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Coping resources of individuals affected with monsoon disasters in Kerala

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Abstract
Kerala witnessed an unusual high rainfall from the month of June 2018 to August 2018. According to IMD (Indian Meteorological Data) the state received an abnormally high rainfall (42 % above normal) than the usual monsoon season. The present study aimed to find out the coping resource of victims affected with monsoon disasters in Idukki district. A number of 400 sample were selected from Idukki (N = 200) and Kuttanad (N = 200), by using convenient sampling method. The data were collected six months after the disaster. Results revealed that coping resources of victims belonging in Idukki district were comparatively lower than victims residing in Kuttanadu. Further, the study showed that coping resources more or less similar among male and female victims.

Keywords: coping resources, monsoon disasters, migrant agrarians

Introduction

Kerala is known for its natural beauty and also is called as a land of rains and rivers. The State has mainly two rainy seasons *viz*. the Southwest monsoon that arrives towards the end of May or early June, which is known as "*Edavapathi"* and Northeast season which hits the State during mid-October which is known as *"Thulam"*. Kerala State has an average annual precipitation of about 3000 mm. The high intensity storms prevailing during the monsoon months of 2018 result in heavy discharges in all the rivers. The continuous and heavy precipitation that occurs in the steep and undulating terrain finds its way into the main rivers through innumerable streams and water courses. Kerala experienced an abnormally high rainfall from First June 2018 to 19 August 2018. This resulted in severe flooding in 13 out of 14 districts in the State. As per Indian Meteorologicical Data (IMD), Kerala received 2346.6 mm of rainfall from first June 2018 to 19th August 2018 in contrast to an expected 1649.5 mm of rainfall (Central Water Commission Report, 2018). This rainfall was about 42 percentages above the normal. Due to heavy rainfall, the first onset of flooding occurred towards the end of July. Water was released from several dams due to heavy rainfall in their catchments. The water levels in several reservoirs were almost near their Full Reservoir Level (FRL) due to continuous rainfall from first of June. Another severe spell of rainfall started from the 14th of August and continued till the 19th of August, resulting in disastrous flooding in 13 out of 14 districts. As per the rainfall records of IMD, it has been found that the rainfall depths recorded during the 15-17, August 2018 were comparable to the severe storm that occurred in the year 1924 (Kerala Flood Report, 2018) [1].

As mentioned earlier, it was the worst flood in Kerala in nearly a century. Millions of people evacuated from different parts of the state especially from the most affected areas. The rainfall was abnormally high such that all 14 districts of the state were placed on red alert. According to the Kerala Government, one-sixth of the total population of Kerala had been directly affected by the floods and related incidents (Kerala Flood Report, 2018) [1]. The India Government had declared it as a Level 3 Calamity, or "calamity of a severe nature". Thirty-five out of the fifty-nine dams within the state were opened, for the first time in history. All five overflow gates of the Idukki Dam, one of the highest Arch Dams in Asia situated in the Western Ghats in central Kerala, were opened at the same time (Kerala Flood Report, 2018) [1].

Among different districts, Idukki district had received the highest rainfall. The district received 92 percentage more rains than the normal monsoon season. Every year Idukki experiences heavy rainfall compared with other districts. Land sliding, land slipping and flooding was not an unusual phenomenon in Idukki. The migrant agrarians, who depend upon agriculture as their livelihood, are the major residents of Idukki district. But this was the first time people residing in Idukki witnessed such a huge devastating monsoon flood and land sliding in nearly a century. The fury of 2018 flood levels shattered the normal lives of people and its psychological impacts upon the migrant agrarians were really beyond measurable.

Idukki, the largest district of Kerala, lies in the Western Ghats. The most peculiar characteristics of Idukki are that rugged mountains and forests cover about 97 percent of the total area of the district. Idukki lies mostly in the highland; it is covered with dense forest, steep hills, and deep valleys. In this monsoon season, Idukki saw 278 landslides, which claimed 46 lives and destroyed more than 100 acres of property (Kerala Flood Report, 2018) [1]. In fact, after six months of this devastating monsoon flood, parts of Idukki are still isolated and roads haven't been fully opened yet. The landslides have also affected connectivity to various tourism destinations in Idukki. It has also created a huge revenue loss in the tourism sector in Munnar and Thekkady, as thousands of tourists were expected to arrive to see the

Neelakurinji bloom.

Kuttanad, a below sea level area spread across Alappuzha and Kottyam districts, has recieved 8 percentage rain in excess this monsoon season. Kuttanad is nestled between the foothills of the Western Ghats in the east and the relatively elevated plains of coastal Alappuzha in the west, and lies below sea level. Floods affect Kuttanad when water levels in four rivers – the Pampa, Achenkoil, Manimala and Meenachil – rise during monsoon. Kuttanad witnessed the worst floods in the last two decades. The floodwater has submerged the entire region and forced large number of families to abandon their homes.

Monsoon Disasters and Coping resources

A disaster is a crisis that can cause large-scale damage to a community and hinder its ability to recover. Among different types of disasters, natural disasters come in all different forms. The ways people are affected by a threatening natural disaster, or in the aftermath of one, are different and unique to each individual. Since each and everyone are unique and different the psychological coping to the stress also differs. It depends upon different aspects especially on their individual lived-experiences, and other factors. Almost all people exposed to a disaster, are affected psychologically. Hence, the people who are more susceptible to disaster must be more affected in terms of their psychological well- being. A study conducted by Thomas, Prakash, Kulkarni, and Murthy (2019) [12]. revealed the fact that a significant amount of people residing in flood affected areas showed signs and symptoms of depression. The rate of prevalence of depression was higher among geriatric age group. The flood victims experienced psychological distress like PTSD, Anxiety and depression. The study of Mason, Andrews and Upton (2010) [8]. is an example.

People experience strong emotions during and after a disaster. Coping with these feelings depends upon each individual and his or her individual past experiences. The differentiated impact of disasters based on gender is studied by different scholars. Matud conducted a study on Gender difference in Stress and Coping style in the year 2003. According to this study, women scored significantly higher than the men on the emotional and avoidance coping styles and lower on rational and detachment coping. Women scored significantly higher score than the men on somatic symptoms and psychological distress. The results of this study suggested that women suffer more stress than men and their coping style is more emotion-focused than that of men. Thoits (2019) [11]. conducted yet another study and concluded that women reported and exhibited higher levels of psychological distress than men. The stress-exposure argument suggests that women face more stressors in general or more severe, persistent stressors than men (Aneshensel & Pearlin, 1987) [2]. The vulnerability argument suggests that women lack coping resources, such as high self-esteem, a sense of mastery, or appropriate coping strategies for handling the stressors to which they are exposed (Kessler & Essex, 1982) [6]. Hundreds of coping methods have been identified. Classification of these methods into a broader architecture has not been agreed upon.

Weiten (2008) [13]. for instance, identifies four types of coping methods. First type of coping method Appraisal-focused strategies which is directed towards challenging one's own assumptions and modifying the way you think. Second one is Problem-focused strategies which are directed towards reducing or eliminating a stressor or the cause of a problem. Third type Emotion-focused strategies are directed towards reducing or preventing your own emotional reaction. And last one is Occupation focused coping strategy lead to occupation oriented and leads to positive feedbacks.

There are theories which explain about coping strategies. These theories have been divided into two. They are Trait-Oriented Theories versus State- Oriented Theories and Micro-analytic Approach versus Macro-analytic Approach. The trait oriented theories focus on the early recognition of a person's resources and tendencies related to coping, while the State –oriented theories emphasizes the actual coping of an individual and the out of his application of coping methods or strategies. On the other hand, the micro analytic approach studies a wide variety of specific and concrete coping strategies, while the macro analytic approach concentrates on fundamental and abstract coping methodologies.

Method

Descriptive research design was used in this study. Sample (N= 400) selected from People affected with monsoon disasters from Idukki (N= 200) and Kuttanad (200) area.

Tools

1. Demographic data sheet prepared by the researcher
2. Coping Resource Inventory developed by Hammer and' Marting (1988) [5].

Reliability and Validity

Internal consistency reliabilities of the CRI scales were estimated using Cronbach's alpha. The range and pattern of the reliabilities suggest that the CRI scales are fairly homogeneous and are reliably tapping the constructs. The coefficients for the Total resources Score are quite high. High internal correlation observed in the total CRI. The correlations revealed some overlap among CRI scales for the sample and for the male and female sample separately.

Objectives

1. To find out whether there is any difference in coping resources of victims residing in Idukki and Kuttanad.
2. To find any significant gender difference in coping resources among the people affected with monsoon disasters.

Hypothesis

a. There will be a significant difference in the coping resources of victims residing in Idukki and Kuttanad
b. There will be a significant gender difference in coping resources among the people affected with monsoon disasters.

Results and Discussion

The following session explained the variations of coping resources based on different groups of victims.

Table 1: Mean, SD and corresponding t' values on the basis of Area

Variables	Mean of individuals from Kuttanad (N=200)	SD	Mean of individuals from Idukki(N= 200)	SD	't' values
Physical scale	32.08	5.62	29.22	5.51	5.13**
Emotional scale	46.67	9.33	44.19	7.60	2.90**
Cognitive Scale	28.12	4.83	26.36	4.75	3.66**
Social scale	40.66	6.99	37.11	6.43	5.29**
Spiritual scale	34.32	7.13	31.87	5.50	3.84**
Coping resources total	181.36	26.93	169.26	21.82	4.93**

**Significant at 0.01 level

As per the above table, the coping resources of people affected monsoon disasters were significantly varied among people living in Kuttanad and Idukki. The total coping resources and all of its subscales were significantly differed at 0.01 levels. Further, the table revealed that the mean score of coping resources and its subscales are high among people belonging in Kuttanad which means that people belonging in this region had more ability to coping up with such disaster.

The major reason behind these high coping resources can be traced from the particular geographical location of Kuttanadu region. Kuttanad has been facing floods at intermittent intervals. It is a common phenomenon for the people in this region. Even though agrarian migrants from Idukki faces land sliding and landsliping every year, heavy losses to life, property and crops occurred in this season shook the lives of many. A widespread damage of crops and buildings were not happened in the past one century. As a result migrant agrarians from Idukki region not prepared to meet these conditions. The impact of disasters were crossed the limit of their expectations. So they became freeze and struck in front of these disasters. Present findings support the findings of Yasmin and Ahmed in 2013**.** It revealed that coping resources varied in respect of area.

Table 2: Mean, SD and corresponding't' values on the basis of Gender

Variables	Mean of male (N= 226)	SD	Mean of female (N=174)	SD	't' values
Physical scale	31.23	5.60	29.89	5.85	2.33**
Emotional scale	46.12	7.93	44.52	9.32	1.85
Cognitive Scale	27.11	4.76	27.41	5.00	.67
Social scale	39.88	6.88	37.59	6.82	3.31**
Spiritual scale	32.65	7.24	33.68	5.29	1.58
Coping resources total	177.07	26.28	173.01	23.65	1.59

**Significant at 0.01 level

As per the above table, except physical and social sub scales all other subscale and total coping resources did not significantly varied among males and females. It means that gender did not make any influence in coping resources of the victims.

Present findings support the findings of Farzana Bibi, S. Farhana Kazmi, Abid Ghafoor Chaudhry and Erum Abid Awan in 2015. They found that there is no significant gender difference in coping strategies among men and women. Present findings support the findings of Carol Sue Mallach in 1996. They found that there is no significant gender difference in coping with stress among men and women. Present findings contradict the findings of Matud and Pilar in 2004. They found that there is significant gender difference in psychological distress among men and women.

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