

CHAPTER FOUR

DEFINITIONAL PROBLEM

4.0 INTRODUCTION

Tropical cyclone is the central theme in this research work. Therefore, a scientific definition of the term is a prerequisite before going into any further discussion. It is true that any in-depth study on any natural phenomena creates definitional and / or terminological problems from different points of view.

4.1 SCIENTIFIC TERMINOLOGIES.

The term 'tropical cyclone' is composed of two words – 'tropical' and 'cyclone' – the former is the adjective of the latter. Normally then the term should be meant for the cyclones in the tropical region. Now the question is what is 'cyclone'?

Unlike other hazardous phenomena of floods, droughts, earthquakes etc., which suffer from definitional problems out of their differences in inherent characteristics or differences in origin, definitional problem of 'cyclone' is identified with different terms used for the same phenomenon in different parts of the world at different stages of life cycle of the same event. This has created quite a confusion in literature related to 'cyclone'. How long and how much the phenomenon raises definitional or terminological problems among the scientists in this field, is understood by the fact that the particular term 'cyclone' which is the recognized term today is an adopted term and has not any regional sense associated with any stormy occurrence anywhere in the world. When Henry Piddington appeared for the investigation on the phenomena in the year 1839, faced this definitional problem and gradually felt the necessity for a scientific term which he described later in his *Sailor's Horn Book* (Piddington, 1851, pp.10-11). Cyclone is specific in its terminological

problems with similar or synonymous terms both in its spatial and temporal orientation.

At first Piddington and his contemporaries had to come to a conclusion that 'Hurricane' of the Caribbean Seas, 'Typhoon' of the China Seas, 'Willy Willy' of Australia and 'Baguio' of the South East Asia were storms of similar characteristics and of similar origin. But what was more disturbing or problematic was not associated with the spatial differentiation of the terms as described above, but with various similar or synonymous terms used in different stages of the formation period of the event to indicate its intensity. 'Breeze', 'gale', 'strong gale', 'hard gale', 'tempest', 'squall', 'storm', 'hurricane' were such words as found by Piddington (1851, pp. 10-11) being used haphazardly. He quoted a newspaper report in his Sailor's Horn Book where the anomalous use of various terms creates serious confusion not only to lay man, but to the experts like him also. (Piddington, 1851; p-11). He therefore introduced the new word 'cyclone' in meteorology from the Greek *Kukλos* signifies amongst other things, the coil of a snake as neither affirming the circle to be a true one, though the circuit may be complete, yet expressing sufficiently the tendency to circular motion in these phenomena. We should by the use of it be able to speak without confounding names which may express either straight or circular winds such as gale, storm, hurricane, etc. with those which are more frequently used (as hurricane) to indicate merely their strength. (Piddington, 1851, p. 10) Today's satellite pictures prove Piddington's expertise to draw an imaginary horizontal feature of cyclones only with the help of unsatisfactory surface data available to him. Another similarity between 'coil of snake' and 'cyclone' is that apart from the eye, the eye-wall of cyclone is the most disastrous area like the mouth of the snake at the centre of the coil. So the name 'cyclone' is very much appropriate for the particular storm. But it is to be remembered that Piddington only tried to solve the identification problem with the phenomenon. According to him, 'cyclone' is a 'circular' storm (Piddington, 1849, p. 826). Thus 'cyclone' to Piddington is not the only universal or international name for hurricane or typhoon etc.

but it is a particular action in the atmosphere in which air spirally moves inwards surrounding a low pressure area at the centre irrespective of wind speed. This spiral is a general character of all atmospheric phenomena which may give rise to a storm under favourable conditions although in certain cases, the developing storm may fizzle out. Therefore cyclones, tornadoes, thunderstrom – any type of storm, in one word which has a whirling motion in it, may deserve to be mentioned as cyclonic phenomena. Though Piddington's characterization of cyclone is still accepted in meteorology but controversy underlies regarding proper terminology of the term 'cyclone' and its other branches from different view points.

1. First, meteorological definition of 'cyclone' opposes the synonymous use of the term to hurricane, typhoon etc. in the Indian sub-continent, South West Pacific and South Indian Oceans respectively.
2. Second, the term 'cyclonic storm' may have an adjective sense to any such relevant cases, but this term signifies a stage in the development process of cyclone in Indian Meteorology. When the system attains wind speed of 34 to 47 knots per hour, it is referred to as 'cyclonic storm'.
3. Third is the problem with the term 'tropical cyclone'. This term was introduced by Piddington himself to mean the cyclones of oceanic origin in the tropical region.

This again may be controversial just like the term 'cyclonic storm'. 'Tropical Cyclone' at present is used as the event in general and also for specific intensity level determined by specific wind speed (73 Km. ph.).

4. The fourth problem is about the term 'tropical storm'. Just like the term 'cyclone' here the problem is with word 'storm'. 'Storm' is characterized in different ways and those from meteorological view points are very much controversial. For example, Webster's Universal Dictionary defines 'storm' in the following manner. "Storm. 1. Violent atmospheric disturbance involving strong wind, with or without rain, sleet & C, and sometimes accompanied by thunder and lightning, sometimes in compounds, indicating specific character of storm, e.g. thunderstorm, sand, dust storm, clouds of sand, dust, carried and whirled round, by the wind; cyclonic storm, cyclone; magnetic storm, disturbance of magnetic field, indicated by oscillation of magnetic needle. 2. Violent atmospheric precipitation, with or without wind : storm of rain, hail; also in compounds, hail, ram, snow-storm & C. 3. (naut. and meteorol) Wind of specific velocity, usually 70-80 miles per hour, between gale and hurricane. 4. Dense shower or volley of objects flying through the air a storm of arrows, missiles & C " (1970. pp. 1471-72).

Among these, the number four is non-meteorological meaning of storm and the number three specially is referred to as meteorological categorization of storm indicating not only the definite wind speed but also as a part of the system of tropical cyclone being at the stage between 'gale and hurricane' (Webster, 1970, pp. 1471-72).

Encyclopedia Britannica defines 'storm' in similar manner that it is a generic term, popularly used to describe a large variety of atmospheric disturbances, ranging from ordinary rain showers and snow storms to thunder-storms, wind and wind related disturbances, such as gales, tornadoes, tropical cyclones and sand storms.

From such meteorological nomenclature of 'storm' perhaps Encyclopedia Americana denotes tropical storm as a tropical cyclone designated by

international agreement as having winds of gale force (39 miles per hour) but less than hurricane force (73 miles per hour). (Encyclopedia Americana International Edition, 1983, Vol. 27, p. 149).

Whatever may be the dictionary meaning, storm to the common people is an unstable situation of weather in terms of speedy air circulation. There is no upper limit of wind speed, but in its lower level it must be more than that of breeze and is sufficient to draw people's attention. Storm may be dry or wet, associated with dust or rain or hailstone. But there must be some visible or observable changes at least to some extent on the features on the surface of the earth like bending or uprooting of trees, lack of visibility either by dust or rain, carrying of dry and loose matter with air in motion. This also should be regarded as a characterization of storm which does not bother about the origin or characteristics of individual type of storms but emerged only from the perceptible characteristics placing one thing in common i.e. wind speed.

The purport of the above discussion is to justify the term tropical storm in relation to 'tropical cyclone'. Perhaps it is made clear in the definition of 'tropical storm' in 'Encyclopedia Americana' already discussed above. But it can be assumed in connection with the concept of the common people about storm or non meteorological definition of storm that 'tropical storm' is meant for any type of storm in tropical region. But as per the above mentioned meteorological meaning, storm is identical with 'tropical cyclone' with definite speed of wind (73 kmph.) and placed between 'gale and hurricane' (Encyclopedia Americana, 1983. Vol.27. pp.149,324) or 'deep depression' and 'Hurricane' or the likes as according to different classifications of tropical cyclones. Chamber's nomenclature of 'storm' clearly states a wind just short of hurricane apart from other meanings like 'a violent commotion of the atmosphere', 'a tempest' or 'any intense meteorological phenomenon', 'a fall of snow, long frost' etc. (Chamber's Dictionary, 1983 p.1276).

Actually controversy is raised when the meaning of storm is linked with particular phenomenon of atmosphere which is identified with its whirling motion as 'cyclone' and is different in many facets from other atmospheric disturbances which are also included in the term's definition. Notwithstanding the dichotomy with the meaning of storm, the term 'tropical storm' has been accepted by an international agreement (Encyclopedia Americana 1983, Vol.27. p. 324) probably considering only the meteorological meaning and without any concern with the other general meaning. The main difference of meaning between the terms 'cyclone' and 'storm' as defined by Piddington (1851, p.10) which raises the objection about the inclusion of the term 'storm' within the system of tropical cyclone is that 'cyclone' is of circular motion whereas 'storm' signifies only the wind speed excluding the sense of whirling motion. Therefore, cyclones are one type of storm but all the storms are certainly not cyclones.

It has already been mentioned that the terms like breeze, gale, hard gale, strong gale, squall, tempest, hurricane etc., were in use either synonymously or sequentially to indicate the intensity of the storm at particular phases of development.

In the earlier period these might have been used haphazardly, but in later years Admiral Beaufort gave it a logical footing on the basis of wind speed. But wind speed, it is to be admitted, was not measured by instruments, rather on the basis of observation. So it should not be counted as objective measurement. Beaufort's scale, in fact, is still in use where objective measurement of wind speed is not possible either due to failure of instruments or due to absence of it. However, after the invention of anemometer, different stages of cyclones have been differentiated on the basis of scientifically measured wind speed. Though there is an international agreement, classifications differ according to different opinions. Since they develop intensifying depression stages, 'tropical depression' is taken as the first phase of the system in most of the divisions as done by Petterson (Petterson, 1958,p.

239). In his classifications, tropical depression is the stage when spiraling air motion is generally less than 25 mph. or 40 km. per hour. Next stage is 'tropical storm' with wind speed ranging between 25 to 75 mph. or 40 to 120 km. per hour. The system is called hurricanes, typhoons, cyclones, baguios, or willy-willies as named in different regions of the world when the wind speed exceeds 75 mph. or 119 km. per hour. Encyclopedia of climatology also denotes tropical storm with winds 'greater than 30 knots' and hurricane exceeding 65 knots (Oliver and Fairbridge, 1987, p. 279-82). Sometimes the term 'tropical storm' is replaced by the term 'tropical cyclone' corroborating the same basis of classification.

But a few authors again use both the terms as subsequent stages of tropical cyclones before attaining the speed of hurricane as done by Trewartha, Musk etc. Trewartha (1980, p. 187) and Lockwood (1986, pp. 51-53) classified the phenomenon in the following manner. Tropical depression is a cyclonic circulation with wind speed below 17 ms⁻¹. Tropical storm is a system when wind speed with cyclonic circulation exceeds 60 km/hr. (40 mph.) and the system is referred as cyclone when wind speed exceeds 120 km/hr. (75 mph.). Both Trewartha (Ibid) and Musk (1988, p. 133) equalize tropical cyclone and hurricane in terms of wind speed. The latter is only a local term of the former in specific area.

The above discussion shows that tropical cyclone is classified in varied manner by different authors, underlying a basic agreement regarding break of the stages in terms of wind speed. It is noticeable that hurricane or typhoon always is considered as the highest level of the system. The derivative meanings and myths about these names also indicate high speed wind or a fearful feeling associated with them. It is noteworthy that other synonymous terms of hurricane and typhoon used in other parts of the world are 'willy willy' in Australia, 'baguio' in S.E. Asia, 'cordonazo' in Mexico, 'cyclone' in Indian subcontinent and in North West Australia, 'tufan' in India, 'ghurnijhar' in Bengal in India. Of these the latter one is almost synonymous with

whirlwind, the term already in vogue to describe phenomena approximating cyclones. To this atmospheric phenomenon Piddington applied the name 'cyclone'.

Till recent past India Meteorological Department classified tropical cyclones in the following manner. Low-upto 16 knot (kt), Depression—17-27 kt., Deep Depression—^{Severe cyclonic storm—47-63 kt.,} 21-33 kt., Cyclonic Storm — 34-47 kt./Severe Cyclonic Storm with a core of hurricane wind (64 kt or more). It is to be noted that neither the term tropical cyclone, nor the term tropical storm has been used in this classification and they have been replaced by the term 'Cyclonic storm' and two other higher gradations have been added.

4.2 PERCEPTIVE REALITY

There are always a two ways transmission of perceived world of knowledge and its volition between science and society. Regardless of the question of determinism or not, climatic or weather phenomena are inseparably connected with the life system of the earth. Man's economic life extended upto the limit of his mere comfort and discomfort is closely tied to the cycle of climatic systems of the place concerned including all the long term and short term events, liable to vary daily, seasonally and annually. Interest, observation and experience about the inhabiting climate are therefore very natural for the local people. Cyclones associated with hazard-rendering parameters have entered the perceived world since long in the places of their visits. With the process of cognition, perception and volition different terms like hurricane, typhoon etc., have been evolved and have entered the literate world from local terminology. This however is a brief discussion about cyclones in the people's perception in West Bengal, India alias the world as also from the reconstructed past to the present. For this, different terminologies of cyclones along with their derivatory meanings have been considered. Colloquial terms for the natural phenomena evolves spontaneously from people's perception. Some characteristic features of the phenomena are, therefore, meaningfully imbued

into these terms. These also have an easy access to literature and each regional literature is expected to carry some impression of the local environment. For that reason, different regional terms of cyclones and literary use of such words have been considered. The objective of this part of study is to see how far people's perception differs or ^{is}/close to the characteristics of the phenomena objectively defined.

Among the three destructive parameters of cyclones, viz. wind speed, rainfall and storm surges, the former one is considered the elementary that means that this is the identifiable characteristics. All the regional terms carry the essence of high speed wind as observed by Piddington (1851). In consequence of his investigation into the epistemology of the words, Piddington found interesting information in relation to fierceful hurricane, typhoon and baguio as evolved in people's perception associated with superstition and myth. Origin of the word 'hurricane' is in Caribbean or in West Indian language. Piddington quoted from Relacion summaria de la Historia Natural de las Indias & C & C where the Captain Fernando was speaking about people's superstition to Charles V. This is quoted here as an evidence. "So also when the Devil wishes to terrify them (the Indians) he promises them the Huracan which means tempest. This he raises so powerfully that it overturns houses and tears up many and very large trees; and I have seen in thick forests and those of very large trees, for the space of half a league in length, and continuing for a quarter of a league in length, the forest quite overthrown and all the trees, large and small, torn up by the roots, the roots of many being uppermost, and the whole so fearful to see, that it doubtless appeared to be the Devil's work and could not be looked on without terror".

Piddington could not find any other origin of the word hurricane but to satisfy himself with the author of the above quotation, despite his search for this also in Spanish Dictionary. Piddington rightly noted that the storm in description was a tornado, though the term 'hurricane' was used for this. That means people could not differentiate the phenomena of tornado and cyclone. In our

case it will be discussed later that people have little idea about different origin and characteristics of tornado and cyclone even these days.

‘Typhoon’ according to Piddington, is “undoubtedly” a “Chinese” word, which was derived from the Greek “Typhon”, (1851, p. 312-13) meaning whirlwind (Webster, 1969, p. 961). Otherwise ‘Typhoon’ has originated from the French ‘taai’ meaning great and ‘fung’ for wind (Webster, 1969, p. 961) or from the Chinese taifeng, meaning the same, the great wind (Webster, 1970, p. 1601). About people’s perception relating to typhoon in China and Port of Canton, Piddington quoted Dr. Morrison. The quotation follows – “At Hainam and the Peninsula Opposite (to the North of it), they have temples dedicated to the Typhoon, the God (Goddess) of which they call ‘Keu Woo’, ‘the typhoon mother’ in allusion to its producing a gale from every point of the compass, and this mother-gale with her numerous off-spring or union of gales from the four quarters of heaven make conjointly a taefung or typhoon” (1851, p. 313). The description of the ‘mother gale’ fantastically fits with the characteristic whirling motion of cyclonic winds.

About Baguio it was said that “In the South Sea Islands, they are called ‘the wind that breaks the banana-trees’ and the names bagyo and sigua as those given by the natives of the Philippines to cyclones, and monsoon gales” (Piddington, 1851 p. 313). Epistemology of the Australian synonym for cyclones, ‘willy willy’ is difficult to find out. In Webster’s Dictionary (1969, p. 1022), the single word ‘willy’ is meant as ‘akin to willow’ which is “a textile machine in which cotton or wool is opened and cleaned by a spiked drum revolving in a box studded internally with spikes” (1969, p. 1022). Conjoint use of the term ‘willy willy’ is found only in Langeuscheidt’s Encyclopaedic Dictionary of English and German languages meaning ‘wirbelsturm m, sturmwind in’ of Australia.

Origin of ‘cyclone’ though is essentially connected with scientific investigation, but the term has got a regional expression in the countries

around the Indian Ocean. Its association with the Bengalee and Bengali literature will be discussed a little later since the present discussion is to follow a chronological order and from macro to micro regions.

It is surprising to note that the term ‘cyclone’ which was coined by Piddington (1849) just to associate and identify storms with whirling motion only in the 19th century, a synonymous word was already there in the North India-based language of Sanskrit about three thousand years back. The word ‘Chakrabata’, found in Bhagvata Purana VII. 7.18, X24 and Vishnu Purana V. 11 denotes the meaning of whirlwind (Dube P. 69). Syllabing the term divides it into two – ‘chakra’ and ‘bata’. ‘Chakra’ literally means wheel. This in turn indicates a round movement or a whirling motion. ‘Bata’ means wind. Of course, the use of ‘chakrabata’ in Bhagavata Puran is an example and not the description of a cyclone. The advent of a man resembles whirlwind or cyclone (chakrabatarupena) i.e. a stormy or destructive appearance. ‘Chakrabata’ notwithstanding, is not associated with cyclones of tropical origin, since the region does not have a spatial entity of cyclonic occurrence. The term rather may be a kind of dust storm locally known at present as ‘Andhi’ which has also a whirling motion. Despite little success of Piddington to find out ‘Chakrabata’ in Sanskrit or ‘Ghurnibatya’, ‘ghurnijhar’ (whirlwind in Bengal), Colonel Reid of America took notice of the term ‘roundabouts’ frequently used by the people of Bermuda for “all the gales in which the wind veered and the Barometer fell”. (Piddington, 1851, p. 313).

Just like literatures, travelogues also provide good evidences about people’s perception and associated knowledge on superstition. The old English travelogues pointing to the western coast of India had no remark about cyclonic occurrences. (Chattopadhyaya, 1980). Chanakya, the Minister in the reign of Chandragupta Maurya and the author of the ‘Arthasastra’ (the theories and policies of economy) in the 3rd Century B.C. considered eight catastrophies, but surprisingly excluded any stormy event or wind-related phenomenon. (Shamasastri, 1915)

But Fa-Hien (400 A.D.) experienced two cyclones on his return journey from India – one from ‘Tamralipti’ (present Tamluk in Medinipur District) to Java [Ye-po-ti] and another from Java to China. Little chance is there to be wrong if we assume that Fa-Hien used the term ‘typhoon’ for both the events of cyclones. But Beal, the translator of the Chinese accounts, mentioned the term ‘typhoon’ for the first case and squall for the second case though the latter was also of similar magnitude and characteristics as per the description. Sometimes at the rise of disastrous situation people behave abnormally and become superstitious. Some Hindu businessmen, Brahmana by cast, blamed and put the whole responsibility to a Buddhist Vikshu, travelling in the same ship, for occurrences of cyclones twice on their voyage (Beal, 1957, pp. 51-53).

Darwin, being a scientist experienced a ‘tropical storm’ instead of ‘hurricane’, in Bahia or San Salvador, Brazil on February 29, 1832. He reported two more ‘south-western gales’ in which ‘Her Majesty’s ship Beagle’ was ‘twice driven back’. But it is not clear from the description what types of storms those ‘gales’ were. He made an observant’s statement that the sailors were more superstitious than the Fuegians (the Caribbean Indians) and for this the latter were made responsible by the former for encountering successive heavy gales by them, off Cape Horn (Darwin, 1968 pp. 1,12,215). Captain James Cook had experience of stormy events on his voyage for the period from 1768 to 1771 but the storms were temperate cyclones as understood from the parameters in the description like hail, snow, rain, shower, hailstones etc. along with the latitudes of occurrences being the $43^{\circ} 45'N$, $49^{\circ} 49'N$, or $51^{\circ} 20'N$. (Beaglehole, 1968). Lennox Cook, an Englishman faced a ‘tremendous storm’, in which ‘the wind rose to hurricane force’ in the ‘Fiji Islands’ (Cook, 1955, p. 213-14). Other geographical accounts on ancient India by Cunningham (Sastri, 1924) or Megasthenes (Mc Crindle, 1960) also do not throw any light on cyclonic occurrence. Notwithstanding, before adopting the scientific term ‘cyclone’, ‘hurricane’ got a universal acceptance as tropical cyclone, especially to the persons interested in science or to the men of letters. Simple

'storm' or 'tropical storm' was also in use as explicated by the title of Piddington's Memoirs 'Law of Storms' (1839-59).

In Bengal, 'ghurnibatya' was used in literature till the recent past (Bhattacharya, 1959, p. 35). 'Ghurnibatya' epistemologically is much close to 'chakrabata' where 'ghurni' means whirling and 'batya' means storm. It is not certain whether 'ghurnibatya' was a common vocabulary in Bengal in the remote past comparable to that of the age of the Puranas simply because of the fact that written literary Bengali accounts are comparatively young in age. A stormy event was described first in Bengali in 'Manasa ^M/angal Kabya' (approximate period being the 13th or 14th Century) the first literary accounts in Bengal. Here we get the word 'Gajashundakar'. It is more close to the colloquial Bengali 'hatisunra'. 'Hatisunra' literally means the trunk of an elephant. It is still used by the common people in Bengal and in the surroundings to denote the tornado cloud which almost touches the land from cloud base just like the trunk of an elephant. The storm was described in 'Manasa Mangal' as a forceful whirling wind in which seven large trading ships of a big trader, Chand, were engulfed. The ships were completely taken over by the storm. After making a circular movement with the speed and direction of the wind, the ships were completely destroyed and drowned.

Despite the storm resembling almost like a tornado, it is mentioned here simply because it is the first evidence of whirling storm in Bengali literature. Before being acquainted with the term 'cyclone' the Bengalee perhaps were more accustomed with the term 'tufan', a changed form of typhoon over the Pacific Ocean. 'Tufan' in fact, was a term for destructive storm not only in Bengal, but all over the northern India. The pronunciation of the word may be subjected to variation with the change of places as it is 'tufanu' in Assam. The Bengali synonym of storm is 'jharr'. But Tagore has used the term 'tufan' many a times in his poems (lyrics) and songs along with 'jharr'. The use of 'tufan' in lyrics and poetries in lieu of 'cyclone' is much common. Even now some village people refer to a storm as 'tufan'. In usufructuary terms, 'tufan'

has lost its nexus with typhoon because the latter indicate only the tropical cyclones whereas the former links any kind of severe storm.

The Bengali literature was gradually developing during the period from the end of the 18th to the end of the 19th century, while Piddington introduced the term cyclone in the year 1849. But that the term was accepted by all, irrespective of literate or illiterate persons, is evidenced by autobiographical writings as well as in novels, poetries etc. Navinchandra Sen mentioned in his autobiography that he (1959, pp. 182-89, 360-70, 409-13) encountered the sixth cyclone of his life in Noakhali (at present in Bangladesh) on the 1st of November, 1884. He mentioned also the 1876 cyclone of Noakhali. Shivnath Shastri (1952, p. 60) encountered a cyclone in the year of 1864. Ghosh referred from Hiki Smritikatha, the 'tremendous storm' in Calcutta on November 2 1887. The storm in description was a cyclone. But the term 'cyclone' was yet to be born. Further, any other regional term was not used. The velocity or the destructive magnitude is understood from the adjectives used such as 'prachanda' (tremendous), 'tandavlila' (disastrous) etc. (Ghosh, 1975, pp. 137-38). Chakravorty has elaborated a cyclone-night in his long poem 'NisargaSandarshan' (1867, pp. 30-46). The term 'Aswiner jharr' has been used for once. The autobiographical writings are in detail describing all the characteristics of cyclone viz. wind speed, rainfall with destructive magnitude along with the description of disasters. Sen (1959, pp. 360-70) has a photographic account on the Bakharganj (now in Bangladesh) cyclone in 1876 in which he met the people from the islands which were inundated and devastated in storm surges. Shastri also used the conjunct words 'Aswiner jharr' to refer to the cyclone of 1864 (1952, p. 60). 'Aswiner jharr' is a term, usually used to indicate the cyclones in the Bengali month of 'Aswin' coinciding with the English months of September-October. The cyclones in this season in Bengal are generally severe in nature. 'Aswiner Jharr' in fact, got the weight of a proverb after the cyclone of the Bengali year 1271 in the month of 'Aswin'. Therefore the coining of the term is a direct consequence of the perceptive reality of the Bengalee.

Haraprasad Shastri in his 'Bener Meye' described a fictitious cyclone on the way from Bali to Bengal. In his story, he mentioned oceanic waves and high speed wind, but did not take notice about rainfall (1985, pp. 100-03). Sarat Chandra Chattopadhyaya put the colloquial form of cyclone as 'chhaiklone in the mouth of a cabin boy in his novel 'Srikanta' (1917 p. 94-95). This is also a fictitious cyclone, experienced by the hero on the way from Bengal to Burma. The route used by both the authors for describing fictitious cyclones is really a cyclone-prone area of the Bay of Bengal.

Actual Bengali synonym for cyclone is 'ghurnijharr' which is more akin to the Shanskrit 'ghurnibatya' and again is more close to the actual characteristics of cyclone denoting a whirling motion of the storm. 'Ghurnijharr' is sometimes used also for thunderstorm or tornado, although at present tornado has been differentiated from 'ghurnijharr' in news media. Thunderstorm is usually referred to as 'Kalbaishakhi'. But it is reported as 'ghurnijharr' when its magnitude is high. To that end, 'ghurnijharr' or whirlwind is always perceived with disastrous consequence.

In one way, 'cyclone' has lost the sense, which was in the mind of Piddington while he coined the term to mean any type of storm with a circulatory motion irrespective of speed of wind. 'Cyclone' rather has developed a nexus with other regional terms like hurricane, typhoon etc, in people's perception in Bengal as well as the Indian sub-continent. As a consequence, cyclone in this area stands for a high speed wind. Interestingly this new meaning of cyclone has been accepted also by the meteorologists and the 'cyclone' stands for the wind speed of 64 km. per hour. Keeping the sense of severity in mind, Kazi Nazrul Islam brought the term cyclone in his long poem 'Vidrohi' (Rebel) as a destructive phenomenon.

At present, the common people are very concerned about weather forecasting and through it the scientific terms have entered into the common people's

vocabulary and also into their perceived world. The Bengali meaning of depression is 'nimnachap'. This is a common phenomenon in West Bengal coast in the late monsoon and post-monsoon period. The fishermen along with other people can well recognize the phenomenon, though they have little idea that meteorologically 'nimnachap' (depression) is also a cyclone. They actually recognize 'nimnachap' when it enters land in the stage of depression. Perhaps they have little idea that 'nimnachap' is a stage towards developing into cyclonic intensity while it is in the sea. But in West Bengal coast, the fishermen can easily distinguish between the monsoon depressions and cyclones of severe nature in the pre and post monsoon periods which is actually a scientific truth. Till some years back people could not differentiate cyclone and tornado.

In the past, Devaprasad Sarbadhikary wrote tornado as synonymous to 'ghurnibayu' (whirlwind). Noticeably, he made difference between the tornado, he observed later in 'Purva Banga' (East Bengal, present Bangladesh) and 'Aswiner Jharr' he was describing in terms of devastation or the sufferings (1946, pp. 15-18). It seems that people have gained an idea about tornado from the Dantan incidence in Medinipur in 1997. In newspaper reporting in Bengali, the instantly used term 'ghurnijharr' was later changed to tornado after consulting the Meteorologists. We had a better experience also in Tamluk and Khejuri of Medinipur while supercyclone struck the Orissa coast near Paradwip on 29th October, 1999. The villagers, not using the term described it as a tornado and certainly in isolation with the cyclonic phenomenon in Orissa. This was done because the surroundings were not affected by any stormy occurrence. But the phenomenon was again reported as 'ghurnijharr' in the Bengali Newspapers. It was not also reported from the Meteorological Department whether these tornados were parts of the Orissa cyclone (as it is very normal for a tornado to occur at the periphery of a big cyclone) or were separate occurrences. However, the time of occurrence was more or less coincided with each other in the three places of Tamluk, Khejuri and Orissa.

CONCLUSION

From the above discussion, however, it can be said that tropical cyclones raise the terminological problem more rather than identification problem. Reality, therefore, to the people of the affected areas is that cyclones are always destructive and therefore, they do not make a pin-point differentiation between cyclones and other destructive storms as long as damages ensue any weather disturbance.