



Social Impacts of Cyclone Mandous and the Plight of the Low-Income Groups: A Study in the Coastal Areas of Cuddalore

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Abstract

Cyclones leave a profound social impact and severe economic ramifications on the affected communities, especially the regions that rely mostly on agriculture, fisheries, and tourism sectors. Cuddalore is a coastal district that is highly reliant on these sectors, which has been severely hit by the Mandous Cyclone in December 2022, leading to the destruction of crops, livestock, and fishing grounds often leading to food shortages, loss of livelihoods, and increased poverty levels. This is now a significant social challenge, as the communities still struggle to rebuild their economic base and recover from financial setbacks due to the cyclone Mandous, and previously due to the Covid-19 pandemic. Therefore, the present article attempts to study the social impacts of the cyclone Mandous, for which the descriptive research design has been adopted for the present empirical research, and the data has been collected from 137 respondents in the affected regions by the multi-stage sampling technique. By focusing on resilience-building measures, community engagement, and comprehensive support systems, societies can better mitigate and adapt to the social challenges posed by cyclones, fostering stronger, more inclusive, and sustainable communities in the face of these natural disasters.

Keywords: Cyclone, Livelihood, Low-income groups, Cyclone Mandous, flood, Community vulnerability, Poverty

1 Introduction:

Cyclones are not just geographical, it has its own social impact as well. The social impacts of cyclones extend beyond the immediate physical damage, encompassing various aspects of society, including human lives, infrastructure, economy, and mental well-being. They pose a significant threat to human life and can cause direct fatalities and injuries. The destruction of homes and infrastructure can lead to mass displacements, forcing people to evacuate their homes and seek temporary shelter in crowded relief centers. Displacement often disrupts social networks, separates families, and exposes vulnerable populations to further risks, such as disease outbreaks and inadequate access to essential services. They may cause extensive damage to critical infrastructure, and its damages disrupts daily life, hampers rescue and relief operations, and delays the restoration of essential services. Destruction of infrastructure also has long-term consequences, as it impedes economic activities, access to education, healthcare services, and transportation networks, thereby affecting the overall development and well-being of affected communities. They also have profound economic impacts on the affected regions. The destruction of agricultural lands, livestock, and fisheries can lead to significant losses for communities dependent on these sectors. Cyclones often lead to flooding, which can contaminate water sources and cause waterborne diseases. They leave a long-lasting emotional and psychological impact on individuals and communities. Survivors may experience trauma, grief, and loss, requiring mental health support and counseling. Displacement, loss of homes, and separation from loved ones can lead to feelings of insecurity, anxiety, and depression. The disruption of social fabric and community networks can further contribute to a sense of dislocation and loss of identity. Rebuilding not only physical infrastructure but also social cohesion and psychological well-being becomes essential in the recovery process.

Considering India's vast geographical expansion and socio-cultural, demographic, and economic diversity, localising SDGs is essential while national initiatives serve to define the extent of localization, (Mr. G. Koushik, 2023), which largely supports and aids the low-income group in overcoming the losses. Low-income groups often suffer disproportionately in the aftermath of cyclones due to their limited resources, lack of access to essential services, and existing vulnerabilities.

1.1 Statement of the Problem

‘Cyclone Mandous’ was the third cyclonic storm and the third most severe tropical cyclone of the 2022 North Indian Ocean cyclone season, which had severely struck the eastern coastal areas of India in December 2022, and Cuddalore is one such coastal districts of Bay of Bengal in Tamil Nadu, that was affected severely by the cyclone. Cuddalore, being a developing district, with majority of its working population in the unorganized sectors and low-income groups. Their income largely depends on their active physical participation at work place, and in absence of their active physical participation, i.e. when they fall ill or during any natural disasters, they receive no income. With an unstable income, they live in

a hand-to-mouth lifestyle and hardly make any savings for any emergencies or uncertainties. Therefore, the low income groups of Cuddalore district suffer a lot socially and economically in the aftermath of any cyclones such as Mandous. The fishing boats of and fishing nets of fisher men, wheeled food-carts and petty shops of small business owners, and other such business equipment are damaged by cyclones. The daily wage labourers lose their jobs due to the cyclones. Cyclones result in severe social and economical impacts, due to which the low-income groups and their livelihood security are severely affected. Therefore, the present piece of research attempts to study the social impacts of Cyclone Mandous and the plight of the low-income groups in the coastal areas of Cuddalore district.

1.2 Area Profile

Cuddalore is one of the 38 districts in Tamil Nadu, and Chidambaram, a one-thousand year old town with a rich historical background in the Cuddalore District of Tamil Nadu, is more prone to cyclones, and has been repeatedly stricken by cyclones year after year, especially in the recent past, namely Cyclone Vardah, Cyclone Nada, Cyclone Nivar, Cyclone Thane, Cyclone Okhi, and very recently Cyclone Mandous in 2020. Out of total population, 63.88% of population lives in Urban area and 36.12% lives in Rural area. With an area of 4.8 km² and a population of 62,153 as of 2011, there are 29.67% Scheduled Caste (SC) and 1.13% Scheduled Tribe (ST) of total population in Cuddalore district.

2 Research Methodology:

The present study works on the descriptive research design and is based on empirically collected data and the respondents of the study have been identified on the basis of the multi-stage sampling survey approach. This study demonstrates the diversity of the socio-economic conditions of the people in the coastal areas of Cuddalore taluk, Bhuvanigiri taluk, Chidambaram taluk, Kattumannarkoil taluk of Cuddalore district.

The objectives of the present study are to

- Study the Socio-Economic conditions of the respondents in the study area
- Understand the Psycho-social impacts of the cyclone on the respondents in the study area

To accomplish the objectives of the study, a specifically designed structured interview schedule has been identified to collect the primary data from 137 respondents within the study area. Thereof, the secondary data has been collected from books, journals, magazines, and trusted websites.

The criteria of being Daily wage labourers or low-income groups or people below the poverty line living in Cuddalore district, who have also been the victims of Cyclone Mandous have been framed as the inclusion criteria of the respondents to be a part of the study.

3 Data Interpretation:

S. No.	Variables	Data					
		1	Age	(a) 25-35		(b) 35-45	
No. of Respondents	Percentage			No. of Respondents	Percentage	No. of Respondents	Percentage
61	44.526			53	38.686	23	16.788
2	Gender	(a) male		(b) female		(c) other	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage
		91	66.423	46	33.577	0	0
3	No. of Family Members	(a) 3		(b) 4		(c) 5 & above	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage
		78	56.934	51	37.226	8	5.839
4	Monthly Income	(a) > 10,000		(b) 10,000 - 15,000		(c) 15,000 <	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage
		59	43.066	41	29.927	37	27.007
5	Education	(a) Upto higher secondary		(b) ITI/ Diploma		(c) Graduation	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage
		47	34.307	28	20.438	62	45.255
6	Type of House	(a) tiled		(b) Community houses		(c) brick walled	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage
		51	37.226	29	21.168	57	41.606
7	Cyclone Severity (According	(a) High		(b) Moderate		(c) Low	
		No. of Respondents	Percentage	No. of Respondents	Percentage	No. of Respondents	Percentage

	to Respondents)	81	59.124	56	40.876	0	0
8	Physical Illness due to Cyclone	77	56.204	60	43.796	0	0
9	Mental Stress due to cyclone	112	81.752	25	18.248	0	0
10	Food Sufficiency during Cyclone	94	68.613	40	29.197	3	2.190
11	Sanitation Quality during Cyclone	73	53.285	55	40.146	9	6.569
12	Preparatory Measures (by local governance/ NGOs/ Volunteers	53	38.686	29	21.168	55	40.146
13	Service during the Cyclone	113	82.482	22	16.058	2	1.460
14	Quality of After-cyclone Relief Services	87	63.504	39	28.467	11	8.029
15	Economic Hardships due to Cyclone	113	82.482	24	17.518	0	0
16	Damages to home or business assets due to cyclone	93	67.883	28	20.438	16	11.679

4 Major Findings & Suggestions:

The study has revealed certain findings and has made few suggestions based on the findings of this study.

4.1 Findings of the Study:

Cyclone victims face a range of challenges and plights in the aftermath of a cyclone. The present study has identified certain difficulties they experience:

- **Injuries and sometimes loss of life:** Cyclones can result in the loss of lives and cause significant injuries to those affected. Families and communities mourn the loss of loved ones and may struggle with the physical and emotional trauma resulting from the disaster.
- **Displacement and homelessness:** Cyclones often lead to the displacement of people as homes and entire communities can be destroyed or severely damaged. Victims may lose their homes and belongings, leaving them without shelter and basic necessities. Displaced individuals may seek temporary shelter in overcrowded evacuation centers, makeshift camps, or with host families.
- **Lack of access to clean water and sanitation:** Cyclones can damage water sources, infrastructure, and sanitation systems, leading to a shortage of clean drinking water and inadequate sanitation facilities. This increases the risk of waterborne diseases, such as cholera and dysentery, among the affected population.
- **Food scarcity and malnutrition:** Cyclones can devastate crops, livestock, and fishing communities, disrupting the local food supply. This can result in food shortages, limited access to nutritious food, and increased vulnerability to malnutrition, particularly among children and vulnerable populations.
- **Health risks and disease outbreaks:** The destruction caused by cyclones often creates unsanitary conditions, making communities susceptible to various health risks. Lack of access to medical facilities, medication, and healthcare services can increase the likelihood of injuries, infections, and the spread of diseases within the affected areas.
- **Infrastructure damage and disrupted services:** Cyclones can cause extensive damage to infrastructure, including roads, bridges, power lines, and communication networks. This disruption can hinder emergency response efforts, access to aid, and the restoration of essential services like electricity, transportation, and communication.
- **Emotional and psychological distress:** Cyclone survivors may experience emotional and psychological distress due to the trauma they have endured. Loss of loved ones,

displacement, and the destruction of communities can lead to feelings of grief, anxiety, depression, and post-traumatic stress disorder (PTSD).

- **Economic hardship:** Cyclones can have long-lasting economic impacts on affected regions. Damage to agricultural lands, businesses, and infrastructure can disrupt local economies, leading to loss of livelihoods, unemployment, and increased poverty rates.
- **Limited access to education:** Cyclones can disrupt educational systems, damaging schools and displacing students and teachers. The lack of functioning schools, learning materials, and educational resources can lead to interrupted education and hinder the long-term development of affected communities.
- **Slow recovery and rehabilitation:** The process of recovery and rehabilitation following a cyclone can be slow and challenging. Rebuilding infrastructure, restoring services, and providing long-term support to affected communities require significant resources, coordination, and time.

It is important for governments, humanitarian organizations, and communities to work together to address these plights and provide immediate assistance and long-term support to cyclone victims.

4.2 Suggestions to the victims (Individuals):

If individuals have been affected by a cyclone, there are several suggestions you can give them to help them cope with the situation and facilitate their recovery. Here are some recommendations:

- **Ensure personal safety:** The immediate priority should be personal safety. Advise them to follow all safety protocols, such as staying away from damaged structures, downed power lines, and flooded areas. If necessary, encourage them to seek shelter in designated evacuation centers or safer locations.
- **Seek medical attention:** If anyone is injured or requires medical assistance, urge them to seek immediate medical attention. In the aftermath of a cyclone, injuries, infections, or waterborne diseases may occur. It's essential to prioritize health and seek professional help.
- **Access emergency services:** Inform them about emergency helplines, hotlines, or local authorities that can provide assistance. These organizations can provide vital information, resources, and support during the recovery process. Encourage them to reach out for help if needed.
- **Secure basic necessities:** Suggest finding reliable sources of clean drinking water, food, and shelter. In some cases, emergency relief agencies or non-governmental organizations (NGOs) may provide aid, such as food, water, and temporary shelter. Guide them on how to access these resources or connect with local relief efforts.

- **Communicate with close ones:** Encourage affected individuals to reach out to their family and friends to let them know they are safe. Communication can provide emotional support and help reunite families who may have been separated during the cyclone. Social media, mobile networks, or local communication centers can be valuable for this purpose.
- **Document damages and losses:** Advise them to document any damages to their property or belongings by taking photographs or videos. This evidence may be necessary for insurance claims or when seeking assistance from disaster relief programs. Proper documentation can expedite the recovery process.
- **Seek community support:** Inform them about local community centers, support groups, or non-profit organizations that are working to help cyclone victims. These organizations may provide counselling, financial aid, or assistance in rebuilding homes. Encourage them to connect with their community and take advantage of the available resources.
- **Stay informed:** Recommend staying updated on weather forecasts, official announcements, and relief efforts. Local news channels, government websites, or social media accounts of relevant authorities can provide the latest information on relief operations, road conditions, and other important updates.
- **Prioritize mental health:** Encourage affected individuals to take care of their mental well-being. Natural disasters can be traumatic, and it's important to acknowledge and address the emotional impact. Suggest seeking professional help or counseling services to cope with the stress, anxiety, or trauma experienced during and after the cyclone.
- **Rebuilding and recovery:** As the recovery process begins, offer guidance on accessing resources for rebuilding homes, restoring utilities, or seeking financial assistance. Government programs, NGOs, or local initiatives may provide support in these areas.

These suggestions serve as general guidance to the people of the affected areas based on this study, and the specific actions needed may vary depending on the location and severity of the cyclone. Individuals need to be encouraged to follow the suggestions and recommendations of local authorities who have a better understanding of the situation on the ground.

5 Conclusion:

The social impacts of cyclones extend far beyond the immediate physical destruction. These devastating storms affect human lives, infrastructure, economies, and social well-being. Understanding and addressing the social impacts of cyclones is crucial for effective disaster preparedness, response, and recovery efforts. By focusing on resilience-building measures, community engagement, and comprehensive support systems, societies can better mitigate and adapt to the social challenges posed by cyclones, fostering stronger, more inclusive, and sustainable communities in the face of these natural disasters. Cyclones impacts men and women in various ways. Since the floods impacted homes, crop fields, highways, bridges, and so on, both may suffer; nevertheless, women, especially poor, are the most affected victims of the flood. In conclusion, the social impacts of cyclones are far-reaching and profound, affecting various aspects of society, including human lives, infrastructure, economy, and social well-being. Cyclones disproportionately affect low-income groups, exacerbating existing vulnerabilities and widening social inequalities. Understanding and addressing the social impacts of cyclones is crucial for effective disaster management and recovery efforts. By prioritizing the needs of vulnerable populations, implementing targeted interventions, and promoting resilience-building measures, societies can strive towards creating more inclusive and sustainable communities in the face of these natural disasters. Moreover, fostering community engagement, enhancing early warning systems, and ensuring equitable access to essential services are essential components of comprehensive strategies to mitigate the social impacts of cyclones and promote long-term resilience and well-being for all.

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