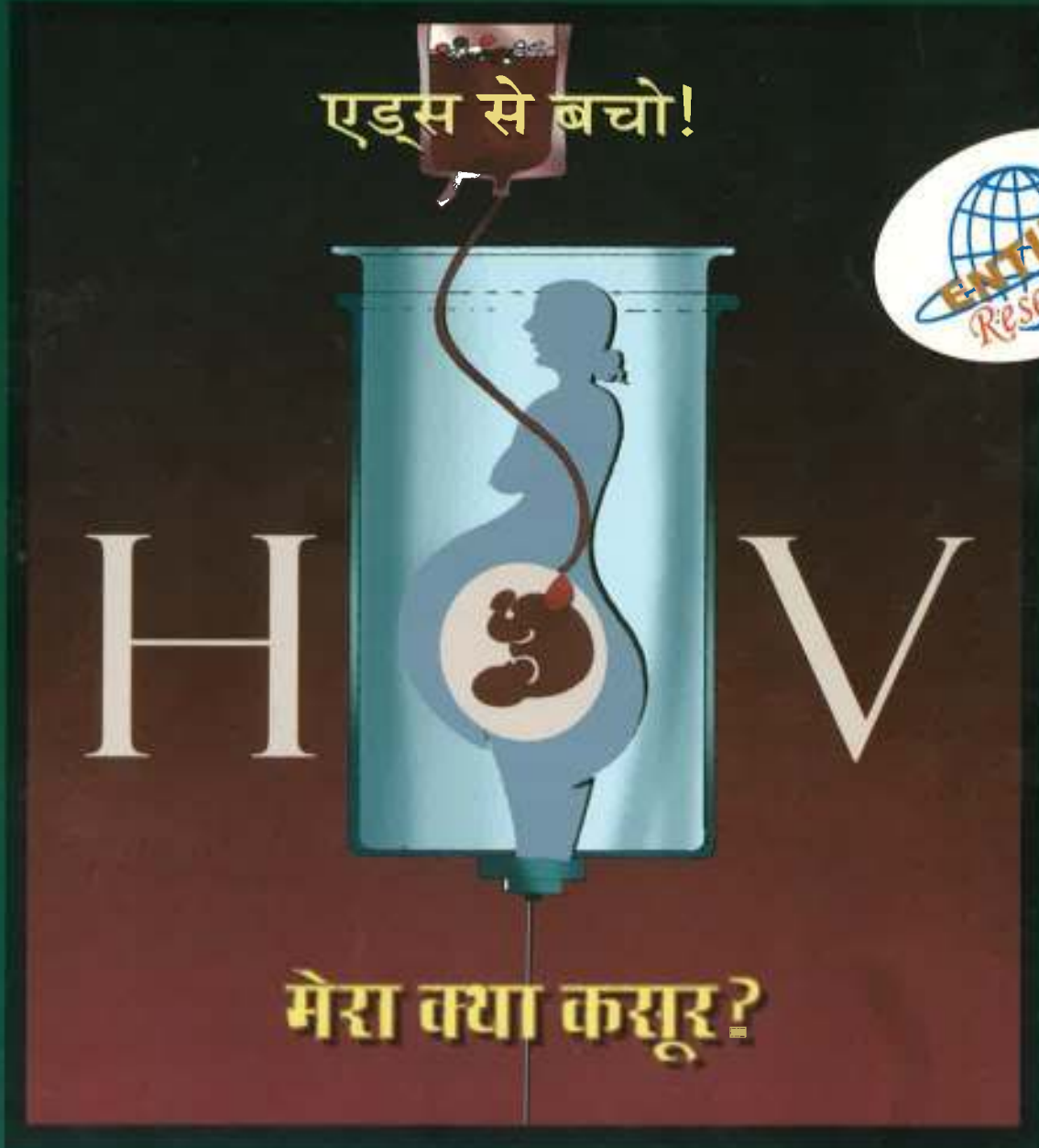


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Impacts of Flood: A Case Study of Mouje Digraj (Sangli District) Maharashtra

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Abstract:

Natural hazards, which damage national economy and produce hardships for large sections of population, are one of the single largest concerns for most nations. Human settlements are frequently affected by natural hazards such as Floods, earthquakes, hurricanes, cyclones, land slides, volcanic eruptions which take a heavy toll on human lives, destroy buildings and infrastructure and have far reaching economic and social consequences for communities.

India faces flood problems every year in one or other parts, and about 12.5 per cent of its geographical area comes under flood water. Maharashtra in general and the upper Krishna basin in particular are affected by the floods in the recent years. The low lying villages and villages lying on the banks of the river Krishna and Warna in the Miraj tehsil, of the Sangli district get inundated at the times of floods. The 'Mouje Digraj' is one of the most severely flood affected villages of the Miraj tehsil.

The major objective of the present research paper is to assess the impact of flood on human being. The analysis is based on both the primary and secondary data. The data has been collected for the year 2005 and 2006. The study reveals that the damage of the agriculture and other allied activities is caused due to the flash flood of the river Krishna. Various diseases occurred after the occurrence of flood. The severe floods of 2005 and 2006 also affect on the income of milk production and shopping also. The social response to the flood as a natural disaster is more positive.

Introduction:

Human settlements are frequently affected by natural hazards such as Floods, earthquakes, hurricanes, cyclones, land slides, volcanic eruptions which take a heavy toll on human lives, destroy buildings and infrastructure and have far reaching economic and social consequences for communities (Randhir Singh, 1999). In recent years there have been a number of significant riverine floods all around the world which caused enormous damage both in terms of loss of life and economics. In the past years thousands of lives have been lost directly or indirectly from the flooding. In fact, of all natural risks, flood poses the widely distributed risk to life today (Dinand Alkema, 2004).

It may be pointed out that flood is a natural phenomenon and is a response to colossal loss to human lives and property. It is also important to note that floods are also aggravated by human activity and thus flood hazard is both natural as well as man-induced rather than man accentuated phenomenon (Savindra Singh, 2001). "Flood, is a natural hazard which changes the socio-cultural identity and landscapes of any region" (Gupta and Sharma, 1998). Flood is a social disaster which affect the poor more than rich (Thakur B., 2003, PP. 2-3).

In the Sangli district, especially in the Miraj tehsil, the low lying villages on the banks of the river Krishna, and Warna get inundated at the times of floods. The 'Mouje Digraj' is one of the most flood prone villages of the district Sangli. After the flood recede various diseases occurred as an impact of flood in the 'Mouje Digraj'.

So, there is need to study the impacts of flood disaster on human life from the Geographical point of view and suggest eradication measures to the problem. Because geographers also, play an important role in solving the flood problems and management

of flood. By knowing the importance of this kind of study the present research paper is related to "Impacts of Flood: A Case Study of Mouje Digraj (Sangli District) Maharashtra."

The Study Region:

The 'Mouje Digraj' is one of the most severely flood affected villages of the Miraj tehsil. It is located on 16° 54' 40" N latitude and 74° 31' 24" E longitude. It lies on the left Bank of River Krishna (Fig.1). According to 2001 Census, the population of the "Mouje Digraj", is 4455 persons. The climate of the Mouje Digraj is temperate. It receives average annual rainfall less than 60 cm.

Objectives:

The major objective of the present research paper is to assess the impact of flood on human being. However, the specific objectives are as under:

- 1 To highlight the impact of flood on the agriculture and livestock in the study region.
- 2 To analyze the various diseases occurred due to the floods of the year 2005 and 2006 in the study region.
- 3 To discuss the loss of houses and shops due to the flood disaster.
- 4 To suggest a comprehensive plan to minimize the loss of human being and economy of the region.

Data Source and Research Methodology:

The present research paper is entirely based on the both the primary and secondary data. Primary data regarding the floods occurred during 2005 and 2006 and their consequences in the study region have been collected through interview technique, the post flood field work and observation method. The secondary data and information have been taken from the various government reports, news papers, and the research journals. Village as a whole is used as a basic unit of investigation. In spite of this, NASA's satellite image, maps, diagrams and tables are supplemented for strengthening the analysis of the flood as a disaster.

Impact of Flood:-

Flood water causes distraction of weak structures, wash off property and, drown living beings and cut off communications marooning people for a few days. Secondary effects are felt in the form of epidemics and also electrocution through short circuiting or breaking of high tension wires. (Marathe, 2006, P.7)

In the study region, the flash floods during 2005 and 2006 affected on the social as well as economic conditions very badly. The flash floods of 2005 and 2006 are most disastrous in the history of "Mouje Digraj." The highest flood water level was recorded 48.05 metres by taking the Ankali Bridge as a base level in the year 2005 in the study region.

Impact of Flood on Agriculture:

The disastrous effects of the floods on the agriculture are no related to the level of flood water, but related to the legibility of the flood. i.e., for how long time various crops are inundated under flood water continuously.

Table –I Flood Affected Cropland in the Mouje Digraj during 2005 and 2006.

Sr. No.	Crops	2005 Flood Affected Crops (area in hectares)		2006 Flood Affected Crops (area in hectares)	
		Below 50%	Above 50%	Below 50%	Above 50%
	Sugarcane	78.49	278.25	64.10	183.52

	Soyabean	-	99.75	0.10	21.43
	Groundnut	-	10.55	0.35	8.46
	Jawar	-	4.60	0.19	2.01
	Maize	-	1.50	0.40	0.80
	Rice	-	1.53	-	0.99
	Turmeric	-	1.79	-	-
	Vegetables	-	19.59	-	5.29
	Fruits	0.60	7.17	2.4	0.13
0.	Other Crops	0.20	10.67	-	2.06
1.	Fodder Crops	0.70	18.26	0.85	11.21
2.	Total	79.99	445.66	68.39	235.9

Source: - Final Flood Report (2005-2006): Mouje Digraj, Talahti Office.

In the study region various crops were inundated for more than 10 days continuously during 2005 and for more than five days continuously during 2006. Hence 2005 flood was more disastrous than 2006 flood. Sugarcane, Soyabean, Groundnut and Jowar are the major flood affected crops during 2005 (Table -I) Minor flood damaged crops include Maize (4.50ha.) Rice (1.53ha.), Turmeric (1.79ha.). The vegetables and fruits are also worst affected by the flood of the 2005. Cropland of 525.65 hectares of the 1018 farmers of a worth of more than 69 lakh were worst affected. Out of the total flood affected cropland, only 79.99 hectares of cropland affected as below 50% while remaining cropland affected as above 50%.

The Flood 2006 is comparatively less disastrous than the flood 2005. During 2006, an area of 304 hectares of the 584 farmers of an worth of more than 41 lakh are affected by the flood. Among the flood affected crops sugarcane is major one (247.62ha). Soyabean (21.53ha) Groundnut (8.81ha) Jowar (2.20ha) Maize (1.20ha) are other important crops affected by the flood. The flood affected farmers received the grant amount of Rs. 40, 25, 025 in the year 2005 and Rs. 31, 43, 055 in the year 2006 from the Government.

Impact on Livestock:

Both 2005 and 2006 floods affect on the livestock. During 2005 six cattle lost their lives but during 2006 no such type of loss noticed. The various cattle were also suffered by the various diseases and shortage of fodder crops. Area of 19.86 hectares and 12.06 hectares of fodder crops was destroyed as a result of 2005 and 2006 floods respectively and creates acute shortage of fodder crops to the livestock in the study region.

Impact of Flood on Houses and Households:-

Floods are worst affected on the houses and shops also in both floods. During 2005 flood , 522 houses were affected by the flood. More than 50 houses were affected

by the flood as either partially or fully. Villagers received a grant of Rs.26, 96, 000 from the government.

During 2006 flood 195 houses were affected. The flood affected households were rehabilitated in the "Harijan Vasahat", Zila Parishad's school No. 2 and to the other villages. During 2006 flood 20 houses were partially affected. The loss was assessed as Rs.54, 000 but in reality they received Rs. 28,891 only. 770 persons of 195 households received the grant of Rs. 7, 70, 000.

Impact on Shops and Other Economic Activities:-

The floods of 2005 and 2006, worst affected on the shops. 22 shops were affected by the floods of 2005 and 2006. Loss of 7.lack rupees was recorded due to the disastrous floods of the 2005 and 2006. But they receives only Rs. 3, 70,000, as a grant from the government

The milk production is another important occupation of the people of the study region. Daily collection of milk is 3000 Litres in the study region. The flash floods of the 2005 and 2006 worst affected on the income of the people from milk production. The transportation system was disconnected for the 10 days in 2006, and for the four days in 2006. Income of Rs. 4, 50,000 and Rs. 1, 80,000 was lost during floods of 2005 and 2006 respectively.

Apart from these direct economic impacts of the floods of 2005 and 2006, minor indirect impacts of the floods are also most important one. The flash floods of both the years' worst affected on the agricultural workers that they could not get employment for more than a month after the flood recede in both the years. It also affects on income of Hotels, Barbers, shoe makers, Auto Rickshaws and Buses.

Impact of Flood on Health:-

In the study region, the flash floods of the 2005 and 2006 worst affected on the Human health. During 2005 flood 500 persons suffered by various diseases as a result of flash flood. Out of the total 80 persons suffered by fever, 11 persons suffered by Diaria, 4 persons suffered by Jaundice and remaining (405) persons suffered by sundry diseases.

During 2006 flood total number of persons who suffered form various diseases as a result of flood disaster are 373. It is less than the persons suffered from various diseases during 2005 flood. The persons suffered by the fever, Diaria, and sundry diseases were 53, 5 and 315 respectively.

Social Response to Flood Disaster:-

The social response to disasters is largely determined by the communications of media men like newspaper reporters. Thus communications are of crucial importance in the assessment of and reduction of disaster (Singh, 2001, P. 409).

In the study region the social response to the flood disaster is more positive. This positive social response is most useful for the rescue reduction and rehabilitation of flood affected houses and persons.

The "Hindustan Cabinet Church", Pune provided the essentials of life's in both years. "Church's Auxiliary Social Action" provides the various types of cloths to the flood affected population of the study region. Like this, the "Kolhapur Diocesan Council" provided an essential of life.

Besides this direct help indirect help has been done by the various NGO's and by the school students during and after the flood period.

Conclusion and Suggestion

The flash floods of 2005 and 2006 are the most disastrous in the history of study region. These two floods worst affected on the agriculture of the study region. An

agricultural area of 525.65 hectares and 304.29 hectares of land and a worth of Rs. 60 lakh and Rs. 41 lakh are affected by the floods during 2005 and 2006 floods respectively. The flash floods of both the years affected houses, shops and other economic activities also. The various diseases are also occurred as a result of flood in the study region. The social response to the flood as a natural disaster is more positive than negative.

It is clear that the 2005 flood and 2006 were the most disastrous. Flood is a natural disaster, hence it cannot completely stop. But the disastrous effects of the floods are minimized by proper comprehensive planning. Thus, the comprehensive plan for the reduction of disastrous effects of the floods in the study region is given below.

- 1 To construct another substitute route from Mouje Digraj through Nandre border. This can help in continuous communication and transportation during the flood period.
- 2 To construct the bridge on the rivulet which is within the Mouje Digraj and Kavatvat road.
- 3 To ban on the construction in the low lying areas inundated by the flood frequently.
- 4 To create flood literacy among the peoples.
- 5 To cultivate water tolerance varieties of crops in the flood prone zone.
- 6 To rehabilitate the population living in the low lying area.
- 7 To do vaccination / immunization of humans and livestock.
- 8 To make a proper planning of discharge of water from upstream dams and also from the Almatti dam.

References:

- Census of India (2001) 'Primary Census Abstract of Sangli District,' p.9/28.
- Basu Swapna and Santra, S. (1988): Flood problems of Howarah District. Geographical Review of India, Vol. 50, No. 4, pp. 69-74.
- Dinand Alkema (2004): Remote Sensing and GIS Application in Flood Forecasting. Gupta, M.P. and Sharma S. (1998): Flood situations in Raipur District – Madhya Pradesh, India. Transactions Institute of Indian Geographers, Vol. 20, No. 1, pp. 1-10.
- Final Flood Report (2005 and 2006) : Mouje Digraj, Talati Office. Pp. 1-20.
- Hire, P.S. and Kale, V.S. (2006): Geomorphic Effectiveness of high magnitude floods in The Tapi River: Evaluation based on flood hydrographs and streams power graphs. Transactions Institute of Indian Geographers, Vol. 28, No. 2, pp. 175-182.
- Kewalramani Gita (2006): Urbanization and flooding in Mumbai Suburban district. Transactions Institute of Indian Geographers, Vol. 28, No. 1, pp. 24-39.
- Marathe, P.P. (2006) : Practical Disaster Management, PP. G-7 Diamand Publication, Pune.
- Mishra Archana (2005): Watershed Management. Authors press, Delhi, pp. 121-126.
- Patil, A.A. (2002): Changes in Agricultural Productivity in Upper Bhima and Upper Krishna Basin in Maharashtra : A Geographical Analysis.
- A Unpublished Ph.D. thesis submitted to Shivaji University, Kolhapur.

New Agricultural Technology of India

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Abstract:

Agriculture has always been the back bone of the Indian Economy and despite concentrated industrialization in the last six decades agriculture still occupies a place of pride. It provide employment to around 52 percent of the total work force in the country .The significance of agriculture in the national economy can be best explained by considering the role of agriculture under different heads. The agriculture situation started improving after the middle of 1960s with the introduction of high yielding varieties of crops and the developement of agricultural infrastructure .The high production potential input responsive high yielding varieties (HYV) motivated Indian farmers to adopt improved and modern technologies. Since independence developement and introduction of high yielding seeds, extensive use of chemical fertilisers, pesticides and improved crop production technologies.Mechanisation is also used in agriculture for the promotion agricultural mechanization. The strategy and programmes of the department of Agriculture and Co-operation have been directed towards the promotion of eco-friendly and selective agricultural equipment. The aim is to use technology optimally and efficiently.

Productivity of almost all crops is quite low in most states in India. Indian Institutes under Indian Council of Agricultural Research and State Agricultural Universities have developed variety of technology which is capable of giving much higher output per unite of resources. The higher growth can very well be realized through adoption of available technology.

Agriculture including crop and animal husbandry, fisheries, forestry and agro-processing provides the underpinnings our food and livelihood security. Agriculture provides significant support for economic growth and social transformation of the country. As one of the world's largest agrarian economies the agricultural sector (including allied activities) in India accounted for 15.7 % of GDP (according to RBI at present it is 14.6%) in 2008-09 compared to 18.9 % in 2004-05 and contributed approximately 10.2% of total export during 2008-09. Not with standing with the fact that the share of this sector in the GDP has been declining over the years its role remains critical as it provides employment to around 52% of the work force.

Technology is essential to Indian agriculture because day to day India's population has to be increased. Food is the basic need of population. So we must aware about agricultural production.

Introduction:

India has been striving to achieve 4 percent growth in agriculture since the 8th five year plan. The 9th plan raised the target to 4.5 percent but subsequently, the National agriculture policy (2000) .The 10th plan and more recently 11th plans reiterated the target of 4percent growth in the sector in order to achieve 9percent growth for the whole economy meet the food and nutrition need of a population growing at the rate of more than 1.4 percent per annum and also to achieve the goal of inclusive growth. As consequence of the new agricultural technology ,India has achieved relative self sufficiency in food grains and its imports became negligible .India is also able to accumulate large buffer stocks of rice and wheat so that India could face any eventuality resulting from drought in particular year or successively in two or three years. Various government programmes pertaining to improvement of agricultural implements and