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Irrigation in Parbhani District - A Geographical Study

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Introduction:

Recently the eastern district of Maharashtra i.e. Parbhani is chosen for a study region in this research paper. Irrigation is regarded as an integral part of a sound infrastructure and is oneof the basic ingredients of agricultural activities. To be successful and well developed agriculture requires supply of water at regular interval and which required quantities. Irrigation is essential artificial application of water to overcome deficiencies in rainfall for growing crops. It developedin response to commodities of climate and the same hold good today in many part of the world. Irrigation is essentially the artificial deficiencies in rainfall growing crops. The impact of irrigation is all pervading as it is leads to changes in cropping pattern increases yield rates and labor utilization and in the ultimate analysis bring properly for socio economic change that sets motion the productive forces in agricultural sector.

These largely depend upon the socio-economic influents which determine the possibility of enterprise the farmer chooses and the input intensity, with which he farms, with an assured supply of irrigation, it become possible for the farmers to replace less profitable land by growing tow or even three crops in the seam field in a year.

The Study Region:

Recently the eastern district of Maharashtra i.e. Parbhani is chosen for a study region. Parbhani district located between $18^0$45‘ north to $20^0$01‘ north latitudes and $76^0$13‘ east to $77^0$29‘ east longitude. The area of study region is 6511 km^2, which is 2.11 percent of the whole area of the state. The population density is 295 persons per sq kilometer and sex ratio is 947 and literacy is 73.34 percent in study region in 2011. The boundaries attached to the neighbouring districts onnorth by Buldhana and Hingoli, on south by Beed and Latur, on east Nanded and west Jalana district.

Hypotheses:

1. To study the irrigation facilities and development of agriculture.
2. To Study the irrigation project and unequal agricultural development in the study region.

Methodology:

The data collected and use for the period 2006 to 2011 comes both from primary and secondary sources. The primary data is the raw data collected though different sources for with spatial questionnaires were designed and information collected through various offices and farmers. Secondary data obtained from socio-economic review, district census handbooks, Gazetteers agricultural epitomes season and crop reports published by the department of the agriculture.

Discussion:

Parbhani District is a mainly depends on agriculture sector. In Parbhani district same farmers cultivate their field by traditional ways. In this way we can say that the majority people in study region are mainly depended on agriculture. Parbhani district economic development is mainly based of agriculture. The problem of irrigation project planning is not properly infollowing aspects

Modes Of Irrigation:

A) Major Irrigation Projects:

An irrigation project which covers more than 43877 hectares as the cultivated command area is called major irrigation project. Major irrigation projects can change the socio-economic structure of the region.

Table No.1 Distribution of Modes and irrigation in Parbhani District 2011.

Tahsil	Miner irrigation projects	Under Area irrigation (Hectare)	Medium projects	Under Area irrigation (Hectare)	Major irrigation projects	Under Area irrigation (Hectare)
Parbhani	46	682	0	0	1	20306
Gangakhed	68	1031	2	4296	1	720
Pathri	6	57	1	0	1	8840
Jintur	113	2862	1	1585	0	0
Purna	22	175	0	0	1	8662
Palam	19	310	1	0	0	0
Sailu	19	469	0	0	1	13
Sonpeth	9	42	0	0	0	0
Manvat	14	218	0	0	1	5336
Total P. Dist	316	5846	5	5881	1	43877

Source: Socio-Economic review 2011

Medium projects are those with cultivable command areas 5881 hectares. Miner projectare those with cultivable command areas 5846 hectares. Parbhani district is beneficial by the purna, Jaykwadi, upper Penganga, Majalgaon and lower Dudhna projects**.** Table display tahsilwise distributions of irrigation project and under irrigation area are not equally in Parbhani district. The Highest irrigation area was under Major irrigation project in Parbhani tahsil 20306 hectare and lowest area in Jintur, Palum and Sonpeth tahsil. The highest area was under medium project in Gangakhed 4296 hectare, Jintur 1585 hectare and other tahsils are not found in this under area. Miner irrigation project under irrigation area are highest noticed in Jintur tahsil 2862hectare and lowest in Sonpeth tahsil 42 hectare.

1) Purna Project:

Purna project has completed in 1985 and total expenditure for the project is 1961.06 lakh rupees. While speaking about Purna project it is very beneficial for the people in this area. The height of dam is 51.36 meter, the length of canal is 48.80 km. and sub canal length is 77.60 km, the storage capacity of purna project is 954 million cubic meter. Nearly 57988 hectares areas willbring under irrigation by this project. About 579 hectares area was irrigated in 2000 by this project.

2) Jaykwadi Project:

Jaykwadi project is also useful to this district. This project has completed in 1982 and total expenditure for the project is 1947 lakh rupees. While speaking about Jaykwadi project it is very beneficial for the people in this Parbhani district. The height of this dam is 37 meter, main canal has length of 86 km and 2850 million cubic meters is the storage capacity of this project. Nearly 22786 hectares of land was irrigated in 2010-2011 by Jaykwadi project.

3) Upper Penganga:

This project was constructed on Penganga River in Yavatmal district. Nearly 20125 hectares of land in Parbhani district got water for irrigation.

4) Majalgaon Projects (Lower Dudhna):

Majalgaon project was constructed on Sindhaphana River near Majalgaon. There are

only one major irrigation project in the Parbhani district which is known as Lower Dudhna project located in Sailu except. There is supply of water for irrigation in this region. About 22000 hector of received water for irrigation for this project during 2010-2011.

B) Medium Project:

There are three medium & some Minor project in Parbhani district such as Masoli, Borna Karpara, Digras, Mudgal and Mulli projects.

1) Karpara Project:

Karpara Project was constructed on Karpara River near Nivali village in Jintur tahsil. Total storage capacity of this project is 28.26 million cubic meters. Irrigation capacity of Karpara project is 5870 hectares but actually 828 hectares land was brought under irrigation in 2010- 2011.

2) Masoli Project:

This project was constructed on Masoli River near Ishad village in Gangakhed tahsil. Totalof the project is 38.08 million cubic meters. About 18.34 million cubic meters water was storedin this dam on 31st march 2000. About 2590 hectares land will be irrigation by this project.

3) Borna Project:

The dam was constructed on Borna River near Kasarwadi in 1996 in Ambejogai tahsil of Beed district. The storage capacity of this dam is 3.52 million cubic meters nearly 24.6 hectares of land of Parbhani district was irrigated in 1999-2000. In short these are three miner irrigation projects are playing important role in the agriculture of the study region. Due to very less rainfallthese projects became dry in summer.

4) Digras Project:

This project is constructed in Palam tahsil. Nearly 63.85 million cubic meters water can bestored in this project. 4522 hectares land can be irrigated by this project but only 3618 hectares land was brought under irrigation in 2010-2011.

5) Mudgal Project:

Mudgal project in Pathri tahsil is on Godavari River. 11.87 million Cubic meters water canstored in this project. About 2384 hectares land will be come under irrigation by this project and nearby 1907 hectares of land was irrigated by project in the year of 2010-2011. This Mudgal project has completed in 2011 and total expenditure for the project is 12361 lakh rupees.

6) Mulli Project:

This project in Gangakhed tahsil and Mulli project has completed in 2011 and total expenditure for the project is 9628 lakh rupees. While speaking about Mulli project it is very beneficial for the people in this area. High of this dam is o4 meter, 11.35 million cubic meters is the water storage capacity of Mulli project. In future nearby 2133 hectares area will be under irrigation by this project in 2000 only 1733 hectares area was irrigated by the project.

C. Well Irrigation:

As the cost of construction of well is low they are suited to poor and marginal farmers. There were 18417 irrigation wells in Parbhani district in 2000-2001 and there are 23711 irrigation wells in Parbhani district during 2010-11. These irrigation wells are providing water to 9267 hectares area of land during 2010-11. During the period 2010-2011 the highest 5046 irrigational wells have been funded in Jintur tahsil and the lowest 843 irrigational wells are observed in Palam tahsil. The central and state government provides funds to poor farmers forthe construction of few wells for the purpose of irrigation. Many finances sections are also providing loons for the increase of irrigation. In general there are some seasonal rivers, which aresmall in length in Parbhani district and are active with flow of water in monsoon season. River Godavari and his tributaries Purna, Dudhna and Kayadhu

rivers are unable to provide to agriculture in summer due to their season characteristic. Their intensely seasonal region and deeply entrenched nature of the beds make the rivers relatively unsuitable for irrigation. It is necessary to construct the Kolhapur type band hares and minor irrigation projects in the study region. This is very important in the agricultural irrigation and agricultural development in the Parbhani district.

Problem Of Irrigation In Study Region:

Water is the primary requirement of the success of agricultural crops. Even today nearly 90% agricultural land depends on rainfall. The rain god therefore continuous to enjoy a super position is relation to the natural level of agricultural production in the study region. The gamble is there and it is fully evidenced by the reputed Occurrence of draught condition during the last fifty three years after independence. There are four major projects, five medium & 316 minor projects in the study region. There were 23711 used irrigation wells in study region most of the medium project, minor irrigation project & irrigation wells do not fill with water in rainy season. Even many of the minor projects became empty in the summer season. The study region is known as land of cotton, sugarcane and other horticultural crops. Similarly drip irrigation system for horticulture crops is necessary to be adopted. Each and every drop of rainwater should be percolated in the soil and extra running water should collect in percolation tanks.

Conclusion:

All the tahsils in the Parbhani district suffer from the problem of inadequate irrigation. Tosolve this problem the following strategy should be accepted in the study region.

i) There is need of sprinkler, drip irrigation system. Lift irrigation for the garden crops likeorange field, vegetables, cotton in the study region.

ii) Greater user participation in major, medium and minor irrigation projects should beencouraged at the system level and at the local level.

iii) The government should to repair and improve of minor irrigation tanks as well as thedevelopment of new works as the part of the integrated Micro development projects.

iv) Farmer was not properly use of given Irrigation project water in his agricultural field hencelargely project water is waste..

Traditional methods of irrigation are responsible for the wastage of water and causing problems by over irrigation in Pathri and Gangakhed tahsils. Therefore, farmers in this area should be guided and trained for the advanced method of irrigation such as drip, sprinkler etc. which saves water and decreases threat of salinities. Purna, Parbhani, Jintur and Sailu tahsils have scarcity during summer season. It is suggested that, farmers in these tahsils should use drip and Sprinkler irrigation, Change the farmers attitude of crop pattern and Crop cultivation meagrely Sugarcane crop production to Horticulture crops.

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