

CHAPTER II

REVIEW OF LITERATURE AND
METHODOLOGY

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REVIEW OF LITERATURE AND METHODOLOGY OF THE PRESENT STUDY

INTRODUCTION:

The chapter is divided into two sections. In the first section on the basis of the review of relevant literature, the trends highlighted by the earlier research studies have been presented. The second section is devoted to elaborate the methodology adopted for the present work.

The title of my M.Phil dissertation is, "impact of flood on Tambwe village : A case study." Therefore, the studies conducted to examine the impact of flood on any aspect of human life have been considered relevant for the purpose of the present reviews. Let us first look at the earlier studies..

SECTION - I

REVIEW OF LITERATURE

An attempt to briefly review the literature relevant to the present research is made below

- 1) **Singh R.B. and Kumar Dilip (2006 : 217- 229)** have conducted a study of Bareilly District. The title of articles is, "Monitoring Mapping and Mitigation of Flood Disaster in India Using Remote Sensing and GIS : A Case Study." The authors have noted that "Flood mapping is one of the basic needs for not only flood zoning but it is also important in relief management. Flood is a geographic event and mapping and information acquisition is very important for planers, developers and insurance agencies. The remote sensing and GIS technology has potential use for not only flood mapping but it can be used in scientific based damage

assessment, monitoring of flood controls and change in the river course, identification of bank erosion, chronic flood-prone areas, improvement in forecasting and warning models, updating of maps, effective and reliable communication etc. High resolution sensor technology has provided immense scope to the earth resource scientists for mapping and analysis of earth surface feature details using remote sensing and GIS"

- 2) **Imasiku A. Nyambe, Peter Chola and clement F.G. Mukosa (2006, 230-241)** have conducted study of Barotse flood plain of Western Zambia. The title of the articles is, "Economic Value of Flood with particular reference to Barotse Flood Plains of Western Zambia," Researchers focused on the values (economic, cultural etc.) that floods in plains provide and their ability to meet development goals. It also looks briefly at threats, flood provide to development and economic recovery. The authors notes, "analysis of the causes of flood damage often point to settlements being established in low-laying areas subjects to floods, reclamations of the wetlands around lakes and rivers for cultivation to feed the growing population, thus reducing their flood absorption capacity and deforestation in the upper-reaches of watersheds. The Government of Zambia has put in place strategies, policies and other initiatives to promote the conservation and sustainable use of wetlands in Zambia. These initiatives include public awareness and education campaigns on the importance of wetlands and formulation of policies and legislation."
- 3) **Kazi M.D., Fazlul Haq and A.K. wodeyar (2001)** have conducted study in Bangladesh. The title of the article is, "Agriculture in Flood Prone Area : A Case Study of North Central

Region of Bangladesh". Researchers have focused on agricultural situation, developments and expected changes in the cropping pattern and farming system in the north eastern region of Bangladesh. The major findings noted by these researchers include : The traditional human endeavours on the flood plains have always been influenced by the impact of inundation and severe flooding from the major river systems and their numerous tributaries and distributors in the study area. Study reveals increasing adjustment of the cropping pattern with the flood situation and harvesting strategy depends upon the flooding of large areas during certain months of the year. The hydrological factors largely determine the crops and rotations which can be grown and practiced respectively. Agronomically, the height of a plot above normal water level is of primary importance, because of water-yield relations and its soil texture and structure. The fields which are normally flooded in the rainy season are locally known as 'Norma' and some are normally not liable to flooding by rivers or Khals (but may be inundated to a depth of a few inches after a wet spell) are known as 'Ucha', fields of medium level are known as 'Shohori.' Although rice occupies a predominant place with many varieties of the cropped area, different crops are grown effectively according to local micro-agro environments wherein there is a water-yield relation with range of adjustments. The embankments that have been built over the years have served a useful purpose. In fact nonstructural programs such as flood forecasting and warning and flood preparedness are desirable in themselves and would supplement structural intervention where these are feasible. Similarly dry seasons cropping can't be considered as an alternative to flood

control, since much of the remaining potential can be exploited independently of any wet-season water managements."

- 4) **Anuradha Banerjee (1987 : 28-32)** has written an article titled "River systems and flood problem in Jalpaiguri distirct West Bangal." Researcher has focused on the flood hazards in the river system of the district. The author note that, "Jalpaiguri district is one of the important district of west Bengal regarding resources like tea, timber and agricultural products like Jute, Rice etc. So proper attention is needed to protect the land from flood devastation. So every river and its tributary streams in Jalpaiguri district are to be studied more carefully and proper attention is needed to check erosion at any cost."
- 5) **Sunil Kumar Munsi (1998)** in his articles titled "problems of flood management in India policies and programmes.", Researcher has focused on the National Flood Control Progamme that was adopted to minimize devastation. But floods continued its annual visitation with varying degrees of severity affecting large areas and millions of people. And the most agreed indigenious management for flood control is non interference in the normal drainage behavior of a stream and regulation of floods through use of natural reservoirs and may also be through controlled flooding of agricultural fields.
- 6) **Biswas R, D.Pal and S.P. Mukhopadhyay (1999: 89-90)** have conducted a study of Hooghly district in 1993. The title of the articles is "A community based study on health impact of flood in a vulnerable district of West Bengal." Survey method was used by the researchers and interviews were conducted for collecting the relevant data. Researchers focused on the impact of flood on

the health. The major findings reported by these researchers are as under. "Incidence of diarrhoea, other enteric diseases and respiratory infections were significantly higher among the population in flood affected blocks, compared to the unaffected. The attack, rate of diarrhoea in the flood affected population had increased significantly following flood. Another finding evident from this study is that endemicity of diseases like diarrhoea and respiratory infections were much higher in the flood prone area than non affected areas and as expected. Such endemic diseases increased further due to environmental degradation following floods. The load of these morbidities could be reduced if epidemiological surveillance is strengthened and necessary measures for controlling these diseases are taken in advance."

- 7) **Milk Ahern, R. Sari Kovats, Paul Wilkinson, Roger few and Franziska Matthies (2005)** have reviewed the literature on the epidemiologic evidence of flood related health impact. The title of the articles is, "Global health impact of flood : Epidemiologic evidence." Researchers have focused on flood impact on health, increasing mortality rates. Evidences relating to flash flood in high income countries suggest that most deaths are due to drowning and particularly in the United States are vehicles related. The information on risk factors for flood related death remains limited but men appear more at risk than women. Those drowning in their own homes are largely the elderly. Flood related injuries may occur as individuals attempt to remove themselves, their family or valued possessions from danger. There is also potential for injuries when people return to their homes and business and begin the clean up operation. In flood condition, there is potential for increased fecal-oral transmission

of disease, especially in areas where the population does not have access to clean water and sanitation (e.g.: cholera, dysentery, cryptosporidiosis, non-specific diarrhea, poliomyelitis, rotavirus and typhoid and paratyphoid.) Increasing vector borne disease and rodent borne disease have been reported due to flood. The world health organization recognizes the mental health consequences of flood. Most studies on the effects of flooding on common mental disorders are from high or middle income countries. The authors remark that in terms of public health responses, some caution is required in drawing general lessons from a global literatures because floods vary greatly in their character and the size and vulnerability of the populations they affect. Comparison of different flood events suggests that the risk of death is influenced by both the characteristic of the flood and of the population that it affects. Flood with the largest mortality impacts have occurred when infrastructure is poor and the population at risk has limited economic resources.

- 8) **Nandita Sen (1987:65-72)** has conducted a study of lower Damodar valley region. The title of the articles is "Impact of flood on crop damages; A case study of lower Damodar Valley Region." The methodology used was a village survey carried out in 12 settlements of lower Damodar Valley Region. Villages were selected from three different flood zones i.e. high, moderate and low, as identified by River Research Institute of Calcutta. The major findings by researcher are as under. "High flood zone suffers from the maximum damage due to repeated flood. The beneficial aspect is felt more prominently in low flood zone, where due to low frequency of flood, the primary advantages of floods in raising water table and enhancing the soil fertility is

much more effective and at the same time damages are also low. The benefit of flood is reflected more significantly in the reduction of irrigation water requirement than in the reduced need for fertilizers. The main problem is that due to virtual pauperisation of small and marginal farmers due to floods, the investment in agriculture by this section of farmers during post flood period is ruled out, the benefit from flood are high due to lower damages, but these benefits are obtained less frequently compared to zone of high floods. However in high flood zone although damages are high, the benefits of flood help to recover losses more often. The farmers will get real benefit by subsidising electricity water and credit."

- 9) **Dennis J. Parker and Edmund C. Penning Rowsell (1982: 2001-235) have conducted a study of urban community.** The title of the chapter is "Flood risk in the urban Environment". This chapter is based on review of relevant research literature.

The authors focus on the questions concerning the ability of urban communities to manage environment risks and flooding in particular, the relationship between land use control and flood hazards standard of urban infrastructure. In Britian , the type of education required would focus less on the nature of flooding problems and more on the institutional mechanisms for urban flood alleviation which in turn might lead to some necessary administrative and planning improvements. The focus of hazard research in small and medium-sized urban communities has tended to ignore the even greater mobility of metropolitan residents and their likely greater ignorance of flooding problems and strategies for risk reduction.

- 10) **Devemore Sandeep Mahadev (2005)** has conducted a study of Shirti village in Kolhapur. The title of project is "Socio-Economic Conditions of flood affected people with reference of Shirti village taluka - shirol Dist. Kolhapur. "Shirti village is situated on the bank of Krishna river. Researcher has focused on the socio economic conditions of the flood affected people. Researcher has collected both the primary and secondary data. Researcher has used a simple random sampling method for selecting 40 respondents. The data were collected through interview schedule. Descriptive research design is used by researcher. The major findings reported by this researcher are as under : "Most of the respondents lost flood stuff due to flood. Most of respondents had received relief within a week. Majority of the children and aged were badly affected during the flood. Most of land comes under the irrigation scheme. The majority of the respondents were taking the crops of sugarcane in their field. A very few respondents house was damaged due to flood. The majority of the respondents had their crops damaged due to flood. Most of the respondents were facing the economic, social, educational and family problems due to flood."

Similar studies have been conducted by other scholars such as Kamble M.N. (2005), Chougule V.C. (2005), Gavade K.K. (2005) and they have reported more or less similar findings. .

- 11) **Lee Clarke and James F. short, Jr. (1993 : 375-399)** in their article titled, "Social organization and risk : Some current controversies", on the basis of review of relevant literature have focused on "(1) The argument over whether technological disaster are different from natural disasters (2) The contributions of social constructionism to theories of risk (3) How recent work on

trust and fairness can reorient scholarship on risk perception (4) The theory of human error and why organizational, institutional and cultural factors are more important. (5) The arguments about organizations that appear to be error-free (i.e. high reliability organizations), (6) The paradox that we must rely on organizations for responding to disasters though organizations may be precisely the wrong social instruments for such response. Throughout we emphasize the role of organizations and institutional contexts in creating assessing and responding to risk." The authors conclude that, "Intellectual work on risk has at least two probably not mutually exclusive, feature. It could become another social problems area. In this, future risk studies would be like work on homelessness crime or mental illness : important in its own right, but oriented as much toward alleviating injustice and effecting social change as toward conceptual development and social theory. Sociology of risk would then remain a distinct area of study, because its subject matter- catastrophe and calamity - would require it. Grants publications and policy relevant advice do not redound to area of inquiry that deny their singularity. A second future would lead to the mainstream. To the extent that this future is realized the "Sociology of risk" might cease to exist. It would rather be absorbed into the catalogue of established concerns - concerns such as social conflict, social structure, power, social movements and culture. A truly successful sociology of risk would, in both a practical and a theoretical sense, put itself out of business."

- 12) **Tapsell S.M., Penning - Rowsell E.C., Tunstall S.M., Wilson T.L. (2002 : 1511-1525)** in their article titled "Vulnerability to Flooding; Health and Social Dimensions. "A~~u~~thor conclude that,

"Impact of flooding are more extensive and complex than have hitherto been appreciated and that assessments of the effect of flood - defence measures on reducing these impacts are flawed if only monetary losses are used within the necessary project - appraisal methods. If flooding is to become more frequent or more severe under regimes of altered climatic conditions, governments will need to allocate, even more resources to this area of public expenditure."

- 13) **Margie L. Kiter Edwards (1998, 115-132)** have written on *An Interdisciplinary Perspective on Disaster and Stress*. The promise of an ecological frame work. The author concludes that, "Integrating the fragmented, inconclusive and contradictory results of research on disaster- related stress requires that researchers employ models that go beyond their own disciplinary training and typical research focus. An ecological approach affers the most promising model for studying disasters and stress because it contextualizes individual behaviour, directs attention to reciprocal relationships among human, social and environmental systems and highlights linkages between past, present and future."

- 14) In an article titled "Flood damages and sustainability of Agriculture in Assam" by **Phanindra Goyari (2005 : 2723-2729)** attempts to examine the sustainability of the agricultural sector in the face of brought wrought by natural calamities. Frequent floods every year in Assam have been destroying standing crops, creating water logging, soil erosion and affecting large crop areas and thus threatening the sustainability of the drive towards higher productivity and production of various crops in the state. While most flood control measures undertaken so far

have been of a short term nature, concerted policy decisions on long - term measures, both on the part of state and central governments and co-operation by neighbouring countries are needed to solve flood problems permanently.

- 15) **Misra G.K. (1971 : 173-185)** in his article titled "Flood Damage Prevention Measures in the Marathwada Region". The author concludes that, "In the Marathwada region, the monsoonal floods and soil erosion are twin major problems. Both these problems result from the same cause, namely, the rate of runoff. Hence, efforts should be made in the direction of collecting technical data by establishing rain-guage river guage and discharges sites at proper places. Besides, individual and government endeavours for implementation of proper measures for flood control depend on how soon they are taken up to stop the serious and rapid menance of this phenomenon and organizing the soil and water resources to fuller development and more effective use. Hence, the characteristics of the Godavari watershed in the Marathwada which makes it capable either of producing great resource wealth or holding the people in a spiral of impoverishment, depend upon how the resources are used."
- 16) **Betal Himanshu R. (2002 : 337-345)** in his article titled, "Flood problems of Maldah a Geographical Analysis," Researcher has noted that", The impact of flood on the people and society is direct and highly significant. The execution of Farakka Barrage without proper silt management is mainly responsible of frequent floods in Maldah. The protective embankment along the banks and spars across the Ganga proved to be futile. The continuous dredging of Ganga beyond Farakka may reduce flood in Maldah."

- 17) **Basu Swapna and Santra Shyamapada (1988 : 69-74)** in their article titled "Food problems of Howrah District" have focused on the areas which are more susceptible to floods and also to find out the causes which work behind to aggravate the problems. The researchers conclude that, "The administrative agencies have been executing long-term massive programmes to fight the flood situation. These will surely help mitigate flood problem when implemented fully. Meanwhile, it is necessary to create awareness among the local dwellers to prevent recurrence of floods. The farmers are in the habit of breaching the embankments at places surreptitiously to let in the silt laden flood water in to their fields to enrich the natural fertility. This often leads to some disastrous end and the situation goes beyond control. This should be controlled to check the extensiveness of deluge. The dwellers of Khanakul and Purshrah Police Stations of Hooghly. district deliberately breach the embankments on Howrah side for a rapid drainage of water from their land and this worsens the flood situation of Howarah district. This must be totally stopped. Any blockade of the natural passage of the water channels either by cultivating the channel beds or by creating brick fields along their banks should be discouraged. These together with the execution of the lower Damodar scheme will surely help in extricating the district out recurrent floods."

The above review provides insights for understanding the impact of flood on life of a local community. Against this backdrop, the next section presents methodology of the present research work.

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SECTION - II

METHODOLOGY OF THE PRESENT STUDY

The present section is devoted to describe the methodological procedures adopted for the present study. The description regarding various methodological aspects such as the research problem investigated, objectives of the study, the study area, sampling procedure, tools used for the collection of data, data collection, sources of data, data processing and analysis, interpretation and presentation of data have been presented below:

1) **Statement of the Research Problem :**

The research problem for the present study was formulated as under- "To study the impact of flood on Tambwe village located in Karad Taluka of Satara District in the specific context of loss of property, agriculture, live stock, health and the attendant consequences."

2) **Objectives of the study :**

The objectives set out for the proposed study were as under :

- i) To study the major factors responsible for flood in Tambwe village.
- ii) To study the impact of flood on the villager's life in Tambwe village in the specific context of loss of property, agriculture, live stock, health and the attendant consequences.
- iii) To study the reaction of villagers towards the flood situation and the compensation given by Government.

3) **Research Design :**

The researcher has adopted a descriptive research design as it was thought to be suitable in the context of the present study.

4) The Study Area :

The study has been carried out in the Tambwe village situated in Karad Taluka of Satara District.

5) Sampling :

Purposive sampling technique was adopted for the present study. The village Tambwe was purposively selected keeping in view the possibility of getting required data and co-operation from the village. All the flood affected families in Tambwe village constituted the universe of the study. As per the information obtained from the Sarpanch of the village, there were 148 flood affected families in Tambwe village. The researcher identified 50 families which were most adversely affected. By adopting purposive sampling procedure 50 families {(which were most adversely affected due to flood in (2006)}, were selected as a sample for the present study. One respondent from each of these selected 50 sampled families was selected.

6) Tools and Techniques used for collection of Data :

Keeping in view the objectives of the present study, an interview schedule was prepared. It was first pre-tested for collection of data for the present study. This pre-tested interview schedule was used. The researcher has personally collected the relevant data from the 50 respondents by conducting interviews with the help of schedule. The schedule contained questions relating to the socio-economic background of the respondents, and the impact of flood on health, property agriculture live-stock health etc.

All the respondents were knowing Marathi. Therefore, the schedule was prepared in Marathi, (An English version of the schedule is given in the appendix).

Besides the use of interview schedule, informal discussion with the key persons, personal observations of the researcher and the collection of photographs were also used as other techniques of data collection for the present study.

7) Data collection :

After finalization of the interview schedule the data collection work was carried out during October 2007. The first schedule was filled up with the help of information given by the local leaders in the village and personal observation of the researcher. The second schedule was used for collection of family data. The overall response from the respondents was satisfactory.

8) Source of Data :

Both primary and secondary data that have been used in this dissertation are as under :-

i. Primary Data :

The data collected with the help of pre-tested interview schedule and discussions with the key respondents.

ii. Secondary Data :

The information and reference material obtained from Journals books, internet articles and Grampanchayat office records.

9) Data processing :

The primary data collected from the respondents with the help of interview schedule were first examined from the point of view of preparing code books. The quantifiable data were given codes and code-book was prepared. Then the data were entered into the computer. By using SPSS software made available under UGC-SAP-DRS - I in the

Department of sociology, Shivaji University, Kolhapur, the data were processed and computer generated output is used for analysis and interpretation. The data are analysed by using simple preliminary statistical tools such as frequency distribution and percentages.

10) Chapterisation Scheme :

The data have been conveniently divided into various themes and sub-themes. The following chapterisation scheme is adopted for the presentation of the dissertation.

Chapter : I -	Understanding Disaster : An Overview.
Chapter : II	Review of literature and methodology.
Chapter : III	Flood Situation in Tambwe (in 2006) .
Chapter : IV	Impact of flood on Tambwe villagers .
Chapter : V	Conclusions and suggestions.

11) Limitations of the study :

1. The findings are based on the responses given by the sample respondents.
2. As the study is confined only to Tambwe village, the findings will be mainly applicable to this limited universe.
3. The study suffers from the limitations characteristic of any exploratory study.

Against this background, the next chapter deals with the profile of Tambwe village. And flood situation in Tambwe village.

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