CHAPTER-I

INTRODUCTION
1.1) **Conceptual Framework:**

In the words of Hunziker and Krapf (1941), tourism is the sum of the phenomena and relationship arising from the travel and stay of non-residents who are not connected with any earning activity. Tourism has been evolved as an industry after the industrial revolution. From leisure, tourism has strengthened itself in the social life of its stakeholders – both guests and hosts. Tourism satisfies what Bertrand Russell has said: “The art of using one’s leisure intelligently is a supreme sign of civilization”.

Tourism, environment and economy are found intricately related. A high quality of environment is the basic for the development of tourism in an area. The environment has to be examined in terms of its physical characteristics—vegetation, climate, soil, fauna and flora as well as the dynamics of relationships between them. As the environment is the prime resource of tourism, the increasing tourism activities in tourist destination often may result into the deterioration and degradation of the environment. This may occur due to the unscientific and unplanned growth of tourism in that area. The environmental changes associated with tourism development mainly focus on the land and landscape both man-made as well as natural environment.

A destination environment in all its forms is a major motivating factor for the initial visitors’ interest in a host area. If there is any deterioration in the quality of environment, the tourism development is affected. Depending on the environmental factors tourism can be divided into two broad categories, viz. (i) mass tourism (ii) sustainable tourism or eco-tourism. The unplanned or unscientific way of tourism development gives birth to mass tourism that results into scattered development affecting environment while sustainable tourism deals with the development that has been carefully planned and managed. Sustainable tourism also focuses on the greater realization of the carrying capacity of the tourism destination. Carrying capacity represents the point beyond which the tourism of an area becomes unsustainable posing threats for environment. Every tourist region has a carrying capacity. The longevity and the sustenance of tourism regarding the sustenance of host environment rely on the environmental sustainability.

The different types of environment impact upon the infrastructure and management of the tourist destination. So the environmental impact may lead to the destruction of the tourism industry. But tourism may help to know about the environment and its assessment. Tourism
can raise awareness to the value of environmental assets and contribute to the creation and conservation of natural parks, protected areas and reserve areas. Also tourism can significantly contribute to the conservation of biological diversity and the sustainable use of natural resources.

The unsustainable way of tourism development reveals its negative impacts in terms of loss of biodiversity, deforestation, congested settlements, landuse alterations, pollution of air, water and soil, siltation of water bodies, loss of wetlands, loss of land, social alienation, change in lifestyle and traditions etc. The sustainable tourism or eco-tourism not only revitalizes the physical environment of the tourist destination but it also exerts social, economic and cultural aspects. It promotes cross-cultural contacts with increasing participation of local communities in tourism development, which can contribute to a better understanding and increasing interest in the preservation of cultural heritage and the revival of traditional crafts and ceremonies.

Tourism development in an area invariably leads to economic growth of that area. The economic growth is manifested in terms of increase in income, poverty alleviation, employment opportunities, infrastructural growth, improvement of the standards of living etc. Fortunately tourism has variety of economic impacts. Tourism contributes to sales, profits, jobs, tax revenues and income of the area. There are three effective areas where the role of tourism is vital for economy- Direct, Indirect and Induced effect.

- The direct effects occur within the primary tourism sector- lodging, food and beverage industry, transportation, amusements and retail trade.
- The indirect effects occur when tourism affects various sectors of economy viz. industries supplying products and services to hotels.
- The induced effect on tourism activity normally focuses on changes in sales, income and employment in a region resulting from tourism activity.

Regarding tourism and economy, the relations are depending on the multiplier spin-off effects. Multipliers represent the economic interdependencies between sectors within a particular region’s economy. There are three types of multipliers associated with tourism (Lea, 1998):
Figure no.- 1.1.) Structure and Organization of Tourism

• *Employment multiplier* - generated by additional expenditure.

• *Sales and Output multiplier* – measuring the amount of total sale and output stimulated by initial tourist expenditure.

• *Income multiplier* – expressed quantitatively as

\[ TIM = Z \frac{1}{1-xy} \]

Where,

- TIM – Tourism Income Multiplier
- \( Z \) - % of tourist spending remain in the area after leakage.
- \( x \) - % of income of resident spends on local goods and services.
- \( y \) - % of expenditure of residents accruing as local income (after leakage).

Leakages reduce the economic gains of the host community. Leakages simply mean the outflow of money from the host community of the tourist destination. Tourism appears as a tool for backward area development due to its multiplier effects. With the help of tourism, a backward area can achieve the economic development.

**1.2) Tourism in India and West Bengal:**

India, the land of ‘Unity in Diversity’ is a country with 15,200 kilometer land frontier and about 6000 kilometer coastline approximately. India is the second most populous country and the seventh largest country in the world. As a vast and diverse country, India is well endowed with natural tourism resources. In case of cultural richness, India has the most ancient cultural heritage. Epics like Mahabharata and Ramayana and the story of Lord Krishna in Bhagwata Purana lie in the core of Indian cultural heritage. The art, literature, music, beats and rhythms of folk and classical dances, and painting gives it a distinct allure. The architectural style of the shrines, the beauty of ancient monuments and architectural master pieces are also a great attraction. The entire diversified resource base makes the country a paradise for tourists.
After Independence, much more attention was paid to the development of tourism in India. In 2012, about 20.7 million foreign tourists visit India having an annual growth rate of 4.3%. The share of India in international tourists’ arrival has been 0.64% with the 41st rank while domestic visitors numbered 1036.35 million having an annual growth rate of 19.87% represent the present status of this industry in the country (Indian Tourism Statistics, 2012). The tourism industry contributes to Indian economy as Foreign Exchange Earner. In 2012, the Foreign Exchange Earnings (FEE) from tourism was ₹ 94487 crore (Indian Tourism Statistics, 2012). In case of West Bengal, an eastern state of India, the foreign tourist arrival in 2012 was 1.22 million with an annual growth rate of 0.52% while the domestic visitors numbered 22.73 million with an annual growth rate of 2.13%. The rank of West Bengal among all states has been 10th in domestic tourist arrivals and 6th in foreign tourist arrivals (Ministry of Tourism, 2012).

<table>
<thead>
<tr>
<th>Calendar year</th>
<th>Domestic Tourist (WB)</th>
<th>Foreign Tourist (WB)</th>
<th>Total (WB)</th>
<th>Total Domestic (India)</th>
<th>WB Share</th>
<th>Total Foreign (India)</th>
<th>WB Share</th>
</tr>
</thead>
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<td>2001</td>
<td>4943097</td>
<td>284092</td>
<td>5227189</td>
<td>236469599</td>
<td>2.09%</td>
<td>5436261</td>
<td>5.23%</td>
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<tr>
<td>2002</td>
<td>8844232</td>
<td>529366</td>
<td>9373598</td>
<td>269598028</td>
<td>3.28%</td>
<td>5157518</td>
<td>10.26%</td>
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<tr>
<td>2003</td>
<td>11300763</td>
<td>705457</td>
<td>12006220</td>
<td>309038335</td>
<td>3.66%</td>
<td>6708479</td>
<td>10.52%</td>
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<tr>
<td>2004</td>
<td>12380389</td>
<td>775694</td>
<td>13156083</td>
<td>366267522</td>
<td>3.38%</td>
<td>8360278</td>
<td>9.28%</td>
</tr>
<tr>
<td>2005</td>
<td>13566911</td>
<td>895639</td>
<td>14462550</td>
<td>392014270</td>
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<td>9947524</td>
<td>9.00%</td>
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<td>2006</td>
<td>17372887</td>
<td>1119548</td>
<td>18492435</td>
<td>462321054</td>
<td>3.76%</td>
<td>11738892</td>
<td>9.54%</td>
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<td>2007</td>
<td>18580669</td>
<td>1154770</td>
<td>19735439</td>
<td>526564478</td>
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<td>668800482</td>
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<td>2010</td>
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<td>747703380</td>
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<tr>
<td>2011</td>
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<td>2012</td>
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<td>1036346657</td>
<td>2.19%</td>
<td>20731495</td>
<td>5.88%</td>
</tr>
</tbody>
</table>

Source: Tourism Department of West Bengal and Indian Tourism Statistics, 2012.

The state West Bengal is a versatile tourist destination in India as well as the world. Physiographically the state is unique in nature with snow clad mountain system of the Great Himalaya and the coast of the Bay of Bengal. Besides that the state is very much rich in folk cultural traditions. For the present study, two southern districts of the state have been taken.
1.3) Selection of the Study Area:

The undivided Midnapore district (21 ° 36´ to 22 ° 57´ North latitude and 86 ° 33´ to 88 ° 11´ East longitude), now divided into two parts i.e. Purba Medinipur and Paschim Medinipur are well endowed with tourism resources.

The tourism resources of the study area can be classified as follows-
A. Nature-based tourism resources
B. Historical and Archaeological tourism resources
C. Religious and Cultural tourism resources
D. Forest based ecotourism resources

If tourism development utilizing such resources is guided in a sustainable way, it can promote the economy of the whole area. In areas where tourism is already developed i.e. in coastal part, a number of environmental problems are already reported. In western section, the economy is backward. Under such circumstances, both the districts have been selected for present study.

1.4) Objectives:

With the following objectives, the study has been conducted:

- To evaluate the status of existing tourism attractions in Purba Medinipur and Paschim Medinipur.
- To investigate the scope of conventional and newer types of tourism in Purba Medinipur and Paschim Medinipur.
- To analyze the role of tourism in the economy of Purba Medinipur and Paschim Medinipur.
- To enumerate the environmental impact of tourism activities in Purba Medinipur and Paschim Medinipur.
- To make a survey on the availability of tourist facilities along with satisfaction level of the visitors.
- To appraise the existing plans and approaches for tourism development from both environmental and economic standpoint.
- To study the existing problems associated with tourism in Purba Medinipur and Paschim Medinipur.
- To predict the future prospect of tourism in the area.

1.5) Research Hypotheses:

The research began with the following hypotheses:
I. The economy of Paschim Medinipur is backward in comparison with Purba Medinipur.

II. Paschim Medinipur has much more potential in promoting tourism in comparison with Purba Medinipur.

III. The tourist destination of Purba Medinipur is much more popular and offering better infrastructure in comparison with Paschim Medinipur.

IV. The tourist destination in the coastal part of Purba Medinipur is already suffering from a lot of environmental problems and an environmental measure to cope with them is an immediate necessity.

V. The question of safety and security in recent years arises as a hindrance for developing tourism in Paschim Medinipur.

VI. Development of tourism may act as an instrument for regional development in backward areas.

1.6) **Database and Methodology:**

The statistical database of the districts Purba Medinipur and Paschim Medinipur is rich in content. The Bureau of Applied Economics and Statistics provides a large content of data while Census of India also provides town and village level information. Besides that, different Govt. organizations like NRDMS (Natural Resources Data Management System), NATMO (National Atlas Thematic Mapping Organization), and SOI (Survey of India) have their data on various aspects of the study area. In case of tourism related database, there is a very weak secondary source. The tourist inflow data is only available for the tourist destinations like Digha, Sankarpur and Haldia from Department of Tourism, Govt. of West Bengal. The information regarding hotels and lodges are not readily available from the districts authority. Under such circumstances, the scholar has to depend on the primary surveys.

The methodology of research is both statistical and cartographic. To fulfill the objectives, the study has to depend on both primary and secondary data sources. The primary data have been collected through interviews, observations, questionnaire surveys and field visits. The secondary data have been collected from different Govt. Departments and working NGOs in the study area.
In case of statistical analysis, various statistical techniques have been applied. To study the economic aspects of the study area a method of analysis of economic livelihood has been used. Block-wise census data (2011) of workers composition have been used to analyze the block-wise scenario of economic aspects. Cartographic techniques have also been applied to represent the comparative study of economic aspects between two districts namely Purba Medinipur and Paschim Medinipur.

To analyze the overall tourism components including tourism performances, several methods and cartographic techniques have been applied. A GIS software based technique of voronoi polygon is used to identify the tourist destination zones. To evaluate the territorial occupation of transport network, a method of network density is used. Block-wise transport density has been analyzed for this purpose. Mathematically, it can be expressed as:

$$ND = \frac{L}{S}$$

Where,

- **ND** - Network Density
- **L** - Length of roads (km)
- **S** - Surface area (km²)

Different zone-wise shortest path matrix analysis has been applied as a form of internal accessibility analysis and external accessibility analysis to identify the most accessible points of different zones as well as the entire study area. Apart from these, a Quality Assessment of Tourism Components (including five A’s – Accommodation, Accessibility, Amenities, Attraction and Administration) along with Quality Index has been prepared by using Simple Weighting Score Equation method of Morgan (1999) for analyzing the present status of tourism. The equation followed for TCQA (Tourism Component Quality Assessment) is:

$$\text{Weighted mean value} = \frac{\sum M}{N}$$

Where,

- **M** = Marks of weighted value of individual
- **N** = Number of respondent
TCQA = \( A_1 \sum WM_{i-n} + A_2 \sum WM_{i-n} + A_3 \sum WM_{i-n} + A_4 \sum WM_{i-n} + A_5 \sum WM_{i-n} \)

Where,

TCQA = Tourism Component Quality Assessment

WM = Weighted mean value

Questionnaire surveys have been conducted by using designed questionnaires in the tourist places for obtaining information. Another questionnaire survey is conducted with a separate questionnaire to investigate on the accommodation infrastructural status of the study area. Cartographic techniques have also been applied in several places of the study. For tourism potentiality analysis, a Tourism Potentiality Index (TPI) has been calculated followed by the methodology of demand and supply of resources in an area (Ferrario, 1982 as cited in Das, 2013). The respondent’s marks or weights are the basic data sources of this calculation. A survey with a framed questionnaire is being conducted for this purpose. The mathematical equation is expressed as:

\[ TPI = A + B/2 \]

Where,

TPI- Tourism Potentiality Index

A- Weights of demand on resource components

B- Weights of supply elements or tourism components

Modified Leopold Matrix (after Leopold et.al, 1971) is prepared to study the environmental impacts of various developmental activities in order to compare the level of stress on environment of the tourism hub. A questionnaire designed with 11 point Likert scale is employed in taking the responses of the respondents. The respondents involved are different stakeholders including govt. officials, local residents, visitors, hotel owners, shopkeepers etc. A combined methodology of SWOT-AHP (SWOT- Strength, Weakness, Opportunity & Threat and AHP- Analytic Hierarchy Process) has been used (after Saaty, 1990) to identify the criteria which actually influencing destination environment. SWOT is considered as a useful methodology for successful industry strategy formulation and decision making method
whereas AHP is the multi-criteria decision making method. Apart from these, GIS (Geographic Information System) methodology has been applied for preparing various types of maps. Different maps produced by NATMO (National Atlas Thematic Mapping Organization) and NRDMS (Natural Resources Data Management System) and some other sources are used as the base maps for generating the new maps on requirement basis. The Geoinformatics is used to satisfy the following requirements:

- **Geoprocessing** - to prepare various types of thematic maps.
- **DBMS (Data Base Management System)** - to facilitate integration of spatial data with non spatial data.
- **Space visualization** – used for planning purposes.

The application of GIS in the present work is as follows:

**Figure 1.3: Using GIS in analytical part**

To analyze the development scenario of the two districts, the method of composite score has been applied. The block-wise secondary data on computing eight sectors are used to prepare
composite score by using Z score \( Z = x \frac{x-x̅}{σ} \). The composite scores are then classified into two grand indices:

I. Composite Score of Development Index (CSDI) without tourism.
II. Composite Score of Development Index (CSDI) with tourism.

To find out the role of tourism in developmental scenario is the objectives of such analysis.

To identify the factors or the major criteria for development, a further study is carried out by using Principal Component Analysis (PCA) method. By using PCA a number of development factors have been identified. To calculate PCA, the IBM SPSS software (version 20.0) has been used. The methodological flow chart of composite score and PCA are given below:

![Methodological flow chart of the analysis of Composite Score of Development Index and Principal Component Analysis](chart.png)

**Figure 1.4: Methodological flow chart of the analysis of Composite Score of Development Index and Principal Component Analysis**
Apart from these, various cartographic techniques have been adopted for the visual representation of the data. GPS (Global Positioning System) survey has also conducted for preparation as well as updation of maps incorporating new tourist places. Integrating the conventional and modern techniques for spatial analysis, the present work has been materialized.

1.7) **Review of Related Literatures:**

Indebtedly, the present study is being done with the help of a number of books, and journals, periodicals and several reports. The contribution of the related publications and e-resources are worth-mentioning. D. Pearce (1989) in his book “Tourist Development” clearly emphasizes on tourism development and tourist development. In this book, the elements, agents, processes and typologies of tourist development are finely described. The concept of demand and development, tourist resources and its impact analysis are also the subject matter of this book. Lastly planning strategies of tourism for development is clearly discussed in this book. David T. Herbert (1995) authored a book entitled “Heritage, Tourism and Society” where he showed heritage as a literary place and products of tourism. The attraction of heritage, its planning, development, management and marketing are the issues evaluated in this book. Another important book of D. Pearce, entitled “Tourism Today: A Geographical analysis” was published in 1987. This book focuses on the spatial structures of tourism from local level to national level. He also identified six broad areas where geographers have already contributed:

1. Spatial pattern of Supply
2. Spatial pattern of Demand
3. Analysis of Tourist Movement and Flows
4. The Geography of Resorts
5. The impacts of Tourism
6. Models of Tourist Space

The book “Recreational Tourism: A social perspectives” written by C. Ryan was published in 1991. The book deals with the following segments like the determinants of tourist demand, the nature of tourist experience in the context of the tourist environment and the consequences of tourist interaction as well as the impact analysis i.e. of economic, ecological, social and cultural. Tourism planning also incorporated in this book. Thus, the book provides
a detailed idea about the demand consequences and planning strategies for tourism development.

In 1992, R. C. Mill and A. M. Morrison mastered an important book entitled “Tourism System: An Introductory Text”. In this book Mill and Morrison tried to explain the motivation behind the tourism and recreation, transport elements as an integrating part of tourism development, the demand and supply area of tourism, policy issues and future plan for tourism development. D. Foster in 1985 authored a book entitled “Travel and Tourism Management” which explains about travel motivations, tourism as an industry its products and marketing issues. The infrastructure including accommodation and transport and its relation to tourism development, the management issues like finance and organizational set up for policy orientation and planning remedies are elucidately discussed in this book.

The relationship between tourism development and environment from sustainability point of view is finely discussed in the book “Tourism and the Environment: A sustainable relationship” wrote by C. Hunter and H. Green in 1995. The tourism and its impact on natural, built and cultural environment are elaborately described here. The sustainability issue concerning environmental management is another important matter in the book. The different methods and techniques used for Environmental Impact Assessment (EIA) are discussed in the book.

In 2010, “Sustainable Tourism Management” was written by John Swarbrooke. This book gave a clear idea about the different dimensions of sustainable tourism like ecological dimension, economic dimension and social dimension. This book also highlighted marketing management issues, human resource management issues, operation management issues and financial management issues. Sunetra Roddy, Archana Biwal and Vandana Joshi co-authored another scholarly book entitled “Tourism: Operation and Management” in 2009. This book clearly explains about the tourism industry and its various sectors and sub-sectors, the different tourism components as well as five A’s – Accommodation, Accessibility, Amenities, Attraction and Administration and also provide an insight into the impact created by the tourism industry on environment, economy, culture and society. The details about the environmental issues in relation to tourism development including Environmental Impact Assessment (EIA) from sustainability point of view are described in the books “Tourism and Environment: Concept, Principles and Approaches” by Shashi Prabha Sharma (2006), “Sustainability Impact Assessment of Land Use Change” an edited book by Katharina


Besides that, there are a number of books, journals, articles, reports on the different aspects of the entire study area which are very much useful for the study. Among them, the following are worth mentioning:

a) The information about Purba Medinipur and Paschim Medinipur districts are elaborately described in the book “Medinipur Zilla Sanghaka” published by Department of Information and Cultural Affairs (2004), West Bengal.

b) “Bengal District Gazetteer of Midnapore” by L. S. S. O’Malley (1911) is another important book on Purba and Paschim Medinipur districts that provides huge information about physical aspects, history, public health, agriculture, natural calamities, canals, drainage and embankments, education etc.

c) “A Statistical Account of Bengal – the district of Midnapore” by W. W. Hunter (1997) is another important book provided an immense information about the geography and general aspects, the people, agriculture, natural calamities, means of communication, commerce, manufacture, administrative etc.

d) The book entitled “Midnapur Darpan – Geographical history of Midnapur” was written by Harisadhan Das (1994) providing detailed information about the district in terms of its physical aspects, economic aspects and socio-cultural aspects.

e) The detailed description of folk songs like Jhumur and Tusu and folk dances like Chhau are found in the book entitled “Lokayat Manbhum” by Sakti Sengupta (2000).


g) In 2012, Dr. Soumen Mahaptra authored a book on “Heritage Tathyapanji : Purba Medinipur” which gives information about the heritage sites, ancient fairs and festivals, library and museums of Purba Medinipur district.

h) A book on “Mahishadal – a small town” was written by Samita Manna (1994) with detailed information about Mahishadal town situated at Purba Medinipur.


j) The book “Lokayata Paschimrarh” written by Sibaprasad Chattapadhyay (2007) is a very useful book to understand the folk-cultural characteristics of the districts. The
book describes on Jhumur, Tusu song, Bhadu song, Kanthi nach, Karam nach, Jaoa song, Santali songs and dances.

k) The history of Tusu songs, folktale theme behind the Tusu songs and the entire details of Tusu have been incorporated in the book “Tusu” written by Santi Singha (1999).

l) A detailed description of tourism resources in Purba Medinipur district has been finely incorporated in the book entitled “Purba Medinipur Paryatan Vritantya” written by Nirmal Ghorai (2013).

m) The book “Medinipurer Lokosanskriti” by Lakshman Karmakar (2012) incorporates a detailed description of folk-culture of the Medinipur districts. The folk-culture includes folk arts and handicrafts like Pat, Dokra, Madur, Puppet etc., and folk songs like Tusu, Bhadu, folk-drama, folk-language, folk-deities, folk fairs and festivals which are elaborately discussed in this book.

n) A book on folk-culture of Medinipur is “Medinipur Lok-O-Sanskriti” written by Dr. Prodyut Kumar Maity (2001). This book has detailed coverage of folk-cultural characteristics of the districts.

o) The book “Medinipur” by Tarundeb Bhattacharya (2001 edition) gives detailed information about the district in terms of its physical and cultural characteristics.

p) The book written by Dr. Prodyut Kumar Maity (2001) entitled as “Annanya Medinipur” provides a valuable contribution about archaeological, religious and cultural characteristics of the districts. His another (2004) scholarly book entitled as “Medinipur : Dharma, Utsav O Mela” provides a detailed description of the fairs and festivals held at Medinipur and their importance. The history of Medinipur is also a part of this book.

q) The archaeological resources in the district Medinipur are incorporated in the book entitled “Medinipur Zillar Pratna Sampad” written by Pranab Roy (1986). The temple sculptures, religious sculptures and the ancient historical sites of the districts are elaborately described in this book.

r) Pat is a folk art of Paschim Medinipur district which specially concentrated in the village Naya at Pingla block. The description of Pat art, its unique character of making style, deliberation and significance, about Patua community and their history and overall their folk culture are described in the books entitled “Banglar Patchitra, Patua Sangeet, Patua Samaj O Lokosanskriti Viggana” by Dr. Subrata Kumar Manna (2012) and “Patua Sanskriti : Parampara-O-Paribartan” by Dr. Deepak Kumar Bara Panda (1999).
Chandrakona is a town of Paschim Medinipur district. The town has so many temples and also has a long past history. The history and culture is well accounted in the book of “Chandrakona Itihas-O-Sanskriti” by Dr. Sudarsan Roy (2008).

The description of the age-old temples and their structures are well accounted in the book of “Vagna Deul-er-Itibritya” by late Kanailal Dhirghangi (2007).

The book “Jhargram - History and Culture” by Madhup Dey (2013) provides immense information about the history and cultural characteristics of Jhargram.

The book entitled “The tribes of West Bengal” by Dhirendranath Baskey (2002) provides a detail about the different tribal groups in the districts.

A book on “Zilla Lok-O-Sanskriti Parichay Grantha - Medinipur” published by Folk and Tribal Culture Centre in association with Department of Information and Cultural Affairs, West Bengal in the year 2002 has presented a synopsis account about folk cultural characteristics of the area. Another book entitled “Santal architecture” published by the same department (1998) has incorporated a detail about the Santal community - their life-style, socio-economic condition, habitat, culture and rituals etc.

S.K. Ghosh (2011) authored a book namely “Dakshinbanger Hastosilpo” provides huge information about the art, artistry and handicrafts of the districts of Purba Medinipur and Paschim Medinipur. The details about Bone Craft, Madur Craft, Jhinuk Craft, Stone Craft, Brass Craft, Pat Art, Wood Craft, Bamboo Craft, and Jute Craft etc. have been finely introduced in the chapter of ‘Purba Medinipur Zillar Hastosilpo’ and ‘Paschim Medinipur Zillar Hastosilpo’ respectively.


Several journal articles, reports etc. are also very much helpful for this research work. Some of these are mentioned here:


2) The detailed analysis of Pat Chitra and Patua community has been documented in the research papers like “Village of Painters – a visit to Naya, Pingla” by Surabh Datta Gupta in the magazine of Chitrolekha International Magazine on Art and Design, 2011, vol-1(3) and “The perspective analysis of Pot Chitra in Bangla Folklore: Its

The effects of soil salinity on agricultural productivity in the coastal areas are clearly analyzed by Swarnali Mukherjee in her paper “Affect of Soil Salinity on Agriculture Productivity in Coastal Area of Block Ramnagar-I Purba Medinipur” in Indian Journal of Landscape System and Ecological Studies, 2009, vol-32(2).


The ground water position and potential zone assessment of ground water in Paschim Medinipur has been evaluated in the article entitled “Assessment of ground water potential zone in Paschim Medinipur District, West Bengal – A meso-scale study using GIS and Remote Sensing approach” by Gouri Sankar Bhunia and et. al. in the Journal of Environment and Earth Science, 2012, vol-2(5).

Besides that, the census of India report (2001 & 2011) published by Govt. of India, the report of brief industrial profile of Purba Medinipur district and Paschim Medinipur district, West
Bengal, published by the Ministry of Micro, Small and Medium Enterprises (MSME), Govt. of India provides a huge information which are very much useful for research work.

On the other hand a strong and huge informative website is “www.midnapore.nic.in”. It provides detail information about the physical, cultural, social and economic aspects of Purba Medinipur and Paschim Medinipur district. Another informative website is “www.purbamedinipur.gov.in”. The website provides huge information about Purba Medinipur district and “www.paschimmedinipur.org” website provides detail information about Paschim Medinipur district. The following websites are also helpful for the present study. These are:

- https://www.moef.nic.in.
- https://www.en.wikipedia.org/wiki/Coastal_hazards