



A STUDY ON SOCIAL CONSEQUENCES OF NATURAL DISASTERS IN PRAKASAM DISTRICT OF ANDHRA PRADESH

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Abstract

Natural disasters create significant social disruptions that extend beyond physical destruction and economic loss. They often weaken social institutions, disturb daily life, and affect access to essential facilities and community support systems. The present study examines the social issues caused by natural disasters among coastal communities in Prakasam District of Andhra Pradesh. The study focuses on the socio-economic background of the affected population and the social challenges experienced during disaster situations. A proportionate stratified random sampling method was adopted, and data were collected from 540 respondents across ten disaster-prone coastal villages located in Kothapatnam and Chinaganjam mandals. The findings reveal that access to basic facilities such as food, shelter, clothing, medicine, and potable water is often irregular or inadequate during disaster situations. The study also identifies several major social issues including loss of privacy (80.4%), disruption of normal routines (77.6%), weakening of social support systems (60.6%), and lack of adequate health facilities (58%). ANOVA results indicate that education significantly influences access to basic facilities during disasters. Correlation analysis further shows that gender has limited influence on most social issues, although weakening of social support systems and prevalence of alcoholism show statistically significant associations. The study concludes that natural disasters create substantial social challenges that require improved disaster preparedness, equitable distribution of relief resources, and stronger community support mechanisms to enhance resilience and social recovery.

Keywords: Natural Disasters, Social Issues, Disaster Vulnerability, Social Support Systems, Access to Basic Facilities, Disaster Management, Coastal Communities.

Introduction

Natural disasters have far reaching social consequences that extend beyond immediate physical damage. They disrupt everyday life, displace populations, and weaken family and community structures. Loss of homes, livelihoods, and access to basic services often leads to social insecurity, increased dependency, and breakdown of social networks. Vulnerable groups are usually affected more severely, widening social inequalities. Understanding these social consequences is essential for planning effective rehabilitation, restoring social cohesion, and promoting sustainable community recovery after disasters.

Objectives

1. **To examine the socio-economic background** of the disaster affected population in Prakasam District of Andhra Pradesh.
2. **To analyze the social issues** faced by the disaster affected population.

Hypothesis

Ho: **There is** no significant difference between gender with regard to their social problems.

Universe and Sampling

The **universe of the present study** comprises the population residing in the coastal villages of Prakasam District. From among the five coastal mandals, **two mandals were selected**, and from each selected mandal, **five villages** were chosen **purposively**, based on their higher exposure and vulnerability to recurring natural disasters. Thus, a total of **ten disaster prone coastal villages Eethamukkala, Gamellapalem, Pardarathi, P. Khandrika, Rajupalem, Chinthagumpalli, Gonasapudi, Motupalle, Peda Ganjam, and Santharavuru** were selected for detailed investigation.

In the selected ten villages of the two mandals, there are **5,404 household families** in total. Following the principle of proportionate representation, **10 per cent of households from each village** were selected, resulting in a final sample of **540 households** for the quantitative component of the study.

Thus, by adopting a **proportionate stratified random sampling method**, the study ensured that the selected **540 respondents** adequately represent the broader coastal population of Prakasam District, thereby enhancing the reliability, validity, and generalizability of the findings.

Table - 1

Facilities Accessible During Natural Disasters

Sl. No	Facilities	Available	Available Some time	Not Available	Total N=540
1	Food	28.9	53.0	18.1	100.0
2	Shelter	37.0	40.9	22.1	100.0
3	Clothing	33.9	35.2	30.9	100.0
4	Medicine	35.9	33.4	30.7	100.0
5	Potable Water	36.5	32.8	30.7	100.0

6	Any other	01.1	02.4	96.5	100.0
An average total percentage		28.9	32.9	38.2	100.0

The table presents the availability of basic facilities among the respondents (N = 540) and highlights the extent to which essential needs are consistently available, Available some time, Available Some time. The findings indicate significant gaps in access to basic facilities, reflecting varying degrees of vulnerability and insecurity among the households.

With regard to food availability, only 28.9 per cent of respondents report having adequate food regularly. A majority (53.0 per cent) indicate that food is available only some of the time, while 18.1 per cent report non availability. This pattern reflects widespread food insecurity, where a large proportion of households struggle to ensure consistent access to sufficient food.

In terms of shelter, 37.0 per cent of respondents have adequate shelter available, whereas 40.9 per cent experience shelter availability only intermittently. Alarming, 22.1 per cent report that shelter is not available, pointing to housing insecurity and vulnerability, particularly during adverse conditions such as natural disasters or economic shocks.

The availability of clothing shows a relatively weaker position, with 33.9 per cent of respondents reporting regular access, 35.2 per cent reporting occasional availability, and a significant 30.9 per cent indicating non availability. This suggests that a considerable segment of households lacks sufficient clothing, which may affect health, dignity, and social participation.

Access to medicine reflects similar trends, where 35.9 per cent report regular availability, 33.4 per cent report intermittent access, and 30.7 per cent report non availability. This indicates substantial barriers to healthcare access, potentially due to financial constraints, distance to health facilities, or supply limitations.

The situation regarding potable water is equally concerning. Only 36.5 per cent of respondents report regular access to safe drinking water, while 32.8 per cent have access only some of the time, and 30.7 per cent lack access altogether. This highlights serious public health concerns, as unreliable access to potable water can lead to waterborne diseases and poor health outcomes.

The category of “any other” facilities such as sanitation, doctors etc. shows extremely low availability, with only 1.1 per cent reporting regular access and 2.4 per cent reporting occasional access, while an overwhelming 96.5 per cent report non availability. This indicates the near absence of supplementary or support facilities beyond basic needs.

Overall, the analysis reveals that a majority of respondents either experience irregular access or complete lack of essential facilities. The average figures clearly show that non availability (38.2 per cent) exceeds regular availability (28.9 per cent), emphasizing the precarious living conditions of the respondents. These findings underline the urgent need for targeted policy interventions and welfare measures to ensure consistent access to food, shelter, healthcare, clean water, and other essential services.

Table - 2

Facilities Accessible During Natural Disasters Vs. Education

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Food	Between Groups	4.534	4	1.134	2.493	.042
	Within Groups	243.236	535	.455		
	Total	247.770	539			
Shelter	Between Groups	42.943	4	10.736	21.764	.000
	Within Groups	263.907	535	.493		
	Total	306.850	539			
Clothing	Between Groups	78.378	4	19.595	38.662	.000
	Within Groups	271.148	535	.507		
	Total	349.526	539			
Medicine	Between Groups	66.146	4	16.537	30.256	.000
	Within Groups	292.402	535	.547		
	Total	358.548	539			
Potable Water	Between Groups	73.994	4	18.499	34.456	.000
	Within Groups	287.226	535	.537		
	Total	361.220	539			
Any other	Between Groups	1.442	4	.360	5.605	.000
	Within Groups	34.401	535	.064		
	Total	35.843	539			

The ANOVA results examine whether the availability of basic facilities differs significantly across the education of respondents. Overall, the findings reveal statistically significant differences for all facilities, indicating that group wise variation plays an important role in determining access to essential needs.

The results indicate that education has a statistically significant association with access to most facilities during disasters.

For food facilities, the F value is **2.493** with a significance level of **0.042** ($p < 0.05$). This shows that access to food during disasters varies significantly across different education groups, though the variation is comparatively modest.

In the case of shelter, the F value is **21.764** with a highly significant p value of **0.000** ($p < 0.01$). This indicates a strong and statistically significant difference in shelter accessibility based on education level.

Similarly, clothing accessibility shows a very high F value of **38.662** ($p = 0.000$), suggesting substantial variation among different educational categories. This is one of the strongest associations observed in the analysis.

For medicine, the F value is **30.256** ($p = 0.000$), confirming that access to medical facilities during disasters significantly differs across education levels.

Access to potable water also shows a strong significant relationship with education ($F = 34.456$, $p = 0.000$), indicating that educational attainment influences the availability of safe drinking water during disaster periods.

Even for other facilities, the association is statistically significant ($F = 5.605$, $p = 0.000$), though the overall variation is smaller compared to major facilities like shelter and clothing.

The ANOVA results clearly demonstrate that education plays a crucial role in determining access to essential facilities during natural disasters. Respondents with different educational backgrounds experience varying levels of access to food, shelter, clothing, medicine, potable water, and other relief services.

The strongest differences are observed in access to clothing, potable water, medicine, and shelter, suggesting that education significantly influences disaster preparedness, awareness, resource mobilization, and the ability to access relief services. Therefore, education emerges as an important socio demographic factor affecting disaster resilience and recovery capacity.

Table - 3

Social Issues Caused By Natural Disasters

Sl. No	Statement	Yes	No	Total N=540
1	A loss of privacy	80.4	19.6	100.0
2	Disruption of normal routines	77.6	22.4	100.0
3	Feeling of social support systems	60.6	39.4	100.0

	weaken			
4	A lack of adequate health facilities	58.0	42.0	100.0
5	Prevalence of alcoholism	04.4	95.6	100.0
6	Are women forced into labour activities	25.7	74.3	100.0
7	Children's education get discontinued	09.1	90.9	100.0
8	Is domestic violence increasing	09.3	90.7	100.0
9	Are human rights violations prevalent	45.9	54.1	
An average total percentage		41.2	58.8	100.0

The table presents the social issues caused by natural disasters among the respondents. Natural disasters often disrupt social structures, family relationships, and community support systems, leading to various social challenges in affected areas.

Firstly, 80.4 percent of the respondents reported experiencing a loss of privacy during natural disasters, while 19.6 percent did not report this issue. This indicates that during disasters, many people are forced to stay in temporary shelters or crowded places, which reduces personal privacy and comfort.

Secondly, 77.6 percent of the respondents stated that natural disasters disrupt their normal daily routines, whereas 22.4 percent did not experience such disruptions. This finding highlights how disasters interfere with everyday activities such as work, education, household responsibilities, and social interactions.

The study also reveals that 60.6 percent of the respondents felt that social support systems weaken during natural disasters, while 39.4 percent did not share this opinion. This suggests that disasters can affect community relationships and reduce the availability of social support networks.

Another important social issue identified in the study is the lack of adequate health facilities during disasters, which was reported by 58.0 percent of the respondents, while 42.0 percent did not report this issue. This indicates that access to healthcare services becomes limited during disaster situations.

Regarding the prevalence of alcoholism, only 4.4 percent of the respondents reported that alcoholism increases after disasters, whereas 95.6 percent did not observe such a problem. This suggests that alcoholism is not a major social issue associated with disasters in the study area.

The study also shows that 25.7 percent of the respondents reported that women are forced into labour activities during disasters, while 74.3 percent did not report this issue. This finding indicates that although some women face increased work burdens during disaster situations, it is not experienced by the majority.

Similarly, 9.1 percent of the respondents reported that children's education gets discontinued after disasters, while 90.9 percent did not report such disruptions. This suggests that although disasters may temporarily affect schooling, most children are able to continue their education.

The study further reveals that 9.3 percent of the respondents reported an increase in domestic violence after disasters, whereas 90.7 percent did not observe such incidents. This indicates that domestic violence is not widely reported as a consequence of disasters in the study area.

Finally, 45.9 percent of the respondents stated that human rights violations occur during disaster situations, while 54.1 percent did not report such violations. This finding indicates that nearly half of the respondents perceive certain rights-related challenges during disasters.

Overall, the average percentage of respondents reporting social issues caused by natural disasters is 41.2 percent, while 58.8 percent did not report such issues. These findings indicate that although natural disasters do create several social challenges such as loss of privacy, disruption of routines, and weakening of social support systems, the severity and extent of these issues vary among respondents. Therefore, disaster management programs should focus on strengthening social support systems, improving healthcare access, and protecting the rights and well-being of vulnerable groups during disasters.

Correlation Table –4

Correlation Analysis of Gender and Social Issues Caused By Natural Disasters

H0: There is no significant difference between gender with regard to their social problems.

Sl.No	Statement	Correlation Value	P Value	Decision N=540
1	Do you experience a loss of privacy during natural disasters	.002	.970	Not Significant
2	Do you experience disruption of normal routines during disasters	.068	.114	Not Significant
3	Do you feel that social support systems weaken during natural disasters	.113**	.009	Significant
4	Do you experience a lack of adequate health facilities during natural disasters	.047	.272	Not Significant
5	Prevalence of alcoholism	.097*	.024	Significant

6	Are women forced into labour activities	.024	.584	Not Significant
7	Do children's education get discontinued after disasters	.002	.954	Not Significant
8	Is domestic violence increasing after disasters	.006	.891	Not Significant
9	Are human rights violations prevalent after disasters	.004	.920	Not Significant
**. Correlation is significant at the 0.01 level (2 tailed).				
*. Correlation is significant at the 0.05 level (2 tailed).				

The correlation table analysis between Gender and the social issues caused by natural disasters (N = 540) indicates that most of the selected social variables do not show statistically significant gender differences. However, a few variables demonstrate significant associations, suggesting limited gender based variation in certain social impacts. Therefore, the null hypothesis is accepted and the research hypothesis is rejected.

The variable “Loss of privacy during natural disasters” shows an extremely weak positive correlation ($r = .002$) with a p value of .970, which is not statistically significant. This indicates that both males and females experience loss of privacy in a similar manner during disaster situations. Similarly, “Disruption of normal routines during disasters” ($r = .068$, $p = .114$) does not exhibit a significant relationship, suggesting that routine disturbances are common across genders. Therefore, the null hypothesis is accepted and the research hypothesis is rejected.

A statistically significant relationship is observed for “Social support systems weaken during natural disasters” ($r = .113^{**}$, $p = .009$). Although the correlation strength is weak, it is significant at the 0.01 level. This implies that gender plays a role in perceiving or experiencing the weakening of social support systems. It suggests that one gender may feel a greater erosion of community and family support during disaster periods. Therefore, the null hypothesis is rejected and the research hypothesis is accepted.

The variable “Prevalence of alcoholism” ($r = .097^*$, $p = .024$) also shows a positive and statistically significant relationship at the 0.05 level. Despite being weak in magnitude, this finding indicates that gender differences exist in the prevalence or reporting of alcoholism following disasters. It may reflect gender based coping strategies or social behaviors that emerge during crisis situations. Therefore, the null hypothesis is rejected and the research hypothesis is accepted.

The remaining variables “Lack of adequate health facilities” ($r = .047$, $p = .272$), “Women forced into labour activities” ($r = .024$, $p = .584$), “Children's education discontinued after disasters” ($r = .002$, $p = .954$), “Increase in domestic violence” ($r = .006$, $p = .891$), and “Human rights violations prevalent after disasters” ($r = .004$, $p = .920$) all show non significant relationships with gender. These findings indicate that these social issues are experienced similarly by both genders in the study area and are not statistically differentiated by gender. Therefore, the null hypothesis is accepted and the research hypothesis is rejected.

Overall, the analysis reveals that gender has limited influence on most social issues caused by natural disasters. Only weakening of social support systems and prevalence of alcoholism show statistically significant associations, and even these relationships are weak in strength. This suggests that while some gender based differences exist, social issues arising from disasters largely affect all genders in a comparable manner within the study population.

Conclusion

Natural disasters produce wide ranging social consequences that significantly affect the daily lives, relationships, and well being of affected communities. The present study analyzed the social issues experienced by disaster affected populations in the coastal villages of Prakasam District, Andhra Pradesh. The findings reveal that many respondents face serious challenges related to access to essential facilities during disaster situations, including food, shelter, clothing, medicine, and potable water. A considerable proportion of households reported irregular or inadequate access to these basic needs, indicating the vulnerability of coastal communities during disasters.

The study also identified several important social issues arising from disaster situations. Loss of privacy and disruption of normal routines were among the most commonly reported problems, reflecting the difficulties experienced by individuals living in temporary shelters or disrupted environments. The weakening of social support systems and lack of adequate health facilities were also reported by a significant proportion of respondents, highlighting the strain placed on community networks and public services during disaster periods.

The ANOVA analysis demonstrates that education plays a significant role in determining access to essential facilities during disasters. Respondents with higher educational levels tend to have better awareness, preparedness, and ability to access relief services. This finding suggests that education contributes to improved disaster resilience and recovery capacity.

The correlation analysis shows that gender has limited influence on most social issues caused by natural disasters. Only a few variables, such as weakening of social support systems and prevalence of alcoholism, show statistically significant gender differences. Overall, the findings suggest that most social challenges created by disasters affect men and women in a similar manner within the study area.

In conclusion, natural disasters generate multiple social challenges that disrupt community life and access to basic services. Effective disaster management strategies should therefore focus on strengthening community support systems, improving access to essential facilities, enhancing disaster preparedness through education and awareness, and ensuring equitable distribution of relief resources. Such measures are essential for promoting sustainable recovery and strengthening the resilience of disaster affected communities.

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