

## Impact analysis of Cyclone in Odisha @ Amphan

Mr. Anish Patnaik<sup>1</sup>, Mr. Subham Patnaik<sup>2</sup> and Mr. Ansh Patnaik<sup>3</sup>

<sup>1</sup>Student, The Institute of Chartered Accountants of India, Bhubaneswar, Odisha

<sup>2</sup>Student, The Institute of Cost Accountants of India, Bhubaneswar, Odisha

<sup>3</sup>Student, VEM School, Chandrasekharapur, Bhubaneswar, Odisha

**Abstract**— Odisha is a mother of all the cyclones in India. Every year in the month of May normally this is being experienced by people of this region. People say cyclone is the first love for the people of Odisha. Recently on 20th of May we had experienced this cyclone. This instigated the authors to undertake the empirical study for analyzing the impact of this cyclone on the lives of the people. In this direction 93 responses collected from the various parts of capital region of Odisha. Cluster and random sampling applied for data collection and weighted likert scale method used for analysis of the data. It was found that the impact was not as affective as expected and predicted by the government and there is no loss of life and damage of property in this part of capital region of Odisha although the there was loss of property in the other parts of Odisha like districts of Jagatsinghpur, Bhadrak, Balasore and Kendrapra etc. Further 7 deaths are being reported including a child and 68 year old person. However, huge loss of property reported in the Kolkota, even though not much causality of life.

**Keywords**— Cyclone, Odisha, loss of life and loss of property

### 1. INTRODUCTION

In recent times we had experienced various cyclones like Super cyclone in 1999, Phailin in 2013, Hudhud in 2014, Titli in 2018, Fani 2019 and now Amphan in 2020. The pre cyclone and post cyclone period experience is very harsh and severe both emotionally and physically also. Due to the weather forecast and its impact on the various part of the state before the cyclone creates lot of panic in the minds of the people and that leads to purchase and store the daily needs in advance and this ultimately creates shortage of consumable in the market and sometimes taking this opportunity the dishonest businessman creates the artificial shortage of goods in the market and it gives them raise the price of the commodity in the market. This artificial shortage is a manmade one and this creates lot of confusion in the minds of the people.

Similarly in the post cyclone era also due to disconnection of electricity, road blockage due to falling of trees and damage other infrastructure facilities create lot of problem for normalizing the life. As the resident of this part of the country we have personally experienced various cyclones earlier and have passed terrible time without water, electricity, transport and communication facilities. As per the latest local news bulletins 89 blocks , 1500 Panchayats and 44 lakh 80 people affected in Odisha and at the same time 45 lakh electrical consumers also experienced the disruption of electricity. This includes 27 lakh consumers from Central Electric Supply Unit (CESU), which covers in the study area. Now we are passing through pandemic of COVID 19 and at the same time the cyclone experience of Amphan had motivated to conduct the empirical study on the present topic. We as the researchers tried to do justice to the topic by covering the prospective areas affected in the capital region of Odisha.

### Objectives of the study

- ✓ To understand the impact on the lives of people of study area due to cyclone – Amphan
- ✓ To contribute to the existing literature in relation to cyclonic studies for impact analysis in Odisha.

### Scope of the study

- ✓ The present study is restricted to the capital region of Odisha and the respondents are from those particular localities who have experienced this cyclone Amphan. The respondents include both male and female. For this purpose only major and senior citizens included. This includes 23 senior citizens and the composition of total respondents includes 49 male and rest are female.

### 2. Methodology of the study

- For the purpose of the study, responses were collected through telephone and over emails and the sampling technique

followed is cluster and random both. Total sample size is 93.

- The data was collected with the help of 20 people including authors in this direction. We had targeted more than 120 respondents; however we could collect 93 only during this short period of time. 48 hours dead line fixed to collect the data in record time. Each respondent given the responsibility to collect data from 6 respondents only.
- For the finalization of various attributes 10 focus group discussions were carried out consisting of 5 members in each group who had experienced this cyclone - Amphan. Based on the consensus the variables are finalized.
- Initially 14 variables were identified but after the focus group compilation of data, 11 variables are finalized for the purpose of the study.
- 5 point weighted likert score method has been used for the collection and analysis of data.

### 3. Analysis of Data

**Table-1: Computation of respondents' perception: Ideal score and least score**

Category	Equation	Ideal score	Equation	Least score
Male	49 X 11 X 5	2695	49 X 11 X 1	539
Female	44 X 11 X 5	2420	44 X 11 X 1	484

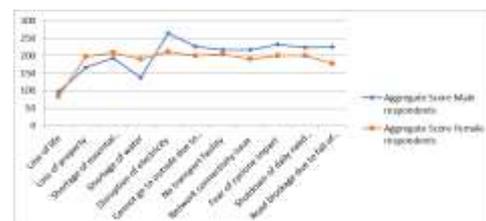
**Table-2: Findings of the study**

Attributes	Aggregate Score	
	Male respondents	Female respondents
Loss of life	97	83
Loss of property	167	197
Shortage of essential items/consumables	193	209
Shortage of water	137	190
Disruption of electricity	264	211

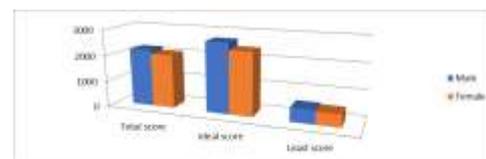
Cannot go to outside due to heavy rain and wind	227	200
No transport facility	217	205
Network connectivity issue	217	191
Fear of cyclone impact	233	201
Shutdown of daily need markets	224	200
Road blockage due to fall of trees and electric lines	225	178
<b>Total score</b>	<b>2201 (81.67%)</b>	<b>2065 (85.33%)</b>
<b>Ideal score</b>	<b>2695</b>	<b>2420</b>
<b>Least score</b>	<b>539</b>	<b>484</b>
<b>No of respondents</b>	<b>49</b>	<b>44</b>

Source: Annexure A & B

**Chart-1: Aggregate score of male and female respondents**



**Chart-2: Total Score, Ideal Score and Least Score**



### 4 Concluding observation

From the respondents it is observed from male respondents' point of view there is no loss of life, less loss of property and less shortage of water and in case of female respondents there is no loss of life in the study area. Most of the male respondents feel that there is shortage of essential commodities,

disruption of electricity, cannot go outside due to heavy rain and wind, no transportation facility , disruption in network connectivity , fear of cyclone impact, shut down of daily need market, road blockage due to fall of trees and electric polls. The same is being also supported by the female respondents. Further it was found that the total actual scores are 81.67% and 85.33% of total ideal score and the actual scores are nowhere near the ideal score at the same time However, it should be acknowledged that the time action by the state government and central government helped to reduce the loss of life in the area. The local government learned a lot from the experiences gained for combating this type of natural calamities. The capital region of Odisha not affected much due to cyclone –Amphan but the loss of property and life is being observed in Kendrapada district of Odisha mostly. The study concludes that the loss due to this cyclone is less than as anticipated and predicted by various agencies and government. The credit goes to close coordination of state and central government and timely shifting of people to the safer area from the danger area saved most of the life. The role of NDRF and other agencies are also highly appreciated during this disaster. PM Modi declared Rs500 crore to Odish and Rs1,000 crore to West Bengal which is more severely affected. We are very much thankful to all our friends who helped us to collect the data in such a short period of time. Without their support we could not have think of completing the paper.

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Annexure-A	
Attributes	Opinion of Male respondents (49)
	Weight

	SA	A	N	DA	SDA	Score
	5	4	3	2	1	
Loss of life	0	0	4	40	5	97
Loss of property	15	12	5	12	5	167
Shortage of essential items/consumables	20	15	7	5	2	193
Shortage of water	8	7	10	15	9	137
Disruption of electricity	35	5	5	2	2	264
Cannot go to outside due to heavy rain and wind	38	6	3	2	0	227
No transport facility	32	9	5	3	0	217
Network connectivity issue	30	12	5	2	0	217
Fear of cyclone impact	39	6	4	0	0	233
Shutdown of daily need markets	34	10	4	1	0	224
Road blockage due to fall of trees and electric lines	36	7	5	1	0	225

**Source-** Primary Data, SA- Strongly Agree, A- Agree, N- Neutral, DA- Disagree, SDA- Strongly Disagree

Annexure-B	
Attributes	Opinion of Female respondents (44)
	Weight

	S A	A	N	D A	SD A	Score
	5	4	3	2	1	
Loss of life	0	0	0	39	5	83
Loss of property	34	3	3	2	2	197
Shortage of essential items/consumables	36	5	3	0	0	209
Shortage of water	28	7	4	5	0	190
Disruption of electricity	38	3	3	0	0	211
Cannot go to outside due to heavy rain and wind	29	10	5	0	0	200

No transport facility	36	4	2	1	1	205
Network connectivity issue	29	8	4	1	0	191
Fear of cyclone impact	34	4	3	3	0	201
Shutdown of daily need markets	29	10	5	0	0	200
Road blockage due to fall of trees and electric lines	20	12	8	2	2	178

**Source-** Primary Data, SA- Strongly Agree, A- Agree, N- Neutral, DA- Disagree, SDA- Strongly Disagree