



## **ANALYSIS OF IMPACT OF DISASTER WITH RESPECT TO OCCUPATION STATUS IN ECONOMIC RELATED DAMAGES IN CUDDALORE DISTRICT, TAMIL NADU , INDIA**

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### **Abstract**

*Natural and Man-Made disaster which are both sudden and powerful affects the national economy and cause hardships to a large section of the society. The economic impact of disaster affects the life style of the local people, who are living in the area of disaster vulnerability of the district of Cuddalore which bore the brunt of disasters time and again is one of the significant districts lying in the Agro Climatic zone II (East Coast Plains and Hills) located along the East Coastal belt of the state of Tamil Nadu.*

*The most common assessment of economic impact of disaster is assessing the life style of people living in the disaster-prone location like Cuddalore District. A conclusive inference on economic impact can be derived by documenting the details of house damaged, health loss of family members, loss of livestock, loss of employment and loss of agriculture. A structured questionnaire was designed to elicit data on the objectives of the study as questionnaire survey is arguably the most common technique.*

*Critical inferences with respect to occupational status of the respondents and the economic related damages which help policy makers and disaster management policy have been derived from the descriptive research. A total of 300 respondents belonging to three occupational statuses of employed, business and unemployed were interviewed. Environmental damages which cause the loss on the house property and medical related issue to the respondent of Cuddalore district are presented. The researcher has included two type of losses such as loss due to damage of house, and loss due to medical related issues. The study brought out specific inferences with respect to the damages such as employment loss, profit reduced income reduced, unable to save money, and additional economic burden.*

**Key Words:** *Natural Disaster, Economic Damages, Socio Economic Impact.*

### **1.1. Introduction**

India, a Sub-continental, tropical country with its typical monsoon structure falls in the category of maximum disaster-prone countries of the earth. In India, as disasters have social, economic, and environmental and health consequences at diverse levels loses several crores of Rupees due to its vulnerability to droughts, floods, cyclones and earthquakes every year. Even though the disaster management had been a major concern for a long time, it has gained momentum only in the past few years after the declaration of the International Decade of Natural Disaster Reduction by the General Assembly of the United Nations in 1989. An effective disaster management is a national requirement and also it is very significant in the period of disaster due to the ever-increasing socio -economic impacts.

The World Health Organization (1992) defines disaster as a severe disruption, ecological and psychosocial, which greatly exceeds the coping capacity of the individual and the community. Further it says that anything that exceeds one's personal ability to cope with a stressful event becomes a crisis. Disasters result from internal or external forces of a community or system which has no effective



control. During any disaster, an external intervention is required to help people bounce back. The social support may be organized after a disaster, to bring back their normal life.

The term 'disaster' refers to 'bad or evil star'. A disaster may be defined as- “a serious disruption of the functioning of society, causing widespread human, material and environment metal losses which exceeds the ability of the affected material to cope using its own resources”. The United Nations of Organization define as - “The occurrence of a sudden or major misfortune which disputes the basic fabric and normal functioning of a society.

It is an event or a series of events which gives rise to casualties and damage or loss of property, infrastructure essential service or means of livelihood on a scale that is beyond the normal capacity of the affected communities to cope with unaided”. Disasters pose a serious threat to the normal life as well as the process of development and strike with sudden violence, destroying lives and structures and throwing apart families. Natural disaster and Man-Made which are both sudden and powerful, damage national economy and cause hardships to a large section of the society. The economic impact due to disaster taking on important role in the life style of the local people, who are living in the area of disaster vulnerability.

## 1.2. Objectives of the Study and Methodology

The research is descriptive in nature. Cuddalore district is one of the major disaster-prone districts in Tamil nadu. So, it was decided to study economic impact of Disaster Management in Cuddalore district as a fair representative of disaster management in Tamil nadu Cuddalore district. Tamil nadu had been selected as the universe due to its location of highly vulnerable to disaster. For the study, the investigator has collected the data required from the sample population by adopting convenience sampling technique. The required primary data are collected from the selected respondents with the help of a comprehensive, pre-tested enquiry schedule, through personal interview method. The data are collected over a period of twelve months from December 2020 to December 2021.

The most common assessment of economic impact of disaster is assessing the life style of people living in the disaster-prone location like Cuddalore District. A conclusive inference on economic impact can be derived by documenting the details of house damaged, health loss of family members, loss of live stock, loss of employment and loss of agriculture. The literature review pertain to economic impact of disaster management was considered to pool up the ‘economic impact of disaster constructs’ for the construction of Questionnaire. In addition, some items were collected from other related variable factors constituting an item pool of 55 items was constructed which are mainly providing the details of economic impact of disaster.

The responses are obtained on a 5 point Likert type scale from strongly agree to strongly disagree. The sampling frame included the Farming Activities, Fishing, Trade Activities, Small scale Entrepreneur, Professional Activities and others.

## 1.3 Area of The Study

The District of Cuddalore is one of the significant districts lying in the Agro Climatic zone II (East Coast Plains and Hills) located along the East Coastal belt of the State of Tamil Nadu. The District of Cuddalore is bordered by the districts of Villupuram, Nagapattinam, Perambalur and Kallakurichi.



The district has a total geographical area of 3678 Square kilometers along with the 68 km coastal line that is stretching from Puducherry Union Territory in the North to the mouth of the River Coleroon in the South. The Geomorphology of the Cuddalore Coastal Stretch includes the coastal plain with an average width of 6 km. The coastal towns of Cuddalore in the North and Porto Novo with its current name, Parangipettai in the South are the most densely populated areas along this region. The district is also one of the most robust fishing areas in the state of Tamil Nadu, and home to a large number of fisher population. The periodic rivers of the district are Thenpennaiyar, Gedilam, Vellar, Manimuthar and Kollidam.

#### 1.4. Disasters

Disasters can be geophysical, atmospheric or hydrological such as earthquake, landslide, tsunami, windstorm, flood or drought, that can cause harm or loss, on communities causing damage, disruption and casualties, and leaving the affected communities unable to function normally without outside assistance (Twig, 2007).

Direct losses due to disasters include physical effects such as destruction that reduce the functionality of an individual or structure. Damages to people (death/injury), buildings, and vehicles are enumerated as direct loss. Indirect losses affect society by disrupting the utility services resulting in loss of revenue; increase in cost; expenses connected to the provision of assistance, lodging, drinking water etc.; are included. Intangible losses are the psychological impairments caused by both direct and intangible losses that individuals personally suffer during the disaster. Disasters in the recent past have been due to the extreme weather phenomena caused by climate change, such as flooding, storm surges, droughts etc. These disasters occur worldwide causing a havoc and a huge loss to lives and property. The disasters directly impact the economies, agriculture, food security, water, sanitation, the environment and health of most developing countries and hence it becomes very difficult for them to cope up with the resilience and recovery measures. India is the worst flood-affected country in the world after Bangladesh and accounts for one-fifth of the global deaths due to floods. The condition due to floods is particularly bad in the states of Bihar, Assam, Orissa, Tamil Nadu and West Bengal.

#### 1.5 Select Review of Literature

The December 26, 2004 Tsunami caused damages in Cuddalore Coastal Area of Tamil Nadu, along with other Indian coast, where it severely damaged the buildings and properties of the coastal fishing communities. The damages included the large-scale destruction of houses, property, and compound walls; washed-away roads, uprooted electric poles, damages caused to boats and nets, the toss and drag of vehicles, damages of agricultural land, destruction of young coconut trees, loss of human lives, and livestock and so on.. Ayyappan.K (2004)

A Colossal loss of lives and affecting millions of people in 11 countries. It is pathetic to note that the total death toll is in excess of 1,50,000 with thousands more missing and the devastation caused is unprecedented in contemporary history. Further argued that a majority of the affected population are economically poor and the rehabilitation process is going to be extremely difficult and warning system is most essential to ensure preparedness for future occurrences of similar hazards but the installation process itself will be a major challenge considering the requirement of real time data sharing that will require involvement among various participating countries. (Swanath Dash B.K. 2005)

The fallout of the tsunami event on the society, the economy and the environment of the Indian Ocean region, emphasizing upon the need to be alert about such events in the future. The term was created by



fishermen who returned to port to find the area surrounding the harbour devastated, although they had not been aware of any wave in the open water. **Gupta (2005)**

There was an estimated death toll of about 28,000 in eight countries, with 5 million people being affected. The loss due to tsunami in terms of years of life lost and productivity due to earnings forgone in the tsunami hit areas of India. Tsunami in India has caused a total loss of 722, 264 years. The damage to different crops in the tsunami hit areas of Nagapattinam in Tamil Nadu was reported to be 5150 ha. The current situation also offers an opportunity to plan a comprehensive livelihood package offering alternatives during the lean period of fishing activity, especially during spawning season of fishes. **(Krishnamoorthy. K. 2005)**

The analysis of the relationship between disaster fatalities with the level of economic development, years of schooling, land area and population. The economic losses and economic development are inversely related. It suggested that the level of wealth of a nation though provides protection but with a diminishing rate. **(Jaharudin Padli, 2009)** The most vulnerable coastal zone in Cuddalore District of Tamil Nadu, with a goal to draw a comprehensive vulnerability framework combining Geo-Physical–Natural factors with Socio-Economic-Institutional factors responsible for causing vulnerability at habitation levels and to construct composite vulnerability index and dimensional indices. **(Saxena, S. 2013)** The Cuddalore district is one of the most vulnerable districts for Cyclone and the entire northern coastal taluks come under very high cyclone vulnerability zone whereas central and southern coastal taluks fall under high to low cyclone vulnerability zone. **(Subbarayan Saravanan, 2018)**

The disaster-related financial risk is a critical problem in developing countries where people are highly vulnerable to the losses of natural hazards and climate change. **(Qing Miao, 2019)** The economic losses from natural disasters have been increasing in recent decades. This has been attributed mainly to population and economic growth in disaster-prone areas. Future natural disaster losses are expected to increase due to a continued increase in economic exposure and climate change. **(Wouter Botzen. W. J. , 2019)** The damaged or destroyed by a natural disaster impact on economic and financial outcomes of households are generally short lived, larger for renters than home owners, and greater for smaller isolated disasters. **(Meliyanni Johar, 2020)**

The impact of disasters on economic growth may be negative contemporaneously, reconstruction and recovery activities if well-resourced could facilitate building back better, which could ultimately lead to positive outcomes on economic growth a year after the disaster. **(Emmanuel Owusu-Sekyere, 2021)** The disaster affects the unemployment and poverty, it leads to income inequality. The unemployment and poverty variables had a significant effect on the disaster loss variable. The disaster loss variable has a significant effect on the income inequality variable. The income inequality variable has no effect on the disaster loss variable. **(Evi Susanti Tasri Kasman, 2022)**

## 1.6. Economic Damages

The Following disasters created huge losses in India:-

1. 1996 - Amarnath Yatra tragedy – More than 250 people lost their lives
2. 2001 - Gujarat Earthquake (7.7 Richter scale ) killed 25,000 people and affected 6.3 million people.



3. 2004 - Indian Ocean earthquake and tsunami with the magnitude of 9.1–9.3 Richter scale, which was the third largest earthquake in the world. Tsunami resulted in loss of people 10,749 and 5,640 reported missing and an estimated 2.79 million people got affected.
4. 26 July 2005 - Mumbai Floods - one of the worst flood catastrophes in the history of India – killed around 5,000 people.
5. 2008 - Kosi Floods - Bihar's worst flood in 50 years - caused 500 deaths and affected 3.33 million.
6. 2013 - Uttarakhand floods - cloudburst caused flash floods and landslides and left more than 6,000 people dead.
7. 2014 - Jammu and Kashmir floods - killed more than 400 people and thousands of people were surrounded by floodwaters.
8. December 2015 - Chennai floods - 421 people in died of flood-related causes.

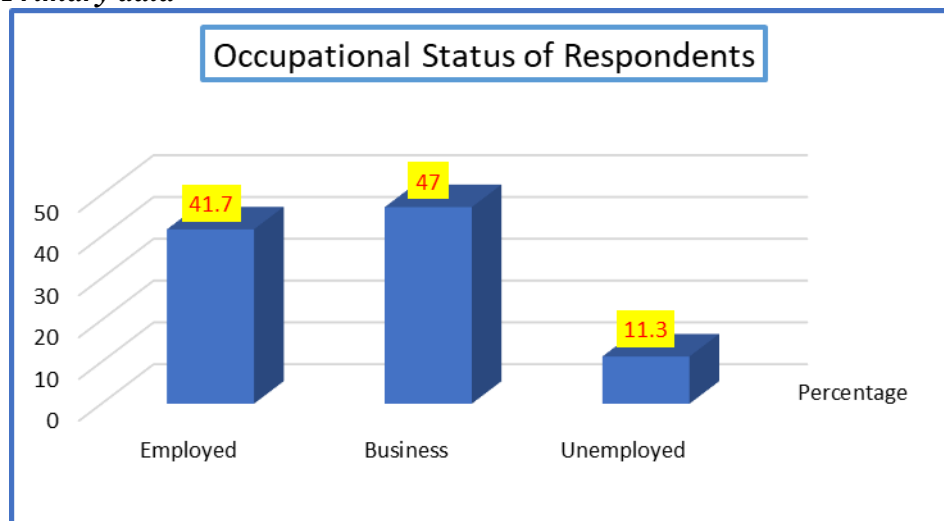
### 1.7. Occupational Status of The Respondents

Employed men/women are likely to be more educated, occupational status is highly interrelated with standard of living and hence the table no.1resents the occupational status of the respondents.

**Table No.1: Occupational Status of The Respondents**

Occupational Status	No. of respondents	Percentage
Employed	125	41.7
Business	141	47.0
Unemployed	34	11.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

*Source: Primary data*



*Source: Computed from Primary data*

**Diagram No. 1: Occupational Status of The Respondents**

The chart no.1 shows that more than two fifth (47.0 %, N=141) of the total respondents were engaged with business and followed by 41.7 percent were employed and the remaining 11.3 percent were unemployed.





### 1.8. Employment Distribution of The Respondents

The employment status also determines the socio-economic status of the respondents. Therefore, it is essential to study the category of employers where the respondents employed. Out of total respondents selected for the present study there were 41.7 percent (N=125) of respondents who were employed with any organization, hence the table no.2 presents employment wise distribution of respondents.

**Table No. 2: Employment Particulars**

Employment Status	No. of respondents	Percentage
Government Employee	55	44.0
Private Employee	70	56.0
<b>Total</b>	<b>125</b>	<b>100.0</b>

*Source: Primary data*

The table no. 2 reveals that more than half (56.0 %, N=70) of the respondents were employed in private organization like EID parry, Industrial park and various informal organization the remaining 44.0 percent were being employed in government organisations.

### 1.9. Nature of Employment

Out of 55 respondents working in government organisations, there were 44.0 percent (N=55) of respondents who are employed in the government organization but their nature of employment is both permanent and temporary, hence the table no. 3 presents nature of employment wise distribution of respondents.

**Table No. 3: Government Employees in The Study Area**

Employment Status	No. of respondents	Percentage
Permanent	21	38.18
Temporary	34	61.81
<b>Total</b>	<b>55</b>	<b>100.0</b>

*Source: Primary data*

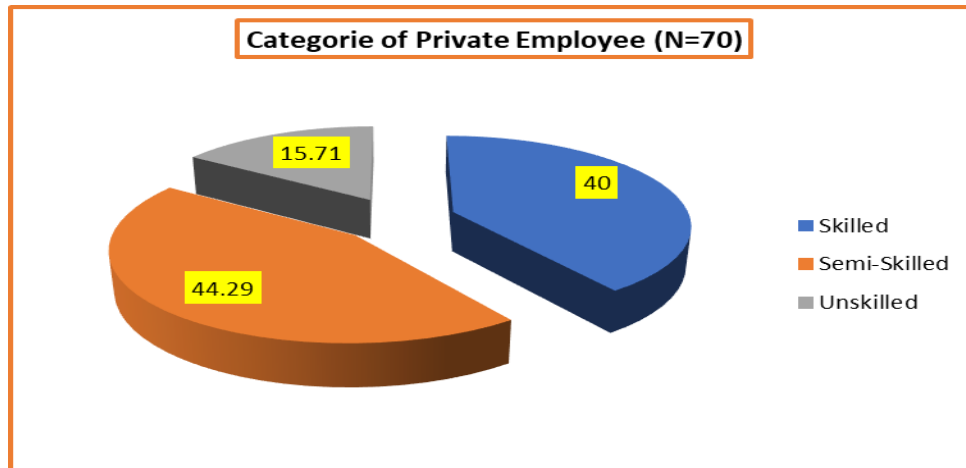
It is evident from the table no.3 that majority (61.81 %, N=34) of the government employee were employed as temporary and hence the remaining 38.18 percent were being permanent employees in the government organization.

Out of total respondents belong to private organizations selected for the present study there were 56.0 percent (N=70) of respondents were employed in the private organization but the category of employment is skilled, semi-skilled and unskilled, hence the table no. 4 presents nature of employment wise distribution of respondents.

**Table No. 4: Categories of Private Employees**

Categories of Employees	No. of respondents	Percentage
Skilled	28	40.00
Semi-Skilled	31	44.29
Unskilled	11	15.71
<b>Total</b>	<b>70</b>	<b>100.0</b>

*Source: Primary data*



Source: Computed from Primary data

Diagram No. 3: Categories of Private Employees

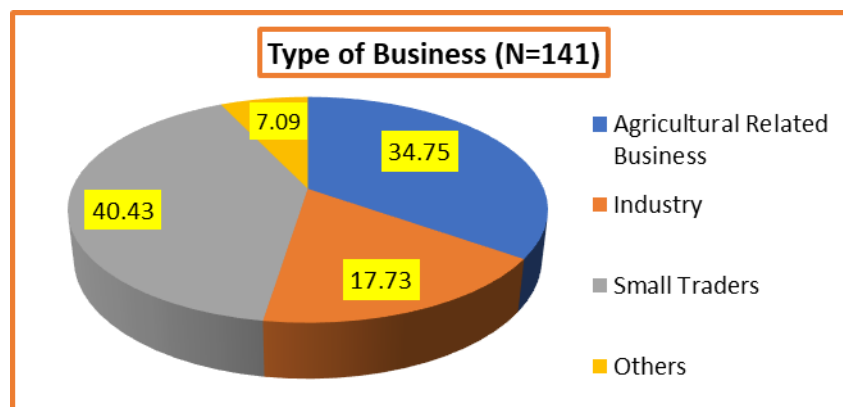
It can be witnessed from the table no. 4 that more than two fifth (44.29%, N=31) of the private employees were being semi-skilled followed by 40 percent skilled and the remaining 15.71 percent were being unskilled employees in the private organization. The private employees are also more concern on their environmental problems in the study area.

Out of total respondents devoted with business concerned selected for the present study there were 47.0 percent (N=141) of respondents who are engaged with various business and trade activities, hence the table No.4 presents distribution of respondents engaged with business.

Table No. 5 - Business Particulars of The Respondents

Type of Business	No.of respondents	Percentage
Agricultural Related Business	49	34.75
Industry	25	17.73
Small Traders	57	40.43
Others	10	07.09
Total	141	100.0

Source: Primary data



Source: Computed from Primary data

Diagram No. 5.7 - Business Particulars of the Respondents



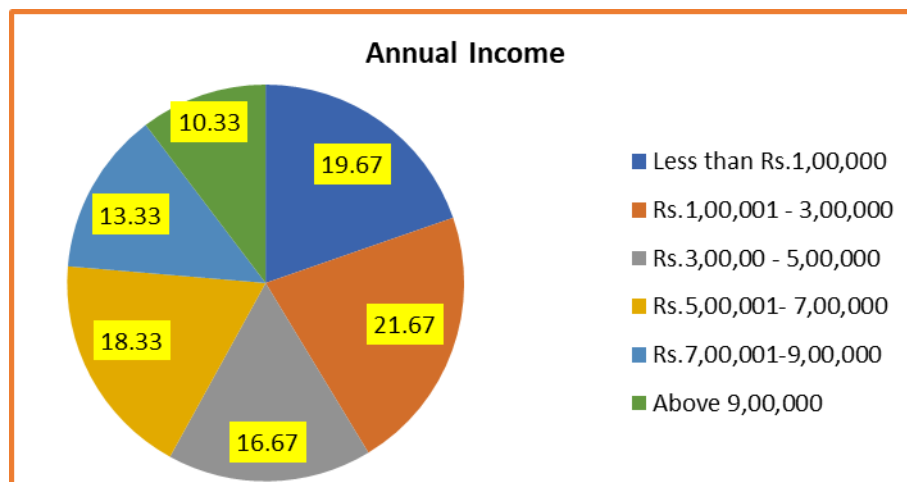
The table no.5 presents about the respondents of self-employed and engaged with business activities out which more than two fifth (40.43%, N=57) were being small trader followed by 34.75 (N=49) percent were involved in agricultural related business and 17.73 (N=25) percent involved in industrial activities.

For every survey or research study, income level of the respondents is taken into consideration being an economic related demographic variable. Annual income of a person is closely related to his/her standard of living, quantum of savings and potential for managing the disaster. Therefore, it is essential to investigate the level of income of the respondents selected for the study. Hence the table no.4 presents annual income of the respondents.

**Table No. 6: Annual Income of The Respondents'**

Annual Income (in Rs.)	No.of respondents	Percentage
Less than Rs.1,00,000	59	19.67
Rs.1,00,001 - 3,00,000	65	21.67
Rs.3,00,00 - 5,00,000	50	16.67
Rs.5,00,001- 7,00,000	55	18.33
Rs.7,00,001-9,00,000	40	13.33
Above 9,00,000	31	10.33
<b>Total</b>	<b>300</b>	<b>100.00</b>

*Source: Primary data*



*Source: Computed from Primary data*

**Diagram No. 3: Annual Income of the Respondents'**

The table no.6 indicated that out of the total respondents, more than one fifth (21.67%, N=65) of the respondents annual income between Rs.1,00,001- 3,00,000 and 19.67 percent (N=59) of the respondent earn annual income up to Rs. 1,00,000. More than 18 percent (18.33, N=55) of the respondents' annual income were being Rs. 5,00,001 – 7,00,000 and Very minimum percentage (10.33%, N=31) of the respondents earn income over and above Rs.9,00,000. Family particulars of the respondents taken for the present study such as type of family, number of members in the family, type of house, nature of ownership of house, number of years of living in the same area and house, and monthly family expenditure have been included to analyse the impact of damages due to disaster.





### 1.10. Cost of Damages

Environmental damage cost is the cost incurred by consequence of direct environmental impacts such as the degradation of land or human made structures and health effects. In environmental accounting, it is part of the costs borne by economic agents. Environmental damages which cause the loss on the house property and medical related issue to the respondent of Cuddalore district are presented.

Therefore, the researcher has included two type losses such as loss due to damage of house, and loss due to medical related issues. To collect opinion from the respondents with respect to cost of house damage and cost incurred to meet medical expenditure for health loss of the respondents. The following table presents distributions of opinions related to the cost of damage.

**Table No.7: Cost of Damage in The Study Area**

S. No	Opinion Related to Cost of Damages	Rs.25,000 and Below		Rs.25,001-50,000		Rs.50,001-75,000		Rs.75,001-1,00,000		Rs.1,00,001-1,25,000		Rs.1,25,00 and above	
		No.of respondent	%	No. of respondent	%	No. of respondent	%	No. of respondent	%	No. of respondent	%	No. of respondent	%
1	House damaged	39	17.4	40	17.9	20	8.9	60	26.8	42	18.8	23	10.3
2	Medical Expenditure incurred for health loss	37	16.5	37	16.5	22	9.8	64	28.6	43	19.2	21	9.4

**Source: Primary data compiled from field**

It observed from the table no.7 more than one fourth (26.8%, N= 60) of the respondents have affected due to house loss and they incurred Rs.75,001 -1,00,000 to rebuilt or renovate the damaged house, more than 18 percent (N=42) of the respondents incurred Rs. 1,00,000-25,000, and more than 17 percent have incurred upto Rs.50,000 to renovate damaged house.

The data revealed that more than one fourth (28.6%, N= 64) of the respondents have affected due to health loss and they incurred Rs. 75,00-1,00,000 to recover the health and more than 19 percent (N=43) of the respondents incurred Rs.1,00,000-125,000, farther it says that more than 16 percent have incurred up to Rs.50,000 to recover health.



From the above data it was found that majority of the respondents have incurred Rs. 1,00,001-1,25,000 as expenditure on the house damage and loss of health.

### 1.11. Impact Of Disaster

Disaster occurred due to environmental disorder spreads negative externalities and it affects the livelihood of the respondents. Out of total respondents (N=300) affected by disease due to the environmental disasters, the table no.6 presents the distribution of respondents who have affected by any diseases due to the environmental disaster.

**Table No.8: Impact of Disaster in The Study Area**

Response	Frequency	Percentage
Yes	160	53.3
No	140	46.7
<b>Total</b>	<b>300</b>	<b>100.00</b>

*Source: Primary data collected from field*

The table no.8 shows that more than half (53.3%, N=160) of the respondents have agreed that they have affected by diseases due to the environmental disasters occurred in the study area.

Out of total respondents 53.3 percent (N=160) affected by diseases due to the environmental disasters, the table no.7 presents the distribution of respondents who have affected by diseases due to the environmental disaster.

**Table No.9: Distribution of Respondents Affected By Disease**

Type of Disease	No.of Respondents	Percentage
Respiratory	25	15.62
Skin Diseases	15	9.38
Eye Related	12	7.5
Viral Fever	64	40.0
Diarrhea	28	17.5
Unnamed Diseases	16	10.0
<b>Total</b>	<b>160</b>	<b>100.00</b>

*Source: Primary data compiled from field*

Data shows that the table no.9 more than more than two fifth (40.0%, N= 64) were of the opinion that they have affected by viral fever.

More than more than 15 percent (17.5%, N= 28) were of the opinion that they have affected by Diarrhea and more than 15 percent (15.62%, N= 25) were of the opinion that they have affected by respiratory diseases.

When we studied above more than 10 percent (10.0, N=16) of the respondents have affected by unnamed diseases and less than 10 percent of the respondents have affected by eye and skin related diseases.

From the above data it was found that most of the respondents have affected by viral disease due to environmental disasters and damages.



**Table No.10: Type of Disease and Gender If the Respondent**

S.No	Particulars	Gender of the Respondents				Total	
		Male (N=97)		Female (N=63)		No. of respondent	%
		No. of respondent	%	No. of respondent	%		
1	Reparatory	15	15.46	10	15.87	25	15.62
2	Skin Diseases	8	8.25	6	9.52	15	9.38
3	Eye Related	7	7.22	5	7.94	12	7.5
4	Viral Fever	40	41.24	24	38.1	64	40
5	Diarrhea	17	17.52	11	17.46	28	17.5
6	Unnamed Diseases	10	10.31	7	11.11	16	10
<b>Total</b>		<b>97</b>	<b>100.0</b>	<b>63</b>	<b>100.0</b>	<b>160</b>	<b>100.0</b>

*Source: Computed from the Primary data*

Data shows that the table no.10, that out of total 97 male respondents, more than two fifth (41.24%, N= 40) of the male respondents have affected by viral fever, more than 15 percent of the male respondents have also affected by diarrhea and respiratory diseases respectively. More than 10 percent of respondents are affected by unnamed diseases.

It also noted that out of total 63 female respondents, more than two fifth (38.1%, N= 24) of the female respondents have affected by viral fever, more than 15 percent of the female respondents have also affected by diarrhea and respiratory diseases respectively. More than 10 percent affected by unnamed diseases and 9 percent of female respondents affected by skin diseases.

From the above interpretations most of the male and female respondents have affected by viral fever. On the whole, most of the male respondents have affected by viral fever when compared to female respondents.

**Table No.11: Economic Related Damage**

S · N o	Opinion Related to Economic Impact	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
		No. of respondeen	%	No. of respondeen	%	No. of respondeen	%	No. of respondeen	%	No. of respondeen	%	No. of respondeen	%
1	Employment losses	125	41.7	66	22.0	11	3.7	64	21.3	34	11.3	300	100
2	profit reduced	134	44.7	131	43.7	17	5.7	13	4.3	5	1.7	300	100
3	Income reduced	87	29.0	89	29.7	6	2.0	94	31.3	24	8.0	300	100
4	Unable to save money	95	31.7	92	30.7	2	0.7	101	33.7	10	3.3	300	100



5	Addition al Economi c Burden	120	40.0	71	23.7	13	4.3	75	25.0	21	7.0	300	100
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**Source: Primary data compiled from field**

From the table no.11, it was evident that more than three fifth (63.7%, N=191) of the respondents were of the opinion that they are not lost their employment due to disaster.

Majority (88.4%, N=265) of the respondents were of the opinion that there was no reduction in profit of the respondents due to the disaster.

More than half (58.7%, N=175) of the respondent agreed that their income has not been reduced due to disaster

More than three fifth (62.4%, N= 187) of the respondents were of the opinion that the disaster has not been reduce the savings capacity of the respondents.

More than two fifth (63.7%, N=191) of the respondents were of the opinion that the disaster has not been given additional economic burden to the respondents.

Based on the opinions of the respondents, it was inferred that there was minimal level of impacts and inconvenient perceived by the respondents as economic related damages.

Further it implies that the disaster has not been created negative economic impact in terms of loss of employment, reduction in profit and income, savings propensity and economic burden as perceived by the respondents.

To determine, how the perception of economic related damages differs depends upon occupational status of the respondents, ANOVA test applied and the following hypothesis was formulated the result of which presented in the following table.

*H<sub>0</sub>: The economic related damages do not created impact among occupational status of the respondents*

**Table No: 12: Anova Test Occupational Status and The Economic Damages**

Economic Related damages		Sum of Squares	df	Mean Square	F	Sig.
Employment losses	Between Groups	2.791	2	1.396	.637	.529
	Within Groups	650.355	297	2.190		
	<b>Total</b>	653.147	299			
Profit reduced	Between Groups	1.974	2	.987	1.293	.276
	Within Groups	226.773	297	.764		
	<b>Total</b>	228.747	299			
Income reduced	Between Groups	4.712	2	2.356	1.220	.297
	Within Groups	573.484	297	1.931		
	<b>Total</b>	578.197	299			
Unable to save money	Between Groups	5.906	2	2.953	1.684	.187
	Within Groups	520.691	297	1.753		
	<b>Total</b>	526.597	299			
Additional Economic Burden	Between Groups	.548	2	.274	.139	.870
	Within Groups	583.999	297	1.966		
	<b>Total</b>	584.547	299			

**Source: Computed from the Primary data**



The one way analysis of variance test was run to determine if the economic related damages differ due to the occupational status of the respondents.

From the above table no.12 showed the assumed significant values in terms of employment loss ( $F=0.637$ ,  $P\text{-value } 0.529 > 0.05$ ), profit reduced ( $F=1.293$ ,  $P\text{-value } 0.276 > 0.05$ ), income reduced ( $F=1.220$ ,  $P\text{-value } 0.297 > 0.05$ ), unable to save money ( $F=1.684$ ,  $p\text{-value } 0.187 > 0.05$ ), and additional economic burden ( $F=0.139$ ,  $P\text{-value } 0.870 > 0.05$ ), then the null hypothesis ( $H_0$ ) is accepted.

Therefore, it could be concluded that the economic related damages are not differ due to the different occupational status engaged by the respondents.

Hence, it implies that the perception of economic related damages such as employment loss, profit reduced income reduced, unable to save money, and additional economic burden do not created significant impact among the different occupational status possessed by the respondents.

To determine, how the perception of economic related damages differs according to annual income level of the respondents, ANOVA test applied and the following hypothesis was formulated the result of which presented in the following table.

$H_0$ : The economic related damages do not created impact according to the annual income of the respondents.

**Table No.13: Anova Test Annual Income and The Economic Damages**

Economic Related damages		Sum of Squares	df	Mean Square	F	Sig.
Employment losses	Between Groups	9.279	5	1.856	.847	.517
	Within Groups	643.868	294	2.190		
	<b>Total</b>	653.147	299			
Profit reduced	Between Groups	1.773	5	.355	.459	.806
	Within Groups	226.974	294	.772		
	<b>Total</b>	228.747	299			
Income reduced	Between Groups	9.767	5	1.953	1.010	.412
	Within Groups	568.430	294	1.933		
	<b>Total</b>	578.197	299			
Unable to save money	Between Groups	4.209	5	.842	.474	.796
	Within Groups	522.388	294	1.777		
	<b>Total</b>	526.597	299			
Additional Economic Burden	Between Groups	10.356	5	2.071	1.060	.382
	Within Groups	574.191	294	1.953		
	<b>Total</b>	584.547	299			

*Source: Computed from the Primary data*



The one-way analysis of variance test was run to determine if the perception of economic related damages differ according to the annual income level of the respondents.

From the table no.13 showed the assumed significant values in terms of employment loss ( $F=0.847$ ,  $P\text{-value } 0.517 > 0.05$ ), profit reduced ( $F=0.459$ ,  $P\text{-value } 0.806 > 0.05$ ), income reduced ( $F=1.010$ ,  $P\text{-value } 0.412 > 0.05$ ), unable to save money ( $F=474$ ,  $p\text{-value } 0.796 > 0.05$ ), and additional economic burden ( $F=1.060$ ,  $P\text{-value } 0.382 > 0.05$ ), then the null hypothesis ( $H_0$ ) is accepted.

Therefore, it could be concluded that the economic related damages are not differ according to the annual income level of the respondents the researcher observed that those who under the high income group the owned pucca and beautiful houses irrespective of their level of damages.

Hence, it implies that the perception of economic related damages such as employment loss, profit reduced income reduced, unable to save money, and additional economic burden do not created significant impact among the different income group of the respondents.

### 1.12. Conclusion

Disasters result from internal or external forces of a community or system which has no effective control. During any disaster, an external intervention is required to help people bounce back. The social support may be organized after a disaster, to bring back their normal life. Specific studies aimed at bringing out data which help in planning and mitigation in disaster management. This study presents that that the economic related damages are not differ due to the different occupational status engaged by the respondents in cuddalore district. It also shows that the perception of economic related damages such as employment loss, profit reduced income reduced, unable to save money, and additional economic burden do not create significant impact among the different income group of the respondents and most of the male and female respondents have affected by viral fever show the medical implications of the disasters.

The disaster brought economic impact in terms of loss of employment, reduction in profit and income, savings propensity and economic burden on the people of cuddalore. It can be inferred that majority of the population have incurred Rs. 1,00,001-1,25,000 as expenditure on the house damage and loss of health in the district.

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