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Management for Water Logging in Jhajjar District

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Abstract – Water is renewable natural resources. The natural water resources are rainfall, rivers, ponds, lakes and underground water. In some parts of district Jhajjar water level is going deep and deep every year but in some parts where wheat and rice are cultivated and the underwater is saline the water is increasing year by year and in such areas the problem of water logging is becoming a serious problem for this problem some management are being done. Management like stoping of cultivation of rice in areas like salawas has been stirted. Crops like bajra,javar,gawar pulses should be cultivated.

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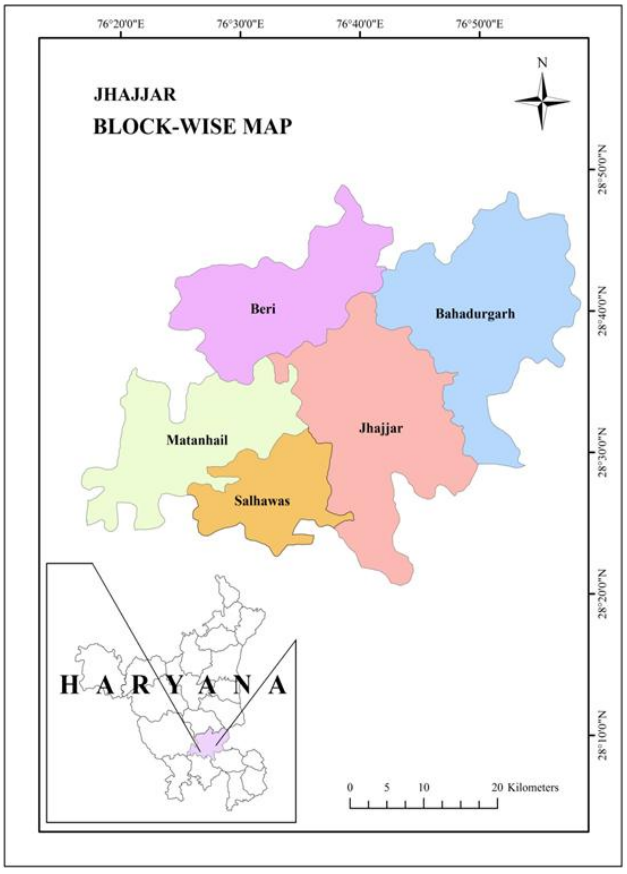
1.1 INTRODUCTION

Water is the renewable natural resource. The natural of water resources are rainfall, rivers, ponds, lakes, and underground water. Out of these resources rainwater is the purest resources. Since last few decades we are harnessing our water resources through wells and tube wells etc. Water is scare natural resources. Due to rapid increase in population, enlargement of cities and villages, establishment of new industries and improvement of new industries and improvement in agriculture pattern the needs and requirement of water has also increased. The changing climatic conditions through global warming have augmented the water demand during last few decades. It is estimated that the supply and demand gap for water is projected to rise to about 50 % by the year 2030. It is a matter of concern that the per capita availability of water is decreasing in India. In reference to Haryana the ultimate cause of concern is water resource management. Agriculture is a major sector in Haryana that use both canal water as well as underground water. Increase in rice-wheat cultivation in Haryana has changed the scenario of water resources these two crops which needs very much water has spread in major portion of Haryana. There is no doubt the by the spread of rice and wheat cultivation has led to green revolution in state and has changed the life line of peoples in the state but side by side all these activities harnessed our water resources beyond sustainable limits. These spread of rice-wheat cultivation has led to both problems somewhere to decline in water table also. The excessive use of canal water also bring with her some serious problems e.g. salinity, herbicides etc.

The JHAJJAR KHAP of Salhawas has decided in the year 2013-16 that they will not cultivate rice crop in their field and if someone cultivate this crop he will be fined, economically as well as socially. If the proper management of irrigation will not be adopted in the district then in the coming few years the crop production will certainly decrease and the rice in water table will increased it will result in more water logging and salinity.



2.1 WATER MANAGEMENT FOR IRRIGATION

After green revolution we are harnessing our water recourses without intelligence through tube wells and canal. The canal irrigation in Jhajjar district has led to a significant area under land degradation. Due to this the major part of district is facing twin problem of water logging and saline. If adequate steps in near future will not be taken than sourly the most part of the district will be out of production for cultivation. So it is strongly recommend that steps for proper use of water and irrigation should be adopted. It is also suggested that sprinkle system and drip system irrigation should also be adopted.

Strong ban of water ostensive crop should be implements. It is also suggested that rice cultivation should also be banned in some specific region. Low value and leguminous crops like pulse should be grown because they are more production and friendlier in nature. The leguminous crops help in nitrogen fixation, which increase fertility in soil. The leguminous crops need less irrigation and this will help to improve the ground water resources. It is also suggested that the private submersible pumps should be banned and it someone does this they should not be given electrically connection for such submission pumps. It is also suggested that water in canal should reach up to the last so that equal quantity of water can be distributed in larger areas and water condition can also be improve for irrigation. Tube well and canal irrigation should be property managed and sprinkle system and drip irrigation system should be adopted check the problem of water logging and depletion.

2.2 MANAGEMENT SYSTEM OF AGRICULTURE

After green revolution of the country the cropping pattern has been characterized by rice. Wheat pattern in the district also. These both crops are water dominant crops. And the result is that the entire field has been started irrigated by canal and tube well and side by side the traditional pattern of cultivation of bajra, javar, gunvar etc has been out of cultivation. In the post green revolution period the cultivation of crops like javar,, bajra, and leguminous crops was done and large number of these crops needed less water for substances. They were eco – friendly crops become they did not needed and fertilizer, pesticides or insecticides but they themselves increase the fertilities of soil. After green revolution theirs crops have been out of cultivation which led to land degradation in the region. So time has come that priority should be given to crops like javar, bajra, etc. this change in cropping pattern from water intensive cropping pattern crops to non- water intensive crops may selection the wasteland in the Jhajjar district.

Table 1: Percentage of Area Total Cropped area Under Different Crops in Jhajjar District 2012-13 to 2015-16

Crops	2012-13	2013-14	2014-15	2016-17
Rice	11.6	14.55	16.12	30.32
Bajra	14.07	14.08	14.74	28.68
Barley	3.39	2.34	1.38	1.63
Sugarcane	1.45	1.40	-	2.45
Javar	6.31	6.57	5.06	8.19
Gram	0.48	0.46	-	-
Oilseeds	16.99	14.55	10.13	19.67

Source: Agriculture Department of Jhajjar

This table shows that the cultivation of rice and wheat crops has been increased after every decade and other crops cultivation has decreased decade after decade respectively. Wheat cultivation has been increased almost about 30% and other crops decreased about more than that. In the district almost cent percentage area has been under irrigation and crops like gram cannot be grown in the irrigated areas. Thus the problem of degralion in soil and water logging and salinity is increasing day by day.

2.3 RAINWATER HARVESTING PRACTICES

Some times during rainy season an abundant amount of rainfall creates serious problem of extra water in a specific region and deficiency of water due to drought on the other hand. In these conditions the technique of rain water harvesting plays dual role on our water resources, on the one hand it save water to misuse and on other hand it further leads to down the water logged area. The adaptation of water harvesting technique will directly slop the mixing of rainy water in the farms also further slop to increase in area under water logging. So it is suggested that government should encourage peoples towards water harvesting techniques in school building, hospitals, college buildings, dispensaries etc.

2.4 WATER QUALITY VIGILANCE

It is formed that sometimes the used water of household and industries is directly released in the river water and agricultural lands. This water is highly toxic and contains various amount of prisoner's substances e.g. leads, sulphur, carbon and some harmful non bio-degradable elements. Such types of substance directly enter in our food chain by vegetables and fruits and grains. This increases cases of serious diseases like cancer and other diseases. So our government should take part in such kind of mechanism that can prevent the mixing of such dangerous of this wastes water.

2.5 FORMATION OF PONDS ON WASTE LANDS

It is suggested that ponds should be constructed on waste lands to preserve excess water of canals and rains. It will act in two ways, firstly it will reduce water logged area by collecting surrounding area water and secondly it will provide water during scarcity hours. Broadly saying, it will act as multipurpose projects e.g. agriculture, drinking, washing etc.

2.6 SALINE AND ALKALI WATER MANAGEMENT

It is found that the rice-wheat cultivation has accentuated with many problems in the state of Haryana e.g. water logging, Water depletion, salinity, alkalinity, monoculture of some food grain crop, new weed, new herbicides etc. Out of these problems the problem of salinity and alkalinity is most dangerous and serious. It is a very challenging process to reclaim a salt and alkaline effected land. It is a universal truth that the formation of soil is a very slow process. A few centimeters of layers of soil take a millennium of year to form. The mode of irrigation in Haryana through canals and tube wells play a significant role in many parts of the state. A significant part of Jhajjar district is facing a twin problem of salinity and alkalinity. No doubt this is a direct result of over irrigation and rice-wheat cultivation. Salt is very harmful to some sensitive crops.

2.7 GEO-HYDROLOGICAL CONDITION

It is generally observed that ground water in the pore spaces on consolidated alluvium deposits in also in the pores. The development of underground water in the areas is greater an account of availability of canal water and its particular geohydrological condition. It is observed that the flow of underground water is towards the central part of Haryana which consists mainly in Jhajjar district and adjoining areas. It is also found that this flow is directly related to canal irrigation and rainfall. The canal irrigation has made the problem worse in past few years. Thought the natural rainfall cannot stop but irrigation can be slow down by modern method of irrigation e.g. sprinkle system and drip system. The drip irrigation is a new method of irrigation which uses low amounts of water. This is ecologically fit of good and environment friendly also. Under thus method the problem of water logging can be lower down to a considerable point in a few days.

2.8 CROPS SELECTION AND CROPPING SEQUENCE

Crop tolerance to salinity varies a great deal among oust the crop plants. It has been observed that some plants can tolerate more salts as compared to other plants. For example cereal crops can tolerate higher salinity then the rice crops. The oil crops and pluses also show less tolerance to the salinity. Their seeds cannot germinate in saline fields. Tolerance limit varies from one soil type to another. It found that courses soil is more adjusted to salinity than heavy texture soil. In saline mater on arid and semi arid, land cotton, sorghum, pearl millets can be grown in kharib season and in rabbi season wheat basely and sum flowers etc. can be grown.

2.9 CONSTRUCT PONDS ON WASTE LANDS

The extent of canal water in control part of Haryana and almost more than half of Jhajjar district has led to some serious negative effects on our valuable agriculture land. In post green revolution time many small distributaries has been led from main canal in part of Jhajjar district which has led to negative results. Farmers have illegally harnessed water from these distributaries. Over the years farmers started cultivation of rice and wheat in the district and most of the part of the district comes under this passage of time. It has been pond that patches of permanent stagiest water can be seen in some part of the district and formed these part into wetland. It has been proved that scientists that after the green revolution the serious effect to ecological hazard has been seen. There for it is suggested that pond should be constructed on waste lands and drop out of excess water of canal in these ponds. It can give two types of result, firstly it will reduce water logged areas and secondly it will provided water for agriculture use, drinking, etc. in the water scarcity no use.

CONCLUSION:-

It is concluded that water is renewal and scarce water resource. There are many water resources e.g. rivers, ponds, lakes, wells and rainfall. Out of these rainwater is the most pure resources. Due to growing population needs, expanding of cities and villages increase in industries and agriculture needs are unable to meet their water requirement and are engaging in indiscriminate use of the same. The changing of climate condition through global warming has augmented the water demands during the last few decades. It is a matter of fact that the requirement for per capita availability of water is increasing in India. There is need of implementation of many strategies and policies for out coming the problem of water logging in the district. These are: - water management irrigation, management system agriculture and rain water harvesting practices, high over water quality, crop selection and cropping sequences.

REFRENCES

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