Tank Irrigation

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Abstract- *Water tank, basically it is a small or large size of container which store the water for various purposes such As use to agriculture, here; In This project design a water tank. It is a cylindrical cross section of which is the combination of chicken wire mesh and steel rods and cement with roof top. Itis a 50000 lit capacity water tank. Cost analysis of water tank has been done. In this water tank we use chicken mesh wire which is flexible hence easily mould in cylindrical shape. Because of chicken mesh wire load distribution of tank is good, hence it is uniformly distributed; because of this risk of cracking in tank wall can reduce. We can build tank with uniform or without formwork (which is temporary), hence ease of construction increase. Cost of construction is less than RCC construction and the method is more convenient than other traditional methods.*

I. INTRODUCTION

The Tank Irrigation systems of India are a century old. Most of the tanks have more time degraded into open access resources due to weak property relations. Privatization, and government appropriation of the tanks have been the main items to enforce common property resources management. In Maharashtra, Middle Maharashtra, because these regions are economical backwards. In rainy seasons, Kokan region has heavy rainfall within 4 to 9 months. But the remaining part of the year is dry as well as middle Maharashtra, also faces this problem. In sangli district most of the part is irrigated by tank or pond. This is the solution to the problem of security of water for irrigation.

II. OBJECTIVE

Through this project we are going to give a sustainable and modified tank for irrigation to manage the watering for crops properly. To save water as well as tanks and ponds to construct it and suitable modified structure. We are trying to give an economical tank to farmers. We are trying to give maximum output to farmers through this tank irrigation.

III. METHODOLOGY

- We are going to conduct the Survey of ponds, tanks and in Sangli district.
- We are going to take an interview with farmers to know the advantages and disadvantages of the current tanks.
- We are going to arrange a discussion session on irrigation systems.
- We are going to study this case and we will note expert reviews.
- We will Sketch the modified systems of this project.
- We are going to discuss, how this system can make sustainable as well as modify this project.

IV. LITERATURE SURVEY

On this project similar to this same expert or many people students, I tried to best to explain it has follows.

a) Tank irrigation in the 21st century: -
Author: PalanisamiK.(Published on:- 2000)

Tank hydrology and procedures to maintain storage. Trends in area irrigated by system and non-system tanks. The impact of rainfall, tank encroachment and siltation on the decline of tank irrigation. Government investment, groundwater development, and farmer involvement in tank management. The economics of tank irrigation. Selection criteria for tank modernization.

b) The Case of Tank Irrigation Development in South India:-
Author: David Mosee(Published on:-1999)

This is an essay in the sociology of knowledge. It aims to demonstrate, firstly, how development institutions construct rural society in terms of organizational imperatives, and secondly, how these 'constructions' come to be underpinned by social theory. The focus is on irrigation in south India and colonial and contemporary state policy initiatives to promote local institutions for the community management of decentralized resource systems. The essay presents the social and historical origin of an important and powerful set of contemporary policy ideas.

V. EXISTING SYSTEM

We need to provide tank irrigation in low cost and efficient so in these days we will provide the tank irrigation in low cost and efficient in cost. Farmers will get also get benefited by this.

MATERIAL REQUIRED FOR TANK

1. Chicken wire-1500rs/roll
2. Cement -350rs/bag
3. Coarse aggregate-25rs/cw.ft
4. Fine aggregate-4000/brass
5. Steel-5000/tonne
6. Binding wire- 54/kg
7. Other equipment's
8. Water

Chicken Wire Mesh-

Chicken wire or poultry netting is a mesh of wire commonly used to fence.It is made of thin, flexible steel wire.

size : 1 inch (about 2.5 cm) diameter, 2 inch (about 5 cm) and 1/2 inch (about 1.3 cm).Chicken wire is occasionally used to build for small animals (or to protect plants and property from animals) In construction, chicken is used as a metal lath to hold cement or plaster, a process known as stuccoing. Concrete reinforced with chicken wire yields ferrocement, a versatile construction material.

VI. MATHEMATICAL CALCULATIONS

Assumptions:

- Tank losses- 15%
- Canal losses- 10%

Total volume of water required:

50.82/day=50,820 litre/day

Discharge:

50.28/ (1-10) *(1-15) =0.403

Total volume without losses=50,820 lit

Discharge with losses:

=0.403
=0.403*320
=128.96 lit

SCOPE

- Scope of this project is to use drought areas of Maharashtra.
- By using this we can irrigate most of the part of the drought area and cultivation area.
- The main vision of this project is to construct sustainable tank with good quality.
- We are trying to give an economical tank to farmers.

VII. CONCLUSION

On this project basis, when we compared between Reconstructed tanks, it concludes that, Ferro cement tanks are more convenient, flexible to construct, they are light in weight because of mesh wire, no heavy concrete layers. hence it ultimately impact on expenditure of project. Chicken wire mesh are mould in any shape, hence no complex construction needed. Hence used in chicken mesh are good in all aspects.

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