



WATERSHED MANAGEMENT SPECIAL TYPE OF WEIR

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Abstract:

Water is the life-blood of the environment, without water no living beings can survive. Water is used for agricultural, domestic, industrial, power generation and other various purposes. But mismanagement of water resources causes roads damages, soil erosion, generate massive economical loss. Hence it becomes necessary to harness the proper use and management of water resources available on Earth through the application of science and technology. This paper presents one such where large amount of rainwater is storages and naturally manipulate the flow of water level. **Tamdalage** is a small village located at distance of 6.2 Kms. from **Hatkanangale** city.

Keywords:- Watershed, weir construction, Watershed management technique, Farm pond, Contour trench, Groundwater storage, Economic development, etc

Introduction

Watershed management means the process of creating and implementing plans and projects to sustain and enhance watershed functions that affects plants, animals and human communities within a watershed boundary.

As a student of Civil Engineering diploma and also being witness of how much living beings including human all kind of animals and creatures even plants to get damaged by sudden flood. Living in the countryside where flood hits every coming rainy seasons and day by day it is becoming more hazardous and damaging.

As we know the expense of undertaking watershed management is far less than the cost of future remediation. A stitch in time saves nine so we came up with the idea for watershed management by constructing and designing a special type of Weir.

A weir is a barrier across the width of a river or stream that alters the flow characteristics of water. They are used to control flow of water of stream. In this project we tried to make a sustainable and more useful in all beneficial to manage water level help rainwater harvesting in summers to provide water to agriculture and animals and human activities.

Planning and designing

At first, we have decided to take out more and more information and knowledge about construction of weir and its plan. We have used basic principles of planning

i.e. Aspects, prospect and security

1. Aspects :-

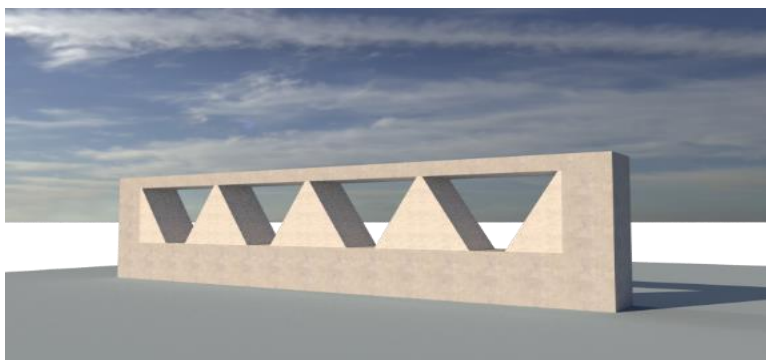
- The weir will be constructed in concrete just a low lying barrier similar to a dam, but instead of stopping water significantly it uses its structure to slowdown or manipulate water flow for various purpose.
- This construction of weir will work on using properties of fluid (water) and basic mechanics of pressure and force.

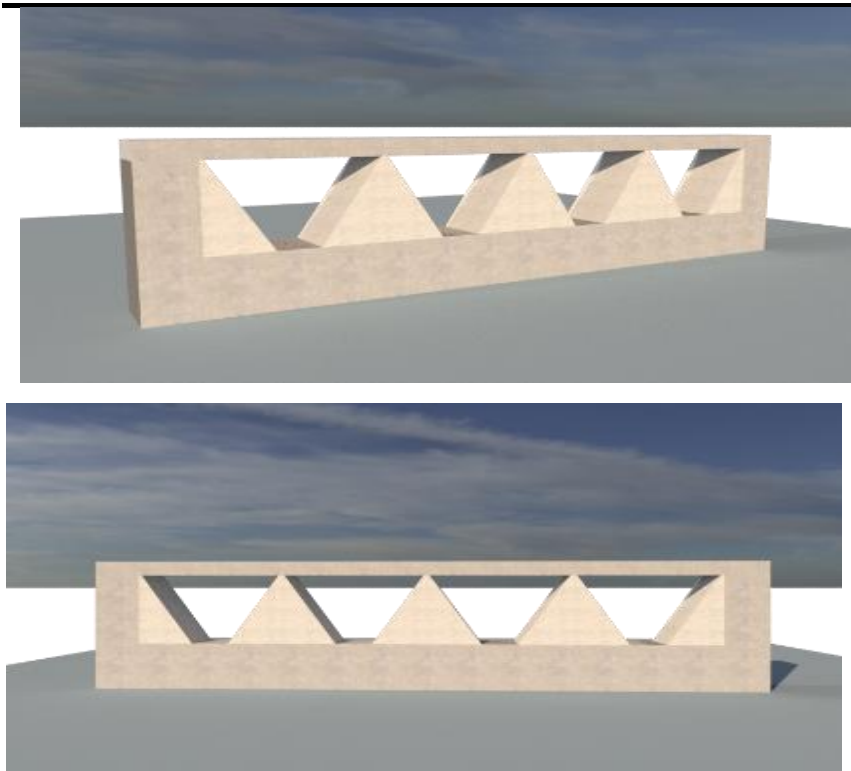
2. Prospects :-

- This weir construction will on the small basic but will give more results in aim of managing water level .
- Also it will store an amount of water in it which will be useful for agriculture or animals and birds etc. It will work as rain water harvesting plant in summers.
- It will give a scenery of little dams, which will beneficial in all aspects of sustainability.

3. Security :-

- It will ensure security of human communities that are in the watershed boundary during flood situation.
- Construction of these kind of weir will slow down increases in water level and people will get time to shift to safe place.





Other methodologies

- **Useful for maintain water level during monsoon :-**

When rainy season arrives, water flowing from hills will be store behind weir which can be used for agriculture when water level hit limit of weir it will slowly start to make water flow through passage which will avoid sudden increase in water level

- **In Summer season it will help as water source**

It store water during rainy season and will help during summer use. Even if the water for absorbed in soil. It will increase ground water level.

- **It will avoid sudden waterflow over roads**

In areas like kokan, Maharashtra, where roads are through hills and mountains, it is common to arrive a sudden waterflow over road which cause accidents. This will help to avoid such situations.

Also will reduce wear and tear of road in such area and helpful to reduce soil erosion and economic expense of remediation

➤ **Area selection**

After surveying we have decided the area that is place Tamdalage.



➤ Data collection

- The collecting necessary data for weir construction.
- The place where the weir is to be construct.
- Working of weir.
- Damage roads picture.



➤ Guidance and searching

Sharing the ideas with guide and take the guidance. Then discuss about weir and we find the research paper on it.

➤ Survey

Road damage due to excess water flow.

Excessive water flow causes erosion the farm boundary.

Take out more and more information and knowledge about construction of weir and its plan. We have used basic principles of planning

Conclusion

This project is useful for maintain and control flow of water to reduce water level in stream. Also, it helps to reduce soil erosion, destroying crops, plants, damage of roads etc. It is a small change which can give us more efficient results in all aspects.

References

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4. **Aakash Suresh Pawar** (2015)

Paper illustrates the comparatively expresse

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This research comprises a broad synthesis of existing water resources data