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Names of cyclone and its origin- A Review

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ABSTRACT

Abstract
Recently, cyclones are severely affected in the eastern Coromondal coastal site of Tamil Nadu, Andra Pradesh and Bengal. This article point out the important features and background of cyclones names. This study about the cyclone names not only dealt in North Indian Ocean andalong with worldwide. The practice of naming storms to help the quick identification of cyclones.

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I. INTRODUCTION

Cyclone is an atmospheric system, where thepressure is lowestin the centre.The word cyclone had been derived from Greek word 'cyclos' which means that *coiling of a snake*. The word cyclone was coined by Henry Piddigton, president of the Marine courts, Kolkata during British rule in 1848. Most of the cyclones occurred in post monsoon season from October to December in Tamil Nadu.[i]And also Northeast monsoon favor the cyclone formations and the positions and course of which determine the distribution of the rainfall. Clement Wragge was Meteorologist who named the weather systems between 1887 and 1907.[ii] This system of naming of weather systems subsequently fell into disuse for several years after Wragge retired, until it was revived in the later part of World War II for the Western Pacific. Even Though, Formal naming schemes and naming lists have been introduced and developed for the Eastern, Central, Western and Southern Pacific basins as well as the Australian region, Atlantic Ocean and Indian Ocean. Cyclone, hurricane and typhoon are all refer to the cyclone that occurs in the warm ocean water. They are just referred by different names in different places. If the storm occurs in the Atlantic Ocean and Northeast Pacific, it's called a hurricane, if the same type of storm occurs in the Northwest Pacific, it is called a typhoon. And in the South Pacific and Indian Ocean, the storm is called cyclone. All of these refer to scientific form of Tropical cyclones.[iii]

Cyclone formation

The cyclone formation and development include sea-surface temperature above 26C, high relative humidity from the surface upwards to about six km, spiral lying inflow of winds at low levels, and divergent (outflow) winds aloft. They occur in the tropical regions, forming on the either side of the equator. They gather momentum from the differences in the speed of the Earth's rotation.[iv]

Classification of Cyclonic disturbance under Indian Ocean as per Indian Meteorological Department.

S. No	System	Wind speed in km/h
1	Low	Less than 31
2	Depression	31-49
3	Deep Depression (DP)	50-61
4	Cyclonic storm (CS)	62-88
5	Severe cyclonic storm (SCS)	89-118
6	Very Severe Cyclonic Storm(VSCS)	119-221
7	Super cyclone (SC)	222 or more

Cyclones can be described based on classified into their wind speed. Hence, the first category cyclone is the weakest, with wind speeds of 74-95 mph, while a fifth categories cyclone has wind speeds of 155 mph and

above.Even the massive cyclone that struck Odisha in 1999 and caused enormous destruction, taking a toll of about 10,000 human lives, was known merely as the super cyclone.[v]

II. BACKGROUND OF THE STUDY

Beginning of the 19th century, hurricanes in the Spanish islands of the Caribbean were named after the saint's day on which they hit the island. For example on 26th July 1825 Santa Ana and 13th September 1876 San Felipe which hurricane occurred.[vi] Ivan R. Tannehill describes in his book *"Hurricanes"* the major tropical storms of recorded history and mentions many hurricanes named after saints. Clement Wragge, an Australian meteorologist who began giving women's names to tropical storms before the end of the 19th century.[vii] The use of a woman's name for a storm was in the novel "Storm" by George R. Stewart, published by *Random House* in 1941, and since filmed by Walt Disney. During World War II this practice became widespread in weather map discussions among forecasters, especially Army and Navy meteorologists who plotted the movements of storms over the wide expanses of the Pacific Ocean.[viii]

In the early 1950's American Meteorologist used the phonetic alphabet(Able, Baker, Charlie etc.) to identify tropical cyclones. In 1953, female names in alphabetical order were used by the United States National Weather Service. They are recognized and appreciated particularly in relation to warning services. The idea was that their use would facilitate communication with the millions of people threatened by the tropical cyclone, thus avoiding the confusion which would over the region at the same time. In 1970s, in response to requests by feminist groups in the USA, the lists of names were extended to include alternating male and female names.

The World Meteorological Organisation (WMO) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) was started the tropical cyclone naming system in 2000. These names are to provide ease of communication between forecasters and the general public regarding forecasts, watches, and warnings. The cyclones worldwide are named by nine regions are North Atlantic, Eastern North Pacific, Central North Pacific, Western North Pacific, North Indian Ocean, South West Indian Ocean, Australian, Southern Pacific, South Atlantic.[ix] There has always been a need to attribute unique identity to each tropical cyclone and to distinguish one from each other. The oldest way of doing this has been to state the time and the cyclone's location, principally the latitude and longitude of its centre.

Towards the end of the decade and in subsequent years, such systems became International under the auspices of regional tropical cyclone committees, coordinated by the World meteorological organization. The detailed arrangements differ from region to region. In most regions, list of names usually male and female names are drawn up by the committees each of which has the much wider task of promoting and coordinating tropical cyclone disaster mitigation in their respective regions. Name list had been established by some counties, the regional tropical cyclone Intergovernmental body with responsibility for that region. The name will be followed by the four digit identification code already in use in the region. The wide ranging meanings and origins of the Asian names including a few people's names were widely publicized.

Any member of the World Meteorological Organization's hurricane, typhoon and tropical cyclone committees can request that the name of a tropical cyclone be retired or withdrawn from the various tropical cyclone naming lists.[x] A name is retired or withdrawn if a consensus or majority of members agrees that the system has acquired a special notoriety, such as causing a large number of deaths and amounts of damage, impact, or for other special reasons. A replacement name is then submitted to the committee concerned and voted upon, but these names can be rejected and replaced with another name for various reasons these reasons include the spelling and pronunciation of the name, the similarity to the name of a recent tropical cyclone or on another list of names, and the length of the name for modern communication channels such as social media.[xi]

III. NORTH INDIAN OCEAN

Naming of cyclones in North Indian Ocean was given by India, other SAARC countries, Oman and Thailand. International committee of World Meteorological Organization and UN Economic and Social Commission for Asia and Pacific play a key role in cyclone naming. Naming of tropical cyclones began officially in 1945 from prepared lists to help identify storms instantly in messages between the forecasters and the public. Since 2004, the IMD began naming tropical cyclones within the North Indian Ocean. The system of naming of cyclones is a fairly old practice, but giving names to cyclones that originate in the northern Indian Ocean and affect South Asian countries began only at the turn of this century.[xii] The system has formalized at a meeting of the World Meteorological Organization (WMO) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in 2000, and the first cyclone was named in 2004.[xiii] Eight North Indian Ocean countries, namely, Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand, were asked to contribute names so that a combined list could be compiled. Each country gave eight names and a combined list of 64 names was prepared. This list is currently in use, and all cyclones arising in the north Indian Ocean are named from this list, with one name from each country being used in turn.

Beginning on 1st January 2000, tropical cyclones in the Northwest Pacific basin are named from a new and very different list of names. The new names are Asian names and were contributed by all the nations and territories that are members of the WMO's Typhoon Committee. The new names will be allotted to developing tropical storms by the Tokyo Typhoon Centre of the Japanese Meteorological Agency which is the RSMC for the basin. These newly selected names have two major differences from the rest of the world's tropical cyclone name rosters. One, the names by and large are not personal names.[xiv] There are a few men's and women's names, but the majority are names of flowers, animals, birds, trees, or even foods, etc. while some are descriptive adjectives.[xv] Secondly, the names will not be allotted in alphabetical order, but are arranged by contributing nation with the countries being alphabetized. All cyclone names are submitted to the World Meteorological Organization Regional Tropical Cyclone Committee for the SE Pacific for final approval. This committee can (and often does) reject or adjust names that are submitted to it and may substitute their own name.

The reason was mainly based on for this decision main reason for Ambiguity, Preference of a more common spelling for public user, Similarity to other names, Inappropriate meaning of the name as a word in another language of the Region.

The Bureau of Meteorology receives many requests from the public to name Tropical Cyclones after themselves, friends, etc. The Bureau is unable to grant all these requests as they far out-number the number of Tropical Cyclones that occur in the Australian region. The Bureau will only accept requests received in writing (not e-mail). The request cannot be immediately granted but the name will be added to a supplementary list. When a name is retired of similar gender and initial, a name can be included from this supplementary list (subject to checks to ensure it is not on the Southern Hemisphere retired name list or offensive in any of the languages of our international neighbors). It can take many decades for a suitable slot to become available, then a further 10-20 years for the names to cycle through, so it is likely to be well over 50 years before your requested name is allocated to a cyclone.

With a low pressure center, warm and moist air over the ocean rise upwards. As the warm air rises, they create low air pressure near the surface. The air that rose cools off and the water in the air forms clouds. Deriving energy from the ocean's heat and water evaporation, the whole system spins and becomes intense. As the storm system rotates faster and faster, an eye forms in the center. The warm, tropical ocean evaporates then condenses to form clouds. The department released the list of 64 names suggested by the countries to provide a unique identification for forecast and warning. India suggested in the names are in Agni(fire), Akaash(sky), Bijli(lightning), Jal(water), Leher(wave), Megh(cloud), Sagar(sea) and Vayu(Wind). Five of these names (that is, up to Leher) have been used so far. The purpose of names suggested in must be short and easy to pronounce and they should not be culturally sensitive or convey provocative meaning. Of the 64 names suggested by the member countries, 22 have been used so far. Yet it has been common practice for quite some years now to give names to one highly.

Simultaneously, once cyclone produce sustained wind speeds of more than 33 knots (61-38 mph), names are assigned in order from predetermined lists depending on which basin they originate. However, standards vary from basin to basin some tropical depressions are named in the Western Pacific, while tropical cyclones must have a significant amount of gale-force winds occurring around the centre before they are named in the Southern Hemisphere.[xvi] Tropical cyclones are officially named by one of eleven warning centers and retain their names throughout their lifetimes to facilitate the effective communication of forecasts and storm-related hazards to the general public. This is especially important when multiple storms are occurring simultaneously in the same ocean basin. Names are generally assigned in order from predetermined lists, once they produce one, three, or ten-minute sustained wind speeds of more than 65 km/h (40 mph).[xvii]

IV. CONCLUSION

With global warming causelarge number of extreme weather events, cyclones seem to occur with frightening frequency these days. Yet remembering them or discussing their impacts, or warning people about them, seems to have become easier in recent years.Perhaps it is because we have become better at disaster management. Perhaps it is because giving a cyclone a name makes it easier to spread the word..

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