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ORIGINAL ARTICLE

MAHARASHTRA NON-IRRIGATED AREA AND AGRICULTURE

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Abstract:

Irrigation is a prerequisite for adopting the new technology in the use of cultivable land cultivated land is the area regularly ploughed and includes both tillage and follows land. Irrigation leads to better productive use of cultivated land. To be successful and well developed agriculture requires supply of water at regular interval and required quantities. The transformation partly or fully depends upon the nature and mode of irrigation; hence it is regarded as an integrated part of sound infrastructure of agriculture.

KEYWORDS:

Irrigation, Non-irrigation, Agriculture system, Agricultural productivity.

INTRODUCTION:

Agriculture is the main occupation of the state. Irrigation facilities are being extended so that agriculture could be made less dependent upon rain water. The need of irrigation is greater in the part here rain fall is seasonal and un-assured Moreover, it is life giving agent to plant hence the artificial supply of water has become most essential. Therefore, there is need of the development of water resources, creation of irrigation of facilities is, however only the means to end of their effective use for crop production. Agriculture has progressed a long way in India from an era of frequent droughts and vulnerability to food shortages, to become a significant exporter of a diversified basket of agricultural commodities. The state government have invested substantial amount in agriculture infrastructure like irrigation, fertilizer industry. However, only 16% of the land is under irrigation. The water resources are scarce, therefore improved methods of water management is imperative.

STUDY AREA:

Maharashtra occupies the western and central part of the country and has a long coastline stretching nearly 720kms along the Arabian Sea. The Sahyadri mountain ranges provide a physical backbone to the State on the west, while the Satpuda hills along the north and Bhamragad ranges on the east serve as its natural borders.

Maharashtra is the second largest state in India both in terms of population and geographical area. As per details from Census 2011, Maharashtra has population of 11.23 crore, an increase from figure of 9.69 crore in 2001 census. Total population of Maharashtra as per 2011 census is 112,372,972 of which male and female are 58,361,397 and 54,011,575 respectively. Sex Ratio in Maharashtra is 946 as per census 2011.

Maharashtra's actual Geographical area has 308000 square kilometers. In that total geographical area 181700 hector irrigated area, 612000 hector non-irrigated area and 142000 hector forest area.

CLIMATE AND RAINFALL:

Maharashtra has typical monsoon climate, with hot, rainy and cold weather seasons. Temperature

varies between 22°c to 39°c during this season. March, April and May are the hottest months. During April and May thunderstorms are common all over the state. Rainfall starts normally in the first week of June. Monsoon starts its retreat with the coming of September from the state. Maharashtra average rainfall is 1426mm and it is differs from region to region. Rainfall particularly concentrates to the Konkan and Sahyadrian Maharashtra. Central Maharashtra receives less rainfall.

AGRICULTURE SYSTEMS:

In the Maharashtra state there is uses shifting cultivation (Kumari,Jhum etc.) Sedentary agriculture, Intensive subsistence agriculture, mixed farming, commercial farming & horticulture agriculture systems.

Basically in the non-irrigated area uses the sedentary and mixing agriculture systems. Because there agriculture depends on rain water, and this region annual rainfall is moderate as well as low. Also this agriculture region is rain-shadow region.

OBJECTIVE:

To know, the non-irrigated land in Maharashtra and its impact of agricultural productivity.

METHODOLOGY:

This paper based on secondary data. And the essential secondary data were collected from published and unpublished report and socio-economic abstracts of Maharashtra state. Such as socio-economic review, census book, agricultural gazetteers, state statistical abstracts, E-books, agricultural bulletins by department of agriculture Maharashtra state. The periodicals and unpublished documents by the department of irrigation have also provided lot of information about the agriculture area.

LAND UTILIZATION:

Maharashtra's actual Geographical area has 308000 square kilometers. In that total geographical area 17401 thousand hector net area sowed, 22612 thousand hector gross cropped area, 4050 thousand hector gross irrigated area, 18562 thousand hector gross non-irrigated area.

Table No. 1
Maharashtra Agriculture Area (In 000' hectors)

Year	Gross cropped area	Gross irrigated area	Gross non-irrigated area	% gross cropped area to gross irrigated area	% gross cropped area to gross non-irrigated area
1980-81	19642	2415	17227	12.3	87.7
1990-91	21859	3319	18540	15.2	84.8
2000-01	21619	3852	17767	17.8	82.2
2010-11*	22612	4050	18562	17.9	82.1

Source: Maharashtra Socio-economic report-2011. *Provisional

Table no. 1 shows the irrigated and non-irrigated areas (in 000' hectors) in Maharashtra. The information included from the year 1981-2011. In 1980-81 the gross cropped area is 19642, gross irrigated area 2415, gross non-irrigated area 17227. It showed that gross irrigated area is 12.3 percent of gross cropped area where as the percentage of non-irrigated area is 87.7. Then in 1990-91 gross cropped, gross irrigated and gross non-irrigated area is 21859, 3319, 18540 respectively. In the same year percentage of irrigated and non-irrigated area is 1502 And 84.8 respectively.

In 2000-01 there are 21619 hectors gross cropped area and 3852 and 17767 hector is irrigated and non-irrigated area. Its percentage of irrigated and non-irrigated area is 17.8 and 82.5. In the year 2010-11 the gross cropped area is 22621, gross irrigated 4050 and gross non-irrigated area is 18562. The percentage in same decade of irrigated is 1709 and non-irrigated is 82.1.

This table shows the increased irrigated area in the decades 2000-01 to 2010-11. It can be observe that there is

negligible increase of 0.1 percent.

AREA UNDER MAIN CROPS:

Agriculture is the mainstay of the state of Maharashtra. It is the main occupation of the people. Both food crops and cash crops are grown in the state. The main food crops of Maharashtra are wheat, rice, jowar, bajra, and pulses. Cash crops include groundnut, cotton and sugarcane. The total irrigated area which has been used for crop cultivation is 33500 square kilometers.

The agricultural growth rate has increased to 1.97 percent. A very important problem is the dependence on rainfall. To lessen the dependence irrigation facilities have been extended to an additional area of 14000 thousand hectors. To provide relief to stressed farmers who have been affected by the drought conditions.

Table No. - 2
Maharashtra area under Main crops (In 000' hectors)

Crops	Year			
	1980-81	1990-91	2000-01	2010-11*
Rice	1459	1597	1512	1518
Wheat	1063	867	754	1307
Jowar	6469	6300	5094	4060
Bajara	1534	1940	1800	1035
All cereals	19976	11136	9824	8990
All pulses	2715	3257	3557	4038
All food grain	13691	14393	13382	13028
Sugarcane	577	978	1252	965*
Cotton	2550	2721	3077	3942
Groundnut	695	864	490	357

Source: Maharashtra Socio-economic report-2011. *Provisional

Table no. 2 shows that Maharashtra agricultural area under main crops in thousand hectors. In this seems that rice, wheat, jowar and bajara are the main food crops. And sugarcane, cotton is the main cash crops. But 1980-81 to 2010-11 cash crops area increased and all cereals, groundnut area decreased decade by decade.

PRODUCTION OF MAIN CROPS:

Following table statistics shows that the main crop production of Maharashtra. Rice, wheat, jowar, bajara, sugarcane, cotton and groundnut is the main crops. In that rice is the main food crop and sugarcane is the main commercial crop in the Maharashtra.

Table No. - 3
Maharashtra production of Main crops (In 000' tones)

Crops	Year			
	1980-81	1990-91	2000-01	2010-11*
Rice	2315	2344	1930	2696
Wheat	886	909	948	2301
Jowar	4409	5929	3988	3452
Bajara	697	1115	1087	1123
All cereals	8647	10740	8497	12321
All pulses	825	1441	1637	3096
All food grain	9472	12181	10134	15417
Sugarcane	23706	38154	49569	85691
Cotton	1224	1875	1803	7473
Groundnut	451	979	470	458

Source: Maharashtra Socio-economic report-2011. *Provisional

Table no. 3 table shows that Maharashtra agricultural production of main crops 1980-81 to 2010-11 in thousand tones. It seems that cash crops production hugely increased like sugarcane and cotton. But the groundnut and jowar production decreased decade by decade.

CONCLUSION:

The whole study region depends for its water need on southwest monsoon which is irregular both in space and time. Hence irrigation is essential for the growth of crops in dry months.

The region is characterized by different physical features which have affected the methods and development of irrigation. It is observed that the percentage of area under irrigation has increased about hector during last 10 years. This mainly because of development in lift irrigation and various major and minor irrigation project of the Govt.

SUGGESTIONS:

In this context some suggestions for improving non-irrigated farming and agricultural productivity have been made. They are as follows:

1)If the farmers in these areas guided properly and convinced them significances of judicious use of water, the problems would be controlled to some extent.
2)The farmers make use of traditional methods of irrigation such as flood, border methods in which water is wasted.
3)The farmers should be trained to use scientific methods of irrigation, viz. drip, sprinkler and micro sprinkler etc.
4)To save water this would help to irrigate additional land.
5)To find the seeds to grow non-irrigated area.
6)Increase area under plantation.
7)The surplus water should be diverted to the rivers.
8)Increased agriculture area under food crops who growing low water.
9)To supply the storage rain-water to non-irrigated area.

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