



IMPACT OF FLOOD ANALYSIS: A CASE STUDY OF SHIRATE VILLAGE IN SANGLI DISTRICT

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ABSTRACT:

Flood is one of the most impacting Natural hazards on the National Economy, it also affects on Agriculture, livestock, Health and population of the flood affected area. Most of the environment destruction has been occurs by flood. The river side area and villages risks has been increasing each year in rainy season and people's vulnerability growing in the flood period.

The present research paper is based on primary as well as secondary data of the study area the collected data is analysed and presented in appropriate format. In this study area studied the impacting factor such as, agriculture impact, household and shop impact, health of the people, livestock and other impacting factor. In the study area During the year 2019 the highly affected on the agriculture area, household and shop and health on the people and during the year 2020 agriculture and housholds has partially affected and other impacting factors are very less affected because of flood.

Keywords: Flood Disaster, Natural Hazard, National Economy, socio-economic impact.

INTRODUCTION:

Flood occurs when the river channel is formed by the forces of nature to be able to convey the flow that is found most of the time when volume of water exceeds and water lever rises above the streams or river banks and spread it into the adjacent areas so the area is called flood plain. Flood is one of the most impacting natural hazards on the national economy it also affects environment, agriculture, livestock, population etc. factors in the flood area.

Maharashtra is one of the major states where floods occur repeatedly, most of the part of maharashtras western region is highest rainfall taken place in monsoon season. From past few years in the western part of maharashtra region falling highest and continuous days of rainfall in rainy season. Hence the change of climatic condition and physiography of the region appear the different condition in respect to the floods and drought.

Maharshtras sangali, Satara and Kolhapur districts region are highly affected by flood disaster for last 2 year. In the study region the low laying villages and villages situated on the bank of krishna, Warana, Panchaganga and it's tributary river areas in these district submerged under water by flood. During the both year several villages in Satara and Sangli have been on alert due to incessant rainfall and heavy discharge of water from Koyana and Chandoli dam, at that time Walava and Paloos Talukas are worst affected areas. In both the Talukas 14000 families were shifted with their livestock. There are 11 villages in Sangli district that are completely underwater and 83 villages are partially underwater in the year 2019.

STUDY REGION:

The village Shirate is most rigorously flood affected village of the Walwa Tehsil. It is situated on the river Krishna. It is located in Walwa Teshil in Sangli district. It belongs to western Maharashtra region. It located towards west from district head quarters of Sangli. The Shirate village located between $17^{\circ} 07' 13''$ N to $74^{\circ} 17' 10''$ E The study region is near to Walwa and Islampur city. There are Total 614 families residing and total population of village is 2943 according to the 2011 census. Total village area is 614 hector out of that 539.81 hector area is under cultivation.

OBJECTIVES:

In the present study highlights on the floods if Shirate village in sangal district of the year 2019 and 2020. In this paper studied the socio-economic impacts of flood disaster of various factors.

- 1) To study the impacts of flood on Agriculture, households, shops, health issue of people Shirate village in both year.
- 2) To discuss the various diseases found in the study region of the year 2019 and 2020.

METHODOLOGY:

Present research paper is based on the primary and secondary data of the study region. Primary data is collected through questionnaire of intensive field work from study region for that we used the stratified sampling method for selection of households to conduct data. During the field work we observed the study area and communicate with local people, Talathi and Gramsevak of the study village as well as the agriculture officer to meet our purpose of study.

Secondary data have been taken from Talathi Office of the village, Agriculture office, socio-economic review, news papers and some websites etc.

THE REASONS FLOOD OCCURE IN STUDY REGION:

Flood is the natural hazard and mainly the floods occurring in any region due to the particular weather condition and there's geographical set up. Maharashtra's Sangli district is one of the major district which was oftenly affected by flood of Krishna river basin. The study region is Sangli district's village which is situated on Krishna river bank major reason of flood in study region because of heavy and continuous days of rainfall, increasing volume of water. The Koyana dam in Satara district has been discharging around 8400cusec water in year 2019 and dam is also receiving an equal volume of inflow because of continuous rain in catchment area. As well as in Sangli district's Chandoli dam water discharge was 1400cusec it's catchment area in Shital and adjoining Taluka continuous to had moderate rainfall. Krishna river is one of the big river in Maharashtra and the study region. More over the places of Krishna river basin shrunk and shallow, The Riverside areas found deposition of soil and sand.

So all these reason are study region areas experienced the flood situation from last 2 year in the year 2019 ,25th July to August 1st week and the year 2020 only 2 days are flood occurred.

IMPACT OF FLOOD ON AGRICULTURE:

The Agriculture sector is the major sector influencing by flood disaster. Because of flood highest proportion of agricultural area submerged under water for long time and all the crops and agricultural land damaged and washed down by inundation. So the flooding affects directly in that area.

Table-: 1) Impacts of Crops by Flood in Shirate Village.

Sr. No.	Crops	Flood affected crops (in hectors)	
		Year 2019	Year 2021
		Loss of above 50 %	Loss of above 33%
1	Sugarcane	225.0	171.18
2	Soyabean	27.31	5.75
3	Rice	15.60	-
4	Groundnut	10.0	-
5	Banana	0.06	-
6	Other crops	0.4	0.33

Source-: flood report from agriculture department .

Above table demonstrate the impact of various crops due to flood in Shirate Village. The Shirate village during the 2019, 305.14 hector and in 2021 total 177.18 hector of agricultural area affected by floods. There is suffered by the loss of crops such as Sugarcane, Soyabean, Groundnut and other crops, which includes Turmeric, Maize, vegetables and cereal crops etc. The loss of Sugarcane crop is marked one and it was 225 hector in 2019 and 171.18 hector during 2021 year. Soyabean crop also severely affected by the flood disaster. The area under Soyabean affected crop was 27.3 hector and 5.75 Hector during the year 2019 and 2021 respectively. Rice and Banana crop influenced area during the 2019 was 15.6 and 0.06 hector. Other type of crops affected area was 10 and 0.4 hector in both the year respectively.

During the year 2019 the highest loss of crops area was found in comparison of 2021 flood disaster. The benefits from government during the year 2019 is 818 farmers was 1 lakh Rs. per hector for the farmer for cash crops, and

in the year 2019 total 618 farmers got interest well as during the year 2019 got interest for the crop loan from the government.

IMPACT OF FLOOD ON HOUSEHOLDS AND SHOPS:

In the Shirate village floods has worst affected on the houses, shops and household material such as dange and collapse of houses, damage of furniture, food grains, clothes etc. During the year 201 there are 86 villages completely affected by floods, and during the 2021 there are 23 houses partially affected. Not only households but also different types of shops also worst affected in 2019 and in the year 2021 partially affected.

All the householders and shopkeepers got benefits from government, various Trusts and Sansthas and nearest villages people. During the time of flood all the village people's shift with their livestock and some household material to Yede Machhindra village safely.

IMPACT ON LIVESTOCK:

In the study region worst affect taken place on livestock. During the year 2019 there are 9 cattles lost there lives flood disaster and various cattles suffered by diseases and shortage of fodder crop because of long days to go food in that region and all the agriculture area submerged under water and destroy fodder crops. In 2021 not such harm effect as like the 2019 flood year it's partially affect have occurred and not any livestock lost their lives.

IMPACT ON HEALTH OF PEOPLE:

In the study region floods of the year 2019 and 2021 was worst affected on human health. During 2019 flood disaster more than 700 persons suffered by diseases such as Fever, Diaria, Dengu, Maleriaya and and also during both of the years corona patients increasing after flood disaster.

During the 2021 flood there are more than 500 people suffered various diseases, most of the people face Corona disease and loss there lives. Some people suffer from Dengue and Diaria.

CONCLUSION AND SUGGESTIONS:

In the study region flash floods of 2019 and 2021 was the most harmful disaster occur spatially in the 2019 floods was worst impacting on agriculture sector , livestock and humans. During both of the year flood influencing an agriculture region, households and people physical and mental health. Total 305.14 Hecter and 177.18 Hecter areas are affected during the year 2019 and the year 2021 respectively. As an average worth Rs. 70 lakh and Rs. 30 lakh economical loss to happen in both the years respectively.

As above study and analysis of the study region got that during the 2019 flood is most destructed and disastrous flood came on study regio. Both the year flood disaster highly affected on the environment and human beings as well as national economy. But the flood disaster affects is minimized by appropriate planning and reduction of disastrous effects in the study region, for that some suggestions are suggest as given below.

- 1) To ban on the construction in the low laying areas, where flood water came frequently.
- 2) To rehabilitate the families living in the low lying areas and bank of the river.
- 3) To cultivate and produce the water tolerance crops in the flood prone area.
- 4) To take proper health advice from specialize doctors and to do vaccination and proper health treatment of humans and livestock.
- 5) To prepare a proper planning of discharge of water from upstream dams and downstream dams.

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