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“MODES OF IRRIGATION IN BEED DISTRICT, A GEOGRAPHICAL STUDY”.

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Abstract:

The aim of this study is the evolution of irrigation, tehsilwise and crop wise changes in irrigated area, need of irrigation, and sources of irrigation in Beed district. Irrigation facilities in Beed are poor. The total irrigated area of the district is 1.4 lakh Ha, which amounts to only 15% of the total gross cropped area of Beed. Maximum irrigated area is seen in Beed Tehsil, while the minimum irrigated area is in Wadwani tehsil. Irrigation is a very importance to increase agricultural production. The development of irrigation is very importance in this area because this area under drought- prone and scarcity of rainfall. It is the artificial application of water to the land or soil. It is used to assist in the growing of agricultural crops. Irrigation is prime process in agriculture development when the crops artificial need of water. The rainfall of Beed district is depending on monsoon. The major source of irrigation in this district is through open wells. About 79% of the irrigated area is ground water from open wells and tube wells, while only 21%5 is irrigated by canals. The lack of irrigation hurts Beed hard because the district falls in the rain shadow region where the rainfall is scanty as well as erratic. The average annual rainfall of 674.7 mm is received almost entirely over a period of 45 - 60 days. Rainfall can control our agriculture. But the monsoon rainfall is uneven, uncertain, irregular and uneven or unequal. So irrigation is very important of agriculture in Beed district. Rabi jowar, wheat, sugarcane, gram, etc. are the major crops grown under irrigation. Patoda, Ashti, Parali, Manjalgaon, Shirur and Ambejogai are some of the well-irrigated blocks of Beed district.

Introduction:-

Modes of irrigation in a region or country will depend upon surface rock structure, water table, quality and quantity of ground water and soil profile of the land and these factors are changing from place to place in a region. Beed district receives rainfall distribution is uneven. Therefore, an integrated development of water, land resources of a district .Ancient times, irrigation was through wells and inundation structure but today, land is irrigated by a variety of ways, such as canals and raising sub-soil water since canal water cannot be taken to every point, need for lift irrigation arises. The other hand tube wells are the pulsing hearts and irrigation channels the arteries, which carry life and nourishment to arable fields. This chapter describes to examine to growth of irrigated area under different sources of irrigation. In any geographical region, not equal distribution of natural substances .Somewhere, there is dry climate and at some other places, it is humid; similarly on the surface of the earth also, supply of water is not in the same proportion. Human beings have to arrange supply of water for crops through artificial means for fulfilling their primary needs. Even in monsoon season is remarkable variations in rainfall in time and space. When rainfall is very scanty in certain area these areas, artificial



irrigation is absolutely essential. In these areas, provision of irrigation will facilitate growing of more than one crop in a year (Datta and Sundharam, 1974). Thus farmers may annually produce two or three crops in sequence from the same field. Alternatively, they can take to the cultivation of long duration crops like sugarcane in this condition irrigation is very essential. Beed district needs irrigation even in the rainy season, when there is a long gap in the chain of rainy days. The distribution of rainfall is very uneven in the south-eastern part of Beed district. The some part of district lies in the rain shadow to the east of the Sahyadries so whole district falls within a chronic scarcity zone, and shortage of drinking water and fodder is repeated recurrence once in three to eight years interval.

Keywords: -Irrigation facilities, ground water, artificial irrigation.

Study Area:

Beed district lies between 18o27' and 19o27' North Latitudes and 74o49' and 76o44' East Longitudes. Beed district is located in central part of Maharashtra state in central India. The district is bounded by Aurangabad and Jalna in the North, Parbhani and Latur in the East, Ahmednagar and Osmanabad in the South and Ahmednagar in the West. The population of Beed district was 25.86 lakh (Census 2011) and covers a geographical area of 10615.3sq. Km. There is 11 tehsils in the district. For administrative purpose, the district is divided in two parts. One section is named as Beed and includes 5 tehsils of Beed, Georai, Patoda, Ashti and Shirur (Kasar) while the other section is Ambajogai and includes 6 tehsils namely Ambajogai, Kajj, Manjalgaon, Dharur, Parli and Wadwani.

Data base and Methodology:

The present study on tourism is based on secondary data. The data has been obtained from the related articles, research papers, reports, policies and plan documents of Government of India and Maharashtra .Some data has been obtained from websites of Govt. of India and Govt. of Maharashtra, beed.nic.in, been undertaken to know the environmental status. Data will be collected from secondary source. Secondary data will be collected from social economic review district census handbook, gazettes, decennial census Reports of Government of India.

The objectives of the paper:

1. To assess the effect of irrigation on production of agriculture crops.
2. To take advantage of market incentives for unseasonal production.
3. Irrigation can allow farmers to open up areas of their farms where it would otherwise be 'too dry' to grow crops.

In the Beed district, there are important means of irrigation viz. Major irrigation project, medium irrigation project, minor irrigation project, Tank irrigation, lift irrigation, percolation tank, Kolhapur type weir, canals, wells and tube wells. About 75 percent of the cultivable land area agricultural activity is being carried, which depends on rainfall. Crop production is more regular and stable on irrigated land area. Due to variation in physical, geological and local climatologically factors, that marked regional imbalances in irrigational facilities.



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Beed district: Tehsilwise irrigational facilities.

Sr. No	Name of Tehsils	Types irrigational facilities.						
		Irrigation Project			Percolation tank.	Kolhapur type weir	Wells	Tube wells
		Major	Medium	Minor				
1	Ashti	00	06	97	11	00	7671	57
2	Ambejogai	00	00	42	00	05	6276	06
3	Patoda	00	02	39	25	05	5806	40
4	Georai	00	00	38	08	03	6411	83
5	Majalgaon	01	00	29	03	00	4501	62
6	Beed	00	01	88	37	06	5066	130
7	Kaij	01	01	42	03	06	5676	17
8	Dharur	00	01	44	13	00	2510	23
9	Parli	00	06	49	00	03	1990	13
10	Wadwani	00	01	35	12	00	1148	11
11	Shirur kasar	00	01	41	28	03	1321	39
	District	02	19	544	140	31	48376	481

The sources of irrigation in Beed district is influenced by physical features such as geology, water, soil, presence of ground water, terrain, etc.

Mode of irrigation

There are several mode or method of irrigation observed in study region viz. flood irrigation, drip and sprinkler irrigation. Etc. All these mode of irrigation are not useful in all crops as well as all field of agriculture. The ideal method used for conservation of soil moisture and save water which is provided to plants. These are method are followings.

1. Flood Irrigation

Flood irrigation is an irrigation technique in which a field is essentially flooded with water which is allowed to soak into the soil to irrigate the plants. This type of irrigation is one of the oldest techniques known to man, and can be seen in use in some developing nations and in regions where water supplies are ample. There are several different styles of flood irrigation in use, with varying degrees of efficiency. This type of irrigation has been criticized because it can be extremely wasteful when it is not done with care. One form of flood irrigation is basin irrigation, in which water floods a basin surrounded by berms, usually made from earth. This technique can be useful for crops which need to remain submerged, like rice, and for soil which absorbs slowly.

2. Furrow Irrigation

Furrows are small, parallel channels, made to carry water in order to irrigate the crop. The crop is usually grown on the ridges between the furrows. Furrow irrigation is suitable for a wide range of soil types, crops and land slopes, as indicated below. Furrow irrigation is also

suited to the growing of tree crops. In the early stages of tree planting, one furrow alongside the tree row may be sufficient but as the trees develop then two or more furrows can be constructed to provide sufficient water. Sometimes a special zig-zag system is used to improve the spread of water. In furrow irrigation, the water runs down furrows between rows of crops, reaching the roots as it is absorbed. Surge irrigation involves the use of pulses of water which spurt, soak in, and spurt again.

3. Basin Irrigation

Basin irrigation is a type of surface irrigation where small pound or basins are dug next to crop fields so as to trap water and allow the surrounding soil to absorb it.

4. Drip Irrigation

The drip irrigation techniques have developed after 1980. This irrigation system is a relatively new method of irrigation. It also called trickle irrigation, refers to the application of water at a slow rate drop by drop through perforations in pipes through nozzles or dripper, attached a limited area around the plant. It achieves wetting of even smaller surface area than in case of furrow irrigation in which drip irrigation Water and other nutrients are delivered directly to the root zone according to the plant needs. The drip irrigation system is said to be 50 percent more effective than the conventional irrigation systems.

5. Sprinkler Irrigation

Sprinkler irrigation is a method of applying irrigation water which is similar to natural rainfall. Water is distributed through a system of pipes usually by pumping. It is then sprayed into the air through sprinklers so that it breaks up into small water drops which fall to the ground. The pump supply system, sprinklers and operating conditions must be designed to enable a uniform application of water.

Conclusion:-

Irrigation is the application of controlled amounts of water to plants at needed intervals. Irrigation helps to grow agricultural crops in dry areas and during periods of less than average rainfall. Irrigation also has other uses in crop production, including frost protection, suppressing weed growth in grain fields. The surface irrigation area are not equally increased in whole region. Surface water is provided by the flowing rivers, the still water of tanks, ponds and artificial reservoirs. The possibilities of developing the normal flows of rivers into irrigation canals. Tanks are mostly rain fed. They depend for their replenishment on the surrounding drainage area and watersheds. The feature of the surface flow in Beed district there is well defined natural drainage system.

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