Impact of Laila Cyclone and Prevention at a Momentary Look-South East Coast of India

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Abstract: Cyclones have the best expectedness among all the disaster phenomena. It is generally accepted that, all over the world, property damage from tropical cyclones (TC) has increased over the years. India's monsoon rains are on track to hit the country's southern coast on summer season, and cyclone Laila hits southeast coast India in the Bay of Bengal 18th May 2010.

Key words: Cyclone %laila %India

INTRODUCTION

While TC can produce extremely powerful winds and torrential rain, they are also able to produce high waves and damaging storm surge as well as spawning tornadoes. They develop over large bodies of warm water, and lose their strength if they move over land. About 80 tropical cyclones (with wind speeds equal to or greater than 35 knots) form in the world’s waters every year [1]. Of these about 6.5% develop in the Bay of Bengal and Arabian Sea [2]. The TC Laila forming in the Bay of Bengal hit the coast of India (particularly the states of Andhra Pradesh, Orissa and West Bengal) every year, causing heavy loss of life and property. Laila cyclone crossed Andhra Pradesh in the Month of May (18 to 21 May 2010) and hit the coast of Andhra Pradesh with wind speed of 135 knots (about 260 kmph) and heavy rains causing severe floods. On May 19th Laila situated 300 km away from Machilipatnam and 150 km from Chennai, Tamilnadu.

The impacts of storm surge are coastal flooding, beach erosion, and the removal of beach materials among others. The cyclone, with sustained winds of 111 km (69 miles) per hour, was about 170 km north-east of Chennai at 11:30 pm local time, the U.S. Navy Joint Typhoon Warning Center. Waves were 4.9 meters (16 feet) high near the storm’s eye. In the Bay of Bengal average hurricane waves are about 10 m [3]. The effect that a wave can have on a stretch of coastline is determined not only by the strength of the wave itself, but also by the slope of the bottom offshore, presence of coral reefs or other breakwaters and the shape of the coastline. Coastal areas of Andhra Pradesh which bore the brunt of cyclone Laila received an average of about two inches of rainfall per hour, according to data collected by a NASA satellite. The Tropical Rainfall Measuring Mission (TRMM) satellite which flew over the cyclone Laila showed that the heaviest rainfall was received just south-east of the centre of circulation and along the coast. It’s not only measures rainfall intensity from space but can also give scientists an idea about the height of a thunderstorm that is generating the rainfall within the tropical cyclone. Cyclonic storm Laila crossed the Andhra Pradesh coast on May 20th Thursday evening at Bapatla, wreaking havoc over large tracts of the coastal area in the State. However, the damage was lesser than feared. Laila' would whip up 50-60 kmph squally winds along and off the Orissa coast from Thursday night and along and off West Bengal coast. Fishermen in the two States were advised to be cautious while putting out to sea. According to the satellite data, Laila was moving north-north-westward at 10 knots, or 12 miles per hour.

Preliminary assessments suggest that 1,500 villages - home to more than a million people - have in some way been affected, mainly in the worst-hit districts of Krishna, Prakasam, West and East Godavari, Guntur and Vishakapatnam. Coastal soil erosion, flood and agriculture filed are showed in Figure 1-4 (Internet News Paper Source). Poor fishing communities have borne the brunt of the disaster, say aid workers, with homes damaged or destroyed and fishing boats, nets and engines washed out to sea. "It's difficult to assess the full extent of the damage. The Cyclone"Laila" had effected badly on the movement of trains on the north-south track passing through Nagpur and numerous trains was moved behind...
some parts of the state had received up to 1 foot (32 cm) of rain. Officials said at least 27 people have died. At least 55 fishermen were reported missing, although authorities had ordered fishing vessels to stay in port. State welfare agencies evacuated more than 50,000 people from low-lying villages ahead of the storm. Strong winds uprooted trees, power lines and billboards, blocking roads in many places. Nearly a dozen towns and more than 1,400 villages in six districts were hit by power outages. More than 10000 people died when Andhra Pradesh was struck by its worst cyclone in 1977. Cyclone Laila may have caused inconvenience to Chennai cities for a short span of time, but it has left a long-lasting impact on the city’s water situation. The storage levels in the four reservoirs that feed Chennai has increased by 197 million cubic feet (mcf) - a quantity enough to provide water to the city for one week. Various publications including those of the U.S. Senate and of insurers give the impression those tropical cyclones “have become increasingly frequent and severe over the last four decades as climatic conditions have changed in the Tropics” [4].
In conclusion contrary to common perceptions, greater vulnerability to tropical cyclone damage in Andhra Pradesh, Tamilnadu as elsewhere, is due mainly to economic and demographic, not meteorological factors. Improvements in warning systems and in disaster management remain critical to mitigating the loss of lives and, to some extent, the damage. The distinction between meteorological and socio-economic causes for the increased impact is important, to avoid a tendency for political and administrative decision makers to blame natural causes. They have to take these realities into account, not just in developing a vigilant disaster management system, but in land-use planning, development of coastal districts, and insurance measures. Meteorologists, disaster managers and the community all have a vital role to play in achieving this objective.

REFERENCES