

Stuff of Irrigation in Kolhapur District

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Introduction:

The development of agriculture depends on irrigation. Irrigation is an indispensable source of developed food security in developing countries. Irrigation sources include rivers, lakes, wells, and dams. Kolhapur district is famous as an agricultural district. Much of agriculture depends upon rainfall. Due to hilly terrain in some parts of the district, the groundwater level is low in summer. Despite the monsoon floods in the district, there seems to be a shortage of water in the summer. Irrigation contributes to the complementary growth of agriculture and industry in the district.

Study Area:

Kolhapur district is located in the southern part of Maharashtra. It's located between $15^{\circ} 45'$ E to $17^{\circ} 11'$ N latitudes and $73^{\circ} 41'$ E $70^{\circ} 72'$ E longitudes. It is bounded on the north by Sangli district and on the southeast by the Belgaum district of Karnataka state. The geographical area of Kolhapur district is 7620 sq. km, which is concerning 2.5% of the area of the State. At present district have 1217 villages 16 towns and 2 cities.

The physical divisions of Kolhapur district are divided into three parts, East, Central and South. Black soil is formed from lava in the eastern and central ranges and in some places it has large areas of fertile soil. The western range is mostly mountainous with red soil and forest cover. The Panchganga, Warna, Dudhaganga, Vedganga, Bhogawati, Hiranyakeshi and Ghatprabha are the main rivers. The average annual rainfall in the district is 2200-5000 mm. The district receives less rainfall from west to east.

Objective:

1. To assess the need for irrigation in Kolhapur district.
2. To outlook on the current status of irrigation in Kolhapur district.

Database and Methodology:

The present paper is based on secondary statistics, compiled from Kolhapur District Socio-economic Review-2018-19, reference books and the internet. Data has summarized as a straightforward arithmetic technique.

Irrigation Need in Kolhapur District:

1. Irregular distribution of rainfall

Irregular distribution of rainfall continues in the district. Shahuwadi, Gaganbawda, Chandgad, Gaganbawda and Radhanagari tehsil receive torrential rains. Shirol and Hatkanangle tehsil receive less rainfall. The Gaganbawda tehsil receives an average rainfall of 1000 mm while Shirol and Hatkanangle receive an average rainfall of 100 mm. Some areas of Panhala, Shahuwadi, Hatkanangle and Gadhinglaj tahsil need more irrigation.

2. Terrain

Kolhapur district is a part of Deccan Trap Rock. The rock to the south has a sharper and less calcareous chain. The district has an average elevation of 10,000 feet and is composed of basalt rock. Basalt rock does not have primary and secondary pores together. For that reason, these rocks have negligible capacity to store rainwater. Rainwater does not cause natural growth on the surface. The ground water level is decreasing day by day after the end of the monsoon. Agra, Shahuwadi, Panhala tehsils is in high rainfall areas but the terrain is not good for storing ground water. Due to this terrain, some parts of the area are in need of irrigation

3. Restrictions on supplementary irrigation sources

In summer, the groundwater level in Kolhapur district looks down. These climatic conditions include tanks, open wells and rivers. Water sources have become dehydrated. After February, a large part of the agricultural sector in the district needs irrigation. Due to water scarcity, farmers are neglecting agriculture. Irrigation motivates farmers to cultivate.

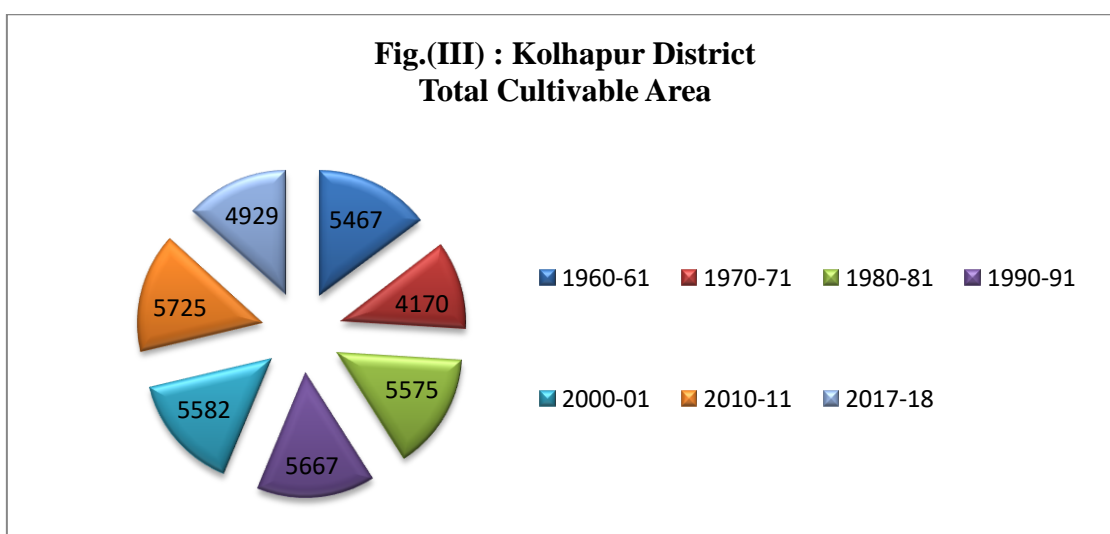
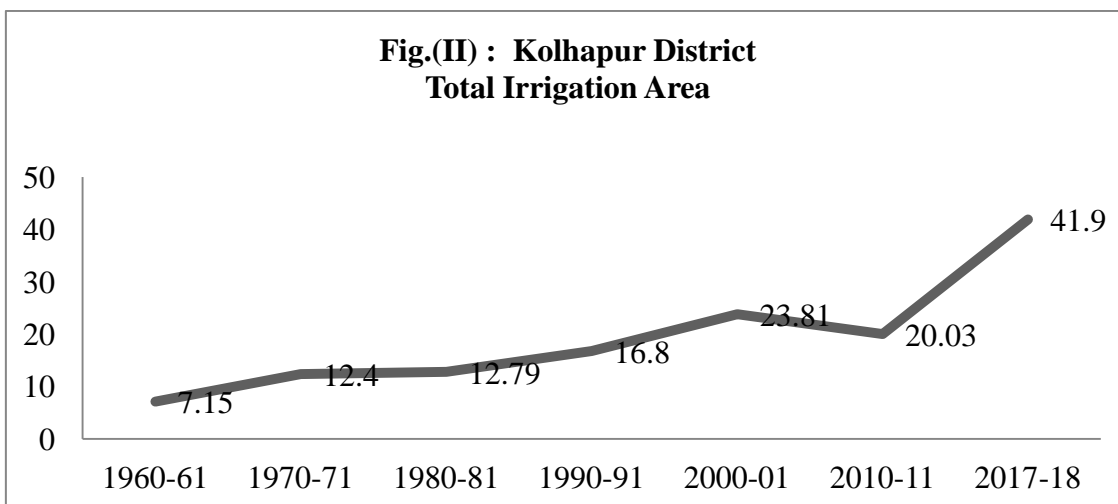
4. Creation of employment

Business opportunities are created in the agricultural sector. In areas where irrigation facilities are more abundant, various secondary agro-based industries have grown more than ever. Farmers will be encouraged to grow two to three crops a year. They need a lot of skills and workers. Agriculture creates employment. However, the agricultural sector supplies a large number of raw materials to various industries. These industries create employment opportunities and require a large number of workers.

**Table (1): Kolhapur District
 Irrigation and Cultivable Area**

Sr. No.	Year	Total Irrigation Area (Percentage)	Total Cultivation Area (00 Hector)
1	1960-61	7.15	5467
2	1970-71	12.40	4170
3	1980-81	12.79	5575
4	1990-91	16.80	5667
5	2000-01	23.81	5582
6	2010-11	20.03	5725
7	2017-18	41.90	4929

Source: Kolhapur District Socio-economic Review 2018-19



The tabular data of Kolhapur district demonstrate that irrigated and total cultivated area in the years 1960-61 to 2017-18. According to the table, in the year 1960-61 irrigated area was only 7.15 percent of the total cultivable terrain of the district (546700 Hectors). Previous to 1960, there is only one dam, which is constructed by Shahuji Maharaja and the dam is the Radhanagri dam. After 1960, Maharashtra government constructs various small and medium dams. After 1960 forward the irrigated region is augmented in the district. The year 1980-81 irrigated area was below 13 percent. After the 1980 irrigated area increased in 2010-11 and went up to 20 percent. At present, the Kolhapur district irrigation area is 41.90 percent and cultivable area is 492900 hectares. This shows low development of irrigation in Kolhapur district. Irrigation increases due to rain, drainage system, etc. These factors are favorable in the district. That is why more irrigation needs to be developed in the district..

Conclusion:

1. On 18th February 1907, Rajarshi Shahu Maharaj has built the first dam in the district on the Bhogawati river. The dam is known as Radhanagari Dam.
2. The Kallamwadi Dam built on the river Dhudganga is currently supplying a large amount of water to the district.
3. The Panchganga, Warna, Dudhaganga, Vedganga, Bhogawati, Hiranyakeshi and Ghatprabha rivers give the direction of district irrigation.
4. Irrigation projects show growth. There are large irrigation projects in the district like Radhanagari, Kallamwadi, Tulshi, Varana, Chitri, Kumbhi, Patgaon, Kadvi, Jambhare, etc.
5. After 1960 onward the remarkable irrigation increased in the district.
6. Kolhapur district area under irrigation is less than 50 percent.
7. Inequality has found in the irrigation in the district.
8. Many irrigation projects have not been completed yet due to various difficulties.
9. Geographical factors are constructive for more irrigation. Therefore, this region must be taken up for irrigation
10. The main hurdle for irrigation development in the district is dealing with political factors, land acquisition issues and dam construction budget.
11. The peoples whose land are going to be under construction under the dam. Such people should be provided shelter, land and other physical facilities immediately. Only then will these people be willing to give land for the dam, otherwise these people create obstacles in the construction of the dam.

Reference books:

1. *Socio-economic review of Kolhapur district- 2018-19.*
2. *Ali Mohammad (1978): 'Studies of Agriculture Geography', Rajesh Publication, New Delhi.*
3. *Ram Kumar Gurjar (1990): 'Geographical Perspectives on Irrigation', Rawat Publications, Jaipur.*
4. *K. K. Gurjar & B. C. Jat (2008): 'Geography of water resources', Rawat Publications, Jaipur.*