

# A Review Paper on Flood Control Management by using Embankment

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**ABSTRACT** - Bank are built for the maintenance of water for water system and supply, and for ensuring individuals, land, and property from flooding. Failure of any embankment poses risk to people and property nearby and the services provided by the embankment. The review of importance of embankment in flood control identifies significant issues in the parametresation of the process in existing model and the data used for calibration. The paper reports the options for multipurpose use of embankments in miraj based on the field visits to the embankments site, collected data and information on failure and on service embankments during field visit, necessary data related to embankment construction practice obtained from available publication and newspaper information. Based on by and large current circumstance in miraj, the paper additionally propose an appropriate plan and development strategy for dikes to control and limit the degree of flood risks over the long haul and furthermore inferred that to accomplish reliable standard of the board of flood dikes, and furthermore increase this expectation to enhance their exhibition, require a superior comprehension and utilization of good practice and a scope of research activities.

**Key words:** Flood control, embankment, flood sub grade drainage flood resistance, flood risk management.

## II. INTRODUCTION

Embankment are constructed for the retention of water for irrigation and water supply, and the protection of people, land, and property from flooding. Flooding is one of the most serious problem in the India today. As indicated by the Indian, Atmospheric, Geophysical and Astronomical Services Administration flooding is described as an "irregular dynamic" ascent in the water level of stream. That may result in the overflowing by the water of the normal confines of the stream with the subsequent inundation of area which are not normally submerged. Flood are categorized according to its natural and artificial causes.

Embankments are constructed for the retention of water for irrigation and supply, and the protection of people, land, and property from flooding. Disappointment of any bank presents dangers to individuals and property close by and the administrations gave by the dike. The ability to maintain assets, and provide an acceptable standard

of service for water supply and flood defence therefore depends on understanding and predicting performance of the embankments under all conditions. Tools currently available for simulating embankment failure are not very accurate and can only be used for indicative assessments. Consequently, the prediction of flood risk from embankment breach may be similarly inaccurate.

## III. LITERATURE REVIEW

M. A. A. Mohamed<sup>1</sup> (2009) Embankments are developed the survey of breaking of banks right now critical issues in the for the maintenance of water for water system and supply, and for securing individuals, land, and property from flooding. Disappointment of any dike presents dangers to individuals and property close by and the administrations gave by the dike. parameterisation of the procedures in existing models and the information utilized for alignment. This paper depicts the advancement of another model the disappointment of a dike that can reenact break development, and thus ensuing dangers, more dependably than existing models. The model uses the standard standards of water power, silt transport and soil mechanics and acquaints another system with model the parallel development of the rupture dependent on a blend of constant disintegration and mass unsteadiness. The model can mimic the disappointment of various dikes, either homogeneous or composite, by overtopping or funneling, and incorporates a probabilistic dispersion for recreating bank condition and soil parameters. The model has been tried utilizing both exploratory and genuine disappointment information, with demonstrating results indicating sensible concurrence with watched esteems for a scope of various situations.

Suvendu Roy<sup>2</sup> (2012) Floods in India have been a typical yearly event. In 1954, National Floods Control Program (NFCCP) was embraced a few measures to limit their decimation. However, Floods proceeded with its yearly appearance with fluctuating degrees of influencing power. Now and then, Embankment, a significant auxiliary measure for floods may make negative condition for flood and water logging condition for any floodplain. The present paper has been set up as a flood chance evaluation study for the intersection zone of the Kunur River and the Ajay River, identified with the present and nonappearance of dike along the Ajay River bank, which expanding bowl run-off and channel release,

adjusting channel width, assists with spreading over waterway water in the floodplains.

Floods in India have been a common yearly occurrence. In 1954, National Floods Control Programme (NFCP) was adopted several measures to minimize their devastation. But, Floods continued its annual visitation with varying degrees of affecting power. Sometimes, Embankment, a major structural measure for floods may create negative environment for flood and water logging condition for any floodplain. The present paper has been prepared as a flood risk assessment study for the confluence zone of the Kunur River and the Ajay River, related to the present and absence of embankment along the Ajay River bank, which increasing basin run-off and channel discharge, modifying channel width, helps to spread over river water in the floodplains.

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Embankment are constructed either to contain river within their drainage channel as preventive measure or around settlements, towns and agricultural fields as a protective measure. Embankments as flood preventive measure were constructed all over the country during the British rule for uninterrupted linkages established through railways and roads (Munsi, 1998). Suitability of Embankment has been a matter of controversy. According to the Irrigation Commission, "Embankments also are liable to failure and when they fail, the damage can be much greater than if there were no embankment". Flood is caused due to inadequate capacity within the bank of rivers to contain the high flows brought down from the upper-catchment due to concentrated heavy rainfall. To protect areas from flooding, provision of marginal embankment along river banks and littoral areas was an age old practice perhaps since the dawn of civilization (Mukhopadhyay & Dasgupta, 2010). The total length of the Ajay embankment is about 136.16 km, out of which the right bank accounts about 80.97 km and left bank comprises about 55.19 km. The total area protected by the right bank embankment is about 37040 hectares and the left bank embankment protects about 29785 hectares. In the lower Ajay embankment were mainly constructed for the protection of fertile agricultural lands, floodplain settlements and towns. But, in this part discontinuity of embankment creates several problems for the floodplain areas, particularly missing of embankment in the confluence zone of the Kunur River and the Ajay River Nurul Ashikin Binti Mabahwi<sup>3</sup>, Hitoshi Nakamura<sup>3</sup> (2006) The target of the investigation is to Re-assess the conceptualisation of super levees by concentrating on the accessibility of open space as clearing territory along the Arakawa River. The future study need to use of open space for the use of high rise building and the road to overcoming scarce of evacuation area for super levees development.

T. Tingsanchali<sup>4</sup> (2012), this paper depicts ideas, strategy, plan and activity on incorporated urban flood calamity and hazard the board. In most creating nations, flood fiasco the executives exercises are dealt with by government. Flood catastrophe the executives in creating nations is for the most part receptive reacting to winning calamity circumstance (crisis reaction and recuperation). Receptive reaction ought to be change to proactive reaction to expand adequacy of the board and decrease misfortunes of life and properties.

John Harold S. Castro<sup>5</sup>, Glenda Aiselyn T. Badenas<sup>5</sup> (2015), In this study, the storm water management model (SWMM) was utilised for runoff computation. The detention basin is one of the effective method or runoff model using rainfall data. The procedure to evaluate the effect of detention storage used in the study includes inputting the geographical and physical data, the effect of the flood control in the study area was determined by comparing hydrograph of existing drainage system

without storage tank with hydrograph of drainage system with storage tank component.

Saravanan J<sup>6</sup>, Naveen Chander K<sup>4</sup> (2019) In this study, Chennai is one of the quickly developing metros is likely influenced by the absence of seepage principally because of uncontrolled advancements of solid spaces, infringement of significant waste channel, shrinkage of marshlands, and so forth., In this paper we learn the caustic factors of Chennai floods and urban flood management strategies which have been implemented in various developed countries.

#### IV. CONCLUSION

This paper presents an overview of the project giving a summary of weaknesses identified in current methodologies, an overview of a new methodology for predicting flood control system, and an assessment of model performance against a variety of test cases.

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