I J R B A T, Issue (VIII), Vol. III, Sept 2020: 225-230
A Double-Blind Peer Reviewed & Refereed Journal
OPEN ACCESS
e-ISSN 2347 – 517X
Original Article

INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY
 www.ijrbat.in

GEO- ENVIRONMENTAL STUDY OF WATER CONSERVATION SCHEMS IN MAN TALUKA, SATARA DISTRICT, MAHARASHTRA

[1]B.L. Rathod, [2]B.M. Mali and [3]S.K. Auti
[1]Kankavli College,Kankavli. (M.S)
[2]Lal Bahadur Shastri College of Arts, Science & Commerce, Satara. (M.S.)
[3]Arts, Commerce & Science College, Sonai, (M.S.)
*Email: balurathod267@gmail.com

Communicated: 27.07.20 | Revision:08.08.20 & 25.8.2020 Accepted: 10.09.2020 | Published: 30.09.2020

ABSTRACT:

Water is the precious resource on the earth surface. The concept of water conservation is started to spreading in drought prone area of Satara district. Conservation means to prevent exploitation, destruction of the natural resource. The management of over-exploitation and destruction is known as Water conservation. The people in the Man taluka are aware about the water conservation. They are taking the more effort in the process of conservation of water. Government is playing dominant role in the water conservation progaramme. Number of water conservation schemes is operational condition in Man taluka. Farmers getting benefit of such types of water conservation schemes.

Key Word: *- water conservation, Water conservation schemes, public awareness.*

INTRODUCTION:

The distribution of rainfall is uneven and unpredictable in India. Some area has heavy rainfall more than average and some part of India has very less rainfall. So there is great need for water conservation and water management. The government of Maharashtra is playing important role in the water conservation in drought prone areas. Number of different schemes is constructed to conserve the water in Man taluka. The importance of water conservation schemes in Man taluka has more.

II. OBJECTIVES:

1) To study the Geographical setting of Man taluka.
2) To study the Water conservation schemes in Man taluka.
3) To study the views of farmers about the water conservation schemes.

III. STUDY REGION:

Man taluka is located 17° 27' north to 17° 54' north latitudes and 74° 22' east to 74° 54' east longitudes. The total geographical area of the taluka is 1483 square km. The temperature has a relatively high range between 15 °C to 45 °C. Summer season is comparatively hot, and dry, maximum temperatures exceed 40 °C during summer season. Winter season is recorded dry and cold climate. Very little rainfall occurs from June to September while sometimes taluka experience no rainfall during the rainy season also. The average annual rainfall in the region is 250- 350 mm. Famers in the Man taluka are engaged in the water conservation activities due to frequently drought condition.

IV. DATABASE AND METHODOLOGY:

The primary data collected through fieldwork interviews and schedule. The secondary data collected through agricultural department, irrigation department, District

census handbook, District socio-Economic Statistical abstract. Hydrological data have been collected from Nasik, soil and water conservation and Survey department of Maharashtra.

Ten per cent sample village has been selected by stratified random sampling method. Five percent questionnaire has been filled through each sample village. Total 10 sample villages have been selected on both side of Man River. The selection of sample village has based on the distance from Man River. Five villages has selected on the edge of Man River and next five villages selected on fifteen km away from Man River. Percentages analysis method has been used in the present research paper. A different cartographic technique has been used to represent the result obtained through the study.The most popular water conservation schemes has been taken into account in the present research paper.

V. RESULT AND DISCUSSION:

1) Water Conservation Schemes in Man Taluka:

Man taluka located in the drought prone area of Satara district. Number of water conservation schemes is prevailing in the Man taluka. Famers in the man taluka prefer to conserve water through different schemes. Eight most popular water conservation sachems are observed during the period of investigation. The share of Farm pond and percolation tank has more than other water conservation schemes. 38,908 hectors area has been irrigated in entire taluka out of that Percolation tank and Kolhapur type of Bund irrigates more area.

2) Benefited Farmers in Sample Villages:

Within the sample villages, 55 per cent farmers have recorded that Cement Nalla Bund water conservation scheme is most benefited, because it constructed on the small rill. As the result number of farmers can get benefit due to increase the ground water level immediately. The lift irrigation water conservation scheme is less benefited because it is incomplete state in most of part of Man taluka.

3) Views of Farmers about Water Conservation Schemes:

The farmers in Man taluka are more sensitive in term of water conservation. Taking in to account some indicators, views of farmers about the water conservation has been studied. 93 per cent farmers have reported that they are individually engaged in water conservation activities. They have reported (i.e.66.97 per cent farmers) that Government is taking effort in the water conservation programme. 21 per cent farmers have reported that social organization also participated in the water conservation progrmmes. 4.44 per cent farmers have reported that they cultivate tree for water conservation purpose. During the severe drought condition the cultivated tree become a death therefore proportion farmers participated in such types of activities are very few.

CONCLUSION:

Government has constructed different types of water conservation schemes but out of that eight schemes are most popular. 1348 water conservation structure has constructed in Man taluka. Out of that, 40 percent water conservation structure constructed under farm pond scheme. The share of percolation tank has recorded 30 percent. It irrigated maximum area (i.e. 14818 ha.) because percolation tank has large dimension that helps to increase the underground water level. Farmers reported that Cement Nalla Bund is most beneficial because it helpful to rapid increase of ground water level. 93 per cent farmers have reported that they are individually engaged in water conservation activities. During the severe drought condition the cultivated tree become a death therefore proportion farmers participated in such types of activities are very few.

REFERENCES:

Census of India (2011): Town and Village Directory Part I and II, Satara District.

Department of Agriculture (2015): District Abstract of Satara.

Ingavale,K.J.(1993): Mandesh Swarupaani Samasya, Manganga Prakashana, Kamalapur, Sangole.

Khade, K.G.(2005): Mandeshi Sanskritia ani Asmita, Shri Shambhur Mahadev Prakashan, Mumbai.

Khan, A.F. (1998): Water Resource Management, Anmol Publications (Pvt.) Ltd., New Delhi. pp.10.

Rao Y. P. and Bhakar S.R.,: 'Irrigation Technology and Practices', Agrotech Publishing Academy, Udaipur-313002.

Shukla, N. and Jain, A. (2012): Water: Todays need, Tomorrows vision, Avishkar Publishers and Distributors, Jaipur, India. pp.1-2.

Statistical Abstract (2011) of Satara, District.

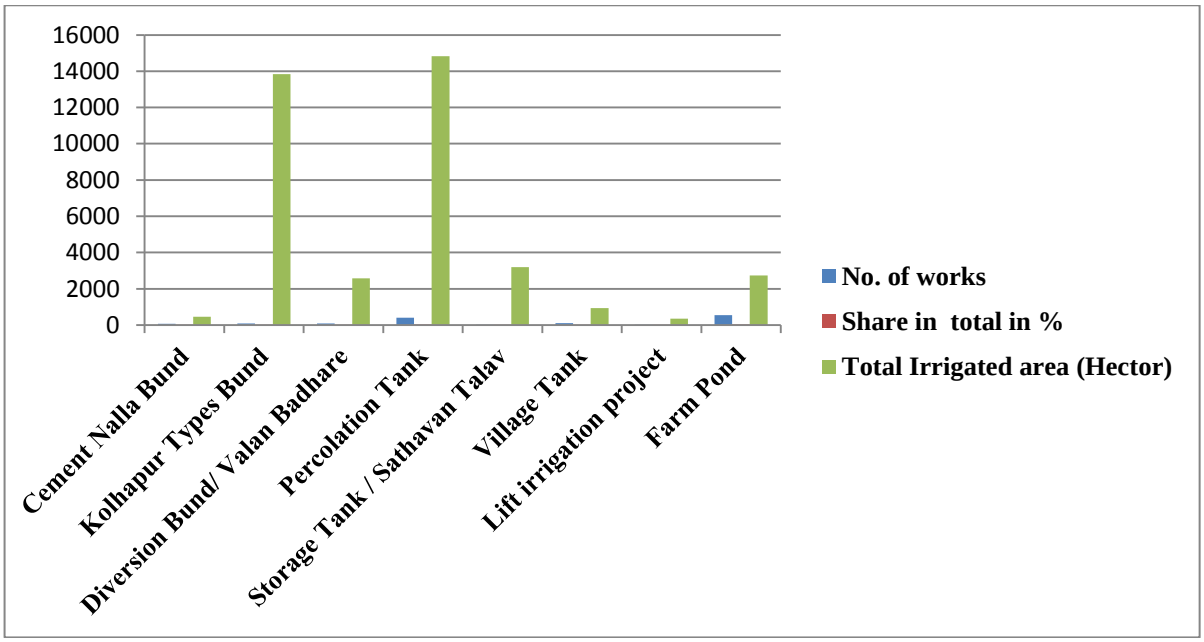
Table No-1

Sr. No.	Name of Schemes	No. of works	Share in total in %	Total Irrigated area (Hector)
1	Cement Nalla Bund	76	5.63	466
2	Kolhapur Types Bund	86	6.37	13840
3	Diversion Bund/ Valan Badhare	96	7.12	2571
4	Percolation Tank	414	30.71	14818
5	Storage Tank / Sathavan Talav	12	0.89	3190
6	Village Tank	106	7.86	935
7	Lift irrigation project	18	1.33	348
8	Farm Pond	540	40.05	2740
Total		**1,348**	**100**	**38,908**

Popular Water Conservation Schemes in Man Taluka

Source: Water conservation (small irrigation department) Satara District. 2015-16.

Popular Water Conservation Schemes in Man Taluka

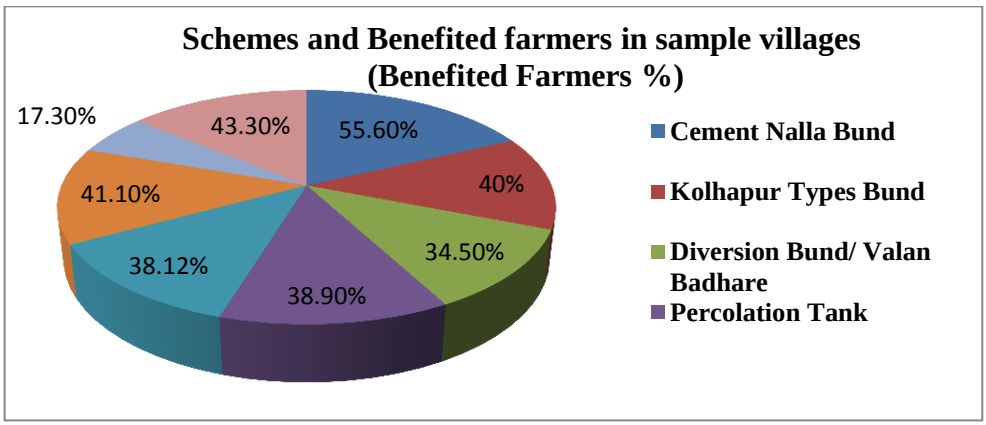


Graph No.:-1

Table No-2
Schemes and Benefited Farmers in Sample Villages

Sr.No.	Name of Schemes	Benefited Farmers %
1	Cement Nalla Bund	55.6
2	Kolhapur Types Bund	40.00
3	Diversion Bund/ Valan Badhare	34.5
4	Percolation Tank	38.9
5	Storage Tank / Sathavan Talav	38.12
6	Village Tank	41.1
7	Lift irrigation project	17.3
8	Farm Pond	43.3

Source: Based on Field Work.

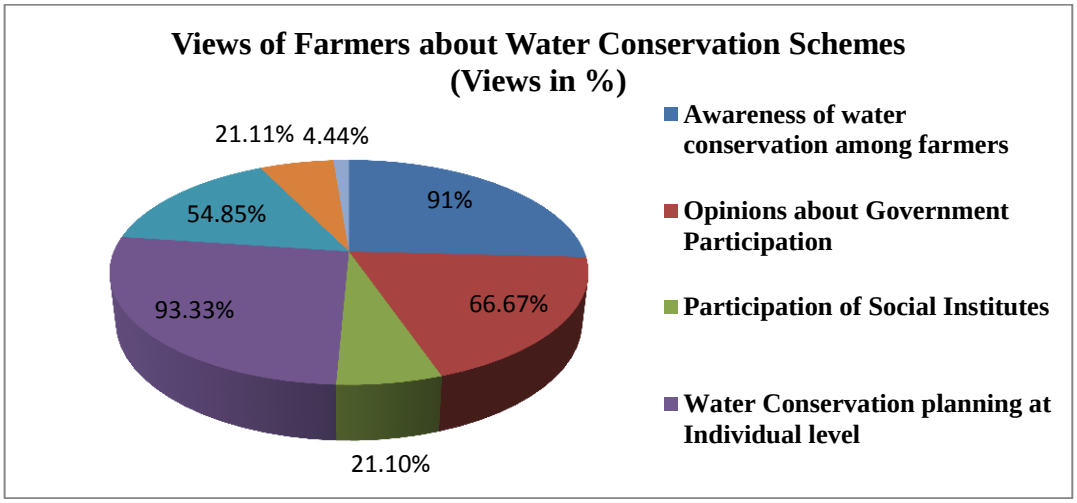


Graph No.:-2

Table No-3
Views of Farmers about Water Conservation Schemes

Sr.No	Indicators	Views in %
1	Awareness of water conservation among farmers	91
2	Opinions about Government Participation	66.67
3	Participation of Social Institutes	21.1
4	Water Conservation planning at Individual level	93.33
5	Benefits of various water conservation schemes by the Government	54.85
6	Annual Water management for agriculture	21.11
7	Tree Plantation for Water Conservation	4.44

Source: Based on Field Work



Graph no.:-3

VII. PHOTO PLATES OF WATER CONSERVATION MEHODS IN MAN TALUKA

Plate No.1 Cement Nalla Bund.

Plate No.2 Kolhapur Types Bund.

Plate No.3 Diversion Bund

Plate No.4 Percolation Tank

Plate No.5 Farm Pond

Plate No.6 Continuous Counters Trench

Plate No.7 Storage Tank

Plate No.8 Vanarai Bandhara