



# Cyclones and its Impact on the Fishermen of Coastal region of Midnapore district in nineteenth century

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## Introduction

Cyclone may be taken as a combination of consequence of hazardous natural or social (manmade) phenomenon and environmental conditions at the place of occurrence. For the natural, tropical cyclones and for the 'social' two different types of occupations, viz. fishing and salt production, as these are affected by the former in the coastal region of Midnapore district of Bengal, are the centres of interest. The present study develops a human ecological approach standing at the interface of the physical and the social aspects. Some old literatures describing cyclones in relation to their disastrous consequence in the study area or in other parts of India and Bangladesh (part of erstwhile Bengal) can be found. But most of these are either in the form of Government or newspaper reports and articles or as a part of autobiographies. There is rarely any study along the guideline followed in the present research which emphasizes not only the characteristic features of tropical cyclones in Bengal as well as on the Bay of Bengal coast but examines two of the most important coastal economies also in the selected study area.

In Piddington's descriptions, "strong gust of wind" with uncommon heavy rain" was felt at Kedgerie i.e. present-day Khejuri on the 5<sup>th</sup> to the 7<sup>th</sup> June, 1839. Though it was a high-speed wind, it did not always reach the coast and it was not as disastrous as the May cyclone of 1833.<sup>1</sup> The seventh memoir describes a tremendous hurricane affecting again Khejuri on the 3<sup>rd</sup> and the 4<sup>th</sup> of June of 1842. This cyclone travelled up to Dinajpur, Purnea. Munger and Purulia.<sup>2</sup> April Cyclone of 1850 in between the 23<sup>rd</sup> to 28<sup>th</sup> affected Midnapore hitting at Digha in "Beercool Pargunnah" Division. It originated near the Nicobar Islands and travelled up to Mushidabad covering a distance of about a thousand miles<sup>3</sup>

Different Pargunnahs like the rise of temperature, fall of pressure, wind direction and speed, sea conditions etc., were observed by different ships in as much detail as possible in the midst of cyclonic situations and with low-quality technical equipment for data recording. On land, he mainly depended on empirical observations for wind

direction and speed along with instrumental recordings taken in some other administrative centres. Hut with insufficient data he analysed each phenomenon very carefully to understand their nature and preserved those data both in tabular and textual forms.

Piddington was concerned also about the nature and causes of storm waves. In a letter issued to the Governor General of India. He made an elaborate discussion on some points about the causes related to the height and extent of storm waves. These, in brief, are the following: (i) friction of land. (ii) rising of land, (iii) release of pressure from 'other waters' and its spread to right and left, (iv) height of storm wave determined by track of cyclone.<sup>4</sup> Piddington, nevertheless, made a valuable statement about the pattern of frequency of cyclones that it might come within five years or at the gap of twenty years or could come in coming October. He also pointed out the irregular occurrence of severe cyclones which was also supported by his followers like Blanford or Eliot.<sup>5</sup> In later years Ponandikar believed the same about the infrequent occurrence of greater storm waves in the years 1822, 1854 and 1876.<sup>6</sup>

The 1864 cyclone could easily be referred to as the disaster of the century. received attention from various comers, both Government and non-government. Lieutenant colonel J.P. Beadle who 'Was the Chief Engineer. Bengal to the Secretary to the Government of Bengal at that time. prepared a note not only on the progress of cyclones at different places of coastal Bengal, but also prepared a comparative discussion on different theories of cyclone characteristics by Maury, Alexander Thorn, and of course Piddington taking this cyclone as an object for investigation. This report was published in the Calcutta Gazette.<sup>7</sup> First. He examined the general patterns of the whirling motion of wind in cyclonic circulation and then concentrated on specific cyclones regarding their origin and track, passing of lull through different places at different times along with dissipation. Hunter acknowledged "Official documents published in 1866" and the Bengal Administration Report for 1864-65"<sup>8</sup> for preparing his account on the 1864 cyclone. He also described the phenomenon with its origin and track almost in a similar manner as Blanford in his report

The October cyclone of 1717 in Calcutta is the first record of cyclone hazard for the entire eastern coast of India. It was reported first in Gentleman's Magazine in June 1738. Later the report was quoted by Piddington<sup>9</sup> in his letter to James Andrew, the Governor General of India in 1853 about storm waves.

The next cyclone on record after a gap of 70 years is reported to have affected the port of Khejuri in Midnapore with a devastating consequence on March 10.1807. India Gazettee of the time focussed hazards in Khejuri, Sagar Island and ships on the way as quoted by Karan.<sup>10</sup> The May cyclone of 1823 inundated the coastal territory of Midnapore upto 6 to 7 miles inland following a collapse of the embankment by accompanying storm surge. Destruction was on all counts. e.g. the damage of the port of Khejuri, loss of records in the Collector's Court at Contai, loss in agriculture for that year added by loss in productivity for the following years due to saline ingression and loss of life in agricultural communities due to sickness after the cyclone. Hunter was surprised to note that no steps were initiated for remission or suspension of revenue though an assessment of loss was made by the Government.<sup>11</sup> Remission of revenue to the extent of Rs.85.678 was granted due to loss of paddy by the May 183

1 cyclone in Midnapore. Embankments were washed away again by 1831 cyclone.<sup>12</sup> Balfour<sup>13</sup> without mentioning the month or period of the 1831 cyclone, reported the loss of life of 11,000 people in 300 villages around Calcutta. The Englishman's Overland Mail from Calcutta gives a detailed description of the 1831 cyclone quoting Princep of Sagar Island (15th October, 1864). The October cyclone dated 7<sup>th</sup> in 1832 repeated the destruction of ripening crops and revenue was exempted to the tune of Rs. 84,691. Storm 1876. surges overtopped the 15 ft. high embankment.<sup>14</sup> In Blanford's account the 1832 cyclones were reported to have occurred twice in the months of May and August.<sup>15</sup>

A pre-monsoon cyclone in the month of May caused considerable damage both in Midnapore Districts in 1853. Piddington in his letter to the Governor General of India mentioned the height of storm waves in different places of the district (1853. pp.17-20). The market in Khejuri was washed away and settlement process in Sagar Island received a set-back with loss of more than 3000 people. Referring to Hurkarua news paper) Piddington stated that the storm surges reached Calcutta and its surroundings including Dum Dum road.<sup>16</sup> These three successive years of cyclones were followed by 1842 cyclone at an interval of nine years. When Piddington started his research in 1839. it was the first Calcutta cyclone, he had to do his work. It was a monsoon cyclone which occurred on the 51<sup>st</sup> June. No damage was done but it brought torrential rains for a couple of days. Settling the Sagar Island got a blow again.<sup>17</sup>

The October cyclone of 1848 is another event which retarded the progress of settlement in Sagar Island.<sup>18</sup> But the effect was not felt beyond Sagar Island or Khejuri as investigated by Piddington,<sup>19</sup> The cyclone hit the Orissa coast before coming to Bengal. Blanford. therefore, referred to it as a cyclone of Orissa in his list (1877). But Hunter in his statistical account of Midnapore (1876) recorded remission and suspension of revenue due to the damage of crop by the cyclone of 1848. Midnapore coast was once again affected by a pre-monsoon cyclone in April. 1850. Piddington kept a detailed account of this storm in his Twentieth Memoir about law of storms. Various direct experiences collected and quoted by him reveal the type of afflictions in the entire coast from Digha in the west to Khejuri in the east. Effects on landforms. Height of storm waves, breaching of embankments, damages to houses and roads, loss of cattle, loss of crops – all were noted carefully along with the physical parameters of the cyclone. Notwithstanding. Hunter described loss of crops only in case of indigo and stated that remission of revenue was required since there was no paddy in the field at the time of cyclone. Apart from O'Malley's mention of the year of 1851 as a cyclone year in Midnapore, Piddington had no account of this. It is in any way a mistake on the part of the former mentioning 1851 instead of 1852, because Piddington's investigation on Sundarban cyclone of May 14-15 in 1852 was not recognized by O'Malley. Being a researcher, Piddington took keen interest in finding out the track of the cyclone. He described severe nature of the cyclone in Sundarban where it demolished and destroyed everything in its path whether it is a house even a brick-built one or ship on the river. crops and cattle in the field and human lives. He remarked that sudden rise of water (perhaps he meant storm surges) in all the rivers caused such havoc. He also elaborated damage and destruction of buildings, loss of cattle. The uprooting of trees and moorings, breakage

and overturning of country boats and ships on the Hooghly in Calcutta. Settlement process in Sagar Island was affected by this cyclone like the earlier ones.<sup>21</sup>

The untiring effort to settle the Sagar Island since the beginning of the century was repeatedly interrupted by cyclonic invasions. Commencement of setting the island of Sagar, almost came to a halt with the cyclone of 1864. The port Khejuri in the opposite bank of the Hugli had a similar fate. Changes in the mid-channel How of the river offered no chance for re-emergence of port facilities here giving a death blow to the English settlement, Post Office etc.<sup>22</sup> The entire area up to Diamond Harbour, Kulpi in South Twenty four Parganas district and Tamluk, Mahisadal in Midnapore and the places beyond Uluberia were engulfed in storm -surges. The interior areas were flooded by rise of waters in coastal rivers and canals. In almost all the places embankments were overtopped by flood waters.<sup>23</sup> Gastrell and Blanford (1866) have given an elaborate description of storm waves with spatial extent and corresponding heights.

The cyclone not only destroyed the crops of that year, but also adversely affected the produces of the subsequent years due to saline invasion in the agricultural fields.<sup>24</sup> Loss of cattle, birds, uprooting of trees. damage and destruction of huts and buildings, breaching of embankments, destruction of ships etc. brought life in despair at least for a fortnight. The friend of India, a newspaper from Calcutta described the hazardous situation in and around Calcutta. William Carey's garden in Srirampur in Hooghly enriched with rare and beautiful species of trees was left with a few stumps. Loss of human lives over a period long after the cyclone due to sickness or starvation was equal or might outnumber the death caused during or immediately after the event.<sup>25</sup> The 1864 cyclone was studied both by official and unofficial personnel and the record covers both physical and social aspects of cyclone hazards. J.P. Beadle, who was the chief Engineer to the Government of Bengal was a pioneer in this regard. His reports were published in the Calcutta Gazette as official papers on November 9, 1864, at pages 366-68 and on November 30, 1864 at pages 369-94. The Friend of India dated the 6<sup>th</sup>, the 13<sup>th</sup>, the 20<sup>th</sup> and the 27<sup>th</sup> of October 1864 published weekly reports mainly on hazards rendered by the cyclone. A table was produced showing low-pressure conditions at different times during the storm but without mentioning the place of occurrence. Various first-hand narratives were gleaned from fledged areas such as Midnapore. Srirampur to publish them in the weekly newspaper. Advertisement for cyclone relief was possibly the first publication that reflects also a general awareness of the occurrence of such a devastating situation. Gastrell and Blanford (1866) observed the phenomenon from all corners.<sup>26</sup> also had special accounts of the event.<sup>27</sup> Reaks; mentioned the 1864 cyclone especially as a devastating one. Abdul Ali (1934. pp.5-11) in a research paper. Shastri (1979. p.406) in a historical essay, Sen (1959. p.409) in his autobiographical writings mentioned the October cyclone of 1864 while describing a disastrous event or situation. In the same year, another severe cyclone visited Andhra in November. The necessity for early forecasting of such disastrous phenomena was felt by the common people as well as the government and those who worked in this regard for their own interest and gained some sort of expertise. Later on the government realised the need for daily

meteorologically observation. To that end, India Meteorological Department was set up in 1875 appointing Blanford as the first Meteorological Reporter to the Government of India

The 1874 cyclone is the next one. This occurred on October 13-16 as referred to in Blanford's list, O'Malley again described it as more severe than the 1864 cyclone and added that the storm wave generated by it would have been more destructive had not the sea dyke been completed between Birkul and the mouth of Rasulpur.<sup>29</sup>

### **Fishing as affected by cyclones of coastal region**

Sea fishing as affected by cyclones in the coastal region of Midnapore district of Bengal is a subject of enquiry in the present study. The people engaged in this occupation are not to be taken as merely an economic group, rather they deserve to be considered as belonging to the primary producer group of the human ecosystem supplying food as a valuable fish item to the rest of the society, so that any disruption in the economy is liable to bring about a destabilization spatially and temporally in the distant and near ecosystems. Despite the introduction of technocentrism in the operational process, it is still out rightly a primary activity, practising a 'hunting and collecting stage' of the organization.<sup>30</sup> Based on these facts, some points are taken into consideration for the literature review. First is the inception of sea-fishing on a commercial basis in the study area. This is related to the survey of cyclone afflictions on fishing in the past. Also, it connects a point of the human ecosystem concerning energy fixation in the primary producing level while its commencement is connected with food requirements with the ever-growing population. Second is the nutritional value of fish and its fundamental requirement in the human diet in the study area. The last and most important point for the present discussion is the impact of cyclones on fishing.

As early as in the days of John Company in the year 1828, the English traders speculated the prospect of marine and estuarine fishing in the Bengal coast. In an analytical paper a detailed description was given of the existing fish market in Calcutta, the kind of fish intake and purchasing power of the Calcutta people, types of fishing boats and nets, inefficient fish preservation system, poor transport facility by country boats added by little demand and poor market of fish in the vicinity of Sagar and neighboring islands. Such a thoughtful note was published in the Calcutta Gazette (September 22, 1828) following an advertisement in a pamphlet indicating the establishment of a fishery on an extensive scale at the mouth of Hugli at Sagar Island. After examining all the facets, some conclusive statements were made that sea fishes, when carried for 12 days' journey, were inevitably brought in rotten condition due to time taken and improper preservation system.

In such circumstances fishing at Sagar would not be feasible if the British skill and know-how of sea-fishing were not applied in lieu of indigenous techniques. But these fishermen might have gained proficiency and expertise in deep sea fishing like their counterparts in Bombay, Madras Ceylon, Malabar and Coromondal coasts, if they were aided and encouraged by the expert British traders.

Problems of estuarine fishing, either in the midst of the forest-clad islands or in the rivers congested with riverine transport were mentioned at the same time while giving it a priority over deep sea fishing at the advent of hazardous weather conditions. It was assumed that estuarine fishing would encourage settlement in the forest-clad islands. On the other hand. The coastal forest was taken as an obstacle to the development of a fishery at the head of Bay.

The British trading Company. Never the less, had any contribution to introducing modern appliances in marine and estuarine fishing in the Bengal coast. It is not till 1859 that the first assistance of the British government came in the form of lease given in return fix tax to the people practising fishing in the estuarine rivers of Midnapore.<sup>31</sup> The lease was issued for a period of five years. The 1864 cyclone was accompanied by storm surges and devastated Calcutta along with coastal settlements. The report of this cyclone was surprisingly silent about any loss in the fishing sector. Earlier cyclones of 1831, 1832, 1833, 1848 and 1852 also had no account regarding loss in fishing. This missing information about fishing or about the fishermen must not be taken as a consequence of negligence, because fish is a palatable food item to the Bengalis of all categories. The probable reason might be that fishing was a secondary occupation after agriculture to almost all the fishermen during cyclone-prone periods. In most cases, People were compelled to buy fish of inferior quality due to the time taken between catching and marketing of the commodity. Therefore it was argued in the Calcutta Gazette (1828, p.321) that any improvement of fishing would be reflected on the quality of food of the inhabitants of Calcutta, though nothing was done actually in this regard. Even sometimes the fishing sector had been ill managed. In 1859, tax was imposed on estuarine fishing and in 1943 boat denial policy appeared as a deliberate attack on this economic sector. In 1833, a devastating cyclone killed three quarters of the people and animals in the Khejuri region of Midnapore. Boats and ships were destroyed by cyclone. The beach was narrowed by broken pieces of wood and nails.<sup>32</sup>

The initial stimulus for first sailing in the open sea came probably in search of fish, as remarked by Becht and Belzung (1975, p. 135) while giving opinions about convince of food resources of the sea in its naivete as well as accepting the primitiveness of marine fishing. They also correlated the 'rice of world naval powers' among the fishing people - in Carthage, Greece and England, the Netherlands and Norway.<sup>33</sup> But the spread of this activity is not older than the decade of the early twenties. Japan and USSR took their decisions separately but almost at the same time for expanding deep sea fishing to meet the increasing demand of food for an ever-growing population. Both countries had a deficiency in meat and other animal protein.

### **Impact of cyclone on Fishing days**

The rough weather conditions of cyclone challenge the work of fishermen, they are vulnerable to climate extremes and make fishing as fragile of coastal area of Midnapore. Tropical cyclones may damage their residence, fish-landing boat, and other assets and make them jobless. Ingenuousness and inaccessibility of other occupations made the life of fishers as insecure. Sometimes they ought to go for fishing even in worst climatic conditions.<sup>34</sup>

### **Impact of cyclone on fisher's properties**

Khejuri port was destroyed and the course of the river was changed due to cyclone and flood. `` For going out or Coming in of Kedgere finds good water not having less than 16 feet at low water spring tide''<sup>35</sup> The cyclones cause damages and sometimes loss to assets of the people residing in coastal region. It destroys the shelter, boats and their

other means of survivals also. During the saviour cyclones and when the warning signals mount, the families of fishers may decide to move to safeguard their lives even that may not be possible sometimes because the trees uprooted by the cyclone may create mess in the road access, the combination of wind and rain may stopped their other means of commutation, fear of harm by flying wreckage due to storm is another factor that frightens people regarding moving from cyclone prone region to other areas.

### **Impact of cyclone on women and children**

Instead of going to school, the children are forced to get involved in the fishing activities and they were taught to cope up heavy rain, cold wind and strong sunshine. Women and children are more defenceless to cyclones due to various reasons. Women may willing to move from the cyclone affected place to safeguard their children, but their attire and their long hair intrude them to swim in tidal waves .Also the issues like class, caste, religious believes prevents women in moving from affected areas. Alone with the problems of cyclone, the women also encounter issues like lack of pace to lodge, lack of power facility and poor sanitation in coastal region of Midnapore district.<sup>36</sup>

### **Impact of cyclone on Migration**

Migration witnesses the changes in ecosystem. There are various kinds of migration out of that moving temporarily for survival which is otherwise called as leaving in order to stay. Fishermen use to migrate within a specific geographical location to exploit different species; some short-term relocations are for a period less than a fishing season to track fish stocks; and some periodic relocations last up to for one or more seasons to foreign fishing settlements. Their materialistic losses during the times of cyclone force them to migrate to a different job, which they may not have experience and willingness to do. As far as the South, East and West of the coastal areas can see, all of the regions were killed. People Fishermen were running in search of shelter with their sons and daughters on their heads.<sup>37</sup>

### **Conclusion**

In the above research article of cyclone related literature has been made on the basis of availability of materials in Midnapore,Kolkata and Burdwan only. This survey reveals that cyclone is still dealt by meteorologists who are not interested in social connotation of this event. In Natural disaster studies. Contribution of economists is more than that of other social scientists. Geographers have little contribution in this field. Moreover most of the research on disaster was initiated of by American geographers. The American school of hazard studies gives emphasis on the physical parameters of cyclone as disasters stimulating factors. Our research efforts take a scientific view point. Society and societal characteristics of India have been given equal emphasis to study the impacts of cyclones on fishing, Agriculture and Salt Production.

**Endnotes:**

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