

Coastal Hazard and Resilience due to Disaster A survey

D. Saravanan

Faculty of Operations & IT, IFHE University, IBS Hyderabad, Telangana

Abstract

The term Disaster management gives the complete information of disaster related functions. In olden days, disaster management activity involved only after the disaster i. e. action taken various disaster relief activities such as reconstruction, mitigation and more. Today, there are various modern information technologies that provide pre disaster activities to over the disaster safely. This pre disaster activity brings with success with various communities to bring back the routine economic, agricultural, industrial information in normal. This paper brings the various disaster pre and post activities and their effect during a disaster with the various mitigation steps.

Key Terms: Coastal prone area, Cyclone, Hazard, Vulnerability, Disaster Causes, Environment Change.

1. Introduction

Disaster management defined an sudden event or sudden cause. It also defined that the range of activities are preformed and this activities are controlled over disaster and the tragedy situation provide help to the affected personality to avoid the disaster or overcome the disasters effect. Every disaster activities in modern days performed by prior to disaster management that is per activities are consider for the disaster it may be respond to natural and manmade disaster. It involves the various activities such as training, education, awareness camp etc. The second phase response to the disaster or during the disaster activity it brings the various mitigation steps in detail how we responded to the event, it also brings the both natural and manmade disaster activities. The later on most the disaster management perform the operation i. e. post disaster activity or after the disaster. It brings the various activity bring the environment in normal activities. Any disaster management activates are defined in that way “It include the all the functionality or activities with help of certain programs or functions helps to bring back the people or environment before and after a disaster with certain help of certain factor of avoiding, reducing the cause or recover from the affect.

2. Literature Survey

Social-Ecological Resilience to Coastal Disaster, W. Neil Adger *et. al.*, This paper brings the resilience operation due to disaster. Any disaster management works on pre disaster operation, response to the disaster and post disaster operation. This operations are performed by different communities are combined and bring the unique operation[3]. Pressures, Trends, and impacts in Coastal Zones: Interaction between Socioeconomic and Natural systems, R. K. Turner *et. al.*, this paper brings the climate change in the coastal area and their impacts. Due to the environmental damage, now a day's sea levels are increased very rapidly this brings the various effects to the coastal environments. This brings the pressure to the coastal areas, for this people in this prone area need integrated coastal zone management[4]. Anthony J McMichael *et. al* "Climate Change and human health: Present and future risks", This paper brings the various climate change due to human effect. This climate change also affect the human body and causes the various effects such as thermal stress, infection diseases and more[5]. Munshi Khaledur Rahman *et. al.*, "Linking coastal Disaster and migration : A Case study of kutubdia Island, Bangladesh", This paper discuss the issues of sea bed community and how they are suffer with storm, rising the sea water and heavy rain in this areas. This paper gives the migration process based on the environmental and non environmental effects, for this people are forced to migrate from those areas. This also gives the detail ideal about the environmental stress and migration task. [6]Dexter Davis *et. al.*, "Determining and monitoring Sea Level in the Caribbean using Satellite Altimetry", This paper bring the idea, thrust happen in sea bead not only issues of climate change it not only affect the environment it also interlinked with socioeconomic factors. Raising of sea level change certain environmental position it normally happen small island. Compare with other environmental location, this small islands are more vulnerable location for raising the sea level. This problem are studied and eliminated using the technique called satellite Altimetry system. This is continues monitoring system, and it record the mean seal level with help of this it derive the sea level rise. It helpful to the researchers and others to predict the causes of the environment due to increasing of water level[7].

3. Climate related hazard in Coastal area

coastal areas faces every threats' due to change in environment this creates the various hazards in coastal area. The various causes are raising the sea level, coastal attrition, raising of coastal temperature due to the environmental pollution, various storms and cyclones and coastal flooding. Due to the above factors the people in coastal are affects various shock and threats, the primary cause for the above due to the climate change. The various research and long historical information are needed to identify this environmental change. Communities in this areas use their knowledge and resource recover themselves from this coastal hazard or climate change[10]. This effects increased in factors such as increased in population, converting the coastal area into urbanization. The different knowledge helps to overcome this situation like Coastal hazard knowledge, environmental information, formal or informal plan generated by the coastal communities, various mitigation operations, emergency

function, plains such as pre activity, during the causes, post activity all should collected and recorded properly. It helps the people and communities comes out any problem quickly and also it helps the community and decision are taken and responded quickly if we have the above information.

4. Function of Disaster Management

Every disaster management controlled by central government of India. This Disaster planning involves various other activities such as establishing various emergency policies, identify the evacuation plans, and construct emergency shelters, various quick responses. The Disaster Management committee responsible for train the emergency staff, conducts various workshop and educates the public and other committee involved in the disaster management. It also includes the various committees responsible. It also identify the various specialties in the area of Damage assessment, medical and health services also support the public for their shelters, feeding and other basic needs. Simple the management brings back the community to the original.



Figure 1: Function of Disaster Management

5. Various disaster effects in India due to Costal Hazard

Today every humans are living in the modern technology equipped with different safety components, but every time nature proves that, they are more powerful than human and the technology. Many disasters it is prove that very strongly nature is always more power than human in all aspect. Today humans have various weather and forecast equipments even disaster at any time it not prevented. There is variety of disasters effects such as earthquake, flood, tsunamis, cyclones,

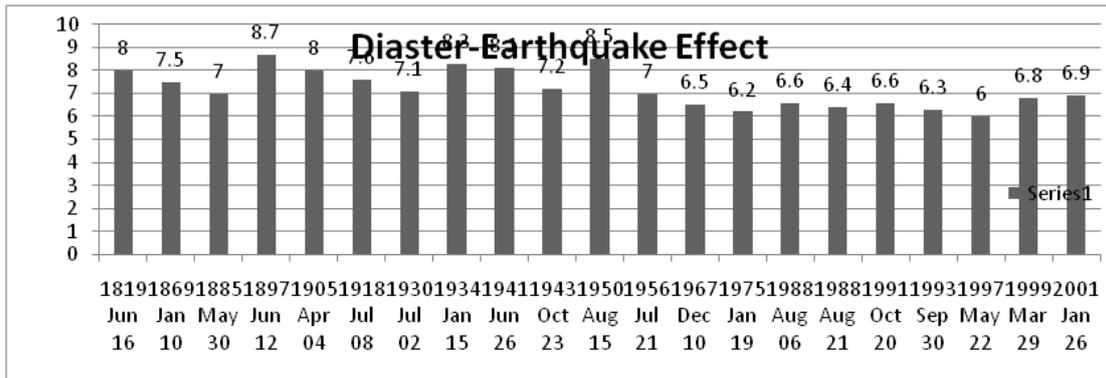


Figure 2: Comparison Graph of Disaster Earthquake effect in various years

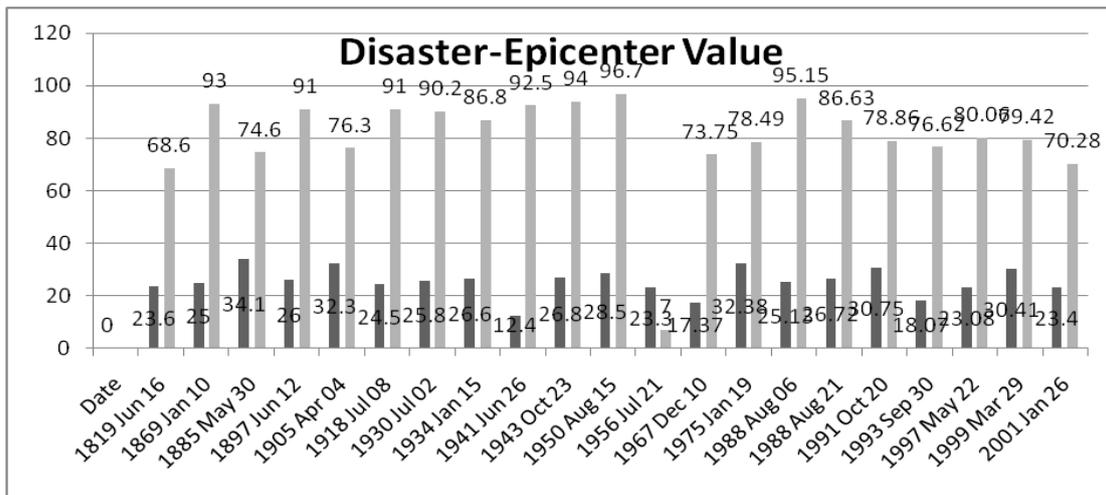


Figure 3: Comparison graph of Disaster Epicenter Value

6 Effects of Coastal cyclones

6. 1 Calcutta Cyclone

It is happened in the year 1737. This is another one of the most dangerous natural disaster cause happen in India. A large number of people are killed due to this effect, people lost their boat and harbor due to this disaster. Almost 300, 000 to 350000. This is one of the most dangerous effect on those period.

6. 2 Coringa Cyclone

India affected most of this cyclone due to the city or the place suited nearby coastal area. This place located at Andhra Pradesh. It affects Coringa at 1839. More than 25000 boats are vanished due to this cyclone. It killed nearly 3. 2 laksh of people. It destroy entire city.



Figure 4: Effect of Coringa cycle source available at [www. Worldblaz. in](http://www.Worldblaz.in)

6. 3 Some more effects due to the coastal cyclone

The great Famine it happened in the year 1876-1878, due to this nearly more than 3 crore people last their life, cyclone affected areas are Madras, Mysore, Hyderabad and Bombay. This actually started in china later it speared some part of India. In the year 1999, a huge storm affect in the state of oddisa it also called super cyclone. This cyclone brings the very huge effect in the area of oddisa more than 10000 people lost their lives. Most of the people last their houses and shelters. Based on the report Two laksh seventy five thousand people lost their house due to this cyclone. 1. 67 millon of people left their home. The cyclone intensity reaches to 912mb, it is one of the strongest cyclone happen in India. The effect of this shown in the figures. This effect due to the long costal area of Orissa. Next the Indian ocean T-Tsunami in the year 2004. A huge earthquake happens in the sea it not only affects the India it also affects our neighboring countries like silence and Indonesia. The magnitude measured between 9. 1 to 9. 3 it bring the nearly two lakes people lives end. 1. 7 millions of people lost their homes, 5-6 million people are needed various assistance such as food, medicine, water and other basic needs. This causes brings the various disease to the human things because of sea and swage water mixing with drinking water.

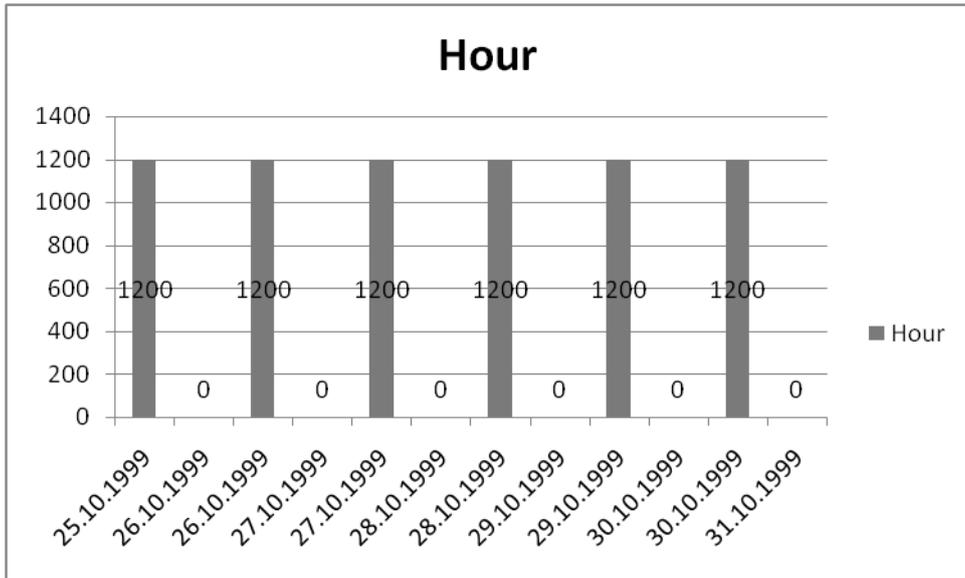


Figure 5: Coastal Cyclone effects

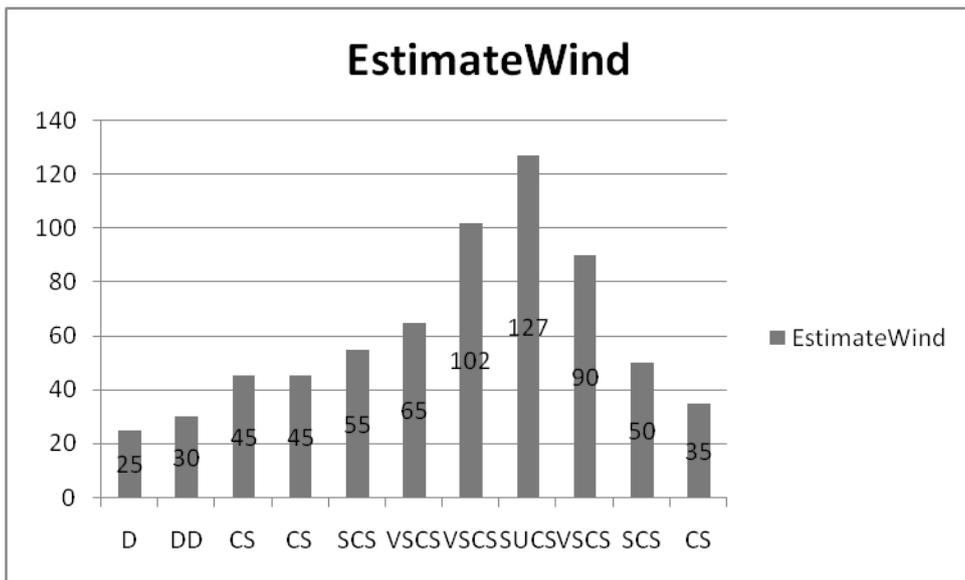


Figure 6: Cyclone Characteristic source available at metnet. imd. gov. in/mausamdocs/15711_F. pdf

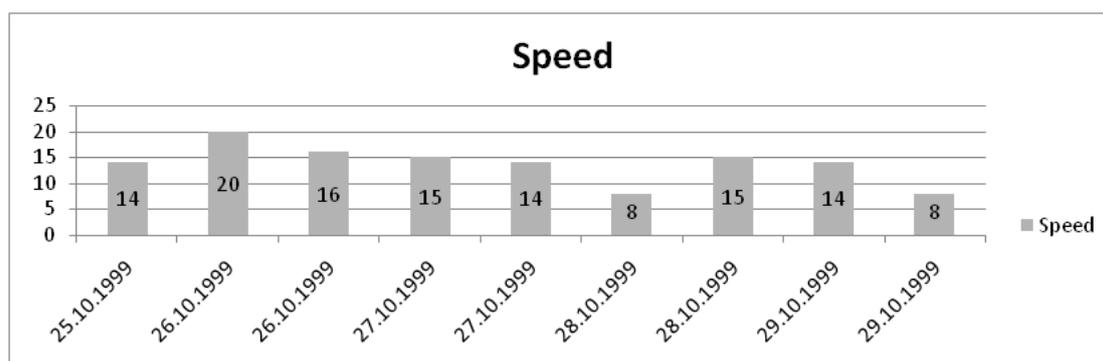


Figure 7: Wind speed in coastal area measured in terms of km.

7. Conclusion

Disaster causes a lot of lack of opportunity not only to individuals or communities but also entire societies. This gives the attention to every country to set very serious development programs. Compared with normal environments the coastal areas are most affected due to any environmental change. This paper brings the various disaster effects such a way that immediate response and recovery is performed quickly to set back the original. Every disaster effects maximize the utility of resources that gives the speedier recovery.

8. References

- [1] S. R. Kalasi, "Orisa Super Cyclone-A ynopsis", http://metnet.imd.gov.in/mausamdocs/15711_F.pdf, Pages 01-20.
- [2]. Dr. Parag Diwan, "A manual on Disaster Management" A text book for Disaster Management, ISBN:978-81-8274-438-7.
- [3]. W. Neil Adger *et. al.*, "Social-Ecological Resilience to Coastal Disaster" Science, Pages 1036-1039. DOI: 10. 1126/science. 1112122.
- [4]. R. K Turner *et. al.*, "Pressures, Trends, and impacts in Coastal Zones: Interaction between Socioeconomic and Natural systems", Journal of Environmental Management, Vol 20, No2, Pages 159-173.
- [5]. Anthony J McMichael *et. al.* "Climate Change and human health: Present and future risks", The Lancet, Volume 367, Issue 9513, 2015. Pages 859-869.
- [6]. Munshi Khaledur Rahman *et. al.*, "Linking coastal Disaster and migration : A Case study of kutubdia Island, Bangladesh", The professional Geographer, Volume 67, Issue 2, 2015, Pages 218-228.
- [7] Dexter Davis *et. al.*, "Determining and monitoring Sea Level in the Caribbean using Satellite Altimetry", FIG Working Week 2012 Knowing to manage the territory, protect the environment, evaluate the cultural heritage Rome, Italy, 6-10 May 2012, pager 02-13.

- [8]. Sho Yamao *et. al.*, "Estimation of the current risk to human damage life posed by future tsunamis in Japan", Research gate, Pages 01-05, 2015.
- [9] Choyon Kumar Saha, "Dynamics of Disaster-Induced Risk in southwestern Coastal Bangladesh :an analysis on tropical cyclone Aila 2009", Journal of Natural Hazard, Vol 75, Issue 1, 2015, Pages 727-754.
- [10]. Lisa Hiwasaki *et. al.*, " Local and indigeneous knowledge on climate-related hazards of coastal and small island communities in southeast Asia", Journal of Climate change, Volume 128, Issue 1, 2015, pages 35-56.