

Agriculture : Irrigation Processing Industries and Marketing System



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Irrigation Sources In Osmanabad District

A Geographical Review

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Abstract

The present paper deals with the irrigation sources in Osmanabad district. Natural water is available either as a surface water which moves through gravity in rivers, lakes, ponds and canals or as groundwater which is lifted through dug wells or using animal power. Most of the time diesel and electricity is used for lifting water from the wells.

Keywords: - irrigation, water lift, seepage tank, underground storage tank.

Introduction

Irrigation brings about an increase in the gross cropped area by increasing the net sown area by in rainfall scarcity areas and by multiple cropping. The normal monsoon is adequate only over one third of the country- thus irrigation becomes a necessity in the rest of the country. Even in the adequate rainfall areas, a late onset or an early withdrawal can prove disastrous for the crop. Then irrigation is required for rabbi (winter crops).

Additional water is also required for most of the crops during the growth period to maximise yields. Thus irrigation is essential to overcome spatial and temporal variations of rainfall.

Various sources of irrigation are specific to the

physical environment of the region and each one has its own peculiar characteristics. In the drought prone area like Osmanabad irrigation play important role in the agriculture.

Objectives: - The present paper has certain specific objective. To study sources of irrigation in Osmanabad district

Database and Methodology

The present work is based on the secondary data collected from the district irrigation department, Agriculture office, socio economic review of Osmanabad district. Some of the relevant data collected from the websites.

Irrigation sources data taken from the year 2010 to 2017.it includes big projects, medium project, small project, seepage tank, Kolhapur type bandhara, underground storage tank etc. The data tabulated in the table form with Tahsil and category wise. Comparative and explorative research methodology is adopted for present work. Processed data shown by the graphs.

Table 1.1 Irrigation sources in Osmanabad district 2010

Tahsil	Big project	Medium project	Small project	Seepage tank	Kolhapur bandhara	Under-ground storage tank	Irrigation well
Paranda	0	3	2	66	50	0	122
Bhum	0	4	3	40	90	0	201
Washi	0	0	5	32	68	0	148
Kalamb	0	1	6	85	122	0	900
Osmanabad	0	3	8	66	333	0	598
Tuljapur	0	4	19	64	167	0	610
Lohara	1	0	6	11	34	0	172
Omerga	0	3	1	21	99	0	531
Total	1	18	50	385	993	0	3282

(Source: - Socio economic review of Osmanabad District 2010)

Table 1.2
Irrigation sources in Osmanabad district 2015

Tahsil	Big project	Medium project	Small project	Seepage tank	Kolhapur bandhara	Under-ground storage tank	Irrigation well
Paranda	0	4	174	118	7	45	880
Bhum	0	4	194	78	0	74	549
Washi	0	0	43	25	0	19	253
Kalamb	0	1	84	57	13	21	1048
Osmanabad	0	3	112	81	18	13	1229
Tuljapur	0	3	223	141	18	42	703
Lohara	1	0	31	27	1	15	343
Omerga	0	3	75	39	3	26	642
Total	1	18	944	562	60	255	5647

(Source: - Socio economic review of Osmanabad District 2015)

Table 1.3
Irrigation sources in Osmanabad district 2017

Tahsil	Big project	Medium project	Small project	Seepage tank	Kolhapur bandhara	Under-ground storage tank	Irrigation well
Paranda	0	3	252	120	8	105	3344
Bhum	0	4	212	56	6	148	4325
Washi	0	0	82	24	1	49	4846
Kalamb	0	1	189	54	16	119	2300
Osmanabad	0	3	233	109	23	100	977
Tuljapur	0	4	380	116	22	144	567
Lohara	1	0	83	25	4	47	843
Omerga	0	3	185	38	7	118	1058
Total	1	18	1616	542	87	830	4160

(Source: - Socio economic review of Osmanabad District 2017)

2015

er- nd age k	Irrig- -ation well
5	880
4	549
3	253
1	1048
3	1229
2	703
5	343
5	642
5	5647

2015)

2017

er- nd age k	Irrig- -ation well
5	3344
3	4325
	4846
3	2300
3	9774
5	5674
	843
5	10586
5	41692

2017)

ion / 66

Study area Osmanabad district is located Maharashtra state. It is located on east side marathwada region. The latitudinal extent of study area is $17^{\circ}35'$ to $18^{\circ}40'$ north and longitudinal extend between $75^{\circ}16'$ to $76^{\circ}40'$ east. The total area of district is 7512.4sq.km.

It is situated about 600 m above mean sea level. Manjra and Terna are major are seasonal river mainly flow in rainy season. Temple of goddess Tuljabhavani at Tuljapur is famous in India. There are eight Tahsil in the district. The Osmanabad district comes under drought prone area. Average annual rainfall in within the district is 730mm. The total population of study area is 1,486,586.

Irrigation sources in Osmanabad district

Osmanabad district major population is engaged in agricultural and allied activities. Agriculture is main occupation of people of study area. Osmanabad district is come under rain shadow area. Due to these reason district faces many drought year. Agriculture activities are possible due to the irrigation sources in the district. Irrigation sources are not evenly distributed in the study area. Irrigation sources includes big, medium, small projects, seepage tanks, irrigation well, underground storage tank, Kolhapur type bandhara etc.

1. **Big project:** - irrigation big project is located in the district is only 1 in Lohara Tahsil.

2. **Medium project:** - Osmanabad district has total 18 medium irrigation projects. The highest medium project located in Bhum and lowest in kalamb, washi and Lohara has absence of medium project.

3. **Small project:** - small irrigation project in the district are increased from last seven year. District ha

only 50 small projects in the year 2010. It rose in 2015 with 944. It is again increased in 2017 with 1616. The highest small irrigation project are in Tuljapur, Paranda, Osmanabad and lowest in the washi and Lohara.

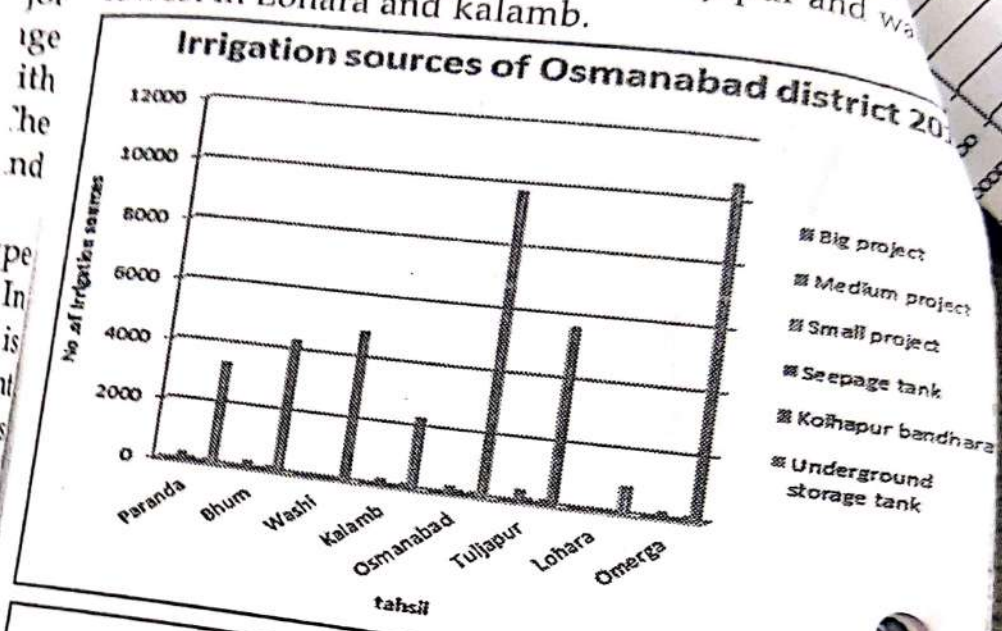
4. Seepage tanks: - seepage tanks are also major irrigation source in the study area. The total seepage tanks are 385 in the year 2010. it is increased in 2015 with 562. but in 2017 it is reduced and reached up to 542. The highest seepage tanks are in Osmanabad, Tuljapur and Paranda and lowest in washi, Lohara.

5. Kolhapur type bandhara: - Kolhapur type bandhara (KTB) is one of the new sources of irrigation. In the study area 993 KTB are operated in 2010. In 2015 it is reduced up to only 60. It is because severe drought condition continuously in region. Most of the farmers create storage farm tanks. In 2017 it again increased up to 87. The highest KTB are in Osmanabad, Tuljapur and lowest in washi, Lohara.

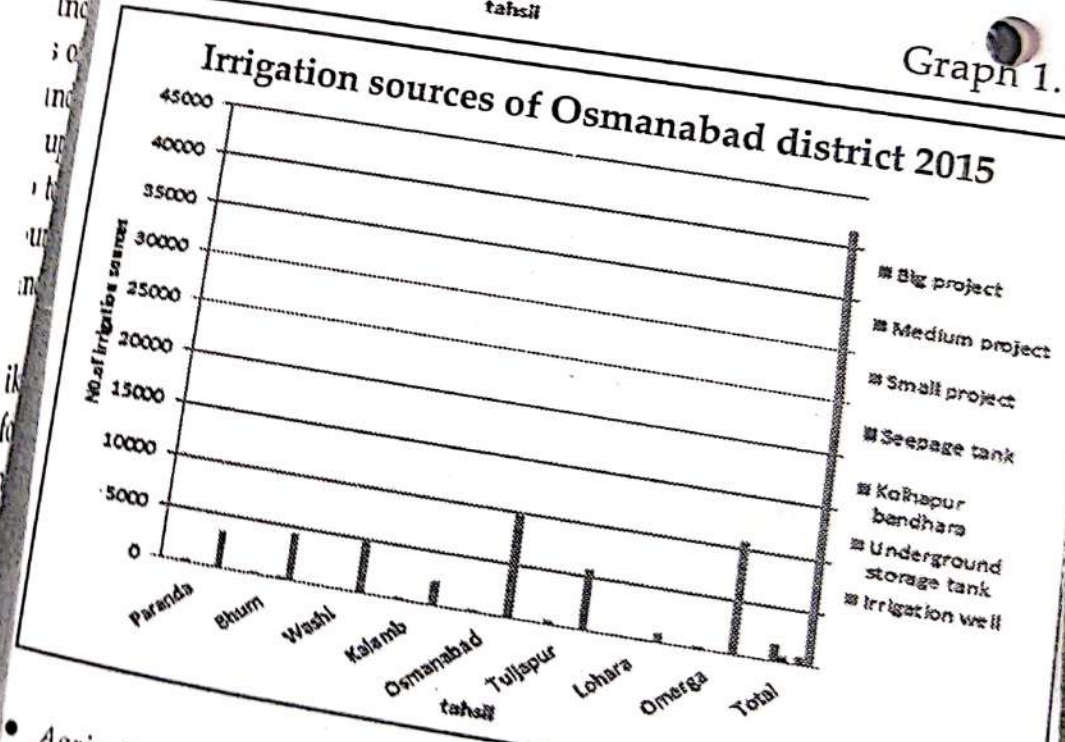
6. Underground storage tanks: - underground storage tanks (UST) are also one of the useful sources of irrigation. In 2010 there are absences of underground storage tanks in the study area. In 2015 it is increased up to 255. In 2017 it is again increased tremendously up to 830. The highest UST are observed in Bhum, Tuljapur, kalamb, Omerga and Paranda and lowest in washi and Lohara.

7. Irrigation well: - in the rain shadow area like Osmanabad district irrigation well are major source for agriculture. Agriculture activities are mostly depending upon the irrigation wells. In 2010 there are only 3282 irrigation wells. In 2015 it is increased up to 5647. In 2017 it is again increased drastically with 41692. It is due to the

reliable source of water though out the year. the rainfall percolates at underground. It results in groundwater storage. The highest irrigation observed in the Omerga, Bhum, Tuljapur and lowest in Lohara and kalamb.



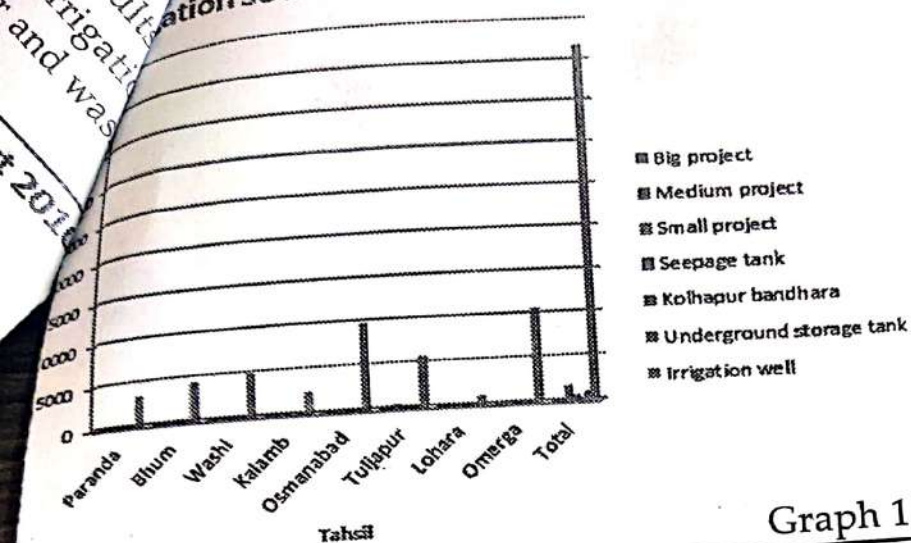
Graph 1.1



Graph 2

out the year. It results in...
 and was...
 2010...

Irrigation sources in Osmanabad district 2017



Graph 1.3

Conclusion

Irrigation is modern tool for agriculture development. Agriculture is possible into drought prone area and in desert area, it is because of irrigation. There are number of sources and techniques of irrigation. The present work is focused on the sources of irrigation in Osmanabad district. The observations and findings of present work are as follow.

There are only 8 irrigation sources in Osmanabad district.

Big irrigation project is only one in Lohara Tahsil in the study area.

The number of small project in the district continuously increasing in 7 years from 50 to 1616. Seepage tanks are increased in 2015, but in 2017 number of seepage tanks were reduced and reached 542.

5. Kolhapur type bandhara were very high in 2010, but in 2015 it's reduced drastically and reached up to 60. In the year 2017 again slightly increased the number of KTB.
6. Underground storage tanks were completely absent in district in 2010, but in 2015 they increased and reached at 830.
7. Irrigation well is very vital source of irrigation for agriculture in the Osmanabad district. In 2010, they were only 3282, but in 2015 and 2017 they increased at 5647 and 41692 respectively.

Overall agricultural practice in district throughout the year and especially in winter and summer season are depend upon the present irrigation sources.

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