

Growth and Development of Co-Operative lift Irrigation Schemes and its Impact in Shirol Tehsil of Kolhapur District.

Dr. T.G. Ghatage

Head Dept. of Geography,
Jaysingpur College, Jaysingpur.

Abstract:

Irrigation played a vital role in agricultural development. Application of fertilizers, HYV, crop rotation, cropping pattern are wholly depend upon irrigation availability. The ongoing research work deals with Growth and development of Co-operative lift irrigation schemes and its impact in Shirol tehsil. Irrigation has both positive and negative impacts, increasing irrigation intensity, changing Cropping pattern and land use, Increasing Agricultural productivity and yield these are some positive impacts where as Land degradation, Increasing Soil salinity, Barren land, decreasing soil productivity, water logging etc. are negative impacts.

Key Words: Lift Irrigation, Irrigation Intensity, Cropping Pattern, Water Logging, Salinity

Introduction:

The Indian economy is depending upon agriculture. In order to foster the economy, it is necessary to increase agriculture yield. Proper management and supply of water are the necessities for to increase agriculture yield. The study region of the ongoing research work is coming under rain shadow region. The proportion of rainfall in this region is very low. Besides that the Shirol tehsil is one of the most irrigated and agricultural developed region in Kolhapur district. Development of co-operative lift irrigation schemes is the major cause behind the increasing intensity of the irrigation in study region, which results in the increasing productivity and increase in the proportion of net sown area.

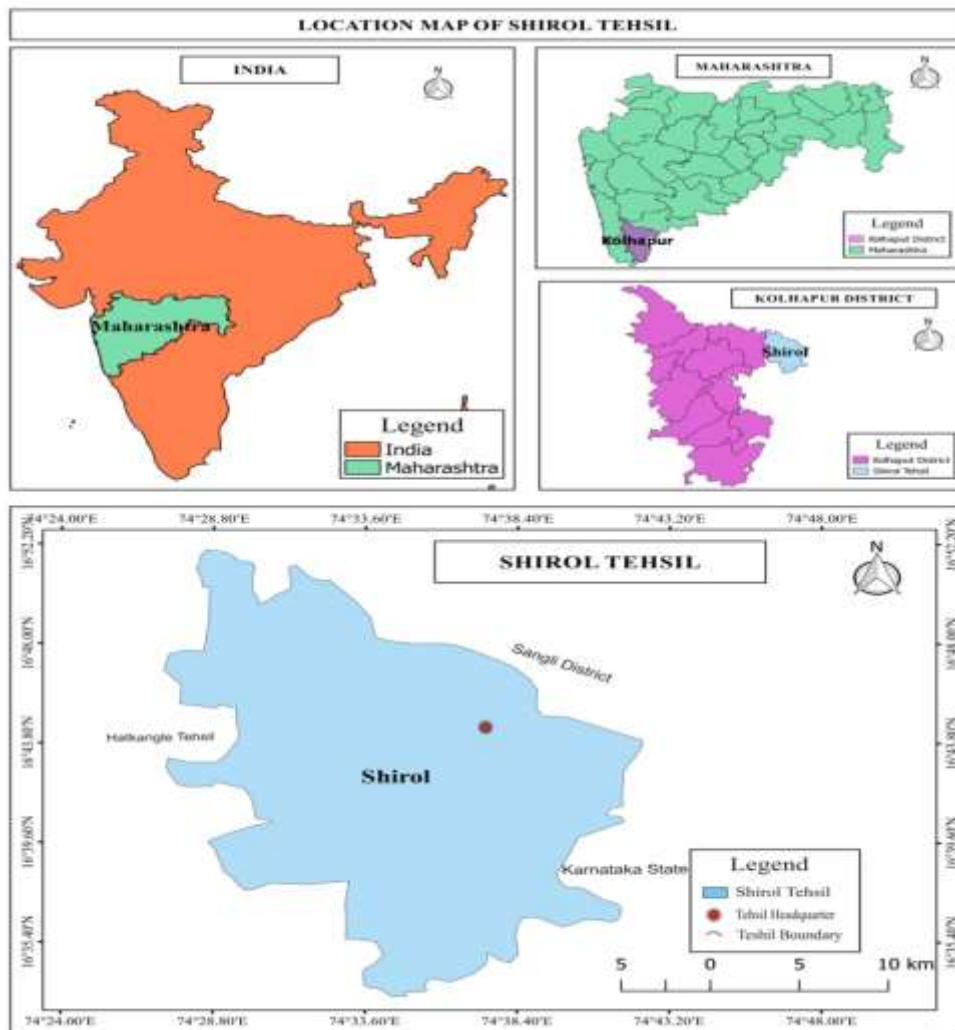
Irrigation is the lifeline of agriculture in the area having the low intensity of rainfall. The Rangarajan committee (2006-07) suggested that agriculture sector should be prominent by attending irrigation and electricity facilities. For the implementation of modern technology in agriculture like use of chemical fertilizers, pesticides, HYV seeds etc. irrigation is unavoidable thing.

Objectives:

- 1) To study the growth and development of co-operative lift irrigation schemes in Shirol tehsil.
- 2) To assess the impact of co-operative lift irrigation schemes in Shirol tehsil.

Study Region:

For this ongoing research work Shirol tehsil of Kolhapur district of Maharashtra has been selected. . Shirol tehsil extends from 16°37'N to 16°52'N latitudes and from 74°27'E to 74°42'E longitudes. The geographical area of Shirol tehsil is 507.9 sq. km and it covers 6.15% area of Kolhapur district.



Definition of Irrigation:

- 1) **Contor (1967):** “Irrigation is the artificial application of water to the soil for crop production. It has been therefore, considered as one of the important technology components of progressive agriculture”.
- 2) **Peter Wales:** “Irrigation is an artificial means of watering the crops or plants or an art of supplying water to the crop”.

Meaning of Lift Irrigation:

“Lift irrigation is generally defined as lifting of water from perennial sources of rivers with heavy capacity electric pumps and distributed through pipeline to nearby fields within its command area in the flood plains of the river.”

Growth and development of Co-operative lift irrigation schemes:

Co-operative lift irrigation societies have great importance in growth of agricultural production by providing water facilities to the land. Uneven and

scarcity of rainfall give rise to establishment of irrigation schemes in study region. Co-operative sector played a vital role in the establishment of irrigation schemes especially the sugar factories, established in 1960-70, have encouraged the development of lift irrigation by making special efforts in their command areas in order to gain sugarcane as a raw material. Maharashtra government also provides financial assistance for co-operative lift irrigation. In the study region of ongoing research work first co-operative lift irrigation scheme was sanctioned in 1950 but it started functioning in 1964 because lack of electricity facility. There after 1964 various schemes were established on co-operative basis. Still today 80 irrigation schemes are working in study region. However co-operative irrigation schemes have made tremendous progress which also increases intensity of irrigation in study region.

1	1950	Bubnal Co-operative Lift Irrigation Scheme, Bubnal	31	19 73	Arjuneswar Co-operative Lift irrigation society, Arjunwad	61	1990	Rameshwar Co-operative Lift irrigation society, Takali
2	1964	Gourwad Co-operative Lift Irrigation Scheme, Gourwad	32	19 73	Takali Co-operative Lift irrigation society, Takali	62	1990	Mahadevswami Co-operative Lift irrigation society, Shedshal
3	1965	DattuKondiPatil Co-operative Lift Irrigation Scheme,Kutwad	33	19 75	Harijan&Shetkari Co-operative Lift irrigation society, Gourwad	63	1991	Narshinh Co-operative Lift irrigation society, Shirol
4	1965	Aurwad Co-operative Lift Irrigation Scheme, Aurwad	34	19 76	Datta Co-operative Lift irrigation society, Chinchwad	64	1991	Hanuman Co-operative Lift irrigation society, Danoli
5	1966	Datta Co-operative Lift Irrigation Scheme, Shirti	35	19 79	Kothli Co-operative Lift irrigation society, Kothli	65	1993	RajashriShahu Co-operative Lift irrigation society, Aagarbhag
6	1966	Ganesh Co-operative Lift Irrigation Scheme, Ganeshwadi	36	19 79	Uadgaon Co-operative Lift irrigation society, 1	66	1994	Jawahar Co-operative Lift irrigation society, Takliwadi
7	1966	Jaybharat Co-operative Lift Irrigation Scheme, Shedshal	37	19 79	Uadgaon Co-operative Lift irrigation society, 2	67	1995	Warnavati Co-operative Lift irrigation society, Danoli
8	1966	KavathegulangShedshal Co-operative Lift Irrigation Society, Kavathegulang	38	19 79	Chinchwad Co-operative Lift irrigation society, Shirol	68	1995	Vidyasagar Co-operative Lift irrigation society, Abdullat
9	1966	Basweshwar Co-operative Lift Irrigation Society,Kavathegulang	39	19 79	Kalieshwar Co-operative Lift irrigation society, Shirol	69	1997	DeshbhaktaRatnappannaKumbhar Co-operative Lift irrigation society, Danoli
10	1966	Vivekanand Co-operative Lift Irrigation Society,Kavathegulang	40	19 80	Hanuman Co-operative Lift irrigation society, Shirol	70	1998	Datta Co-operative Lift irrigation society, Shirol
11	1966	Vijay-Shrikrishna Co-operative Lift Irrigation Society,Kavathegulang	41	19 80	Laxmi Co-operative Lift irrigation society, Ghosarwad	71	1999	ShriRajashriShahu Co-operative Lift irrigation society, Shirol
12	1966	Krishna Co-operative Lift Irrigation Society, Aalas	42	19 81	Ganesh Co-operative Lift irrigation society, Shirdon	72	2004	Tamdale Co-operative Lift irrigation society, Tamdalge
13	1966	Shetkari Co-operative Lift Irrigation Society, Aalas	43	19 81	BalasahebShahapure Co-operative Lift irrigation society, Bubanal	73	2006	RajuShetti Co-operative Lift irrigation society, Takwade
14	1967	Nimshirgaon Co-operative Lift Irrigation Society,Nimshirgaon	44	19 81	Datta Co-operative Lift irrigation society, Herwad	74	2007	Vitrag Co-operative Lift irrigation society,Danoli
15	1967	BhausoYadav Co-operative Lift Irrigation Society, Uadgaon	45	19 81	DattawadDudhganga Co-operative Lift irrigation society, Dattawad	75	2007	Ghalwad Agriculture Co-operative Lift irrigation society, Ghalwad (2)
16	1968	Umalwad Co-operative Lift Irrigation Society, Umalwad	46	19 82	Rajapur-Khidrapur Co-operative Lift irrigation society, Rajapur	76	2010	Panchaganga Co-operative Lift irrigation society, Kondigre
17	1968	Shirti Co-operative Lift Irrigation Society, Shirti	47	19 82	Jaykisan Co-operative Lift irrigation society, Shirdhon	77	2011	RatnapannaKumbhar Co-operative Lift irrigation society, Nimshirgaon
18	1968	Krishna Mathchahur Co-operative Lift Irrigation Society,Kurundwad	48	19 82	Dattaprasad Co-operative Lift irrigation society, Shirol	78	2011	SetkariSahakari Co-operative Lift irrigation society,Nimshirgaon
19	1968	Majarewadi Co-operative Lift Irrigation Society, Majarewadi	49	19 83	Kishan Co-operative Lift irrigation society, Bubnal	79	2013	RajashriShahu Co-operative Lift irrigation society,Chipri
20	1968	Danwad Co-operative Lift Irrigation Society, Danwad	50	19 84	Hanuman Co-operative Lift irrigation society, Uadgaon	80	2016	Ratsagar Co-operative Lift irrigation society,Arjunwad
21	1969	Birdev Co-operative Lift irrigation society, Arjunwad	51	19 84	RamapatiAmbedkar Co-operative Lift irrigation society, Shirol			
22	1969	AkiwatRajapur Co-operative Lift irrigation society, Akiwat	52	19 85	Jaysingpur Co-operative Lift irrigation society, Jaysingpur			
23	1969	AkiwatBatwad Co-operative Lift irrigation society, Akiwat	53	19 85	Ghalwad Co-operative Lift irrigation society, Ghalwad			
24	1970	Jaybhim Co-operative Lift irrigation society, Kanwad	54	19 85	Kalleshwar Co-operative Lift irrigation society, Abdullat			
25	1971	Ghalwad Co-operative Lift irrigation society, Ghalwad	55	19 86	P.Malabhag Co-operative Lift irrigation society, Danoli			
26	1971	Kanwadhasur Co-operative Lift irrigation society, Kanwad	56	19 87	Jaybhim Co-operative Lift irrigation society, Shedshal			
27	1971	Kanwadhasur Co-operative Lift irrigation society, Kanwad	57	19 87	Mahalsakant Co-operative Lift irrigation society, Shirol			
28	1972	Hanuman Co-operative Lift irrigation society Kutwad	58	19 87	Shidheshwar Co-operative Lift irrigation society, Ghosarwad			
29	1972	Dr. BabasoAmbedkar Co-operative Lift irrigation society, Chindhwad	59	19 88	Krishnamai Co-operative Lift irrigation society,Shirol			
30	1973	Sidheshwar Co-operative Lift irrigation society, Arjunwad	60	19 89	Amar Co-operative Lift irrigation society,Nadani			

Table. No.1: Co-operative lift irrigation schemes in Shirol tehsil

Source: Assistant register, Co-operative lift irrigation office, Jaysingpur.

Impacts of Co-operative lift irrigation schemes in Shirol tehsil:

The irrigation has both positive and negative impact on agriculture of study region. This ongoing research work reveals following impacts of irrigation.

- 1) **Increasing Intensity of Irrigation:** In last fifteen years irrigation intensity is increased by 16.39% of the net sown area. The intensity of lift irrigation is 46.95% during 2015-16 as compare to 30.58% in 2001-2002. The very high positive change in the intensity of lift irrigation is noted in the Kurundwad and Shirton circles of study region.
- 2) **Changing Land use Pattern:** Socio-Economic report of Kolhapur district reveals that the land use pattern changed from 2001-02 to 2015-16. The drastic change is seen in Land not available for cultivation. In the year 2001-02, 4.61% land is not available for cultivation which increased by 8.43% in 2015-16. This change is result of construction and development of roads, houses, factories, industries etc.
- 3) **Changing Cropping Pattern:** There are remarkable changes in cropping pattern of the study region during the period under investigation. Gross cropped area of Cereals, Pulses, Oil seeds, Fodder is decreased in 2015-16 as compare to 2001-02. But the gross cropped area of food crops is increased in same year.
- 4) **Decrease in Net sown area:** In some circles of study region negative change is identified in net shown area, specially noted in Jaysingpur, Shirol, Nandani and Dattwad Circle. It is due to access use of irrigation and chemical fertilizers Soil became saline and barren.
- 5) **Soil Degradation:** According to agricultural department survey of 2018, 5595 hectare area is saline and 1173 hectare land is acidic. High quantity of Phosphors and nitrogen has been found in the land of Shirol tehsil. This survey clearly indicates that the Soil in Shirol tehsil is degraded.

Conclusion:

At the initial stage of agriculture development in Shirol tehsil co-operative lift irrigation schemes played a vital role. Shirol tehsil become a well irrigated and agriculturally developed tehsil in Kolhapur district as well as in southern Maharashtra. It also give rise to co- operative as well as private sugar factories, jagaries and also other agro based industries. This results in the upliftment of the socio-economic status of people from study region. But now days due to access irrigation and chemical fertilizers soil quality is decreasing day by day and also agricultural productivity is also declining. Therefore there is a need to create awareness among the farmer about irrigation management in study region.

References:

- 1) Bansode, R.B. (1997): Lift Irrigation and Problem Associated With it in Karveer Tehsil: A Geographical Analysis, Unpublished M.Phil. Dissertation, Kolhapur.
- 2) Kumar, P. (1975): "An economic study of water management in Sambalpur district of Orissa", Indian Journal of Agricultural Economics, Vol.29, No.2.
- 3) Pujari, A.A. (2004): Spatial analysis of Irrigation and its impacts on Agricultural productivity and soil quality in North-Eastern part of Kolhapur district, Unpublished Ph.D. Thesis.
- 4) Sharma, P. (1992): "A study of irrigation development and its impact of food grains production in Assam, Unpublished Ph.D. Thesis, Guwahati.
- 5) Quadir, M. (2003): "Crop and irrigation management Strategies for saline-soils and waters aimed at environmentally Sustainable Agriculture.