

# Implement in Irrigation System by Head Regulator in Rural Area

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**Abstract-** The main aim of this paper is to develop irrigation system in culturable area by providing head regulator in canal system to divert the water for irrigation purpose in the different field. We can provide head regulator on the side slope of the canal which can be easily operated manually as per required, since canal is a sub source of water supply, here the main sources of water are river, from where the canal is directly connected with river throw dam. Hence there will be required some government concurrence to supply the water from river to canal for agricultural activities.

**Index terms-** Agricultural activities (AA), Government Concurrence (GC), Gross Value Added (GVA), Hunger index (HI), IOT

## I. INTRODUCTION

Since many years in India agriculture sector is the main sources of income. But from last 5 years we have to seen that Gross Value Added(GVA) at current price are suddenly going to decreasing way due to low production of food on the agricultural field because the farmer faced a lot of problems regarding irrigation sources. In our country maximum farmers are dependent on rain water for the irrigation but now a day here rain water are not sufficient for the cultivation.

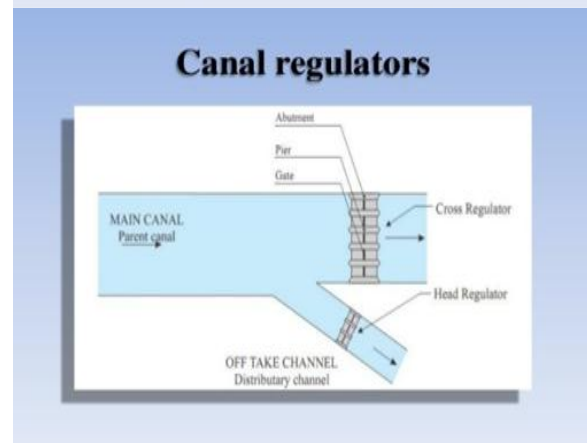
According to the growth of population India will be approximate 9 billion populations up to year 2050. In this condition a growth of food production will be the must unless the hunger index will be increased day by day. To solve these types of problems we need to develop the irrigation system in all over India. In our country various sources are available to fulfill the required for irrigation purpose. Here we can be use Head regulator in canal system to supply water when required on the field mainly in rural area.

## BASIC FUNCTIONS OF HEAD REGULATOR

- It regulates the flow of irrigation water entering canal

- It can be used as a meter for measuring the discharge
- It can be prevents excessive silting and scouring into the canal

## A. Figure of Head regulator system



## II. DETAIL OF TERMS

- A. Main Canal-if canal having more than 10 cumecs of discharge is called main canal. The main canal is the superior canal of the drainage system

- B. Distributary Channel-canals who off take from the main canal is called distributor channel. it has two parts-
1. Major Distributary-channel who off take from the main canal with head discharge from 0.028 to 15 cumecs
  2. Minor Distributary- channel who off take from the main canal with head discharge from 0.028 to 15 cumecs
- C. Head az

#### LITERATURE REVIEW

In Automated generally Irrigation system with IOT(Internet of Things) Karan KansaraVishal zaven, Sandip Delwadkar, Kaushal Jani[1]mentioned about using IOT system for irrigation and state that the problems relating to irrigation will be reduced after using sensors because IOT is based on crop field monitoring and irrigation automation according to them need of automatic irrigation are

- Very simple and easy to install
- Saving of energy and resources hence cost will be also maintained
- Valves can be used in this system to turn motor On or off as per required

According to R. Arunkumar and N. K. Ambujam in Performance assessment of canal irrigation system mentioned about effective uses of water resources (Canal) and gives an idea about using indicator to mentioned transmission losses of water and showed that excess supply of water in distributary.

According to me in my Review paper I want to give an implement on irrigation system by providing head regulator in the side slope of canal system. In India irrigation is included with a network of major and minor canal system from rivers, groundwater, well based system, rainwater and other rainwater storage sources. According to a survey India has spent 16590 crore rupees for developing irrigation system between 1950-1985 and 2000-2005 india proposed to invest a sum of 103315 crore rupees. But after all these investment we are not success to improve production of food by cultivation because in India maximum farmers are dependent upon rainwater for irrigation till day.

In my review paper a general idea is given to farmers for a irrigation option by providing a head regulator in canal system to divert water of canal on their

farms to fulfill the requirement of water as per demand. We can provide head regulator either in center or side slope of canal according to requirement.

Below in given fig.1.3 there are a head regulator is provided on the slope of canal to divert the water into the direction of agriculture field. Due to this work in the rural area a lot of farmer can cultivation in whole of year according to crop season and fertilizer capacity of the soil. Hence the production of food will be increased because farmers can cultivate whole month with various varieties of crop such like paddy, wheat, sugarcane, potato, gram, tomato maize etc.

#### FUTURE SCOPE

1. Easy to operate head regulator system hence it will be Not required to any specialization to operate it.
2. Due to diversion of water the definite direction will be unaffected hence there will be also unaffected all the area which is dependent upon the canal system for water to various purpose.
3. The cost will be less as compare to using technological system because main sources of water diversion are head regulator only.

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