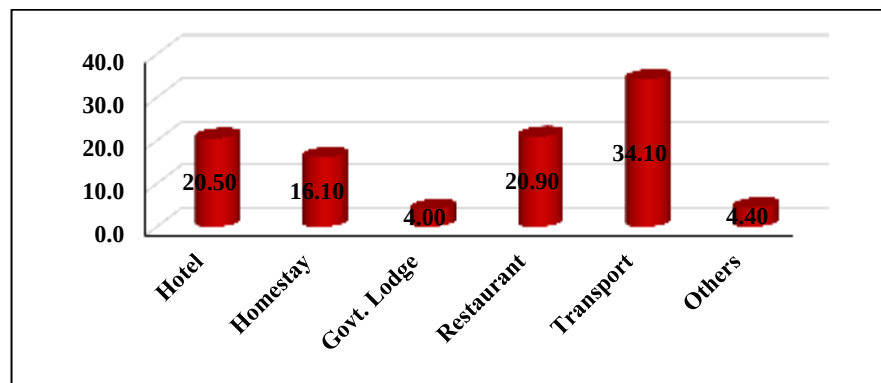


Figure 5.5 Workplaces of the Employees

5.2.3 Income Pattern and Financial Dynamics of the Employees

I. Monthly Income of the Employees

The ANOVA results presented in Table 5.4 show that there is a significant ($F = 17.71$, $p < 0.05$) variation in the monthly salary of the employees between different occupational groups. Bartlett's test ($\chi^2 = 179.13$, $p < 0.05$) for equal variance indicated that the assumption of equal variance was violated. It is therefore necessary to find out which professional groups are different. Furthermore, from Table 5.5, it was found that the average monthly salary of employees in Darjeeling was ₹14,281.21 with a standard deviation of ₹8,608.96, indicating significant variation. The manager (₹22,875) had the highest monthly salary with significant variation (₹1,480)¹, indicating his higher position within the various occupational groups. Transport sector employees, drivers (₹19,450), and travel agents (₹18,217), also received comparatively higher salaries than other groups. The salary of the cook (₹13,789), the conductor (₹14,136), and the “others” (₹14,888) were close to the

average salary. At the lower end, kitchen helpers (₹5,928) received the lowest salary, followed by waiters (₹8,923) and housekeeping (₹6,636), reflecting the lower salary of the supporting job.

Table 5.4 ANOVA: Salary Structure of the Employees Across Occupational Groups

Source	SS	df	MS	F	Prob > F
Between groups	7.353E+09	9	817049323	17.71	0.00
Within groups	1.103E+10	239	46137562		
Total	1.838E+10	249	74114199		

Table 5.5 Variations in the Salary Structure Across Occupational Groups

Occupation	Mean	Std. Dev.
Manager	22875.00	14801.37
Receptionist	11827.59	4629.63
Cook	13789.47	6900.72
Waiter	8923.08	2649.57
Housekeeping	6636.36	2664.50
Kitchen Assistant	5928.57	1439.25
Driver	19450.00	4877.74
Conductor	14136.36	4050.81
T.A. Staff	18217.39	4935.55
Others	14888.89	8115.49
Total	14281.12	8608.96

II. The Household Monthly Income of the Employees

The significant differences in household monthly income of employees are demonstrated by the ANOVA results in Table 5.6 ($F = 4.4$, $p < 0.05$). The sum of squares between groups (8.43E+09) suggests that differences in occupational groups explain some of the total variance (5.88E+10) in family income. However, Bartlett's test for equal variances ($\chi^2 = 152.35$, $p > 0.05$) indicates a violation of the assumption of homogeneity of variances, suggesting that family income variability differs significantly between groups. In addition, the fluctuations in monthly family income between occupational groups are shown in Table 5.7. This shows that the average monthly income of the employee's family during the pre-pandemic period was ₹24,000 with a variability of ₹15,397. The managers (₹37,486) reported the

highest family income with the highest variability (₹32,142), indicating different economic statuses within the group. Furthermore, the family income of drivers (₹24,450), travel agent staff (₹24,782), and cooks (₹24,526) was close to the average income. The lower monthly family income was associated with the job categories of waiters (₹18,479), housekeeping (₹17,000), and kitchen assistants (₹18,214). The occupational groups of receptionists (₹22,379) and conductors (₹21,909) recorded mid-family income, but it was below average.

Table 5.6 ANOVA: Household Monthly Income Across Occupational Groups

Source	SS	df	MS	F	Prob > F
Between groups	8.43E+09	9	9.36E+08	4.44	0.00
Within groups	5.04E+10	239	2.11E+08		
Total	5.88E+10	248	2.37E+08		

Table 5.7 Variations in Household Monthly Income

Occupation	Mean	Std. Dev.
Manager	37468.75	32142.81
Receptionist	22379.31	9788.53
Cook	24526.32	13463.40
Waiter	19487.18	9684.15
Housekeeping	17000.00	5740.42
Kitchen Assistant	18214.29	10906.45
Driver	24450.00	6660.06
Conductor	21909.09	10875.53
T.A. Staff	24782.61	8458.22
Others	27000.00	10049.88
Total	24000.00	15397.69

III. Household Per Capita Monthly Income of the Employees

There are significant differences in the household per capita monthly family income of the employees, as shown by the ANOVA in Table 5.8 ($F = 4.15$, $p < 0.05$). The sum of squares between groups ($3.0E+08$) suggests that some of the total variance ($2.2E+09$) in per capita income is explained by differences in occupational groups. The Bartlett test ($\chi^2 = 78.86$, $p > 0.05$) for equal variances further indicates the

heterogeneous variance in per capita income. The average monthly per capita income of the employee family is ₹5,549 with a standard deviation of ₹2,990 (Table 5.9). The occupational group of managers recorded the highest per capita family income, followed by the cook (₹6,657), the driver (₹5,529), the travel agency staff (₹5,488), and the receptionist (₹5,437). However, the significantly lowest monthly per capita family income of employees was reported by the occupational group housekeeping (₹4,308), followed by kitchen helpers (₹4,409), conductors (₹4,556), and waiters (₹4,761).

Table 5.8 ANOVA: Household Per Capita Monthly Income Differences Across Occupational Groups

Source	SS	df	MS	F	Prob > F
Between groups	3.0E+08	9	33291570	4.15	0.00
Within groups	1.9E+09	239	8027359		
Total	2.2E+09	248	8944206		

Table 5.9 Variations in Household Per Capita Monthly Income

Occupation	Mean	Std. Dev.
Manager	7885.79	4944.60
Receptionist	5437.36	2437.84
Cook	6657.02	4351.40
Waiter	4761.45	1848.55
Housekeeping	4308.71	1944.44
Kitchen Assistant	4409.52	2146.04
Driver	5529.17	1618.38
Conductor	4556.82	1948.47
T.A. Staff	5488.61	2281.70
Others	6148.15	3313.95
Total	5549.08	2990.69

IV. Additional Income Source

Figure 5.6 shows whether Darjeeling tourism workers had additional sources of income apart from their tourism jobs. The results showed that the majority of workers had no additional source of income, suggesting they were reliant on their

sole job in tourism. However, 32% of workers stated that they had an additional source of income in addition to their main job in tourism.

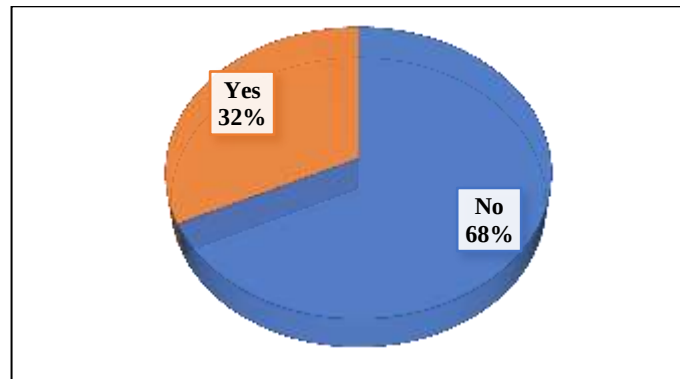


Figure 5.6 Additional Income Sources of the Employees Apart from Tourism Jobs

5.2.4 Impact of the COVID-19 Pandemic on the Employment Status of the Employees

I. Employment Status During the Pandemic

The chi-square results represented in Table 5.10 highlight the employment status of employees during the pandemic across different occupational groups. Pearson's χ^2 (61.95) value and probability (<0.01) confirmed the significance of the test. The results show that approximately 50% of the employees lost their jobs during the pandemic. Additionally, 25.30% of them were temporary, and 22.49% of employees were reported to have been permanently laid off. On the other hand, approximately half of the employees were retained. Moreover, it is worth noting that a significant proportion of the retained employees received reduced salaries (40.96%), while only a few were retained in the same position (11.24%). Additionally, it has been found that from the results, the managers were mostly retained either in the same position (28.13%) or with reduced salaries (46.63%). Similarly, the employees who are associated with receptionist jobs also saw quite higher retention proportions, with 10.34% in the same position and 58.62% with reduced salaries. In contrast, housekeeping (54.55%), waiters (30.77%), and kitchen assistants (28.75%) experienced the highest rates of permanent job loss. The occupational groups of cooks (42.11%), travel agency staff (43.48%), and conductors (50%) experienced significant retention with reduced salaries. The "Others" occupational group

observed a unique pattern in their employment status during the pandemic, experienced the highest retention (44.44%), and the highest permanent layoffs (33.33%).

Table 5.10 Employment Status of the Employees During the Pandemic

Occupation	Employed (Same Position)	Employed (Reduced Salary)	Laid off (Temporarily)	Laid off (Permanently)
Manager	28.13	46.88	15.63	9.38
Receptionist	10.34	58.62	10.34	20.69
Cook	10.53	42.11	26.32	21.05
Waiter	7.69	41.03	20.51	30.77
Housekeeping	0.00	31.82	13.64	54.55
Kitchen Assistant	7.14	28.57	35.71	28.75
Driver	5.00	32.50	47.50	15.00
Conductor	4.55	50.00	36.36	9.09
T.A. Staff	13.04	43.48	26.09	17.39
Others	44.44	11.11	11.11	33.33
Total	11.24	40.96	25.30	22.49

II. Distribution of Salary Reduction

The table above shows that almost 45% of employees in the various occupational groups were employed with reduced salaries during the pandemic. In other words, out of 249 employees, 102 employees experienced their salary reduction. The results in Figure 5.7 show that 54.90% of employees reported a 40-50% salary cut. About 13.73% of employees suffered a 50-60% cut in their usual salary. Additionally, 10.78% of employees experienced a pay cut of more than 60%. Furthermore, 20.59% of employees reported salary cuts of less than 40%.

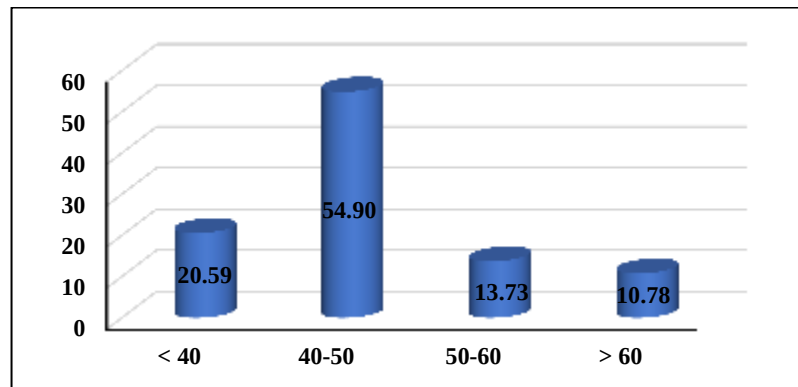


Figure 5.7 Percentages of Salary Reductions of the Employees

III. Unemployment Durations

Earlier, it was found that about half of the employees lost their jobs temporarily and permanently during the COVID-19 pandemic in Darjeeling. Table 5.11 also provides information about the distribution pattern of employees' durations of unemployment across occupational groups. It was found that the average unemployment duration of employees was 6.75 months, with a deviation of 3.37 months. The occupational group of receptionists (8.44 months), cooks (8.13 months), and kitchen assistants (8.33 months) experienced a comparatively longer period of unemployment. The unemployment duration of managers (7.50 months), travel agency employees (7.30 months), and waiters (7.00 months) was also above the average. However, conductors (5.00 months), drivers (5.04 months), and housekeeping (6.47 months) experienced comparatively shorter periods of unemployment. Meanwhile, the "Other" occupational group recorded the longest period of unemployment at 8.75 months.

Table 5.11 Unemployment Durations of Employees

Occupation	Mean	Std. Dev.
Manager	7.50	3.30
Receptionist	8.44	4.30
Cook	8.13	1.96
Waiter	7.00	2.87
Housekeeping	6.47	2.88
Kitchen Assistant	8.33	3.50
Driver	5.04	2.07

Conductor	5.00	2.98
T.A. Staff	7.30	4.79
Others	8.75	3.86
Total	6.75	3.27

IV. Alternative Income Sources

From the above findings, it is clear that a significant number of workers have lost their jobs during the pandemic. In addition, employees who were employed with lower salaries also had to accept significant losses in income. Therefore, many of them tried to find alternative sources of income for their livelihood. Figure 5.8 shows that 71% of workers were able to find alternative sources of income. However, 29% of employees were unable to secure alternative sources of income.

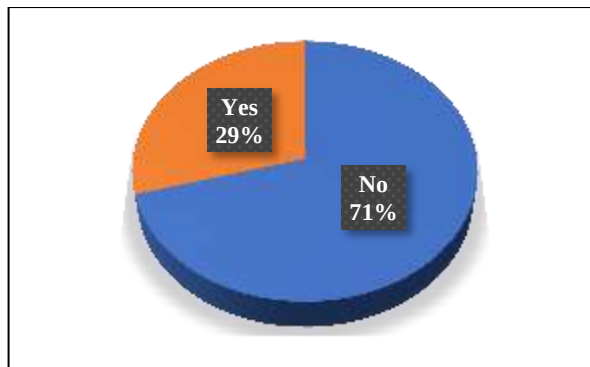


Figure 5.8 Alternative Income Sources of the Employees

V. Types of Alternative Income Sources

It was found that many workers have secured their alternative sources of income. The results from Figure 5.9 show that the majority (38.36%) of them were casual workers. Additionally, about 30.14% choose their alternative sources of income as agriculture and farming to support their family during the critical pandemic period. However, 27% of employees found jobs in the gig sector.

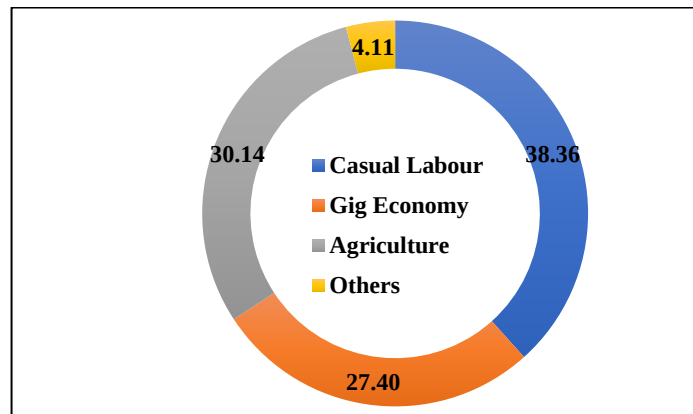


Figure 5.9 Types of Alternative Income Sources

5.2.5 Employment Instability and Occupational Vulnerability

The employees in the Darjeeling tourism industry have experienced a significant shock in their working lives on every side. In addition to job losses and salary cuts, employees faced significant challenges related to their occupational vulnerability. Therefore, to quantify the pandemic on their employment vulnerability, the Occupational Vulnerability Index (OVI) has been calculated. In addition, to calculate the OVI, six variables were selected that measure the degree of pandemic impact on that specific variable. The selected variables are service demand, job uncertainty, work-life balance, long-term job opportunity, job satisfaction, and relations with colleagues and owners. Finally, to test the reliability of the selected variables, Cronbach's alpha was employed. The results presented in Table 5.13 indicate high reliability ($\alpha = 0.89$) of the selected indicators.

Table 5.12 shows that the average OVI of the employees was 2.49, indicating a moderate to significant impact of the pandemic on occupational vulnerability. Additionally, the standard deviation of 0.85 highlights the more vulnerable pictures of several employees. Although the average occupational vulnerability of the employees was observed to be moderate to significant, there are significant differences between the selected variables and employee opinions. The significant pandemic impression was found in work-life balance (2.27), long-term job opportunity (2.23), and job satisfaction (2.29), as more than 60% of the employees rated the significant to severe impact of the pandemic. In contrast, though the

pandemic moderately impacted relations with colleagues and owners, many employees experienced significantly strained relationships. Similarly, several employees rated their service demand significantly down due to the pandemic.

Table 5.12 Statistical Overview of OVI Indicators

Variable	Mean	Std. Dev.	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Service Demand	2.30	1.11	4.02	27.71	25.70	23.29	19.28
Job Uncertainty	2.55	1.00	3.21	13.65	31.73	31.33	20.08
Work-life Balance	2.27	1.17	31.73	30.52	21.29	11.65	4.82
Long-term Job Opportunity	2.23	0.83	19.28	42.97	34.54	1.61	1.61
Job Satisfaction	2.29	1.17	30.12	34.94	15.66	14.86	4.42
Relations with colleagues and Owner	3.32	1.07	7.63	18.70	14.86	53.82	5.62
OVI	2.49	0.85					

Note- 1= Severe, 2= Significant, 3= Moderate, 4= Slight, 5= No Impact

Table 5.13 Reliability Test for OVI Indicators

Variable	Number of Items	Cronbach's Alpha (α)	Interpretation
OVI	6	0.89	High Reliability

The impact of the COVID-19 pandemic was significantly different among the different occupational groups represented by ANOVA in Table 5.14 ($F= 2.18$, $p < 0.05$). Further, the sum of the square value shows that there were significant differences in occupational vulnerability between (13.74) and within (167.33) the occupational groups. Bartlett's test for the equal variance ($\chi^2 = 14.06$, $p > 0.05$) again supported the ANOVA findings. Table 5.15 further reveals the occupational vulnerability picture of each occupation. The managers (2.92) observed the highest mean, indicating comparatively less vulnerability. However, the employees engaged in housekeeping occupations recorded the lowest mean (2.11), reflecting very high occupational vulnerability. Similarly, the occupational groups of waiters (2.27), kitchen assistants (2.33), cooks (2.43), and conductors (2.36) also recorded below the mean OVI, indicating their occupations were highly vulnerable. Although the

occupational groups of drivers (2.50), receptionists (2.64), and travel agency staff (2.57) were recorded above the mean OVI, the employment vulnerability of these employees was also significantly affected by the pandemic. In the meantime, the “Others” (2.85) occupational group experienced quite a lower vulnerability but the highest standard deviations (1.37), indicating that several employees in these occupational groups were observed to have high occupational vulnerability.

Table 5.14 ANOVA: OVI Across the Occupational Groups

Source	SS	df	MS	F	Prob > F
Between groups	13.74	9	1.53	2.18	0.024
Within groups	167.33	239	0.70		
Total	181.07	248	0.73		

Table 5.15 Variations in OVI Among the Occupational Groups

Occupation	Mean	Std. Dev.
Manager	2.92	0.94
Receptionist	2.64	0.94
Cook	2.43	0.93
Waiter	2.27	0.81
Housekeeping	2.11	0.80
Kitchen Assistant	2.33	0.80
Driver	2.50	0.68
Conductor	2.36	0.67
T.A. Staff	2.57	0.68
Others	2.85	1.37
Total	2.49	0.85

The ANOVA analysis in Table 5.16 indicates the significant differences in the occupational vulnerability of the employees during the pandemic across their employment statuses. The F statistics (44.55) and p-value (<0.01) indicate a high statistically significant relationship. The total variation in OHI (SS = 181.07) is partitioned into between-group variation (SS= 63.91) and within-group variation

(SS= 117.16), suggesting that a considerable portion of the variability in OVI is attributable to differences between employment statuses. Bartlett's test for equal variance ($\chi^2 = 9.91$, $p > 0.05$) suggested the rejection of the homogeneity of the variance across the occupational groups. The findings from Table 5.17 reveal that the employees who were employed in the same positions (3.91) experienced the highest OVI, indicating lower vulnerability during the pandemic. In contrast, permanently laid-off employees observed the worst impact of the pandemic on their OVI. In addition, the employees who were retained with reduced salaries and temporarily laid off have also recorded lower OVI, reflecting high occupational vulnerability.

Table 5.16 ANOVA: OVI Across the Employment Status During the Pandemic

Source	SS	df	MS	F	Prob > F
Between groups	63.91	3	21.30	44.55	0.00
Within groups	117.16	245	0.48		
Total	181.07	248	0.73		

Bartlett's test for equal variances: $\chi^2(3) = 7.91$ Prob> $\chi^2 = 0.09$

Table 5.17 Variations in OVI Among the Employment Status During the Pandemic

Employment Status	Mean	Std. Dev.
Employed in the Same Position	3.71	0.56
Employed with Reduced Salary	2.62	0.62
Laid off Temporarily	2.21	0.74
Laid off Permanently	1.97	0.81
Total	2.49	0.85

The employment vulnerability of employees varied significantly between different occupational groups and depending on their employment status during the pandemic. There were many factors that affected employees' occupational vulnerability. The multiple linear regression presented in Table 5.18 identified significant predictors of OVI. The results show that a percentage increase in monthly salary reduction leads to a significant reduction in employees' occupational vulnerability by -0.02. Likewise,

an increase in the monthly family income percentage and the general dependency ratio leads to a significant reduction in OVI. An interesting point is that an increase in the percentage of employed members in the tourism sector results in a decrease in OVI of -0.04, suggesting that families with higher-earning members in the tourism sector suffered from high vulnerability in their occupations during the pandemic. Additionally, a percentage reduction in per capita family income can reduce employees' OVI by -0.05. Again, a percentage reduction in earning members reduced occupational vulnerability by -0.01. In contrast, although improving educational attainment and work experience leads to improved OVI, the results are not statistically significant. In addition, the results show that the age of employees does not allow any conclusions to be drawn about occupational vulnerability. The model fit statistics in Table 5.19 highlight that the regression model is statistically significant ($p < 0.01$) and explains 54% of the variability of OVI.

Table 5.18 Multiple Linear Regression for Predictors of OVI

Occupational Health Index	Coef.	Std. Err.	t	p
Age	0.00	0.01	0.21	0.83
Educational qualifications	0.05	0.04	1.08	0.28
Work experience (years)	0.01	0.01	0.88	0.38
Salary Reduction (%)	-0.02	0.00	-2.43	0.02
Household Monthly Income Reduction (%)	-0.02	0.00	-9.38	0.00
General Dependency Ratio Increase	-0.02	0.00	-5.54	0.03
Family Dependency Ratio Increase	-0.03	0.00	-4.15	0.04
Earning Member in Tourism (%)	-0.04	0.00	-3.09	0.00
Earning Member Reduction (%)	-0.01	0.00	-1.28	0.20
Per Capita Household Income Reduction (%)	-0.05	0.00	-16.25	0.00
Constant	3.87	0.27	14.16	0.00

Table 5.19 Model Fit Statistics

Number of Observations	249
F (1, 247)	132.71
Prob > F	0.00
R-squared	0.55
Adjusted R-squared	0.54
Root MSE	0.57

5.2.6 Socioeconomic and Livelihood Challenges of the Employees

I. Impact of Pandemic on Family Composition and Dependency Dynamics

The COVID-19 pandemic has significantly affected the family composition of tourism employees in Darjeeling. The results of the paired t-test, shown in Table 5.20, indicate that the average number of earning members in the employees' families decreased from 1.73 to 1.41, with a mean difference of 0.31 ($t = 9.82$, $p < 0.01$). This suggests a reduction in income sources. The findings also revealed that the average proportion of earning members dropped from 40.18% during the pre-pandemic period to 33.39% during the pandemic, with a mean difference of 6.79 ($t = 9.36$, $p < 0.01$). In contrast, the average number of dependent members increased from 2.73 before the pandemic to 3.01 during the pandemic, resulting in a mean difference of -0.28 ($t = -8.00$, $p < 0.01$). Furthermore, the percentage of dependent members in each family rose from 59.35% in the pre-pandemic period to 65.49% during the pandemic, with a mean difference of -6.14 ($t = -7.60$, $p < 0.01$). The general dependency ratio also increased during the pandemic, from 195.21 to 251.81, showing a mean difference of -56.59 ($t = 8.50$, $p < 0.01$). Lastly, the family dependency ratio rose from 59.35% to 65.50%, indicating a change of -6.15 ($t = -7.60$, $p < 0.01$).

Table 5.20 Paired t-test: Pandemic Impact on the Family Compositions of the Employees

Variable	Mean (Pre- pandemic)	Mean (During Pandemic)	Mean Difference	t-value	p-value
Earning Member	1.73	1.42	0.31	9.82	0.00
Earning Member (%)	40.18	33.39	6.79	9.36	0.00
Dependent Member	2.73	3.01	-0.28	-8.00	0.00
Dependent Member (%)	59.35	65.49	-6.14	-7.60	0.00
General Dependency Ratio	195.21	251.81	-56.59	-8.50	0.00
Family Dependency Ratio	59.35	65.50	-6.15	-7.60	0.00

The findings from Table 5.21 and Table 5.22 depicted the variations of family compositions and dependency dynamics of the employees across the different occupational groups' pre-pandemic and during pandemic periods. The results indicate the steepest decline in earning members was observed by the occupational group of kitchen assistants (0.50), dropping from 1.79 to 1.28, which recorded a 12.62% reduction. Additionally, the employees working as waiters also saw a significant decline in their earning members (0.44) and their percentages (10.30%). On the other hand, the Divers (0.13, 2.25%), travel agency staff (0.17, 3.16%), managers (0.19, 3.63%), and cooks (0.26, 6.32%) recorded quite low changes in household earning members and their percentages.

It is also found that the kitchen assistants experienced the highest increase in dependent members, with a change of 0.43, bringing their percentage from 52.38% to 63.81%. Their absolute increase was from 2.21 to 2.64. Similarly, the "Others" category saw a significant rise in dependent members, increasing by 0.56 and a percentage increase of 31.48%. In contrast, the occupational groups of managers (0.09, 2.53%), drivers (0.13, 4.04%), and travel agency staff (0.17, 7.39%) experienced the lowest increases.

The analysis revealed that the general dependency ratio of the employees significantly increased across various occupational groups, with notable variations. Although the overall dependency ratio for all groups was considerably higher during the pandemic, certain groups recorded particularly high ratios: travel agency staff (288.41), conductors (284.09), and drivers (281.25). Conversely, cooks (194.94), waiters (217.95), and managers (223.96) experienced lower general dependency ratios. Additionally, it was found that the general dependency ratio increased significantly due to the pandemic across all occupational groups. The housekeeping (90.15), conductors (88.64), and kitchen assistants (80.95) showed the most significant changes from the pre-pandemic to the pandemic periods. On the other hand, managers (26.56), drivers (28.33), travel agency staff (30.43), and cooks (45.61) demonstrated lower changes in their general dependency ratios.

The analysis further highlighted that about 66% of family members depended on 34% of the workforce during the pandemic, with a relatively equal distribution across all occupational groups. Compared to the pre-pandemic period, the family dependency ratio increased by 65% during the pandemic, with kitchen assistants (11.43) showing the highest changes. In contrast, managers (1.34) experienced the lowest changes, while the other occupational groups had mean changes close to each other.

Table 5.21 Family Composition and Dependency Dynamics Across the Occupational Groups

Occupation	Earning Member		Earning Member (%)		Dependent Member	
	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic
Manager	1.88	1.69	40.46	36.83	2.84	2.94
Receptionist	1.76	1.41	41.67	33.39	2.55	2.83
Cook	1.79	1.53	47.19	40.88	2.21	2.47
Waiter	1.87	1.44	46.44	36.14	2.31	2.72
Housekeeping	1.68	1.27	42.50	33.14	2.55	2.95
Kitchen Assistant	1.79	1.29	44.76	32.14	2.21	2.64
Driver	1.43	1.30	31.81	29.46	3.15	3.28
Conductor	1.82	1.41	37.35	30.08	3.09	3.50
T.A. Staff	1.57	1.39	33.56	30.40	3.17	3.35

Others	1.89	1.33	40.74	29.26	3.11	3.67
Total	1.73	1.42	40.18	33.39	2.73	3.01

Occupation	Dependent Member (%)		General Dependency Ratio		Family Dependency Ratio	
	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic
Manager	58.20	59.53	197.40	223.96	58.20	59.53
Receptionist	58.33	64.89	185.06	242.53	58.33	64.89
Cook	52.81	59.12	149.12	194.74	52.81	59.12
Waiter	52.71	62.50	143.16	217.95	52.71	62.50
Housekeeping	57.50	66.86	182.58	272.73	57.50	66.86
Kitchen Assistant	52.38	63.81	147.62	228.57	52.38	63.81
Driver	68.19	70.54	252.92	281.25	68.19	70.54
Conductor	62.65	69.92	195.45	284.09	62.65	69.92
T.A. Staff	66.44	69.60	257.97	288.41	66.44	69.60
Others	59.26	70.74	230.56	329.63	59.26	70.74
Total	59.35	65.50	195.21	251.81	59.35	65.50

Note- Table 5.21 continued

Table 5.22 Changes in Family Composition and Dependency Dynamics Across Occupational Groups During the Pandemic

Occupation	Earning Member	Earning Member (%)	Dependent Member	Dependent Member (%)	General Dependency Ratio	Family Dependency Ratio
Manager	0.19	3.63	0.09	2.53	26.56	1.34
Receptionist	0.34	8.28	0.28	14.88	57.47	6.55
Cook	0.26	6.32	0.26	12.25	45.61	6.32
Waiter	0.44	10.30	0.41	23.15	74.79	9.79
Housekeeping	0.41	9.36	0.41	21.59	90.15	9.36
Kitchen Assistant	0.50	12.62	0.43	32.74	80.95	11.43
Driver	0.13	2.35	0.13	4.04	28.33	2.35
Conductor	0.41	7.27	0.41	12.50	88.64	7.27
T.A. Staff	0.17	3.16	0.17	7.39	30.43	3.16
Others	0.56	11.48	0.56	31.48	99.07	11.48
Total	0.31	6.79	0.28	13.92	56.59	6.15

The impact of the COVID-19 pandemic on family composition and dependency dynamics, along with the changes observed from the pre-pandemic period to during the pandemic, is summarized in Tables 4.23 and 4.24. The findings reveal that employees who were permanently laid off during the pandemic reported the lowest number of earnings members (1.18) and the highest changes in dependency (0.52). In contrast, employees who remained in the same position had the highest number of earning members (1.50, 0.18) and the lowest changes, while those whose salaries were reduced reported slightly higher earning members (1.51, 0.25) with low changes as well. Additionally, temporarily laid-off employees (1.44, 0.27) experienced a lower number of dependent members in their families and a significant increase in dependent members during the pandemic. Permanently laid-off employees also had the lowest proportion of dependent members (29.22) during the pandemic, alongside the highest changes in this regard (11.86). Conversely, employees retained in the same position recorded the highest proportion of earning members (36.46), with the lowest changes (3.13) from pre-pandemic to pandemic periods.

Furthermore, the findings suggest that the pandemic led to a significant increase in the number of dependent members across the board. The most notable rise was observed among permanently laid-off employees (3.11, 0.52), followed by temporarily laid-off employees (3.03, 0.24). In contrast, employees who remained in the same position reported the lowest numbers of dependent members and changes (2.93, 0.11), followed closely by those with reduced salaries (2.96, 0.23). It was also noted that permanently laid-off employees had 70% dependent members in their families, marking an increase of 28.28% during the pandemic compared to pre-pandemic periods. On the other hand, employees who retained their positions recorded comparatively lower proportions of dependent family members (62.11) during the pandemic, with a modest change percentage of 3.70.

Overall, the general dependency ratio of employees in the Darjeeling tourism sector has risen significantly due to the pandemic, with variations depending on employment status. Employees who were permanently laid off observed the highest dependency ratio (291.96), while those retained in the same position had a lower

ratio (230.95). Changes in the general dependency ratio from pre-pandemic to during the pandemic were also most notable among permanently laid-off employees (110.42), followed by temporarily laid-off employees (54.10). Conversely, employees retained in the same position or those with salary reductions experienced the lowest changes in their dependency ratios (23.81 and 37.58, respectively).

In summary, factors such as salary reductions, job losses (both temporary and permanent), and the loss of jobs among family members contributed to an increased household dependency ratio among Darjeeling tourism employees. The findings indicate that employees who lost their jobs permanently had the highest household dependency ratio (70.07), accompanied by the most significant change (11.86), while employees retained in the same position were the least affected during the pandemic (62.11, 1.70).

Table 5.23 Family Composition and Dependency Dynamics by Employment Status

Employment Status		Employed (Same Position)	Employed (Reduced Salary)	Laid off (Temporary)	Laid off (Permanent)	Total
Earning Member	Pre-pandemic	1.68	1.76	1.71	1.70	1.73
	During Pandemic	1.50	1.51	1.44	1.18	1.42
Earning Member (%)	Pre-pandemic	39.58	41.28	37.87	41.08	40.18
	During Pandemic	36.46	35.26	32.71	29.22	33.39
Dependent Member	Pre-pandemic	2.82	2.74	2.79	2.59	2.73
	During Pandemic	2.93	2.96	3.03	3.11	3.01
Dependent Member (%)	Pre-pandemic	60.42	58.72	60.92	58.21	59.35
	During Pandemic	62.11	63.92	65.50	70.07	65.50
General Dependency Ratio	Pre-pandemic	207.14	199.51	195.11	181.55	195.21
	During Pandemic	230.95	237.09	249.21	291.96	251.81
Family Dependency Ratio	Pre-pandemic	60.42	58.72	60.92	58.21	59.35
	During Pandemic	62.11	63.92	65.50	70.07	65.50

Table 5.24 Changes in Family Composition and Dependency Dynamics Across Employment Status

Employment Status	Earning Member	Earning Member (%)	Dependent Member	Dependent Member (%)	General Dependency Ratio	Family Dependency Ratio
Employed (Same Position)	0.18	3.13	0.11	3.70	23.81	1.70
Employed (Reduced Salary)	0.25	6.01	0.23	10.81	37.58	5.20
Laid off (Temporary)	0.27	5.16	0.24	10.37	54.10	4.58
Laid off (Permanent)	0.52	11.86	0.52	28.24	110.42	11.86
Total	0.31	6.79	0.28	13.92	56.59	6.15

II. Impact of the Pandemic on Economic Stability

The tourism industry in Darjeeling was severely impacted by the pandemic, affecting financial stability and economic viability. A paired t-test, presented in Table 5.25, illustrates the extent of this impact, particularly on the financial stability of tourism employees in Darjeeling. The results indicate that the average monthly salary for employees dropped from ₹14,281 to ₹5,903, representing a mean difference of ₹8,377 ($t = 18.38$, $p < 0.01$). Additionally, the pandemic significantly reduced household monthly income, which fell from ₹24,000 in the pre-pandemic period to ₹12,763 during the pandemic, indicating a loss of ₹11,236 ($t = 24.89$, $p < 0.01$). Furthermore, the per capita household income of employees decreased from ₹5,549 to ₹2,920 during this time, with a mean difference of ₹2,628 ($t = 24.59$, $p < 0.01$).

Table 5.25 Paired t-test: Impact of the Pandemic on the Economic Stability

Variable	Mean (Pre-pandemic)	Mean (During Pandemic)	Mean Difference	t-value	p-value
Salary/Month	14281.12	5903.61	8377.51	18.38	0.00
Household Monthly Earnings	24000.00	12763.05	11236.95	24.89	0.00
Per Capita Household Monthly Income	5549.08	2920.22	2628.86	24.59	0.00

The results from the study indicate that the COVID-19 pandemic has significantly diminished the economic stability of tourism employees in Darjeeling. Tables 4.26 and 4.27 illustrate the variations and changes in economic stability across different occupational groups. The average monthly salary during the pandemic was approximately ₹5,903 for most occupational groups, except managers, whose average salary was ₹15,093. Kitchen assistants (₹1,214), housekeeping staff (₹1,250), and waiters (₹3,730) experienced extremely low monthly salaries during the pandemic, which were also substantially lower compared to their pre-pandemic earnings. Furthermore, despite their already low salaries, kitchen assistants (79.5%) and housekeeping staff (84.49%) faced the largest percentage reductions. Other groups, including drivers (74.69%), conductors (69.89%), and cooks (68.42%), also saw significant decreases in their monthly salary percentages, all exceeding the overall mean. In contrast, managers experienced the smallest reduction in their monthly salaries at 43.27%.

The findings also reveal that the household monthly income of these employees dropped by more than ₹12,000, representing a 51.67% decline compared to pre-pandemic income levels. Occupational groups such as housekeeping (₹6,818), conductors (₹8,318), waiters (₹9,243), drivers (₹10,650), kitchen assistants (₹11,214), and receptionists (₹11,965) recorded low household monthly incomes during the pandemic. However, managers (₹25,343), cooks (₹14,000), and travel agency staff (₹13,913) maintained incomes above the mean value. The highest percentage reductions in household monthly income were reported by conductors (62.95%), housekeeping staff (61.99%), and drivers (57.85%). In contrast, managers (39.76%), travel agency staff (44.43%), and receptionists (45.45%) experienced reductions below the average.

Additionally, the per capita household monthly income also saw significant declines, both in absolute terms and in percentage. The highest absolute reduction was recorded by drivers (₹3,114), followed by cooks (₹2,863) and conductors (₹2,826). Kitchen assistants experienced the lowest absolute reduction at ₹1,754. The percentage reductions in per capita household monthly income correlated closely

with the reductions seen in household monthly income across all occupational groups.

Table 5.26 Economic Instability of the Employees Across the Occupational Groups

Occupation	Salary/Month		Household Monthly Income		Per Capita Household Monthly Income	
	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic
Manager	22875.00	15093.75	37468.75	25343.75	7885.79	5383.04
Receptionist	11827.59	5568.97	22379.31	11965.52	5437.36	2783.91
Cook	13789.47	5131.58	24526.32	14000.00	6657.02	3793.86
Waiter	8923.08	3730.77	19487.18	9243.59	4761.45	2192.25
Housekeeping	6636.36	1250.00	17000.00	6818.18	4308.71	1766.67
Kitchen Assistant	5928.57	1214.29	18214.29	11214.29	4409.52	2654.76
Driver	19450.00	5075.00	24450.00	10650.00	5529.17	2415.00
Conductor	14136.36	3772.73	21909.09	8318.18	4556.82	1730.30
T.A. Staff	18217.39	7130.44	24782.61	13913.04	5488.61	2994.10
Others	14888.89	9777.78	27000.00	17500.00	6148.15	4111.11
Total	14281.12	5903.61	24000.00	12763.05	5549.08	2920.22

Table 5.27 Changes in the Economic Instability of the Employees Across the Occupational Groups

Occupation	Salary/Month	Salary (%)	Household Monthly Income	Household Monthly Income (%)	Per Capita Household Monthly Income	Per Capita Household Monthly Income (%)
Manager	7781.25	43.27	12125.00	39.76	2502.75	39.76
Receptionist	6258.62	59.39	10413.79	46.45	2653.45	46.45
Cook	8657.90	68.42	10526.32	51.11	2863.16	51.11
Waiter	5192.31	59.68	10243.59	55.74	2569.20	55.74
Housekeeping	5386.36	84.49	10181.82	61.99	2542.05	61.99
Kitchen Assistant	4714.29	79.05	7000.00	46.41	1754.76	46.41
Driver	14375.00	74.67	13800.00	57.86	3114.17	57.86
Conductor	10363.64	69.89	13590.91	62.95	2826.52	62.95
T.A. Staff	11086.96	58.63	10869.57	44.43	2494.51	44.43
Others	5111.11	48.15	9500.00	40.71	2037.04	40.71
Total	8377.51	64.28	11236.95	51.67	2628.86	51.67

The financial stability of employees during the pandemic varied significantly based on their employment status. The findings presented in Tables 4.28 and 4.29 reveal a detailed view of employees' economic stability according to their employment status. The results indicate considerable variation in all financial aspects. Employees who were permanently laid off experienced drastic reductions in their monthly salaries, with a decrease of ₹10,910, reflecting a 98.04% reduction. Similarly, those who were temporarily laid off saw an even more severe decline, with their monthly salaries dropping to ₹14,809, which is a 100% reduction. In contrast, employees who retained their positions during the pandemic reported a minimal loss of ₹357, amounting to less than a 1% reduction. Additionally, employees with reduced salaries faced an average loss of ₹5,215, representing a 41.14% reduction in their monthly earnings.

The highest household monthly income was recorded by employees who remained in the same positions both before and during the pandemic, with incomes of ₹36,250 pre-pandemic and ₹32,214 during the pandemic. This group also experienced the lowest average loss of ₹4,035, corresponding to an 8.59% decrease. Conversely, permanently laid-off employees had a household monthly income of only ₹6,991, resulting in the highest average loss of ₹14,437, or 70.36%. Temporarily laid-off employees also faced significant losses, recording an average reduction of ₹14,285, which accounts for a 63.58% decrease. Employees with reduced salaries saw their household income decline by ₹9,573, equating to a 45.87% reduction.

As a result of the decreases in monthly salaries and household earnings, per capita household income also suffered notable declines. The analysis shows that the most considerable loss in per capita household monthly earnings was experienced by permanently laid-off employees (₹3,503, or 70.36%) and temporarily laid-off employees (₹3,239, or 63.58%). In contrast, employees who remained in their positions reported the lowest loss in per capita household income (₹708, or 8.59%). Meanwhile, employees with reduced salaries experienced significant reductions as well, with a loss of ₹2,298, reflecting a 45.87% decrease.

Table 5.28 Economic Instability of the Employees Across Employment Status

Employment Status	Salary		Household Monthly Income		Per Capita Household Income	
	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic	Pre-pandemic	During Pandemic
Employed (Same Position)	24071.43	23714.29	36250.00	32214.29	8110.12	7401.19
Employed (Reduced Salary)	13049.02	7833.33	22480.39	12906.86	5244.01	2945.50
Laid off (Temporary)	14809.52	0.00	23301.59	9015.87	5254.99	2015.61
Laid off (Permanent)	11035.71	125.00	21428.57	6991.07	5155.08	1651.40
Total	14281.12	5903.61	24000.00	12763.05	5549.08	2920.22

Table 5.29 Changes in the Economic Instability of the Employees Across Employment Status

Employment Status	Salary	Salary (%)	Household Monthly Income	Household Monthly Income (%)	Per Capita Household Income	Per Capita Household Income (%)
Employed (Same Position)	357.14	0.71	4035.71	8.59	708.93	8.59
Employed (Reduced Salary)	5215.69	41.14	9573.53	45.87	2298.52	45.87
Laid off (Temporary)	14809.52	100.00	14285.71	63.58	3239.38	63.58
Laid off (Permanent)	10910.71	98.04	14437.50	70.36	3503.68	70.36
Total	8377.51	64.28	11236.95	51.67	2628.86	51.67

III. Socioeconomic Resilience

Previous findings have shown that the COVID-19 pandemic has significantly impacted the family structure and economic stability of tourism employees in Darjeeling. This includes a notable reduction in the number of earning family members, an increase in dependent family members, and a rise in the general and family dependency ratios. Additionally, there has been a marked decrease in both personal and family income. The effects of the pandemic were also observed in various socioeconomic dynamics that cannot be quantified with typical numerical values. To assess the pandemic's impact on these non-numerical socioeconomic indicators, the Likert scale was employed. Furthermore, the Socioeconomic Resilience Index (SRI) was calculated to express the combined effects of the

pandemic on the socioeconomic challenges faced by the employees. The variables considered included income, financial obligations, food and nutrition, children's education, family relationships, meeting basic family needs, future savings, future optimism, and mental health. To assess the reliability of these indicators, Cronbach's Alpha test was conducted, yielding a reliability score of $\alpha = 0.94$, as shown in Table 5.31.

The results presented in Table 5.30 indicate that the impact of the pandemic on the socio-economic resilience of employees was moderate to significant, with an average score of 2.59. The standard deviation of 0.98 suggests that many employees are vulnerable, while others have fared somewhat better. The impact on future savings was the lowest, with about two-thirds (69.48%) of employees experiencing a severe impact. The significance of financial obligations was also observed, with a mean score of 2.18; approximately 70% of employees rated the impact as severe (24.50%) to significant (42.17%).

A significant impact on income was recorded, with an average score of 2.31. Although the impact on the basic needs of the family showed a moderate score of 2.86, about 45% of employees reported struggling to meet these needs. A considerable number of employees faced significant (32.93%) to severe (8.43%) challenges regarding their children's education, even though the average impact on education was moderate (2.89). Additionally, moderate to significant effects were found on future optimism (2.64) and mental health (2.35). In contrast, the pandemic has not significantly harmed family relationships, although about 17% of employees reported a noticeable (6.83%) to severe (10.44%) impact in this area.

Table 5.30 Descriptive Statistics of the Socioeconomic Resilience Index Indicators

Variable	Mean	Std. Dev.	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Income	2.31	1.25	28.51	40.16	14.86	5.22	11.24
Financial Obligations	2.18	0.91	24.50	42.17	23.69	3.61	6.02
Food and Nutrition	2.95	1.32	16.06	24.10	25.30	17.67	16.87
Children Education	2.89	1.09	8.43	32.93	26.91	24.50	7.23

Family Relation	3.57	1.03	6.83	10.44	11.24	61.45	10.04
Family Basic Needs	2.86	1.35	18.47	26.91	21.69	16.47	16.47
Future Savings	1.57	1.02	69.48	15.26	6.83	6.02	2.41
Future Optimism	2.64	1.07	18.47	26.10	20.08	8.03	27.31
Mental Health	2.35	1.39	37.75	23.69	16.87	8.84	12.85
SRI	2.59	0.98					

Note- 1= Severe, 2= Significant, 3= Moderate, 4= Slight, 5= No Impact

Table 5.31 Reliability Test for the Indicators of the Socioeconomic Resilience Index

Variable	Number of Items	Cronbach's Alpha (α)	Interpretation
SRI	9	0.94	High Reliability

The ANOVA analysis presented in Table 5.32 reveals significant differences in the Socioeconomic Resilience Index (SRI) among various occupational groups. The F statistic of 2.67 and a p-value of less than 0.05 support the validity of the ANOVA results. Additionally, the sum of squares indicates substantial variation both within and between the groups. Bartlett's test for equal variances ($\chi^2 = 12.24$, $p > 0.05$) further confirms the ANOVA results, satisfying the assumption of homogeneity of variances. Table 5.33 details the variations in employees' socioeconomic resilience during the pandemic. The findings indicate that managers had the highest resilience (3.09) compared to other occupational groups. In contrast, the housekeeping group recorded the lowest SRI (2.07), showing a significant impact from the pandemic. Similarly, the socioeconomic resilience of waiters (2.36), kitchen assistants (2.39), and conductors (2.38) was also notably low. Moderate to significant impacts on socioeconomic resilience were also observed among travel agency staff (2.86), receptionists (2.73), drivers (2.59), and cooks (2.47). However, the "Others" category exhibited better resilience (3.06), indicating a moderate to slight impact from the pandemic. The high standard deviation in the means across all groups highlights the vulnerable socioeconomic conditions faced by many employees.

Table 5.32 ANOVA: SRI Across the Occupational Groups

Source	SS	df	MS	F	Prob > F
Between groups	22.09	9	2.45		
Within groups	219.94	239	0.92	2.67	0.01
Total	242.03	248	0.98		

Table 5.33 Variations in SRI Across the Occupational Groups

Occupation	Mean	Std. Dev.
Manager	3.09	1.06
Receptionist	2.73	1.01
Cook	2.47	1.05
Waiter	2.36	0.89
Housekeeping	2.07	0.84
Kitchen Assistant	2.39	1.10
Driver	2.59	0.83
Conductor	2.38	0.74
T.A Staff	2.86	0.90
Others	3.06	1.57
Total	2.59	0.99

The socioeconomic resilience index (SRI) varied significantly based on employees' employment status during the pandemic, as demonstrated by the ANOVA analysis presented in Table 5.34. The F statistic of 46.45 and a p-value of less than 0.01 indicate statistically significant results. Additionally, Bartlett's test for equal variances ($\chi^2 = 11.45$, $p > 0.05$) further supports the findings of the ANOVA analysis. As shown in Table 5.35, employees who permanently lost their jobs during the pandemic had an SRI of 2.01, indicating they faced severe challenges in their socioeconomic conditions. In contrast, those who remained employed in the same position recorded the highest SRI at 4.08, suggesting a relatively minor impact of the pandemic on their socioeconomic resilience. Furthermore, employees who were temporarily laid off (2.30) and employed with reduced salaries (2.68) also felt significant impacts on their socioeconomic resilience.

Table 5.34 ANOVA: SRI Across the Employment Status of the Employees

Source	SS	df	MS	F	Prob > F
Between groups	87.75	3	29.25	46.45	0.00
Within groups	154.28	245	0.63		
Total	242.03	248	0.98		

Table 5.35 Variations in SRI Across the Employment Status of the Employees

Employment Status	Mean	Std. Dev.
Employed (Same Position)	4.08	0.63
Employed (Reduced Salary)	2.68	0.69
Laid off (Temporary)	2.30	0.83
Laid off (Permanent)	2.01	0.97
Total	2.59	0.99

The pandemic significantly impacted the socioeconomic resilience of tourism employees in Darjeeling, with varying degrees of effect depending on occupational groups and employment status during this period. Several factors contributed to the socioeconomic resilience of these employees. To identify the key predictors of the socioeconomic resilience index (SRI), a multiple linear regression model was employed (Table 5.36). The results indicate that for each unit increase in educational qualifications, the SRI increased by 0.10 ($p < 0.05$), suggesting that employees with higher education levels exhibited better resilience in their socioeconomic status during the pandemic. In contrast, a 1% increase in monthly salary reduction resulted in a decrease in the SRI by 0.01, with a p-value of ≤ 0.05 confirming the validity of this predictor. Similarly, a 1% reduction in household monthly income significantly reduced the SRI by 0.02 ($p < 0.01$). Moreover, for each additional dependent family member, the SRI decreased by 0.16. A unit rise in the family dependency ratio also resulted in a decrease in the SRI by 0.11. Furthermore, a reduction in the number of earning members in a household significantly lowered the SRI by 0.21. Interestingly, households with a higher proportion of earning members in tourism faced poorer socioeconomic resilience; specifically, a 1%

increase in tourism earning members led to a reduction in SRI by 0.01. In addition, a 1% decrease in household per capita monthly income resulted in a decline in SRI by 0.03. The model further indicates that the general dependency ratio, age, and work experience of employees do not significantly predict the SRI, as the p-values for these predictors exceed the acceptable threshold of < 0.05 . The model fit statistics presented in Table 5.37 reveal that the model is statistically significant ($p < 0.01$) and explains 65% of the variance in SRI.

Table 5.36 Multiple Linear Regression for the Predictors of SRI

SRI	Coef.	Std. Err.	t	p
Age	0.00	0.01	0.36	0.72
Educational qualifications	0.10	0.04	2.24	0.03
Work experience	0.01	0.01	1.25	0.21
Salary Reduction (%)	-0.01	0.00	-1.04	0.05
Household Monthly Income Reduction (%)	-0.02	0.00	-12.60	0.00
Dependent Member Increase	-0.16	0.31	-0.53	0.04
General Dependency Ratio Increase	0.00	0.00	-1.24	0.216
Family Dependency Ratio Increase	-0.11	0.01	0.19	0.02
Household Earning Member Reduction	-0.21	0.22	-0.96	0.04
Earning Member in Tourism (%)	-0.01	0.00	-4.14	0.00
Household Per Capita Income Reduction (%)	-0.03	0.00	-14.55	0.00
Constant	4.16	0.27	15.15	0.00

Table 5.37 Model Fit Statistics

Number of Observations	249
F (10, 238)	132.71
Prob > F	0.00
R-squared	0.66
Adjusted R-squared	0.65
Root MSE	0.59

5.3 Discussion

The Novel Coronavirus Disease 2019 has imposed unpredictable challenges on all types of businesses worldwide. As the tourism and hospitality industry is entirely dependent on the movement of people, this industry faces these challenges first. Due to the worldwide lockdowns and travel restrictions, almost all of the tourism-related businesses were forced to shut down completely or partially for a long time. As a result, stakeholders were compelled to lay off their employees temporarily and permanently. Additionally, thousands of tourism employees were retained with significant pay cuts in Darjeeling. Therefore, pay cuts and job loss not only affected their economic stability but also profoundly affected their social well-being and mental health. The Darjeeling district of West Bengal has provided thousands of job opportunities for the local people. With the growth of tourism in Darjeeling, the hospitality and transport sectors in the region have also flourished profoundly. Therefore, many local people found jobs in these sectors as employees. But after the announcement of the lockdown and travel restrictions, thousands of people lost their jobs and suffered pay cuts. Resulting in severe to significant financial instability, and severe socioeconomic and livelihood challenges for the employees.

The demographic profile of the employees suggested that the tourism industry in Darjeeling is dominated by middle-aged workers, although young and older workers were also found. Therefore, the age distribution of respondents suggests that there were several newcomers and experienced tourism employees. The proportion of female workers in the global tourism industry has increased rapidly and exceeds the proportion of male workers (UN WOMEN, 2007; WTO, 2019). Likewise, the number of female workers in the tourism sector in India has increased significantly (Rizal & R, 2013). However, this depends on the region, cultural norms, accessibility to employment, etc. Tourism in Darjeeling provided numerous employment opportunities in the transport and hospitality sectors for both men and women. Therefore, there was a significant participation of both genders, although the male workforce was found to be dominant, the female workforce was also notable. Furthermore, the study shows that the educational qualifications of the majority of workers were at the high school level, and very few workers in the tourism sector

were highly qualified. Furthermore, a significant number of workers were school dropouts and illiterates. In general, the tourism industry in Darjeeling is dominated by small and medium enterprises. Therefore, the employees employed in these businesses do not have to be well-educated people; rather, they need skills and experience. The results of the study show that the majority of employees are married, as most of them were middle-aged, indicating the responsibility of family.

In addition, the family structure of the employees showed that the average household size corresponds to the national average of 4.44. The “three Ts” – tea, timber, and tourism - are the main sources of income in Darjeeling (Bhutia, 2014, 2015). Each household, therefore, had 1.73 working members, 90% of whom worked in tourism. Furthermore, significantly higher dependent household members increased the general dependency ratio and the family dependency ratio. The results show that about 60% of family members are dependents, and each of the earning members has to support almost two dependents. “Darjeeling” is not a new travel destination; rather, it is a destination that gained popularity during the British era. With the growth of tourism, different types of tourism businesses have been developed. The tourism industry in Darjeeling provided numerous employment opportunities directly and indirectly to the locals. Workers were found to work across different sectors, but the most prominent places of work are the hospitality and transport sectors. Therefore, most tourism workers are employed in these two sectors and have an average work experience of more than 10 years, indicating experienced professionals. The study found that workers are generally employed in hotels, homestays, restaurants, and travel agencies, although government lodges and others (local handicrafts, beverages, clothing shops, fruit shops, etc.) were found, but in smaller numbers. In the hospitality sector, the most common occupational groups were managers, receptionists, cooks, waiters, kitchen assistants, and housekeepers. The transport sector is dominated by the occupational groups of drivers, conductors, and staff of the travel agency.

Although the industry provided multiple employment opportunities to local people, the average monthly salary of workers was only ₹14,281 before the onset of the pandemic. In addition, significant wage differences were found between different

professional groups. The occupational groups of waiters, housekeepers, and kitchen assistants recorded the lowest values due to the high level of female involvement in these professions. In general, there is a large pay gap between men and women, and higher wages tend to skew towards men. On the other hand, the average monthly salary of managerial occupational groups was the highest due to their higher workload, educational qualifications, skills, and expertise. The monthly salary of employees in the transport sector is now considered quite reasonable. The crucial role, long working hours, skill requirements, etc., are the main reasons for their reasonable salary.

Household incomes typically depend on the number of earning members in the family, types of employment, salary patterns, etc. According to the findings of the study, most of the earning members in the employees' families were engaged in the tourism sector. The average monthly salary of these employees was not very high, resulting in an average household income of only ₹24,000 per month. Significant variations in household monthly income were observed among different occupational groups. Managers recorded the highest average household income per month, which was attributed to their higher salaries and a slightly higher number of earning family members. In contrast, the very low monthly salaries of waiters, housekeeping staff, and kitchen assistants led to reduced household incomes for these groups. Most individuals in these lower-paying professions were female, and women generally earn less than men. Conversely, cooks, drivers, receptionists, travel agency staff, and conductors earned relatively high salaries, which contributed to an increase in their monthly household incomes.

The study findings further highlight significant variations in the per capita monthly income of households across different occupational groups. The per capita household monthly income was influenced by several factors, including the total household income, family size, earnings, and the number of dependent family members. Households with more dependents tended to have a lower per capita income. The average per capita monthly income for households was only ₹5,549. Managers recorded the highest per capita household income, reflecting their higher overall monthly earnings. In contrast, occupational groups such as drivers, conductors, and

travel agency staff reported below-average per capita incomes due to a larger number of dependents in their families. However, although the monthly salary and household income were quite high, the occupational groups of drivers, conductors, and travel agency staff recorded below-average household income per capita due to the higher number of dependents in their families.

Millions of tourism employees around the world have lost their jobs due to the COVID-19 pandemic (UNWTO, 2021). According to the Ministry of Tourism, Government of India, approximately 70% of the tourism workforce has been affected by job losses. A study focusing on Darjeeling indicated that around 50% of tourism employees were either temporarily or permanently laid off, while the other 50% retained their positions. However, the majority of those retained employees faced significant salary reductions, with more than 80% experiencing pay cuts. Only a small number were kept in their original roles. The prolonged closure of businesses, a sharp decline in tourist arrivals, pandemic-related restrictions, and considerable economic losses for business stakeholders were major factors contributing to layoffs and salary reductions in Darjeeling. Furthermore, the employment status of employees varied significantly across different occupations. Companies typically aim to retain skilled and experienced workers; thus, occupational groups such as managers, cooks, and receptionists were primarily retained. Conversely, roles such as waiters, housekeeping staff, and kitchen assistants were often the first to be laid off, as these positions were more vulnerable to the impacts of the pandemic. Interestingly, the category labeled “Others” saw the highest retention rates, largely because many in this group were government employees or worked in sectors that were not solely dependent on tourism, thus having local clients as well.

The study findings indicated that employees who lost their jobs faced an average unemployment period of about seven months. Due to lockdowns and pandemic restrictions, many workplaces were closed for an extended time, making it difficult for individuals to find new jobs in their districts. It was observed that employees in the transport sector experienced comparatively shorter unemployment durations than those in the hospitality sector, which includes hotels, homestays, lodges, and restaurants. By late 2021 and early 2022, as pandemic restrictions began to relax,

there was a slight increase in movement. This resulted in a modest influx of local and domestic tourists, prompting some transport operators to reopen their businesses in compliance with government guidelines, partially. This is the primary reason for the shorter unemployment durations among transport employees, such as drivers, conductors, and travel agency staff. In contrast, the hospitality sector faced longer closure durations due to higher reopening costs, reduced demand, and a greater reliance on international and domestic tourists. Additionally, stricter health guidelines and protocols were enforced in the hospitality sector compared to the transport sector. The job losses, salary cuts, and extended unemployment periods posed significant challenges to the livelihoods of employees. As a result, many sought alternative sources of income during the critical pandemic period. However, the study found that only a small number succeeded in finding alternative income, which often consisted of low-wage jobs such as casual labour, small-scale agriculture, domestic work, etc.

The COVID-19 pandemic has significantly affected the employment status of many employees, leading to considerable economic instability characterized by salary cuts, job losses, and prolonged unemployment. The study's findings revealed that employees who faced substantial reductions in service demand experienced increased job uncertainty, disruptions in work-life balance, a decline in long-term job opportunities, decreased job satisfaction, and strained relationships with employers and colleagues. These factors significantly contributed to the occupational vulnerability of employees in Darjeeling. Government health regulations, travel restrictions, and economic uncertainty forced many stakeholders to reduce their workforce and implement salary cuts. Consequently, employees experienced not only significant reductions in service demand but also lower job satisfaction and uncertainty regarding their employment. Variations in occupational vulnerability were noted depending on the nature of these jobs and employment status during the pandemic. Occupational groups such as managers and receptionists demonstrated less vulnerability, as these roles were retained more frequently, and the associated monthly salaries were relatively high. In contrast, waiters, housekeeping staff, and kitchen assistants experienced higher rates of layoffs and lower salaries, making

them more vulnerable. A longer duration of unemployment, lack of stable salaries, and household economic instability were key factors contributing to lower OVI among these groups. Overall, it is evident that all occupations were impacted by the pandemic, with varying levels of vulnerability reported as severe, significant, or moderate across occupational groups. The study also highlighted that employees who were laid off, either temporarily or permanently, reported very low OVI, indicating a severe to significant impact. Furthermore, only a few employees managed to secure alternative income sources, typically low-wage jobs. As a result, many of those who lost their jobs had no income, and numerous employees reported job loss among their family members as well. These circumstances led to some of the lowest recorded OVI figures. Conversely, employees who remained in their positions enjoyed better occupational health indicators due to more stable economic conditions. Employees who retained their jobs but faced salary reductions also reported lower OVI, despite the severity of their salary cuts, with about 80% experiencing reductions exceeding 60% of their original pay. Consequently, these extensive salary cuts resulted in significant financial instability for many employees. The findings also identified important predictors of OVI using a multiple regression model. Personal income reductions and household income decreases were found to significantly heighten occupational vulnerability. Additionally, job loss among employees and their family members led to increased household dependency ratios, further contributing to OVI. Interestingly, households with more earners in the tourism sector experienced lower OVI, as many tourism workers in Darjeeling faced layoffs or retained only minimal salaries. The regression analysis also indicated that factors such as age, work experience, and educational qualifications did not significantly influence workers' occupational vulnerability, suggesting little connection to employment status during the pandemic.

The unpredictable challenges in the hospitality and tourism sector caused by the pandemic have profoundly changed the socio-economic conditions and livelihoods of tourism workers worldwide. Because the tourism industry is labor-intensive and relies heavily on interpersonal communication, it is particularly vulnerable to the effects of the pandemic. In areas like Darjeeling, where tourism plays a significant

role in the local economy, workers in hotels, restaurants, homestays, and transportation faced unprecedented difficulties. Travel restrictions, lockdowns, and an abrupt drop in tourist flows led to tourism establishments in Darjeeling being completely closed. As a result, workers employed in these sectors have experienced significant job losses, reduced income, and increased economic insecurity.

The study results showed that the COVID-19 pandemic has significantly affected the family composition of tourism workers in Darjeeling. The average earnings members per household had dropped significantly from 1.73 to 1.14, highlighting the loss of income source due to layoffs and opportunity cuts in the tourism industry during the pandemic. The average share of earning family members fell from 40.18 percent before the pandemic to 33.39 percent during the pandemic, further supporting this decline. These declines suggest that families that rely on tourism income are facing increasing financial strain. In addition, an increased dependency burden on the remaining working members is also reflected in the increase in the proportion of dependent family members from 59.35% to 65.49% and the increase in the number of dependent family members per family from 2.73 to 3.01%. This change raises the possibility that families took on more dependents, such as unemployed family members, during the pandemic. These patterns are consistent with previous research showing that households dependent on tourism are more economically vulnerable in times of crisis (ILO, 2020). The increasing financial difficulties are reflected in the observed increase in family and general dependency rates. As fewer working members support an increasing number of dependents, higher dependency rates mean lower economic resilience. During the pandemic, these results are consistent with broader trends of economic instability observed in areas dependent on tourism (Behsudi, 2020).

Additionally, the results provide a more nuanced picture of how the COVID-19 pandemic has impacted the interdependence dynamics and family composition of different professional groups in the travel and tourism industry. Waiters and kitchen assistants saw the largest decline in earning members, suggesting that lower-level jobs in the industry were disproportionately affected. Kitchen helpers in particular have seen a 12.62% decline in their earning members, suggesting that these workers

have lost more jobs or seen their income fall. The vulnerability of low-income and less secure jobs during economic crises is highlighted by previous research consistent with this (ILO, 2020). Interestingly, occupational groups of managers and occupations such as drivers, travel agents, and cooks experienced relatively small drops in earnings. Due to specialized skills, increased demand for these positions in limited capacities, or the ability to adapt to remote or alternative work arrangements during the pandemic, this may indicate greater job security in these roles (Gössling et al., 2021).

The dependency dynamics illustrate the unequal burden on different occupational groups. In both absolute numbers and percentages, kitchen assistants experienced the largest increase in dependent members, suggesting that the higher dependency burden was a direct result of economic vulnerability. The “Others” category also saw a significant increase in dependent members, highlighting the far-reaching impact of economic instability on households that rely on irregular or less formal sources of income. On the other hand, groups such as managers and drivers saw only a small increase in dependent members due to more stable incomes or fewer dependent household members (Baum et al., 2020). Clear differences can be seen in the variation of the general dependency ratio between the professional groups. The most significant increases were in housekeeping, conductor, and kitchen assistants, suggesting that these groups are facing increased social and financial pressures. Conversely, managers, travel agency staff, and drivers recorded fewer differences in their dependency rates, suggesting greater resilience to the economic woes of the pandemic. This pattern is consistent with research showing that higher-income or higher-skill occupations typically have lower dependency rates during times of crisis (McKee & Stuckler, 2020). In addition, the family dependency ratio increased significantly for all occupational groups, with the largest change occurring in kitchen helpers (11.43). This shows the increased financial burden on families who rely on low-paying tourism jobs. The managers who experienced the least change were likely to benefit from stable incomes and smaller households. The need for targeted social protection programs to support disadvantaged professional groups in the travel and tourism sector is further supported by these findings (Sigala, 2020).

The COVID-19 pandemic's effects on the makeup of families and the dynamics of dependency among workers in Darjeeling's tourism industry highlight serious socioeconomic difficulties, especially for those who lost their jobs. According to the findings, employees who were laid off permanently suffered the most, having the fewest earning members and the largest increases in dependency ratios throughout the pandemic. These findings align with more general research on pandemic-related unemployment, which has emphasized how job losses disproportionately affect household stability and financial resilience (ILO, 2021; Zhang et al., 2022). Employees who were kept in their current roles fared better, reporting fewer changes in dependency dynamics and more earning members. These findings are consistent with earlier research indicating that maintaining employment during times of crisis reduces adverse economic effects at the household level by guaranteeing income stability (Baldwin & di Mauro, 2020). Employees with lower salaries also saw modest changes, indicating some financial stability despite income adjustments. In addition, unemployment has a cascading effect on family structures, as evidenced by the sharp rise in dependent members, especially among employees who have been laid off permanently and temporarily. Employees who were permanently laid off saw the largest increase in the dependency ratio of any employment category, rising by 11.86%. This pattern reflects findings from around the world, where job losses increased reliance on scarce household resources, frequently causing families to experience greater financial hardship (World Bank, 2021). The employees who were kept in their jobs showed the lowest dependency ratios and changes, which highlights how important stable employment is in protecting families from financial shocks. Furthermore, the pandemic caused a significant increase in the general dependency ratio among Darjeeling tourism workers, with permanently laid-off workers showing the highest ratio (291.96) and the biggest change (110.42). To a lesser degree, temporary layoffs also played a role in the rise in dependency. These results are consistent with research showing how vulnerable economies that rely on tourism are, where changes in employment have a direct effect on the well-being of households (Sigala, 2020). The mitigating effect of continuous employment on household dependency dynamics is highlighted by the comparatively lower ratios and changes among employees who had their salaries reduced or retained in the same position.

Study findings further illustrated the impact of the economic instability of the tourism workers in Darjeeling. The results demonstrate the extreme financial instability brought on by the COVID-19 pandemic that Darjeeling's tourism workers faced. Based on the paired t-test results, the average monthly salary of employees decreased by 58.7%, from ₹14,281 to ₹5,903. Due to the pandemic's unprecedented disruptions, this reduction emphasizes the vulnerability of livelihoods reliant on tourism, where income is directly linked to tourism activity (Baum & Hai, 2020). There was also a notable drop in household income, from ₹24,000 to ₹12,763 (46.8%). This decline highlights the increased financial burden on families who depend on tourism-related income, consistent with worldwide data showing that COVID-19 disproportionately affects households in areas where tourism is important (Nicola et al. 2020). According to comparable studies, the decline in per capita household income from ₹5,549 to ₹2,920 further suggests that the financial impact reached the individual level, worsening economic difficulties and limiting access to necessities (Sharifi & Khavarian-Garmsir, 2020). These drops draw attention to the structural flaws in Darjeeling's tourism industry, where a lack of diversification makes employees and their families extremely vulnerable to outside shocks. The findings also point to a wider socioeconomic impact, with decreased purchasing power probably having an impact on sectors like nutrition, healthcare, and education which are critical for long-term resilience (Ozili & Arun, 2020).

Furthermore, the study demonstrated how the employees' income stability was severely disrupted across all occupational groups. The COVID-19 pandemic caused a severe economic downturn in Darjeeling's tourism sector, with lower-tier occupations experiencing disproportionately large income reductions. The most notable pay cuts were made to housekeeping employees (84.49 percent) and kitchen assistants (79.5 percent), underscoring the vulnerability of jobs that depend on low-paying, customer-facing labor. These patterns align with research showing that low-wage and frontline tourism workers were most financially vulnerable during the pandemic as a result of the suspension of travel and service demand (Gössling et al., 2021; Maiti, 2023). On the other hand, because of their qualifications and the demands of their positions, managers' occupational groups saw a relatively smaller

pay reduction (43%). Additionally, prior research indicates that although managers did face pay cuts, their base pay offered a degree of financial security that lower-level workers could not match (Ilić et al., 2024). The household monthly income also affected disproportionately across the occupational groups with an average reduction of 51%. The findings reflect that the occupational groups of conductors, housekeeping, and drivers recorded quite higher reductions compared to the remaining groups due to their fewer earning household members and the high proportion of tourism-earning members in the family. Similar disparities can be seen in the reductions in per capita household income, with drivers (₹3,114) and cooks (₹2,863) suffering the largest reductions. Kitchen assistants and other low-income groups saw significant proportional declines despite experiencing smaller absolute reductions, highlighting the disproportionate impact on already economically vulnerable workforce segments (Yeh, 2021).

Furthermore, the results underscore the significant differences in financial security among workers according to their employment status throughout the COVID-19 pandemic. Monthly salary and household income reductions for workers laid off either permanently or temporarily were significant, falling by more than 98% and 100%, respectively. This aligns with global studies that demonstrate the pandemic's crippling effects on workers in the travel and hospitality sector, especially those from lower-income backgrounds (Baum et al., 2020; Hall et al., 2020). The tourism and hospitality industries in India were severely affected by extended lockdowns and travel restrictions, with low-wage workers suffering the most (Kaushal & Srivastava, 2021). Similar patterns were seen in other tourism-heavy Asian economies, like Thailand and Indonesia, where many workers fell into poverty as a result of income cuts (Trilaksono, 2021). The extreme reductions among temporarily and permanently laid-off employees reflect not only job losses but also the absence of financial safety nets, which exacerbates the vulnerability (York et al., 2021). The sharp declines in the number of workers who have been laid off, both temporarily and permanently, are a result of both job losses and the lack of financial safety nets, which increases vulnerability (Jung et al., 2021). On the other hand, workers who were retained saw much smaller personal and household income decreases, suggesting that job security

was essential to preserving financial stability. This result is aligned with research demonstrating that employees with steady jobs, especially those in managerial or higher-paying positions were better equipped to handle the pandemic's effects on the economy (Jiang and Wen, 2020; Rogerson & Baum, 2020). Salaried workers in well-established companies in India profited from organizational resilience and the capacity to adjust to shifting conditions (Kaushal & Srivastava, 2021). Employees who are laid off permanently and temporarily experience particularly sharp drops in household incomes, with reductions of 70% and 63%, respectively. These results are consistent with international research showing that those in low-paying, precarious employment were disproportionately affected by household income losses during the pandemic (Sharifi & Khavarian-Garmsir, 2020). Similar trends have been observed in Asia, where households that depended on tourism saw steep drops in income and an increase in financial hardship in nations like Vietnam and Sri Lanka (BUI & NGO, 2022; Kanagasingam & Rajeshwaran, 2022). Moreover, the declines in per capita household income draw attention to the wider socioeconomic ramifications for families who depend on jobs in the tourism industry. The families in Darjeeling that depend entirely on tourism are particularly vulnerable, as evidenced by the large losses suffered by laid-off workers, especially those in lower jobs. This is consistent with research from Nepal, another Himalayan region, where families that depended on tourism experienced financial instability as a result of fewer job opportunities (Panthhe & Kokate, 2021).

The study findings highlighted that the COVID-19 pandemic not only affected financial stability and family composition but also had significant impacts on food security, nutrition, children's education, family relationships, basic needs, financial obligations, future savings, optimism about the future, and the mental health of employees. Due to substantial economic losses and a lack of sufficient resources, many households faced significant challenges related to food and nutrition. The existing study found that socioeconomic factors and food security were impacted more than by other infectious diseases (Kakaei et al., 2022). Additionally, financial strain compelled many employees to reduce their children's educational budgets, leading to reports of families switching from private to government schools. Similar

trends were observed across India and the world (Raut & Huy, 2022; UNESCO, 2021). Furthermore, financial obligations such as rent, utility bills, healthcare expenses, and EMIs were severely affected. Many workers reported strained relationships with family members due to job loss and financial instability (Ebadian et al., 2020). The existing study also demonstrated that financial instability during the pandemic significantly increased incidents of domestic violence (Das, 2023; Richters, 2021). Overall, the profound impact of the pandemic on these issues had serious ramifications for the mental health of employees, leading to increased stress levels (M et al., 2021; Wilson et al., 2020).

The study also calculated the Socioeconomic Resilience Index (SRI) of employees to depict their overall socioeconomic conditions during the pandemic. It was found that the pandemic moderately to significantly impacted the socioeconomic resilience of employees, with an average SRI of 2.59. Additionally, there were significant variations in SRI across different occupational groups and employment statuses during this time. All occupational groups faced challenges due to the pandemic, but employees in the housekeeping, kitchen assistants, and waiter positions exhibited the lowest socioeconomic resilience. According to the World Happiness Report 2021, in terms of job security, lower-paid workers were the most at risk worldwide (Cotofan et al., 2021). In contrast, managers, receptionists, and travel agency staff demonstrated better resilience, likely due to greater economic stability during the pandemic. Similar images were discovered throughout India; during the pandemic, managerial occupations had greater economic stability (Paliwal et al., 2024). Furthermore, a marked gap in SRI was observed based on employment status. Laid-off employees showed the lowest resilience due to financial strain, while those retained in their positions reported higher socioeconomic resilience. The study identified factors contributing to socioeconomic resilience using a linear multiple-regression model. It revealed that salary reductions, an increase in dependent family members, a higher family dependency ratio, reductions in household income, and a decrease in the number of earning members significantly contributed to lower SRI among employees in Darjeeling. Interestingly, households with fewer tourism employees experienced better resilience, while those in the tourism sector faced the

highest rates of layoffs nationally and globally. Educational qualifications also played a crucial role in determining socioeconomic resilience during the pandemic period (Bozovic et al., 2021). The study findings suggest that higher educational qualifications increase socioeconomic resilience, as more educated employees face fewer income reductions and layoffs.

5.4 Conclusions

It has been clear from the above discussions, the COVID-19 pandemic has profoundly affected the socioeconomic and livelihood status of the tourism employees in Darjeeling. The prolonged closing period of all tourism businesses in the region resulted in a huge number of job losses and income reductions for the employees and their households. Moreover, longer unemployment periods make it more difficult to survive during the crisis. The impact of the pandemic on the economic stability of tourism employees was severe. The monthly salary, household monthly income, and per capita household income were reduced by more than 60% all over the regions. Moreover, almost half of the employees reported an almost 100% reduction in their usual salaries. In addition, the significant reduction in household earning members severely decreases the household income all over the district. Additionally, increases in the general dependency ratio and family dependency ratio put severe pressure on the remaining members.

Though the impact of the pandemic was profound all over the district, there were wide variations across the occupational groups and employment status. The occupational groups of housekeeping, Waiters, and kitchen assistants were most vulnerable from all sides, such as job losses, salary reduction, income instability, etc, due to their lower-grade jobs. While Managers, receptionists, cooks, and drivers experienced comparatively better scenarios in their socioeconomic and livelihood status due to their skilled jobs. Similarly, the employees who were retained in the same position and got the usual salary did not face the many challenges faced by the laid-off employees. Additionally, those who were employed with reduced salary also faced significant socioeconomic and livelihood challenges because the average salary reduction rate was more than 60% of their usual salary.

Beyond just causing financial instability, the pandemic had an impact on social relationships, mental health, children's education, and food security. The difficulties faced by tourism workers were exacerbated by strained family relationships and elevated stress levels. The results of the study highlight the necessity of focused social protection programs, skill-building activities, and regulations meant to increase the economic resilience of marginalized occupational groups in the travel and tourism industry. All things considered, the study identifies crucial areas for intervention to create a more equitable and resilient tourism workforce, guaranteeing workers' sustainable livelihoods in the face of upcoming disruptions.

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Plate 5.1 Homestay
Employee, Sukhiapokhari



Plate 5.2 Restaurant
Employee, Mirik



Plate 5.3 Transport
Employee, Mirik



Plate 5.4 Restaurant
Employee, Matigara

Chapter 6

Revival Plan and Strategies to Sustain Darjeeling Tourism from the Shock of the Pandemic

6.1. Introduction

The tourism industry in Darjeeling faced a severe impact from the COVID-19 pandemic. Two important components of the tourism industry, business stakeholders and salaried employees, experienced a significant impact from the pandemic. Additionally, the development of the tourism landscape in any region heavily depends on these components, which are closely connected. Therefore, the impact on one can directly affect the other. Due to the COVID-19 pandemic and the resulting restrictions, all business stakeholders in Darjeeling were forced to close their businesses for an extended period. As a result, stakeholders experienced a substantial reduction in income, leading to workforce reductions, pay cuts for employees, and other related issues. Additionally, socioeconomic factors and livelihoods were also significantly impacted. Consequently, employees across various sectors faced job losses, pay cuts, and other challenges. Meanwhile, the pandemic had a different impact on the employment status, income patterns, and livelihoods of employees. Moreover, household income structures and dependency dynamics were also severely impacted due to the lack of alternative income sources, the job loss of other family members, and reductions in household income.

Therefore, to sustain the Darjeeling tourism industry from the shock of the Pandemic, improving the tourism businesses should be the main focus. The development of tourism businesses will restart the local economic engine because it will help expand the employment network across the district. With the growth of tourism businesses, thousands of people will benefit; stakeholders will develop or restart their businesses, all laid-off employees will be rehired, and new employment opportunities will emerge across the region. Meanwhile, without the development of businesses, stakeholders, and employees, the recovery will not be even or complete.

Although the acute phase of the COVID-19 pandemic has ended, the pandemic period is not yet over. According to the WHO, as of June 8, 2025, there were 359,027

active COVID-19 cases worldwide, with India reporting 8000 active cases. The history of various viruses that caused epidemics and pandemics around the world has clearly shown that they can re-emerge with new variants. Therefore, it is important to remember that COVID-19 could also return with new variants when revival plans and strategies are developed. The study proposed plans and strategies for business stakeholders and salaried employees in Darjeeling to cope with the current situation and prepare for future crises, ensuring sustainable livelihoods.

6.2. Plans and Strategies for the Business Stakeholders

It has been found that the COVID-19 pandemic had a significant impact on the business stakeholders of tourism across the Darjeeling district. Due to pandemic-induced restrictions and an extended lockdown, the business stakeholders heavily suffered and experienced substantial effects on their businesses, directly impacting their socioeconomic status and livelihoods. Decreases in customers, supply chain disruptions, resource shortages, declines in motivation, delays in business expansion plans, short-term business goals, damaged owner-employee relations, employee layoffs, reductions in average monthly revenue, significant economic losses, and declines in operational assets were common impacts across the district. Additionally, socioeconomic factors and livelihoods, such as difficulties in meeting daily expenses, children's education, family needs, family relations, future savings, and mental health, were prevalent among most business stakeholders.

Although the acute phases of the pandemic are now over and Darjeeling's tourism sector and other tourism-related businesses are resuming operations, the effects of the pandemic persist among various businesses and stakeholders. Therefore, this study proposes several plans and strategies to help tourism business stakeholders improve their current situation and prepare for future crises.

6.2.1 Governmental Liberation and Restructuring in the Pandemic Relief Schemes

Although several schemes were launched during the pandemic to support the tourism industry and its stakeholders, it has been observed that due to various weaknesses and limitations in these schemes, they have not been beneficial for the beneficiaries.

Lengthen the Period: Pandemic Relief Schemes such as the Emergency Credit Line Guarantee Scheme (ECLGS), Special Credit Facility for Street Vendors (PM SVANidhi), AtmaNirbhar Bharat Abhiyaan Support Package, Tourism-Specific Relief, Employees' Provident Fund Support (EPF), and other state-specific relief schemes are not available now; no new applications are being accepted. It is observed that most of these schemes have very short time limits. Moreover, some of them last less than one year. Due to the pandemic and related lockdowns, tourism businesses were closed for a long time, and this period was even longer in small areas like Darjeeling. Therefore, it was difficult to decide about taking loans because the business restart was very uncertain. It would be more helpful if the time limit for applying for loans could be extended. Many small and medium-sized stakeholders have not been able to operate their businesses properly due to high opening costs.

Provide Direct Cash Support: Most of the governmental schemes (ECLGS, SVANidhi, Tourism-Specific Relief, AtmaNirbhar Bharat Abhiyaan Support Package) were repayable. Though many of them give liberty with low-interest rates and payment moratorium, it has been found that almost all the stakeholders had no income from their businesses due to the longer closing period. Therefore, those who took these loans increased their financial burden rather than decreased it. Additionally, many interested parties did not take part in it. It can be said that it would be more beneficial for the stakeholders if the government provided direct cash support with subsidised loans.

Increase in Loan Amount: Some scheme loan amounts were too low, like PM SVANidhi, which was only up to ₹10000 and later increased to ₹20000 in the second tranche. This amount was insufficient for vendors in high-cost areas like Darjeeling. Additionally, the complicated digital application process has excluded many street vendors nationwide. The government should raise the loan limit to a more reasonable level to be genuinely helpful for the beneficiaries.

Extended the Targeted Population: Most of the schemes focus on registered, recognized, and formal businesses (ECLGS, Loan Guarantee Scheme for

Tourism, AtmaNirbhar Bharat Abhiyaan Support Package, etc). However, a large part of the tourism sector operates informally, especially in small hill and rural areas like Darjeeling. As a result, many business stakeholders do not qualify for the loan application. The government should revise the scheme's guidelines to broaden the target population and support small, unrecognized businesses in re-establishing themselves.

Awareness: According to the findings of several research studies and reports, due to the lack of awareness and transparency, the pandemic relief measures scheme did not reach the needy people (John, 2023; Muduli, 2022; Satpathy et al., 2025; World Bank, 2021). In addition, the present study also found that very few people were aware of the schemes. Therefore, the government should focus on the campaigning and awareness program, advertising in national media, and social media to inform the needy people.

Apart from these, focusing on the small hill towns and rural areas, targeting small and medium-sized stakeholders would be a more fruitful way to achieve sustainable development of the tourism industry in Darjeeling, helping to overcome the effects of the pandemic.

6.2.2 Tax Exemption and Waivers for Tourism Stakeholders

The study found that the average estimated loss of the stakeholders was ₹7.80 lakhs. However, there is wide variation among the different business types. It has been discussed earlier that the tourism sector in Darjeeling is characterized by micro, small, and medium-sized businesses. The loss of ₹7.80 lakhs within a year for these small types of businesses had made it extremely difficult to restart the businesses. However, many of them restarted, with limited resources and facilities. Therefore, the government should help them to restart their businesses with full force by relaxing the different taxes (e.g., professional tax, state GST, property tax, vehicle tax, etc) for a certain period.

The government can issue an order in the first stage, mentioning the types of taxes that can be waived, the duration of the exemption, the procedure for claiming the relief, and other relevant details.

In the second stage, an awareness campaign can be carried out through television, posters, banners at local tourism offices, and other methods to reach the targeted population.

Then, the application forms can be collected through both online and offline methods using a simple format.

Finally, the government can grant the relief certificate, specifying the types of relief, the waived period, and other necessary information, and link or integrate it with various departments such as the GST network, the municipality office, the transport department, etc.

The government can track and evaluate the scheme by monitoring the number of beneficiaries, the exemption amount versus recovery impact, the picture of recovery in different sectors, the strengths and weaknesses of the scheme, and required modifications etc.

6.2.3 Formalise the Informal Tourism Businesses

According to a report by the ILO, approximately 85-90% tourism workforce and businesses in India are informal (OECD, 2023). The picture is more surprising for the small tourism region. According to a finding, about 50% of the households directly depended on tourism in Darjeeling, and most of them are informal. In addition, many other people are indirectly joining the tourism businesses, because Darjeeling tourism is very seasonal. It can be said that a major portion of tourism businesses are informal. Being informal, they did not get any governmental help or support during the pandemic and post-pandemic relief. By formalizing the informal businesses in Darjeeling under the Ministry of MSME, the following benefits can be provided to ensure speedy recovery from the effects of the COVID-19 pandemic and future crises.

Government Aid Scheme Accessibility: Formalizing informal businesses enables their inclusion under the government's surveillance. As a result, stakeholders can apply for relief schemes such as ECLGS, SVANidhi, Tourism-Specific Relief, and the AtmaNirbhar Bharat Abhiyan Support

Package. Consequently, small car operators, rural homestay owners, street vendors, small roadside restaurant owners, and other small and medium-sized business owners in Darjeeling can benefit from current and future emergency relief measures.

Easy Banking Service: Registered and formalized business stakeholders can easily access various loan schemes, including Pradhan Mantri Mudra Yojana (PMMY), Micro, Small, and Medium Enterprises (MSME) loans, National Small Industries Corporation (NSIC), Small Industries Development Bank of India (SIDBI), and more. Unregistered MSME stakeholders in Darjeeling can avail these benefits through formalization.

Furthermore, formalized businesses are more easily traceable and will automatically qualify for pandemic relief services in future crises. They are not required to follow initial procedures to access government relief in future emergencies.

Additionally, formalized businesses will be automatically included in government policy frameworks and benefit accordingly, whereas informal businesses will remain unseen.

6.2.4 Formulate Long-term Recovery Measures

The Government of India has taken several initiatives by formulating several recovery schemes (ECLGS, SVANidhi, Tourism-Specific Relief, and the AtmaNirbhar Bharat Abhiyan Support Package, etc). However, all of these schemes were focused on the short-term recovery. Although the tourism sector in Darjeeling has recovered significantly, many MSME stakeholders have not yet fully recovered from the impact of the pandemic. According to research done by The India Watch, the number of tourist arrivals in Darjeeling is still behind the pre-pandemic levels. Therefore, for the sustainable tourism development in Darjeeling, the following initiatives can help boost the whole tourism sector.

Decentralisation of the Tourism Policies and Schemes: The National Tourism Policy 2022, Swadesh Darshan, Dekho Apna Desh, PRASAD,

Hunar Se Rozgar, Skill development Programme, etc., are the cumulative measures for the development of the whole tourism industry in India. The National Policy 2022 promotes the development of rural, heritage, and adventure tourism. The decentralisation of the policy can help to boost the homestay, tea tourism, trekking, river rafting, and adventure tourism of Darjeeling. Additionally, the policy emphasis on community involvement, local employment, etc., will practically help the informal tourism businesses. The scheme, like Dekho Apna Desh, promotes discovering the unknown and unpopular places. The Darjeeling has plenty of tourism resources and has a huge number of tourism places which are still not very popular. The promotion of these places through this scheme can help to inclusive growth of tourism in the district. Similarly, Hunar se Rozgar and Skill Development schemes will help efficiently generate employment.

MSME Formalizing Mission: Awareness campaign about the benefits of formalizing the MSME would help the existing businesses and encourage the new stakeholders to establish their enterprises.

Fund for Business Stabilization During Crisis: With government support, creating a revolving fund can be a sustainable, long-term measure to develop the tourism industry in Darjeeling. During emergencies, this fund can assist numerous MSME business stakeholders. For example, if the government establishes a ₹20 crore revolving fund and provides a loan of ₹200000 to 1000 micro, small, and medium-sized business stakeholders at very low interest (say 2%) for renovations and new business setup, it can greatly boost their capacity within a few repayment years. This fund can then be used during emergencies to help registered MSMEs sustain themselves.

Discount on Green Tourism Initiatives: Eco-tourism and sustainable tourism are major concerns in the 21st century. Many tourists prefer eco-friendly practices. Therefore, if the government offers significant

discounts on the installation of green energy sources, it will open new opportunities for Darjeeling stakeholders.

Infrastructural Development: Darjeeling tourism faces significant challenges related to infrastructure development, particularly in the road network and destination management. Several studies indicate that narrow roads and the lack of alternative routes lead to severe traffic congestion during peak seasons. Additionally, a lack of parking facilities in Darjeeling city creates significant issues for transportation operators and tourists. Moreover, water scarcity problems are reducing tourist satisfaction and causing operational difficulties for business stakeholders. Thus, developing the road network and improving water supply facilities are urgent and essential steps for the sustainable growth of Darjeeling.

Apart from the Government's support, the stakeholders can formulate their strategies to revive their businesses from the present situation and prepare for future emergencies.

Emergency Fund: Natural disasters, including pandemics and epidemics, are incredibly unpredictable. Additionally, the COVID-19 pandemic is not over yet. Consequently, stakeholders have the option to set aside a portion of their profits, which can strengthen the system's resistance to abrupt and unanticipated closure.

Promotion of Off-season Tourism: Like many other hill tourism destinations, Darjeeling is also experiencing seasonal tourist traffic. The maximum tourist traffic in Darjeeling is observed during two seasons, Viz, Spring (March-May) and Autumn (October-November). However, the other six months are considered a lean period. Thus, stakeholders of Darjeeling can design an off-season tourism package with a significant discount, which will strengthen and smooth their income throughout the year.

Strengthens the Local Supply Chain: It has been found that the supply chain of the stakeholders has been significantly affected by the pandemic. Many stakeholders, especially hotels, restaurants, and homestays, had experienced disruption of their supply chain. Most of the food, vegetables, and other required materials in these businesses come from the plain area of the Matigara block. This disruption in the supply chain impacted the recovery of the businesses. Therefore, it would be better, not only to depend on the supply from the plains, but also connected with the local supplier and farmers of Darjeeling and the nearest area. It will support the growth of the community economy.

Collaboration with Food and Travel Vloggers: Social media platforms such as Facebook, Instagram, Twitter, etc., are extremely powerful platforms for presenting something to the world. Working together with a well-known social media influencer to promote businesses for a stakeholder or group of stakeholders, or to promote tourism in a destination, can have an impact that goes beyond local and domestic boundaries. In order to promote their businesses and the region's tourism, various stakeholders can work together with these social media influencers, which will help to grow the businesses at a faster rate.

Additionally, diversifying the market, the adaptation of digital tools, liberty on booking and cancellation, upskilling the staff, adaptation of green energy sources, practice of eco-friendly practices, customer feedback record, creation of emergency business continuity plans, etc, will help to revive from the present situation and future crisis.

6.3 Plans and Strategies for the Employees

Tourism plays a vital role in Darjeeling's economy, with over 50% of the district's population relying on it either directly or indirectly. Many individuals are also employed in this sector as salaried workers across various hospitality businesses such as hotels, homestays, restaurants, lodges, and transport companies. The study clearly shows that the pandemic severely impacted these salaried employees. With the

closure of all tourism-related businesses, including hospitality and transportation services, more than half of these workers lost their jobs. Additionally, 40% of them kept their jobs but with significant pay cuts. Prolonged unemployment, lack of alternative income sources, and the job losses of other household members made survival even harder during the pandemic. These income losses and restrictions significantly increased the vulnerability of tourism workers' socioeconomic conditions in Darjeeling. Consequently, household incomes declined, dependency ratios increased, and overall socioeconomic resilience was heavily weakened. Although the pandemic period has ended, its effects will likely persist longer than expected. Several researchers have noted that the ongoing impacts are especially severe for the informal tourism sector, including business owners and salaried employees (Munjal, 2023; Nagarale et al., 2025; Rawal et al., 2024). Salaried workers are a crucial part of any tourism industry; without them, the quality and comfort of tourism cannot be maintained. Therefore, the study recommends several recovery strategies to help restore the current situation of tourism employees and ensure sustainable development in Darjeeling's tourism sector in the future.

Formal Registration of Employees: More than three-fourths of the employees in Darjeeling working in tourism are informal. The informal and unregistered workers are often ignored or unnoticed by the government. As a result, they remain outside the scope of government relief and assistance. Therefore, it would be highly beneficial to bring them under the government scheme by officially registering them under various schemes. The central government of India launched a scheme called e-Shram in 2021 to collect data on informal workers, ensuring welfare and social security. It is a free registration portal for tourism employees across India. Through registering informal tourism workers on the portal, they will be included in the government's records and will receive priority when schemes or benefits are introduced. Additionally, the scheme offers accidental benefits up to ₹200000 for each registered employee.

However, ignorance is the primary issue with the e-SHRAM scheme. Less than 30% of Indians are aware of the program, according to several studies

(Hasin, 2025; Pranaya et al., 2023). Furthermore, there are far fewer registrations than there is awareness. Moreover, the percentage is significantly lower in rural and small hilly areas. The government should establish door-to-door campaigns, awareness campaigns, in-person registration, registration incentives, etc, throughout the nation, with a particular focus on rural and small hilly towns like Darjeeling.

Push for Registration in the Employees' Provident Fund Organization (EPFO): The study's findings indicate that the pandemic had a major impact on the employment status of 90% of the workers. Furthermore, half of them lost their jobs with little to no financial assistance. Therefore, if the business is operating smoothly, employees can encourage the employer to register under EPFO under the voluntary registration provision. This will significantly improve the workers' present circumstances and long-term viability.

Emergency Relief Fund: The government can establish an emergency relief fund specifically for informal tourism workers of Darjeeling who are enrolled in e-SHRAM. Even though the pandemic's acute phase is over and nearly all workers are back to work, it will be useful in subsequent emergencies. These workers can receive direct financial assistance from the government into their accounts in the event of the next emergency. The states of Kerala and Himachal Pradesh have implemented similar tactics, which is significant to note. The replica of the strategy can be applied in Darjeeling as well.

Upskilling and Reskilling: Since the Darjeeling tourism industry is not a very wide and developed industry, characterised by MSME businesses. The employees employed in these sectors are not well-skilled. Except for some skilled jobs such as managers, Cooks, and drivers, most of the other jobs do not require much skill. According to the findings of the study, lower-paid and unskilled jobs such as kitchen assistants, housekeepers, and waiters were the most vulnerable groups. The maximum lay-off was found among these occupations. On the other hand, skilled workers experienced comparatively fewer lay-offs.

Therefore, the upskilling of the employees will help them learn their present jobs in a more efficient manner, will create more opportunities, increase the wages or salaries, etc. The central government has launched several free upskilling schemes for the informal employees and unemployed youths for skill development training, vocational courses, etc. These schemes are not well applied in Darjeeling. Though the Gorkhaland Territorial Administration has taken a few initiatives in post post-pandemic period to develop Darjeeling's tourism by upskilling the business stakeholders. However, most of them were concentrated on the stakeholders, not the salaried employees. Moreover, conducted in the main city of Darjeeling.

The decentralisation of the governmental scheme (CBSP, Skill India, HSRT, DDY-GKY, DAY-NULM, etc) and its application across all the blocks and rural areas of the district can help all tourism employees, including women. Additionally, the local tourism body of Darjeeling (GTA) can collaborate with Skill, IGNOU India, and ITI to provide free short-term courses for upskilling and reskilling of the workers.

Tourism Employment Guarantee Scheme: Tourism in Darjeeling is seasonal, with most tourist arrivals found in March, April, and May in the Spring season, and the months of October and November in the Autumn. The rest of the year does not receive many tourists, as a result, the many business stakeholders higher the employees on a seasonal basis. Demand for employees goes down in the lean tourism season, and many people are engaged on a seasonal basis. Therefore, it would be a practically beneficial opportunity for the employees if the government launched the Tourism Employment Guarantee Scheme (like MGNREGA) for registered employees on e-SHRAM during the lean season. Additionally, the government can help the jobless workers in the future crisis through this scheme.

Apart from the government initiatives, the employees may take many simple initiatives on their self to improve the present condition and try to secure the

future. The study suggested a few strategies that employees can adopt on their self.

Diversify the Source of Income: Income has always been, and will continue to be, the primary factor in measuring the impact of the pandemic. Almost all aspects of socio-economic conditions and livelihoods depend on it. It has been found that most employees have experienced significant reductions in their personal and household income. Therefore, it is necessary to find alternative sources of income to sustain during lean periods. A recommendation is to seek jobs that are less dependent on tourism. These include-

Agriculture and allied activities, such as small-scale crop cultivation and rearing goats, sheep, pigs, etc.

Selling local handicrafts and engaging in cottage industries, such as weaving woollen cloths or making furniture and craft materials from bamboo and other local resources, can be beneficial.

Participating in the gig economy, such as through Zomato or Swiggy.

Operating home-based food businesses, like making memos or pickles, are also viable options. etc.

Making YouTube, Facebook, and Instagram videos about Darjeeling tourism can attract thousands of views and provide another income source.

Creation Co-operative Businesses: The study discovered that many occupational groups have very low monthly salaries, particularly women and lower-level positions like waiters, housekeepers, and kitchen assistants (<₹10,000). A large number of workers have also struggled to survive because of the lower household income and fewer earning members. Moreover, earning money solely for food was worse during the pandemic. The future resilience of the employees will therefore be increased if a small

number of them launch a business cooperatively, such as homestay, foot stall, trekking groups, etc.

Self-Upskilling: Skill development is essential for better opportunities, occupational diversification, and income growth. It was found that from the study, most of the people are engaged in lower-grade and lower-paid jobs due to their low skills. Development of skills such as learning multiple languages, hotel booking and reservation knowledge, Basic computer skills, digital marketing, Cooking of different continental dishes, tour guide certification, etc, can help them for creation of better future and increase their resilience if a further crisis period comes. Many of the skills they can easily develop or learned without any cost from YouTube and the Skill India portal. Additionally, several governmental schemes (PMKVY, DDU-GKY, Ministry of Tourism-sponsored training, etc) offer free training and certificate courses for to skill development of tourism workers.

Self-Emergency Fund: Informal tourism jobs are the most vulnerable during situations like a national emergency. Additionally, because of their seasonal nature, many informal tourism workers have faced suspensions, pay cuts, and reduced incentives, especially in small tourism regions like Darjeeling. Therefore, every employee should be prepared for a crisis and build an emergency fund as a recurring deposit at the post office.

Furthermore, participation in cultural events, forms of worker associations, customer service training, local and distinctive branding, reasonably priced insurance, and other initiatives will help them to improve the present and strengthen their resilience in the future.

6.4 Conclusions

The COVID-19 pandemic had an adverse effect on the tourism industry worldwide, regardless of location, size, type, etc. As a result, both business stakeholders and employees were severely affected. Many stakeholders permanently closed their businesses and shifted to other industries (Chhabra 2024 & Prady; Pradhan, 2024). Similarly, the tourism sector experienced the highest rate of employee layoffs (ILO,

2020; Jung et al., 2021; Sun et al., 2022). The present study also revealed a similar situation in Darjeeling's tourism industry. It can be concluded that, apart from a few stakeholders and a small number of employees, most tourism workers in Darjeeling were significantly impacted. The effects extended beyond their businesses and employment status; they also severely affected their socioeconomic status and livelihoods. To revive Darjeeling's entire tourism sector, the primary focus should be on the economic sustainability of both stakeholders and salaried employees. Without the development of these two groups, the growth of the tourism sector would not be possible or sustainable. Based on the findings, the study has proposed some plans and strategies to recover Darjeeling's tourism industry and enhance its future sustainability. Small and less developed regions like Darjeeling are often overlooked by the government when planning strategies. Therefore, it is the responsibility of Darjeeling's residents, the local tourism authorities, and the state government to seriously address these issues and take necessary actions. Meanwhile, collaborative efforts from both the state and central governments, along with the local community, can help solve current problems, boost tourism growth, and ensure a sustainable future for Darjeeling's tourism industry.

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Chapter 7

Conclusions

7.1 Introduction

It is an undeniable fact that the COVID-19 pandemic has adversely affected every element of the tourism industry across the world, including hospitality and transport (Msemburi et al., 2023; Petrić Howe & Thompson, 2022). The region or country that heavily depends on tourism, and a great percentage of the total income comes from tourism, has suffered a lot (del Rio-Chanona et al., 2020; Faeni et al., 2023; Munjal, 2023; Nagaj & Žuromskaitė, 2021; Rahman et al., 2023). Similarly, the Darjeeling district of West Bengal is not an exception, due to its high reliance on tourism and the related sector (Bhattacharya, 1986; Das, 2020; DHFWGWB, 2020, 2023; Ministry of Tourism, 2023) . The chapter synthesizes the key findings of the study and represents the impact of the COVID-19 pandemic on the tourism industry in the Darjeeling district of West Bengal. Based on the objectives of the study, its main focus was on the impact of the pandemic on business and socioeconomic conditions, and the livelihood of the business stakeholders and salaried tourism employees. The study found that each dimension of the people impacted by the pandemic, who were engaged in tourism significantly, from the tea stall to the big entrepreneur, and from the lowest-paying job to the managerial job, no one was not exempt from the clutch of the pandemic, who were directly and indirectly touched by tourism. Due to the prolonged lockdown periods and the sharp decline in tourist arrivals, huge economic losses, employee layoffs, pay cuts, job losses, etc, were common characteristics of the tourism industry across the district of Darjeeling. Additionally, the socioeconomic status and livelihood of the business stakeholders and salaried employees were also significantly impacted. Major findings of the study are given below.

7.2. Stakeholders

Though the development of tourism in Darjeeling can be traced back to the middle of the 19th century, the tourism infrastructure network has not been well developed till now. Except for a few hotels and businesses, most of the tourism businesses in the

district are small and medium-sized. The study found that homestays (27%) are the most dominant businesses at present. Additionally, a respectable number of people also engaged in the restaurant (23%) and transport (23%) businesses. Though hotel (17%) is an important business in Darjeeling, most of the hotels are concentrated in the main cities of Darjeeling and Siliguri. It is also important to mention that about 50% of the businesses are run by family members and solopreneurs, which indicates that the small and medium-sized businesses. Moreover, among the 50% of the entrepreneurs, most of the businesses are also medium-sized.

Enterprise Operations

It is evident that due to the prolonged lockdown induced by the COVID-19 pandemic, 98% of businesses remained closed for an average of 7.61 months. This leads to a decrease in the average monthly revenues of approximately 58 thousand (65%) compared to the pre-pandemic level. Moreover, stakeholders were forced to reduce their operational units by 4% on average. All of these resulted in an average loss of 7.80 lakhs per stakeholder during the study period. As a result, more than three-fourths (77%) of the stakeholders were compelled to reduce their workforce. The study found that the average number of employees per entrepreneur was reduced to 2.88 from 5.68 before the pandemic. This indicates that all stakeholders laid off their employees on an average of 2.79 persons who had salaried employees to run their businesses. Additionally, the remaining employees who were retained experienced significant pay cuts (88%).

It has been observed that there is a wide variation in the closure duration, operational units reduction, monthly revenue reduction, and estimated loss, based on the types of businesses and types of entrepreneurship. Due to higher dependency on the night-stay tourists (international and domestic), instead of local and day-tripper tourists, the hotel and homestay business types experienced the longest business closure durations, 10.23 and 9.67 months, respectively. On the contrary, restaurants and transport businesses reopened sooner. Similarly, due to the comparatively wider business setup, entrepreneurs had experienced longer business closure durations than family-run businesses and solopreneurs.

Again, it can be observed that due to comparatively larger businesses, the hotel (₹14300, and 82%) businesses recorded the highest reductions in monthly revenue and experienced the highest estimated loss (₹17.48 lakh) due to the pandemic. It is evident that, though there is wide variation in the numerical amount in the monthly revenue reduction among the different types of businesses, the percentage reductions are more than 60%. However, the estimated loss is widely varied. In addition, the total estimated loss of small businesses, especially family-run businesses and solopreneurs, is recorded as comparatively minimal loss due to comparatively shorter closure durations and low reopening costs.

It also observed that from the study, though all of the said indicators of the business operations are correlated with each other, the business closure duration is highly responsible for the economic loss, whether the monthly revenue or the estimated loss. Several factors, such as the year of association in the businesses, reduction in monthly revenue, business closure duration, reduction in business operational unit, over-dependence on tourism, breaking of the supply chain, etc, are major determining factors of the estimated economic loss.

Pandemic-induced restrictions had made it very difficult to run the tourism businesses in Darjeeling (Rai, 2020; Roy, 2023). Therefore, business performance was significantly affected across various types of businesses, including family-run, solopreneur, and entrepreneurial ventures. The study suggested that the business performance index was 2.80, indicating a moderate to significant impact. However, the business performance index was lowest for the hotel and homestays. At the same time, the restaurants and transport businesses recorded comparatively higher values.

Socioeconomic Consequences

Most of the tourism businesses were medium to small in size, and most of the stakeholders involved belonged to the middle-middle class to the higher middle class. Moreover, it was also found that almost all of the stakeholders had only one business operational unit, and due to the pandemic, it was closed for a longer period. As these tourism businesses were the only survival medium for their livelihoods, their socioeconomic status and livelihoods were significantly affected. Though the

average socioeconomic resilience index of the stakeholders was 3.30, indicating the moderate impact of the pandemic, many of them suffered a lot to mitigate basic needs of the family, education for their children, and savings for their future. Additionally, all of these significantly impacted the mental health of almost all of the stakeholders.

The socioeconomic resilience of the stakeholders varied among different types of businesses. Due to longer closure durations, small to medium-sized businesses faced the lowest resilience in their socioeconomic lives, particularly among the stakeholders of homestay businesses. In contrast, stakeholders of restaurants and transport businesses encountered comparatively fewer difficulties because of the shorter business closure periods and less reliance on international and domestic tourists. Additionally, although hotel businesses experienced the longest closure duration, the pandemic did not significantly impact their socioeconomic conditions due to their larger size and better economic standing.

Though many factors were responsible for the socioeconomic resilience of the stakeholders, the most significant factors were over-reliance on tourism (international and domestic tourism), job loss of the family members, business closure durations, and income reductions (monthly and estimated loss).

7.3 Tourism Employees

Tourism is a widespread business in the Darjeeling district. It has created numerous business opportunities and supported thousands of livelihoods. There are a large number of business stakeholders operating in various locations throughout the district, and thousands of local people are employed there as salaried employees. It has been found that not only are men working there a significant portion of the women's (28%) population, are also engaged in different types of jobs. There is a wide range of occupations in the different businesses as per the educational level, skills, and experiences, such as manager, receptionist, cook, waiter, housekeeping, kitchen helper, driver, conductors, travel agency's staff, etc, are the most common jobs in Darjeeling.

Pandemic and occupational vulnerabilities of employees

The COVID-19 pandemic has ruined the working lives of employees across the district and across different occupational groups. It was found that 90% of the jobs were significantly affected, where 50% of people lost their jobs either temporarily or permanently. Additionally, 40% of employees were retained with reduced salaries. It is very important to note that among them, more than 50% of the employees were getting less than 50% of their salaries. In the meantime, only 11% of the people were retained in the same position and same salary. Though all of the occupational groups were significantly affected, lower-paying or lower-grade jobs, such as waiters, kitchen assistants, and housekeepers, were most vulnerable. The highest proportions of the layoffs were found in this category. However, the comparatively least affected occupational groups were managers (28%). Additionally, due to lockdown and pandemic restrictions, the people remained unemployed for about 8.7 months. However, there was variation across the different occupational groups.

The pandemic not only impacted their status of employment but also significantly affected their service demand, increase the uncertainty of their occupation, work-life balance was disturbed, decrease the job satisfaction, long-term job opportunity was hampered, and relation with the owner and colleagues were significantly disturbed. As a results, the found that the occupational vulnerability was only 2.49 which indicates significant impact on their occupational life. It is interesting to note that except for managerial occupation, almost all the occupational groups were recorded more less similar OVI. Because, most of the retained employees was from the managerial groups. It was also found that the employees who were retained in the same position (3.7) were recorded least OVI than other three groups (employed with reduced salary, temporarily laid off, and permanently laid off). Many factors were responsible for the occupational vulnerability. However, most significant factor was reduction in Salary, reduction in household income, increase in the dependency ratio, reduction of household earning members, large proportion of the members in tourism jobs.

Pandemic and Socioeconomic conditions of the employees

The COVID-19 pandemic ruined the socioeconomic condition of the tourism employees across the district and occupational groups. Due to a significant reduction in personal and family income socioeconomic condition of the employees was affected to a great extent. The finding suggested that the average salary/employee was reduced to only ₹5903 from ₹14293, indicating a reduction of 59%. Moreover, due to the job losses of the other family members and other income sources, the household income level also declined to a great extent (47%). Additionally, the pandemic significantly affected the family compositions of the employees, including a decrease in the earning members, household income, an increase in the dependency ratio, etc. It has been observed that the earnings of members decreased by 7% per family on average. Similarly, the dependent member increased by 7%. Moreover, the family dependency ratio (7%) and the general dependency ratio (57%) were also increased significantly.

Although it is clear that the pandemic has significantly impacted the occupational life and socioeconomic conditions of tourism employees throughout the district, however, it was significantly varied among different occupational groups. Similarly, the Socioeconomic conditions of the employees were widely varied depending on the pandemic employment status during the pandemic.

It has been observed that the family composition and dependency dynamics were most affected among the lower-paid jobs. For example, the average household earning members were reduced by 13%, dependent members increased by 32%, and the general dependency and family dependency ratios were increased by 81% and 11%, respectively, for the occupational groups of kitchen assistants. A more or less similar picture was recorded by occupational groups of waiters and housekeepers. However, the occupational groups of managers were least affected due to the higher rate of retention.

Additionally, it has been found that the employees who were retained did not suffer much, while the employees who were laid off permanently have experienced worse family composition and dependency dynamics. The household earning members

declined by 11%, dependent members in the family increased by 28%, the general dependency and family dependency ratios increased by 110% and 12%, respectively. Meanwhile, the family composition and dependency dynamics were significantly affected for all of the occupational groups and employment status during the pandemic.

The economic stability of most employees was devastated by the pandemic. It has been observed that, except for the occupational groups of managers, all the occupational groups have experienced more than a 60% reduction in their salaries. However, the highest reduction was experienced by the occupational groups of housekeeping (84%) and kitchen assistants (79%). Similarly, the highest decline in household income was also observed among these occupational groups.

In addition, the highest economic instability was found among those employees who were laid off temporarily and permanently. The salary was reduced by 100%, and household income and per capita household income declined by 63% and 70%, respectively, for temporarily and permanently laid-off employees. On the other hand, the employees who were retained in the same position have experienced very minimal economic instability.

These occupational and economic instabilities significantly impacted the different dimensions of the livelihoods. The employees were experiencing significant difficulties in mitigating the financial obligations, such as rent, bills, etc. In addition, the food, nutrition, basic family needs, family relations, children's education, future saving, future optimism, and mental health of the employees were significantly impacted. The results of the study suggested that the Socioeconomic Resilience (2.56) of the employees to significant to moderate. However, it has been found that the lowest socioeconomic resilience was experienced by the occupational groups of housekeeping, kitchen assistants, waiters, and conductors. Again, occupational groups of managers and T.A. staff, and receptionists were experienced with comparatively better resilience. In addition, it is observed that from the study, the employees who were retained in the same position (4.08) experienced comparatively

better socioeconomic resilience. However, all other employees experienced almost equal difficulties.

The most significant factors responsible for the socioeconomic resilience of the employees were salary reductions, household income reduction, an increase in dependent members in the family, an increase in the dependency ratio, educational qualifications, and a higher number of earning members in the tourism sector. Some other factors are indirectly responsible, such as marital status, work experience, age, etc.

7.4 Conclusions

It can be concluded from the above discussions that the COVID-19 pandemic imposed unprecedented challenges and a cascading effect on all types of tourism workers worldwide, regardless of their role, location, size, or type. However, the pandemic's impact was more severe for a small region like Darjeeling, which heavily depends on tourism. The pandemic created significant occupational vulnerability for stakeholders and salaried workers as well. This directly affected all aspects of their socioeconomic status and livelihoods. Furthermore, the study's findings suggested that larger businesses experienced the greatest economic loss. Similarly, entrepreneurs faced higher economic losses compared to family-run businesses and solopreneurs. It was also found that, although the economic losses among different businesses varied significantly, the percentage reduction was not much different. Additionally, the pandemic's effects on the socioeconomic status and livelihoods of stakeholders varied as well. Small business stakeholders suffered the most compared to larger businesses.

Furthermore, the impact on salaried employees was more severe. Except for a few employees, all were significantly affected. The study indicated that, because of the informal nature of their jobs, about half of the employees were laid off permanently or temporarily. Moreover, the lack of alternative income sources and prolonged unemployment made it more difficult to meet basic needs during the pandemic. Although all employees were significantly impacted, the effect was especially severe on lower-grade jobs such as kitchen assistants, housekeepers, and waiters.

The study also identified critical gaps in the government support mechanism, particularly for informal business stakeholders and workers. It should be noted that a large portion of tourism businesses in Darjeeling and their employees operate informally. Additionally, the lack of governmental post-pandemic recovery plans and strategies for Darjeeling tourism, limited awareness of existing plans, focus on registered businesses, restricted target populations, and inadequate infrastructural development are major barriers to the rapid recovery and holistic growth of the tourism sector in Darjeeling.

In conclusion, the COVID-19 pandemic has not only exposed the weaknesses of Darjeeling tourism but also highlighted important areas where urgent, inclusive, shock-resilient, and sustainable tourism development initiatives are needed by the people and for the people. Government policy interventions should focus on economic growth, livelihood restoration, formalization of informal sectors, and long-term strategies for sustainable tourism development. Meanwhile, without an inclusive, holistic, and cooperative approach, the recovery of Darjeeling tourism cannot be successful given the current situation and future uncertainties.

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Title	Journal	Index
<i>Status of drinking water, sanitation facilities, and hygiene in West Bengal: evidence from the National Family Health Survey of India (NFHS), 2019–2021</i>	Journal of Water, Sanitation & Hygiene for Development	Scopus and Web of Science (SCIE)
<i>Bio-demographical determinants of diabetes among women in reproductive age group (15–49) in India: Evidence from National Family Health Survey (NFHS) of India, 2019–2021</i>	International Journal of Diabetes in Developing Countries	Scopus and Web of Science (SCIE)
The Role of Mahatma Gandhi National Rural Employment Guarantee Act on Women Empowerment in Some Selected Districts of West Bengal, India	SN Social Sciences	Scopus

Papers Presented in Seminar/Conference

Title	Theme of the Seminar/Conference	Organizer	Date
Trends and Patterns of Tourist Inflow in Darjeeling: A Temporal Analysis	Two-day National Seminar on “Climate Change, Environment and Development: Indian Perspectives”	Department of Geography and Resource Management, Mizoram University	25-26th April, 2023
Trends and Patterns of Tourist Arrivals in West Bengal and Impact of the COVID-19 Pandemic: A Temporal Analysis	International Conference on “Redefining Tourism Through G20’s Key Priority Areas (KPAs)”	Department of Tourism and Hospitality Management, Mizoram University	18-19th May, 2023
Trends of Tourist Arrivals in West Bengal and Impact of the COVID-19 Pandemic: A Temporal Analysis	MoES Sponsored International Conference on “Emerging Issues in Environment, Livelihood and Development: A Future Road Map Towards Sustainable Earth (in collaboration with CSIR & ISRS, Kolkata)”	Department of Geography & Applied Geography, University of North Bengal	26-28th January, 2024

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ABSTRACT

IMPACT OF COVID-19 PANDEMIC ON TOURISM INDUSTRY: A CASE STUDY OF DARJEELING DISTRICT, WEST BENGAL, INDIA

**AN ABSTRACT SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

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**DEPARTMENT OF GEOGRAPHY & RESOURCE
MANAGEMENT
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MANAGEMENT
APRIL, 2026**

**IMPACT OF COVID-19 PANDEMIC ON TOURISM INDUSTRY:
A CASE STUDY OF DARJEELING DISTRICT, WEST BENGAL,
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BY

AMIT BISWAS

UNDER THE SUPERVISION OF

PROFESSOR VISHWAMBHAR PRASAD SATHI

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE**

OF

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**DEPARTMENT OF GEOGRAPHY & RESOURCE
MANAGEMENT, AIZAWL**

1. Introduction

Tourism is one of the most sensitive sectors to global crises, especially pandemics and epidemics. The sector entirely depended on the movement of people, so it was found that, in history, when people's movement was affected, tourism also suffered significantly. In addition, historical evidence indicates that the tourism industry's recession was mainly driven by pandemics and epidemics. The world has experienced several periods of crisis since ancient times, but the health crisis was the most dangerous of them. These health crises have had significant impacts on tourism, including travel patterns, economic activities, and social dynamics of destinations, etc. Various pandemics and epidemics have significantly changed the travel behaviour of people and are responsible for changes in the tourism landscape in world history.

The COVID-19 pandemic outbreak in the second decade of the 21st century had the most catastrophic effect on the global tourism industry. The virus was first reported in Wuhan, China, in December 2019. The World Health Organisation (WHO) declared it a world pandemic on 11 March 2020, when the virus rapidly travelled to 114 countries around the world, resulting in an infection of 118,000 people and 4,291 deaths. By July 2020, the virus had spread to 213 countries worldwide and infected 11,200,000 people, causing 530,000 deaths (Zhou et al., 2020).

The pandemic caused severe panic worldwide due to the massive spread of the virus and the large number of deaths. As a result, all types of travel and transportation were completely stopped for a long period. Although almost all types of businesses were significantly affected, the global tourism industry experienced the greatest negative impact of the COVID-19 pandemic. In other words, the global tourism industry has collapsed. According to UNWTO, international tourist arrivals fell 72% in 2020 compared to 2019 (WTO, 2024). In addition, 2021 only recorded a 1% annual growth in international tourist arrivals, or a -71% compared to pre-pandemic levels (WTO, 2024). Additionally, international tourist arrivals were still 33% behind pre-pandemic levels in 2022 and 11% behind in 2023.

The pandemic resulted in unprecedented economic losses for the global tourism industry due to the sharp decline in tourist arrivals. In 2019, the average direct contribution of tourism to global GDP was \$3.3 trillion, accounting for 4% of the world's GDP (UNTWO, 2021). However, the onset of the COVID-19 pandemic dramatically changed this landscape. The combined loss in tourism direct GDP for the years 2020, 2021, and 2022 reached \$4.4 trillion (UNWTO, 2023). Additionally, the global tourism industry experienced a loss of \$2.5 trillion in export revenue during the same period (UNWTO, 2023). Furthermore, the loss in tourism export revenue in 2020 was \$1.1 trillion, which was 10 times greater than the tourism revenue loss during the 2009 global economic and financial crisis.

The global tourism industry provides millions of jobs, which constitute a significant portion of the total employment in the world. Due to the severe impact of the pandemic, millions of tourism jobs were lost, significantly affecting the livelihood of the people. According to the WTTC, more than 121 million jobs were lost in the travel and tourism sector within a few months of the outbreak of the virus, and by the end of 2020, the figure reached about 200 million (Sun et al., 2022; Wymen, 2021).

The Indian tourism industry was severely affected by the emergence of the COVID-19 pandemic. Moreover, the effects were severe due to the longer duration of about 2 years. The pandemic caused complete travel restrictions for more than one year, from March 2020 to June 2021. Additionally, the emergence of the Omicron variant of the pandemic further increases the period. The movement of the people was standstill across the nation. As a result, domestic and international tourism were both completely closed. Foreign Tourist Arrivals (FTAs) fell dramatically in 2020, dropping to 2.74 million, which represents a 74% decrease compared to 10.93 million in 2019. In 2021, the FTAs declined further to 1.52 million, marking an 86% drop from pre-pandemic levels (Ministry of Tourism, 2022). Although FTAs increased to 6.44 million in 2022, this figure was still 41% lower than in 2019. However, the year 2023 recorded more than 18 million FTAs, reflecting a record-breaking year (Ministry of Tourism, 2023). The tourism industry provides a significant portion of the Foreign Exchange Earnings (FEEs) of India. Due to the significant decline in international tourist arrivals, the FEEs also declined

significantly. The tourism FEEs fell to \$6958 million in 2020 from \$30721 million in 2019, marking a growth of -77.35% (Ministry of Tourism, 2022). In addition, 26% and 100% yearly growth was observed in FEEs in 2021 and 2022, but it was -71% and -42% lower than the pre-pandemic level (Ministry of Tourism, 2023).

The Indian tourism sector is a major contributor to the national GDP. Before the start of the COVID-19 pandemic, the sector contributed 6.8% directly and 5.2% indirectly to the nation's total GDP. However, these direct and indirect contributions of the sector contracted to 3.7% and 2.7%, respectively, in the financial year 2020-21 (NCAER, 2021). According to an estimation by the Ministry of Tourism, Government of India, the tourism sector lost approximately ₹15 lakh crore during the pandemic. Furthermore, the socio-economic impact of the pandemic has been unprecedented. Millions of job losses, employee salary cuts, reduction in household income, etc., have been the common features of the pandemic. Out of 34.8 million active jobs, 14.5 million jobs were lost as a result of the pandemic and the resulting lockdown in the first quarter of 2020-21, representing 41.7% (NCAER, 2021). The picture is more serious for self-employed people or business owners. While employees' income fell by 41.6%, business owners' income fell by 124.4% in the first quarter of 2020-21 (Choudhury & Saha, 2022). Furthermore, job losses would be much higher if all informal jobs were considered. In addition, the pandemic led to an 8.4% increase in the unemployment rate in 2020 (Chatterjee & Dev, 2023; Gupta et al., 2024).

Darjeeling is one of the most popular tourist destinations in West Bengal. A long time ago, the Queen of Hills gained international recognition for its rich colonial history, world-class tea, evergreen pine forest, and vibrant flora and fauna. It has continuously maintained its glory to this day. In addition, beautiful landscapes, diverse cultures, warm hospitality, and UNESCO-recognised heritage sites attracted a large number of tourists from different parts of the country and the world. Before the onset of the COVID-19 pandemic, Darjeeling recorded 550,000-600,000 tourists annually (Das, 2020). According to the Department of Tourism, Government of West Bengal, the number of foreign tourists visiting Darjeeling was over 42000 in 2019 in Darjeeling. Further, due to the onset of the pandemic, the district experienced a

significant decline in tourist arrivals. The year 2020 received only 180,000 tourists, which accounted for more than an 80% drop from the previous year.

A significant portion of Darjeeling's population is dependent on the tourism sector (Dutta & Mukhopadhyay, 2024). According to the business research of India Watch, the estimated total tourism market of Darjeeling is \$100 million (The India Watch, 2019). However, due to the pandemic, thousands of people lost their jobs. Further, longer business closing durations compelled stakeholders to choose alternative businesses; as a result, several small and medium-sized hotels, restaurants, and homestays were permanently closed. Consequently, the livelihood of these people was significantly hampered (Nagarale et al., 2025). As per the report by The Economic Times, the Darjeeling tourism sector saw a loss of ₹350 crore during the first wave of the pandemic (Sarker, 2020).

2. Statement of the Problem

The tourism industry is one of the hardest-hit sectors of the COVID-19 pandemic. The impact was severe in areas like Darjeeling, which depends heavily on tourism and is an important economic activity for a large number of the population. The outbreak of the COVID-19 pandemic caused a sudden stop to all kinds of tourism activities in the district. The Darjeeling tourism sector consists mainly of small and medium enterprises, and numerous studies have shown that the most significant effects of the pandemic were felt by self-employed individuals and small stakeholders, who experienced the highest percentage of income loss. Additionally, many employees in the hospitality and transport sectors in Darjeeling lost their jobs or faced substantial pay cuts. Therefore, with an eye toward the difficulties faced by the stakeholders and employees, the study seeks to investigate the multiple effects of the pandemic on Darjeeling tourism.

The challenges faced by the tourism workforce were multifarious and complicated. First and most importantly, due to the pandemic and lockdowns, the number of visitors has significantly declined. Therefore, it caused significant financial loss for those who were directly engaged in the tourism industry, such as hotels, restaurants, lodges, homestays, travel, and transport operators. In addition, the employees who

worked there had also experienced significant financial strain due to layoffs and salary reductions. Furthermore, the influence of the pandemic went beyond the direct and front-line tourism businesses. Many ancillary sectors like handicrafts, food, beverages, tea, etc., have also been impacted significantly.

In addition, the impact of the pandemic was not only limited to financial challenges but also significantly affected the socioeconomic and livelihood statuses of the stakeholders and employees. Moreover, layoffs and income reductions may change family structure, such as the dependency ratio, family income, and dependent members, etc. So, a detailed study can aggregate all these aspects of Darjeeling. Moreover, the pandemic has made clear the weaknesses of too much dependence on one sector. The abrupt decline of the tourism economy has exposed the need for economic diversification and resilience-building techniques to prepare for the future.

The study's problem statement encapsulates the necessity of compiling all available information regarding the pandemic's effects on the various facets of the Darjeeling tourism industry, such as the financial, demographic, sociocultural, and livelihood difficulties. This information is essential for creating realistic plans to reduce the negative effects, supporting recovery efforts, and building a more resilient and sustainable tourism sector for future generations.

3. Research Questions

1. How has the pandemic impacted the hospitality and transport sectors of Darjeeling's tourism industry?
2. What has been the effect of the pandemic on business performance, stakeholders, and their socio-economic conditions?
3. How did the pandemic affect the job roles, livelihoods, and socio-economic status of local tourism workers?
4. What strategies can help revive Darjeeling's tourism sector and ensure future resilience?

4. Objectives of the Study

1. To examine the impact of the COVID-19 pandemic on the hospitality and transport sectors of the tourism industry in the Darjeeling district.
2. To analyse the impact of the COVID-19 pandemic on the livelihood of local people engaged in the tourism industry.
3. To suggest recovery strategies to revive the Darjeeling tourism industry.

5. Study Area

Darjeeling is a beautiful region in West Bengal and India, located in the lap of the Himalayas. Darjeeling is the northernmost district of West Bengal. Geographically, the district is situated between 26°27' N to 27°13' N and 87°59' E to 88°30' E, at above 2100 meters above the mean sea level. The northern expansion of the district is blocked by the state of Sikkim, and the Southern part of the district is surrounded by the Uttar Dinajpur district and the state of Bihar. In addition, the district shares its Western boundary with the neighbouring country of Nepal. Further, the Eastern extension of the district is surrounded by the districts of Kalimpong, Jalpaiguri, and the neighbouring country of Bangladesh. Administratively, Darjeeling is divided into four subdivisions (Darjeeling Sadar, Kurseong, Mirik, and Siliguri), nine development blocks (Darjeeling Pulbazar, Jorebunglow Sukhiapokhri, Rangli Rangliot, Kurseong, Mirik, Matigara, Khoribari, Naxalbari, and Phansidewa) and 92 villages which cover a total area of 3,149 sq. km. The present study is focused on the five developmental blocks, namely Darjeeling Pulbazar, Rangli Rangliot, Jorebunglow Sukhiapokhri, Mirik, and Matigara. Further, three villages from each of the blocks have been selected based on tourism activity. Finally, the study captures responses from the different types of stakeholders and local people employed in the different sectors.

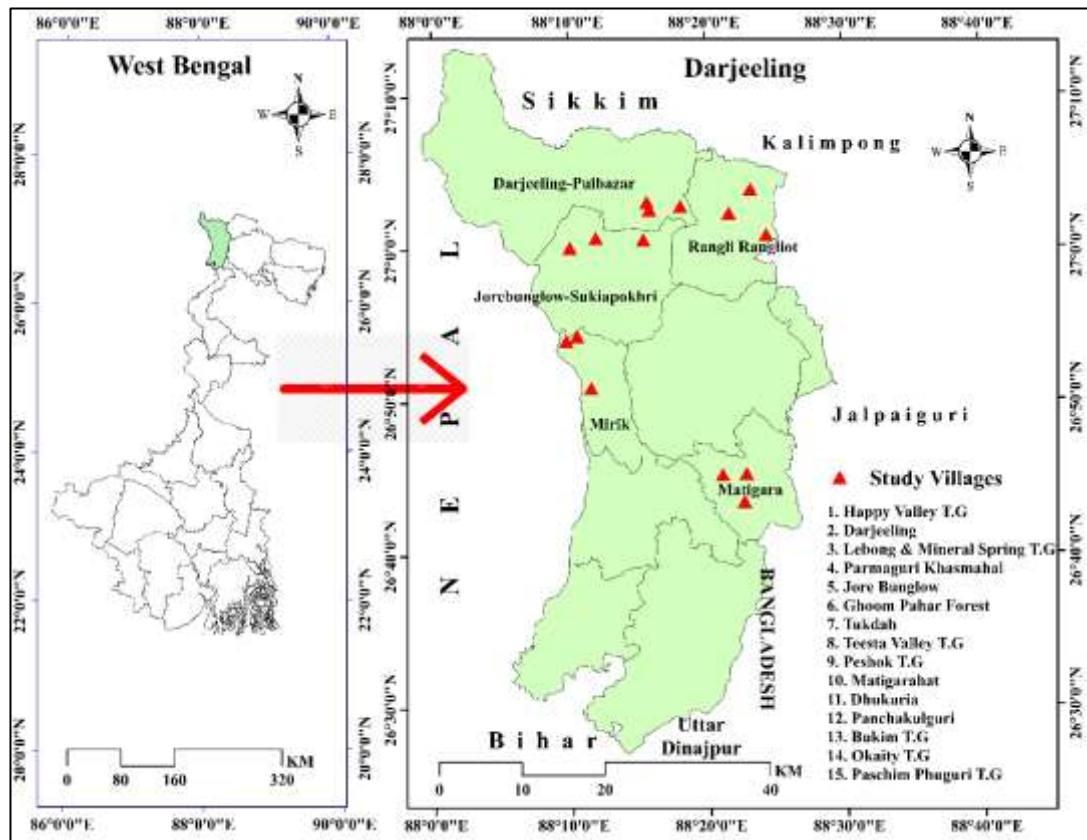


Figure 1. Location Map of the Study Area

6. Research Methodology

Research Design

The present study employed the descriptive research design to analyse the impact of the COVID-19 pandemic on the Darjeeling tourism industry. Based on the objectives of the research, two semi-structured questionnaires have been designed to measure the pandemic's impact on business performance, employment vulnerability, socioeconomic status, and livelihood vulnerability of the stakeholders and salaried employees of the Darjeeling tourism sector. Further, various statistical tools and techniques have been used to analyse the collected data.

Sampling Design

Target Population

The present study is focused on the impact of the COVID-19 pandemic on the tourism industry in Darjeeling. Based on the objectives of the study, the population was targeted. The concentration of the study is on the two key groups.

- The stakeholders or business owners engaged in various businesses such as hotels, restaurants, homestays, transport, and other related tourism service providers.
- The local people are employed in tourism-related businesses such as hotel staff, restaurant workers, homestay employees, travel agency staff, and other related jobs.

Sampling Techniques

For this study, a multi-stage sampling technique was utilised to systematically identify the targeted respondents. The sampling process was conducted in three stages.

- First, out of the nine developmental blocks in the Darjeeling district, five were purposively selected based on their concentration of tourism activity, the density of tourism businesses, and the local population's economic dependence on tourism.
- In the second stage, three villages were chosen from each selected block, resulting in a total of 15 villages, again based on the same criteria.
- Finally, within each village, targeted respondents were identified based on the study's relevance and their availability. Purposive and convenience sampling techniques were employed to ensure the direct involvement of respondents in the tourism sector. A total of 480 respondents were surveyed, comprising 231 stakeholders and 249 employees.

Data Collection

The present research completely depends on the primary source of data. The period of COVID-19 is not over yet. Hence, it was necessary to set a time limit for the study. Therefore, the study focused on the peak period of the pandemic from March 2020 to December 2021. However, the survey was conducted between November 2022 to April 2023.

The data collection was done with the help of the semi-structured questionnaires. Two separate questionnaires were designed for the two groups of people, the stakeholders or the business owners, and the employees or workers employed in the different tourism businesses. The survey was conducted with face-to-face interviews.

To measure the impact of the COVID-19 pandemic on the stakeholders in the Darjeeling tourism sector, different types of closed-ended and open-ended questions were incorporated into the questionnaire. Initially, to gather information about the demographic and business characteristics of the respondents, different questions were incorporated such as age, sex, education level, business types, year of tourism involvement, types of ownership, types of entrepreneurship, etc. Further, information was gathered about the business impact with the help of questions like business closing duration, working hour reduction, number of employees pre-pandemic, number of employees during pandemic, percentage salary cuts of employees, etc. In addition, to measure the financial strain as a result of the pandemic questions were put such as average monthly revenues in the pre-pandemic period, monthly revenues during the pandemic, number of operational assets pre-pandemic, number of operational assets during the pandemic, estimated total loss, etc. Furthermore, to estimate the degree of the pandemic's impact on customer decrease levels, supply chain, resource availability, business operational costs, morale and motivations, long-term business goals, and future business sustainability, the Likert scale was used. Similarly, the Likert scale was employed to measure the socioeconomic and livelihood impact. The questions added regarding the socio-economic and livelihood impact of the pandemic were the impact on daily expenses, family basic needs, children's education, future savings, family relations, mental health, well-being, etc.

Furthermore, to measure the impact of the COVID-19 pandemic on the socioeconomic and livelihood statuses of the local people employed in the different tourism businesses as salaried workers, another questionnaire was designed. The questions began with the demographic characteristics and job profile of the employees, such as age, sex, educational qualification, marital status, family size, number of earning members in the family, tourism workforce in the family, number of dependents, workplace, occupation, and work experience. Further, information was gathered about the monthly salary of the respondent, the monthly family income, and the per capita income. Additionally, to measure the pandemic on the family dynamics, various questions like employment status during the pandemic, unemployment duration, job losses of the family member, number of earning members during the pandemic, number of dependents during the pandemic, etc were incorporated in the questionnaires. To measure the financial impact, incorporated questions were personal income during the pandemic, average family income during the pandemic, per capita income during the pandemic, alternative income source, etc. Further, different Likert scale questions were also added to the questionnaire to measure the degree of the pandemic's impact on the occupational vulnerability of the employees, such as the impact on service demand, job uncertainty, work-life balance, long-term job opportunity, job satisfaction, and relationship with owners and colleagues. In addition to measuring the degree of the pandemic's impact on the socio-economic and livelihood status of the employees, the Likert scale questions impacted on income, financial obligations, food and nutrition, children's education, family relations, family basic needs, future savings, future optimism, and mental health.

Data Analysis

The proper analysis of the collected data is the backbone of any research. Suitable and understandable data analysis techniques not only enhance the research quality but also develop the research esteem. Before proceeding to the analysis of the data, tabulation is necessary. The collected primary data were tabulated with the help of statistical software SPSS. Further, the software STATA was used to analyse the tabulated data. Different types of statistics have been used to document the findings

of the study, including descriptive and inferential statistics for both study objectives, such as Paired t-test, Analysis of Variance, Chi-square Test, Pearson Correlation, Multiple Linear Regression, Enterprise performance Index, Occupational Vulnerability Index, Socioeconomic Resilience Index and others.

7. Major Findings

Findings from the first Objective

It has been found that all types of stakeholders, regardless of their role, enterprise type, location, or position, were significantly affected across the district. The study revealed that the average duration of business closure was 7.61 months. Furthermore, monthly revenues declined by ₹58 thousand (65%), and the number of enterprise operational units and employees decreased by 4% and 54%, respectively, compared to pre-pandemic levels. The pandemic caused an estimated economic loss of ₹7.80 lakhs for stakeholders. The study also shows that hotel and homestay enterprises were affected the most, experiencing longer closure durations, a larger decline in monthly revenues, higher estimated losses, and reductions in operational units. Additionally, the EPI of 2.80 indicated a significant to moderate impact on their enterprises. This suggests that the pandemic significantly impacted various aspects of tourism businesses, such as the supply chain, customer decline, resource availability, maintenance costs, motivation, and business goals. The pandemic also affected the socioeconomic conditions of stakeholders. The SRI of 3.30 indicated a moderate to slight impact, meaning many stakeholders faced difficulties in areas like daily expenses, basic family needs, children's education, family relations, and future savings. The study also found that the greatest challenges were experienced by small and medium-sized family-run enterprises and solopreneurs.

Findings from the Second Objective

To depict the socioeconomic and livelihood vulnerabilities of tourism employees, a total of 249 salaried employees were surveyed from the five different blocks of the Darjeeling district, which has the maximum concentration of tourism activities. Further, different statistical techniques have been used to measure the impact of the pandemic on the different dimensions of their socioeconomic and livelihood status. It

has been found that about 90% of the employees have been directly impacted. Additionally, 50% employees lost their jobs, and 40% were retained with reduced salaries. Additionally, the study findings suggested that the average unemployment period of the employees was 6.75 months. Meanwhile, the occupational status of the employees was significantly affected, as indicated by the Occupational Vulnerabilities Index (OVI). The occupational vulnerability of the employees directly impacted the socioeconomic conditions of the employees. Household earning members decreased by 6.79%. Additionally, dependent members, the general dependency ratio and the family dependency ratio were increased 6.14%, 56.59%, and 6.15%, respectively. Furthermore, the monthly salary, household monthly income and per capita household income were decreased by ₹8377, ₹11236, and ₹2628. The Socioeconomic Resilience Index (SRI) depicted that income, financial obligations, food and nutrition, children's education, family relationships, meeting basic family needs, future savings, future optimism, and mental health were also impacted significantly. The study reveals that lower-grade jobs, such as housekeeping, kitchen assistants, and waiters, experienced the highest level of difficulties. On the other hand, higher-grade jobs and skilled workers experienced comparatively fewer difficulties. Additionally, the employees who were laid off temporarily and permanently experienced severe difficulties compared to the employees who were retained in the same position.

Findings from the Third Objective

The tourism industry in Darjeeling faced a severe impact from the COVID-19 pandemic. Two key components of the tourism industry, business stakeholders and salaried employees, were significantly impacted by the pandemic. Additionally, the development of the tourism landscape in any region heavily depends on these components, which are closely connected. Therefore, the impact on one can directly affect the other. Due to the COVID-19 pandemic and the resulting restrictions, all business stakeholders in Darjeeling were forced to close their businesses for an extended period. As a result, stakeholders experienced a substantial reduction in income, leading to workforce reductions, pay cuts for employees, and other related issues. Additionally, socioeconomic factors and livelihoods were also significantly

impacted. Consequently, employees across various sectors faced job losses, pay cuts, and other challenges. Meanwhile, the pandemic had a different impact on the employment status, income patterns, and livelihoods of employees. Moreover, household income structures and dependency dynamics were also severely impacted due to the lack of alternative income sources, the job loss of other family members, and reductions in household income. Therefore, a few plans and strategies have been formulated based on the findings of the study to revive the tourism landscape in the Darjeeling district, which are included in this chapter. The plans and strategies have been divided into two categories: plans and strategies for the stakeholders and salaried employees. The strategies for the Stakeholders include governmental liberation and restructuring in the pandemic relief schemes, tax exemption and waivers for tourism stakeholders, formalising the informal tourism businesses, decentralisation of the tourism policies and schemes, MSME formalising mission, Infrastructural Development, Promotion of Off-season Tourism, Strengthening the local supply chain, etc. Furthermore, several strategies have been formulated for salaried employees, including formal registration, promotion of registration in the employees' provident fund organisation, establishment of an emergency relief fund, upskilling and reskilling, and the tourism employment guarantee scheme, among others.

8. Conclusion

It can be concluded from the above discussions that the COVID-19 pandemic imposed unprecedented challenges and a cascading effect on all types of tourism workers worldwide, regardless of their role, location, size, or type. However, the pandemic's impact was more severe for a small region like Darjeeling, which heavily depends on tourism. The pandemic created significant occupational vulnerability for stakeholders and salaried workers as well. This directly affected all aspects of their socioeconomic status and livelihoods. Furthermore, the study's findings suggested that larger businesses experienced the greatest economic loss. Similarly, entrepreneurs faced higher economic losses compared to family-run businesses and solopreneurs. It was also found that, although the economic losses among different businesses varied significantly, the percentage reduction was not much different.

Additionally, the pandemic's effects on the socioeconomic status and livelihoods of stakeholders varied as well. Small business stakeholders suffered the most compared to larger businesses.

Furthermore, the impact on salaried employees was more severe. Except for a few employees, all were significantly affected. The study indicated that, because of the informal nature of their jobs, about half of the employees were laid off permanently or temporarily. Moreover, the lack of alternative income sources and prolonged unemployment made it more difficult to meet basic needs during the pandemic. Although all employees were significantly impacted, the effect was especially severe on lower-grade jobs such as kitchen assistants, housekeepers, and waiters.

The study also identified critical gaps in the government support mechanism, particularly for informal business stakeholders and workers. It should be noted that a large portion of tourism businesses in Darjeeling and their employees operate informally. Additionally, the lack of governmental post-pandemic recovery plans and strategies for Darjeeling tourism, limited awareness of existing plans, focus on registered businesses, restricted target populations, and inadequate infrastructural development are major barriers to the rapid recovery and holistic growth of the tourism sector in Darjeeling.

In conclusion, the COVID-19 pandemic has not only exposed the weaknesses of Darjeeling tourism but also highlighted important areas where urgent, inclusive, shock-resilient, and sustainable tourism development initiatives are needed by the people and for the people. Government policy interventions should focus on economic growth, livelihood restoration, formalisation of informal sectors, and long-term strategies for sustainable tourism development. Meanwhile, without an inclusive, holistic, and cooperative approach, the recovery of Darjeeling tourism cannot be successful, given the current situation and future uncertainties.

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