

A Review Paper on Flood Controlling System by using Super Levees & Sub Grade Drainage System

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ABSTRACT - The Low - lying topography, meteorological and hydrological condition of the Sangali makes it vulnerable to floods and storm water. Various measure have been conducted for mitigation if flood and inundation damages, but the drainage problem is still one of the major tasks. Recently Sangli suffered major floods that occurred in 2019. The flooding inflicted serious damages over the last year; these floods have become both more extensive and more severe as experienced in recent storms. In order to address the problem, different engineering works are utilized to provide flood protection and reduce flood damages. One alternative flood control measure is to provision of super levees in the bank of river for the purpose of major blind walls between a river and the urban area. Upgrading such river embankments to super levees will open up to the view and improve access to the water front creating a new riparian space that provides the enjoyments of water any Greenery. The second one alternative flood control measure is to provision of sub grade drainage system in an open area of the Sangali nearer to river. For the purpose of peak discharge of flood in river. In light of the hydrological, topographic and flooding data accumulated from government and private establishments.

Key words: Flood control, super levees, flood sub grade drainage.

I. INTRODUCTION

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. In the city of Sangali, the natural causes of flooding includes the overflowing of the Krishna river due to high river level coupled with high tides during the wet season from May to October; Inadequate in land drainage facility to handle the excess local surface runoff particularly in the low-lying Central part of the city; Sangali on the bank of river Krishna western Maharashtra faced a historic flood 2 August (2019).

Almost one lakh individuals were uprooted and more than 30 lost their lives right now.

While the impact of flood on the agricultural and rural fabric of Sangali, Sangali city with a population of more than 22 lakhs, to suffered huge losses.

Sangali - Miraj - Kupwad Municipal Corporation is on the bank of Krishna - warna confluence in western Maharashtra. Both river reached historic high flood levels in the 2019 floods. Warna, in Samdoli village, Sangali district recorded an HFL of 546.9 meters on 9 August 2019 breaking all previous records. Irwin Bridge a memorable scaffold work in 1929 in Sangali city, recorded a stream arrange that the extension had never experienced. Sangali and the nearby region are is not new to floods and has Witnessed devastating floods in 1853, 1856, 1914, 2005, 2006 and latest 2019.

Same is the story downstream. Especially in the pilgrimage Centre of Narsoba Wade near kurundwad town of Kolhapur district: situated at the confluence of Krishna and Punchganga, floods are not new the Narsoba wadi. In facts there are elaborate flood rituals, in which the daily is moved to upper precincts after each flood event. But here too 2019 proofs broke all previous records, including the 1914 HFL.

II. LITERATURE REVIEW

Nurul Ashikin Binti Mabahwi¹, Hitoshi Nakamura² (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. Tingsanchali² (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. Castro³, Glenda Aiselyn T. Badenas³ (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 J⁴, Naveen Chander K⁴ (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.

Chandrakant Naehari Kale⁵ Vol.8 No. 2 pp.287-295 (2019) In case study of the Krishna basin the flood situation has become disastrous during the year 2005 and 2006 in later part of July and early August in upper Krishna basin. The collection of data, statistic and the information have been collected through personal visits and records available at Tehsil headquarters of Sangali (Since 1995).

III. CONCLUSIONS

The most sounding contribution of subgrade drainage system is to reduction of the peak flow using available volume of river storm decreasing the potential number of flood and magnitude.

High standard super levees is a new type of embankment that can withstand floods and earthquakes. Super levees are amazingly wide and fit for withstanding rising waters.

Even if the river overflow during significant flooding, the flood water spills out over gentle slopes, minimizing the dam age to nearby urban area and giving ample time to evacuate.

IV. REFERENCES

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