

## **IMPACT OF FLOOD IN KERALA: A CASE STUDY IN CHATHAMANGALAM PANCAYATH**

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### **ABSTRACT**

Kerala has witnessed severe flood in August 2018. Like every disaster it collapsed entire Kerala economy. 13 districts in Kerala were under red alert. Kozhikode is one among those districts. This study examines the socio economic impact of flood in a Gram Panchayath of Kozhikode districts. For that purpose many descriptive statistics and correlation method is used. The flood caused massive loss on the material wealth of human being, including destruction of houses, agriculture, domestic animals. A feeling of insecurity was high during that time. They got mere financial help from government and NGOs, which is not sufficient to regain their life.

**Keywords:** flood, disaster, social impact, economic impact etc

### **1.1 INTRODUCTION**

A disaster always leads to an extreme collapse of the working of an economy that causes losses on human beings, materials, or environment and ecology that makes difficult the affected society to overcome with its own resources. As per the definition of World Health Organization disasters are any events that causes damage on ecology, loss of human life, environmental destruction and deterioration in the economic balance on a scale sufficient to demand an immense help from outside regions or countries of the affected area.

Among the disasters natural disasters like earthquakes, floods, cyclones, landslides, tsunamis, famines and droughts, volcanoes etc occupy a prominent place in the collapse of an economy. From the perspective of an economist, a natural disaster can be explained as any natural event which causes an obstruction to the easy functioning of the entire economic system, with a significant negative impact on all the economic activities such as factors of production, volume of production, assets, output, employment, consumption and also on human resource. Natural hazards like typhoons, earthquakes, floods etc can turn into deadly disasters if they occur in vulnerable areas inhabited by people, especially those with few defenses (Tulloch 2010).

Developing countries in Asia are the most natural disaster-prone region in the world (ADB 2013a, ADBI 2013).

The chances of being affected by natural disasters are not significantly differ from developed countries to less developed or developing countries (Sawada and Takasaki 2017). But, the economic effect varies in between these two: Low-income countries hit hard relative to their resources compared to the higher income countries (Rentschler 2013). Similarly, the economic impact of natural disasters is higher for low and middle income countries compared to high-income countries (Hallegatte et al. 2013). The depth of the destruction depends not only on the nature of the disaster, but also on the geography of the affected area, the structure of the economy, and also the characteristics of the population. To manage the losses, households may be forced to reduce expenditure on necessary commodities such as food, health, and shelter.

## **1.2 NATURAL DISASTERS IN KERALA**

Kerala State has been facing huge destructions in the economy, and ecology because of recurrent natural and man-made disasters. These disasters usually result in loss of life of creatures including human being, infrastructure and property, and cause a lot of difficulties to the affected area, besides resulted in an over all disruption of an economy. These increasing vulnerabilities may due to the factors such as rapid growth of urbanization, severe environmental degradation, increasing population and human needs, and also the climate change compounded the disaster risks in the State and this leads to a shift from a relief based approach to a more practical and inclusive mindset towards management of disaster covering every aspects.

Kerala's geography, climate conditions and high density of population etc make the state as very prone to severe disasters, both natural and human-induced. Kerala has witnessed a number of natural hazards like Tsunami, flood, lightning, drought, earthquake etc. Most of the districts are disaster prone regions. In Kerala coastal erosion, floods and landslides are the frequently occurring natural disasters. Kerala experienced a huge disaster in the form of Tsunami in December 2004. In November 2017 Okhi cyclone badly affected the state. It is followed by a rigorous flood in august 2018. Kerala experienced a heavy rainfall from first June, 2018 to 19th August, 2018 resulting in state wide flooding in 13 out of 14 districts in the state (CWC Report, 2018).

## **1.3 SIGNIFICANCE OF THE STUDY**

Kerala experienced high rainfall from June first to August 19th of 2018. This resulted in severe flooding in 13 out of 14 districts in the State. As per IMD data, Kerala received rain fall of 2346.6 mm of from 1 June 2018 to 19 August 2018 in contrast to an expected 1649.5 mm of

rainfall. As per the data from Ministry of Home affairs, 1375 people were died in that monsoon season due to floods across eight states. Among the eight states, Kerala occupies prominent position in terms of loss recorded in the flood. Out of total 14 districts the State has announce a “red alert” for 13 districts. Some 10,000 kilometers of roads have been destroyed or damaged and hundreds of homes lost (CWC Report, 2018). It is very important to re build the devastated Kerala.

For that we have to calculate the social and Economic cost. So the present study on 'Socio Economic Impact of Flood in Kerala: A Case Study in Chathamangalam Panchayath' evaluates the socio economic impact of flood. It will also be helpful to understand the after effect of flood in an economy.

#### **1.4 OBJECTIVE OF THE STUDY**

This study, broadly examines the socio economic condition of flood in Chathamangalam Panchayath.

#### **1.5 METHODOLOGY OF THE STUDY**

For this study we used both primary and secondary data. Primary data were collected from flood affected families in Vellanoor local area, Chathamangalam Panchayath. An interview method was used to collect the data and collected 50 samples by random sampling method. Secondary data were collected from journals and websites. The data were analyzed by using various statistical tools such as tables and graphs and other descriptive measures. Correlation technique is used to find the relationship between the distance from river and loss of flood, also analyzed the relationship between total loss and landholding.

#### **1.6 DATA ANALYSIS AND INTERPRETATION**

Chathamangalam Grama Panchayath is an agricultural village comprising hills, valleys, and paddy fields. It spreads over 40.23km and 22 km east of Kozhikode city. The village is bordered by the Cherupuzha River to the south, west and north, and the east is bordered by the Iruvazhanhia River. Both these tributaries join in the Chaliyar. Chathamangalam is situated 22km away from the town of Kozhikode.

The study of socio economic impact of flood in Kerala: with special reference to Chathamangalam Panchayath. For this study 50 samples were collected from Chathamangalam Panchayath, which were mostly collected from the flood affected part in Calicut city. The study tries to analyze the socio economic impact of flood on families and the problem they faced in

that time period.

### **1.7 SOCIAL CONDITIONS OF FLOOD AFFECTED FAMILIES**

In order to understand the socio economic conditions of flood affected families, a sample of 50 households were taken, which includes 200 family members. The people mainly belong to Hindu religion. The study reveals that the 70% of the sample are from OBC, 22% belong to General community, 2% is OEC community and 6% from SC community. That means the study area comprises of more backward communities. The average age group of the samples is 38.5, which indicates that the sample includes younger population.

The better educated never thrown out from the main stream of society. They can contribute their ideas and advocate for the inclusion of the deprived section. Analyzing the educational qualification of the flood affected families ,the people with primary education have 21% and 14.5% of them are plus two and 0.5 % belong to VHSE and 21% are Degree remaining 8% are post graduates.

### **1.8 ECONOMIC STATUS OF THE SAMPLE HOUSEHOLD**

To know the economic status of the sample households, it is important to examine the income, employment; land holdings etc. These factors are also considered as the economic indicators. Every family will have different way of living, which depends on economic conditions.

Among the sample households 61.2% are from BPL category and rest are from APL. From the data it is analyzed that, 34% of the population is working in Agricultural field and 26% of coolie and 16% are getting pension, 10% belongs to private job, 6% are government servants, 4% is business 2% of Advocates and 2% are drivers.

The sample household from collected area has a mean income of 29239. The median income is about 15000, which shows that, most of the families have an average income of Rs. 15000. It is clear from the data that the maximum wage received by the family is Rs. 500000 and minimum is Rs.1000.

In short, most of the sample households are from poor category and their main economic activity is agriculture. So here it is important to analyze how a severe flood affects the vulnerable population.

### **1.9 LOSS ON FLOOD**

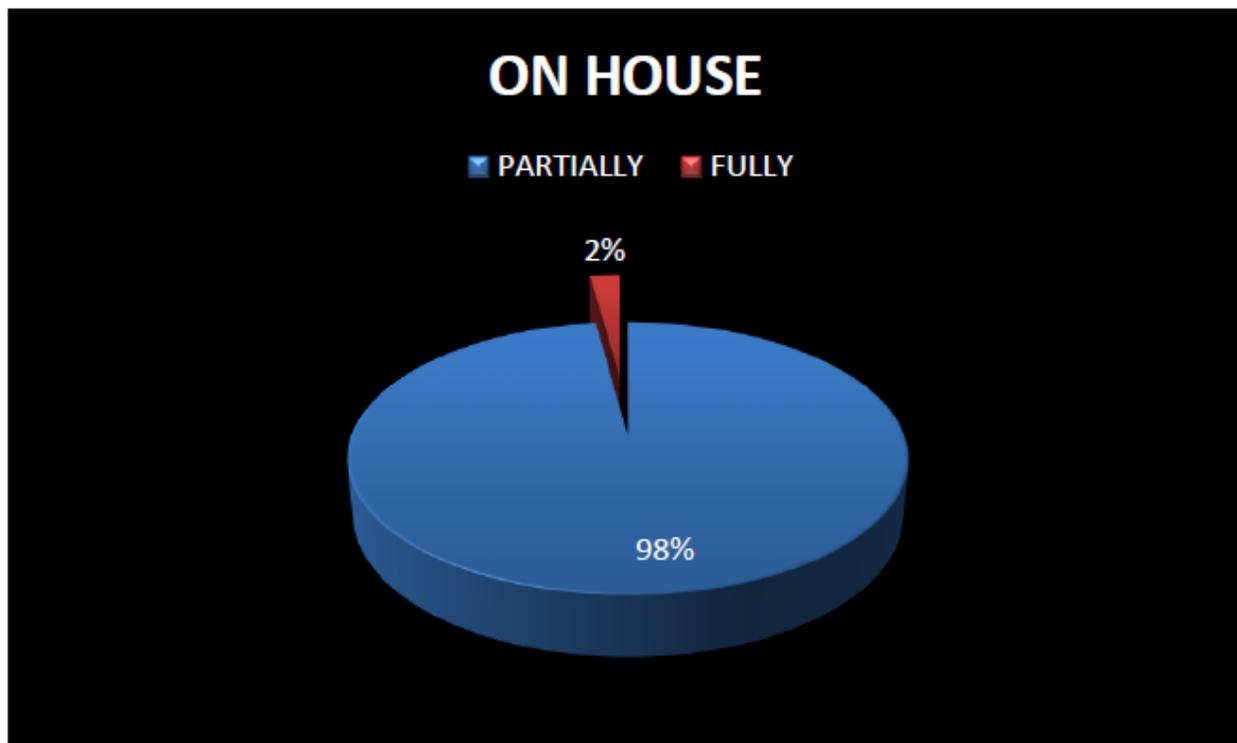
This paper tries to identify the impact of Kerala flood in households. It can be easy get identified

by studying the variables like loss on house, loss on domestic animals, loss on equipments etc. these are very important to know the deepness of flood in the special area ‘Chathamangalam Panchayath’.

### **1.9.1 Loss on House**

Shelter or house is an important necessity of life. The flood has affected the housing condition of the population very badly. The figure given below explains the impact of flood on houses.

**Figure 1.1: Losses on House**



Source: sample survey

Among the samples 98% of the houses destroyed partially and 2% of houses destroyed fully.

### **1.9.2 Loss on Equipments**

Loss on equipments is one of the important factor determine the amount of loss incurred by the household. These factors are needed in life, so a small damage on it may create huge loss.

**Table 1.1: Average loss on equipments**

equipments	
Mean	34978.77
Median	15000.00
Mode	15000

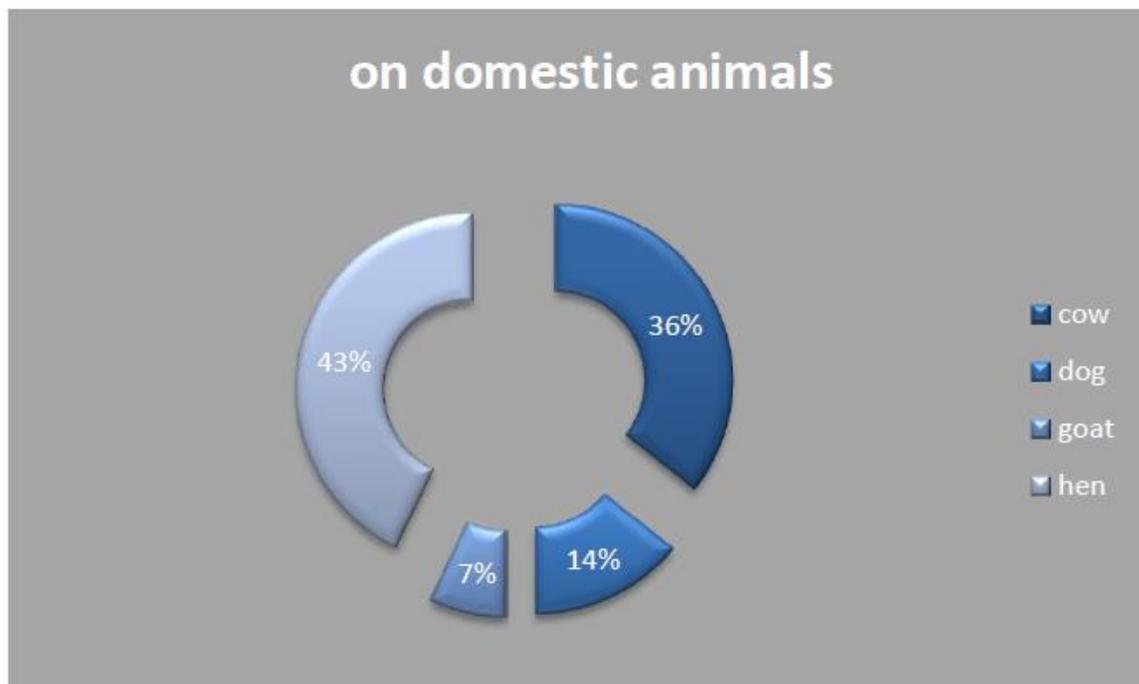
Source: sample survey

From the table it is identified as, the mean of the data is 34978.77, median is 15000 and mode is also 15000.

### 1.9.3 Loss on Domestic Animals

For an agrarian based economy the domestic animals are very important. The flood in Kerala badly affected the conditions of domestic animals. The below figure explains how many domestic animals are lost in this flood in the locality.

**Figure 1.2: Loss On Domestic Animals**



Source: sample survey

Above the figure reveal the loss on domestic animal 43% are hen and 36% is cow and 14% is dog and the remaining 7% are goat.

#### **1.9.4 Loss on Crops**

Chathamangalam Panchayath is one of the important place to cultivate plantain. The most of the people are based on agriculture.

**Table 1.2: Loss On Crops**

	Frequency	Percent
Plantain	16	57.1
plantain, fish	1	3.6
plantain, pepper	1	3.6
plantain, tapioca	2	7.1
plantain, vegetables	6	21.4
Plantain,vegetables, paddy	1	3.6
Vegetables	1	3.6

Source: sample survey

Above the table show as loss on crop in 57% are plantain and 7.1 % is plantain and tapioca and 21.4 % is plantain and vegetable and 3.6% is fish , pepper , vegetable paddy , vegetable .

#### **1.9.5 Total Financial Loss**

The flood affected the people very badly. One among the important loss in flood is economic loss. The total economic loss in flood is explained below.

**Table no 1.3: Total financial losses**

total financial loss	
Mean	377870
Median	275000
Mode	100000
Maximum	2000000

Source: sample survey

From the study it is analyzed that there is a average loss of Rs.377870.it is find that a median of Rs.275000.

**1.9.6 Total Loss and Distance from River**

It is important to see the relationship between the total loss and distance from the river. For that the correlation coefficient is used.

**Table no. 1.4: correlation between total loss and distance from river**

		total loss	distance from the river
total loss	Pearson Correlation	1	-.691**
	Sig. (2-tailed)		.000
	N	50	50
distance from the river	Pearson Correlation	-.691**	1
	Sig. (2-tailed)	.000	
	N	50	50

Source: sample data

From the above table we can understand that there is a significant negative relationship between the distance from the river and total loss. As the distance falls loss due to flood increases and vice versa.

### 1.10 SHIFTS FROM HOUSE

The flood makes most of the people as refugees. The people are compelled to shift from their own house to some other place.

**Figure 1.3: Shifted From House**



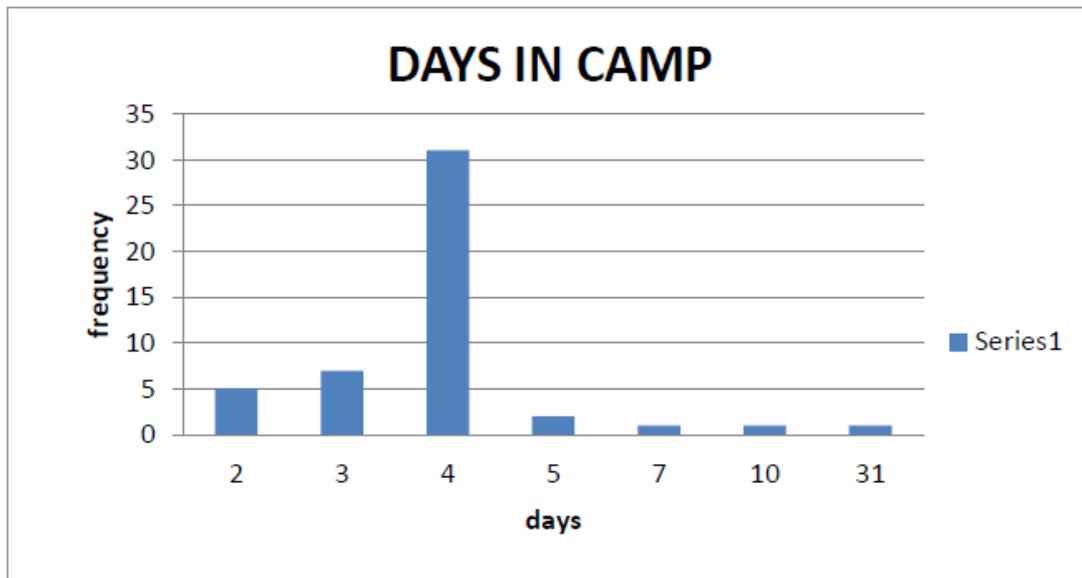
Source: sample survey

Under the figure explain as 89% people are shifted to camp in at the time of flood and the remaining 11% are shifted to relative houses. 50 samples were collected, major portion of the families were shifted to camp and others depend on their relative houses.

### 1.11 NUMBER OF DAYS IN CAMP

The figure given below tells us how many days each person spend in camp.

Figure 1.4: Days in Camp



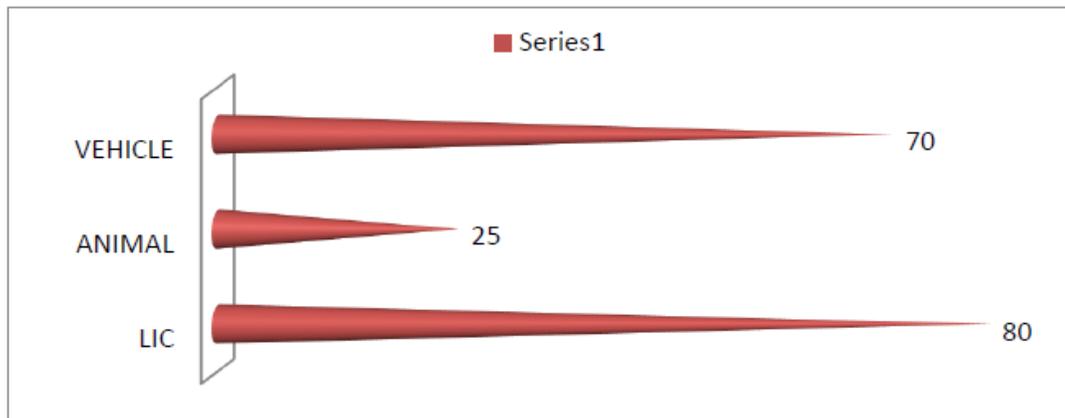
Source: sample survey

Above the figure explained as days stayed by flood affected families in camp. From the 50 samples there are 32% of people were stay 4days in camp and 8% people are stay in 3 days in camp and 5% are stay in camp for 2 days and 3% people are stay in camp for 5 days and 2.5% are stay for camp in 7 days and 2% people are stay in 10 days in camp and the remaining 2% people are stay in camp for 31 days.

### 1.12 INSURANCE STATUS

Insurance provides an important role in situation like natural calamities. It will provide high confidence and reduce the risk. Insurance are often taken by people in order to hedge from the risk.

**Figure 1.5: Insurance Statuses**



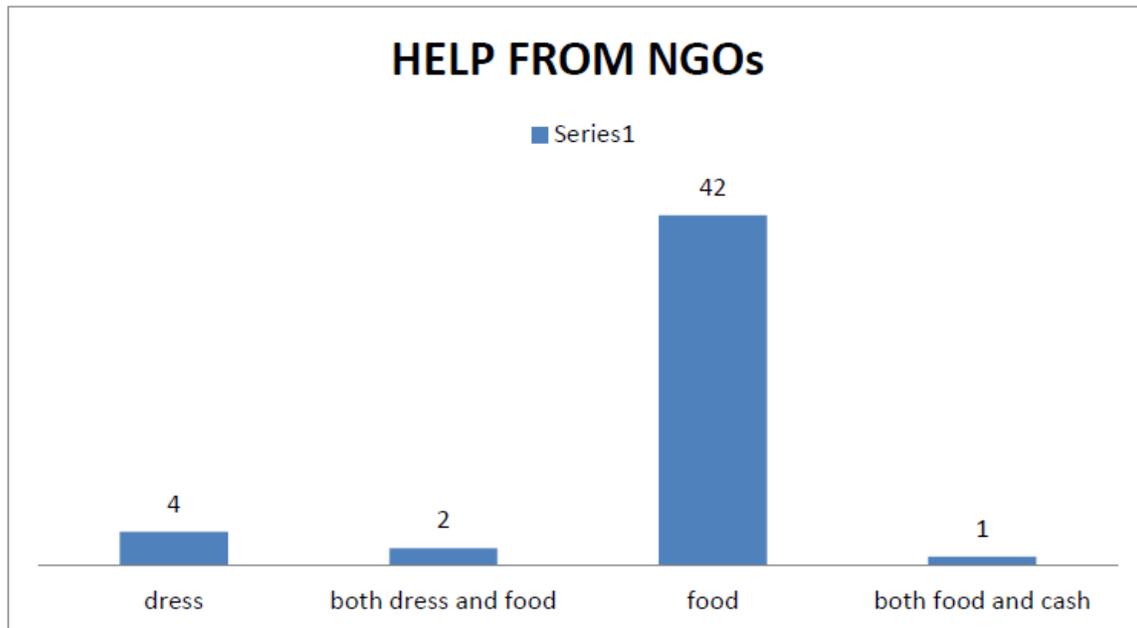
Source: sample survey

In this analysis 80% have life insurance, 70% have vehicle insurance and 25% have animal insurance. In unpredicted natural calamities insurance have an important role. Often it provides a security to the insured.

### **1.13 EXTERNAL HELP**

Kerala has faced once of most intensive flood. More than half of the total population was effected by this. And a large number of groups loss their lifetime savings and investments. To overcome this situation many of them need help. In Kerala Government and others provide a huge help both in financial and non financial form. NGOs played a crucial role in the flood affected areas. They provided cloths, food, and other basic necessities in the camp.

**Figure 1.6: Help from NGOs**



Source: sample survey

Organizations are that provide helps to the society or someone who need it. In the Kerala flood, these organizations are given too much credit because of their help. Through different ways and field it was spread. Through the primary data it is analyzed that the entire family got help from NGO for food kits. Dress and cash are the other factors they concentrated on.

#### **1.14 COMPENSATION FROM THE GOVERNMENT**

Government of Kerala released an amount of Rs.10000/- as an immediate help. Among the sample households, 96% of the household received compensation and 4% are not attained this financial help from Govt. The mean amount received is Rs.8204.17, the median and mode is Rs.10000 it reveals that majority of the households received the compensation. 98% of the total households consider the financial support from government is not sufficient.

#### **1.15 FINDINGS AND CONCLUSION**

The major portion of the sample is from backward community. It is analyzed that most of the population have primary education and less than average have graduation and post graduation. The main occupation of the respondents is agriculture, the second largest is coolie and others have occupied in government job, business, driver etc.

Flood has caused many losses to the people. Due to the flood the houses are partially or fully destructed. Major portion of the population are shifted to camp and remaining to the relative's houses. That means the flood make the people as refugees. The difficulties faced by them with respect to food, clothing and fresh water. Fresh water is scare in this period. Their main occupation is agriculture, which is badly affected.

During this period the two marriage functions were postponed. The education of children during the period was pathetic. They mentally and physically collapsed during this period. Though they got help from government and NGOs, it cannot compensate their loss. So it is the prime duty of the Government to rebuild Kerala.

## **REFERENCES**

- Basu, P., Jayraman, T. and Mukhopadhyay, S. (2012). Climate Change Adaptation in Flood Plan of West Bengal: Climate change policy paper, An initiative of Regional policyAction Platform on Climate Change (RPAPCC), West Bengal.
- Central water commission report (2018)
- Sawada, Y. and Takasaki, S. (2017) 'Natural Disaster, Poverty, and Development: An Introduction' 2017, vol. 94, issue C, 2-15
- Rentschler, J.E. (2013) 'Oil price volatility, economic growth and the hedging role of renewable energy'.
- The Hindu, august 2018 'Keeping dry: On Kerala floods'