Spatial – Temporal Analysis of well irrigation Pattern in Aurangabad District

Dr.Ramesh Timbakrao Mahalkar
Department of Geography
Shri Asaramji bhandwaldar Arts ,Commerce and Science College
Devgaon (R.)
Tq-Kannad Dist-Aurangabad 43001

Abstract -Irrigation is one of the inputs, which has dominant impact on cropping pattern. Irrigation acts as an agent in the process of speedy dynamism in cropping pattern. The cropping pattern denotes the raising of crops in a particular set of time. It is a dynamic phenomenon which changes according to the adaptation of new technology' Well irrigation has been a traditional source of irrigation in the past and has been used for a very long time. Depending upon the climate and soil conditions, efforts were made for digging wells vary in different regions of the state of Maharashtra with varying success to tap enough quantities of water and the desired composition for being useful to agriculture Crops

Introduction-

Well irrigation is an indigenous method, largely suitable for individual farmer where in water is lifted by a 'Mot' (a leather an iron container used to lift thewater form well) worked out b y a pair of bullocks. Now a days these 'Mots' are replaced by oil engines and electric motor pumps. As there is no steady water table, the tube wells are neither successfully nor economically feasible in the region

Study Region -

Aurangabad is one of the district of Maharashtra states. District covers an area of 10100sq.km. Out of which 141.1sq.km. is urban area and 9.958sq.km. is rural area. Aurangabad district is approximately situated at the central part of the Maharashtra republic of India and northern direction of marathwada region. Specially district lies between 19°53'47'' North latitude and 75°23'54'' East longitude. District has a great historical as well as cultural heritage. According to 2001 census total population of district is 36,95,928 and

population density is 365sq.km. Aurangabad district is divided in nine Tahsil for administration these are- Aurangabad, Kannad, Paithan, Phulambri, Khultabad, Gangapur, Vaijapur, Sillod, Soygaon.

OBJECTIVE OF THE STUDY

1. To Study variation in Wells Distribution of Aurangabad District from 2000-2015.

2. To examine the factors responsible for spatio-temporal changes of well irrigation in the study region.

Database and Methodology

The present study is based on the secondary data, for the period 2001 and 2015 data has been derived from the socio-economic review of the Aurangabad district. Census of Maharashtra and District census handbook (1901 to 2011). Socio-economic abstract, Census of Maharashtra, Records of Zilla Parishad, District Statistical report . District Gazetteers.

Density of Wells

Table No-1.1 - **Irrigated area under well irrigation**

(Area in Hectare)

		2001			2015			
Sr. N.	Tahsil	Total Well	Area Under Well Irrigation (Hectare)	Area Under Well Irrigation Percentage)	Total Well	Area Under Well Irrigation (Hectare)	Area Under Well Irrigation Percentage)	Change
01	Kannad	13585	14540	20.25	14102	20923	17.53	-2.72
02	Soygaon	3907	2710	3.77	6159	4200	3.51	-0.26
03	Sillod	6753	11082	15.44	114112	19260	16.13	0.69
04	Phulambri	5840	1650	2.29	9406	11713	9.87	7.58
05	Aurangabad	8781	9142	12.73	10912	12782	10.70	2.03
06	Khultabad	5346	1430	1.99	11054	1820	1.52	-0.47
07	Vaijapur	9400	12824	17.86	14813	18155	15.71	-2.15
08	Gangapur	8995	7041	9.80	9926	9200	7.70	-2.10
09	Paithan	9144	13001	18.11	13247	20608	17.26	-0.85
Total		71751	73420	100	101031	119351	100	

Source-Socio-Economic Abstract 2001-2015

Area under well irrigation in Aurangabad district In general the physical setting of the well is governed by the surface topography by the behaviour of groundwater. in the year 2001 there are about 71 751 wells in the district and 73420 hector area is irrigated by these wells. In the next decade the number of well increase In the district which is 10 1031 and 11935 hactare area is irrigated by this well.

Pattern of Temporal change

Table number 1.1 reverse that there is also temporal changes in well irrigation in the Aurangabad district highest positive change has seen in phulambri tahsil 7.58, Aurangabad Tahsil 2.03, sillod 0.69 and rest all kannad 2.72, Soygaon 0.26, Khultabad 0.47, Vaijapur -2.15, Gangapur 2.10, Paithan 0.85 Shows the negative temporal change in the stady region.

REFERENCES:

1. Andreae, B. (1975): The Types of Irrigation Farming, Applied Science and Development, Vol. 6, pp. 77-93.
2. Arora, R. C. (1976): Development of Agriculture and Applied Sectors, S. Chand Publishing, New Delhi, pp. 17-36.
3. Bansil, P. C. (1977): Agricultural Problems in India, Vikas Publication, New Delhi.
4. Bansode, R. B. (1997): Lift irrigation and problem associated with it in Karveer tahsil: A geographical analysis, unpublished M. Phil. Dissertation, Kolhapur p. 51-52.
5. Cantor, Leonard M. (1967): A World Geography of Irrigation, Oliver and Boyd, London, pp. 29.