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WATER RESOURCES IN MARATHWADA REGION

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Abstract

Water is one of the most important renewable natural resources, which has been a source of the life for mankind from the origin of human being. In the mid 20" century in India, water was used for various purposes on a large scale. No other country in the world most probably developed its water resource with such intensity and vigor as India. About 65 million hectare of the land was brought under irrigation during 1947 – 2011. Thousands of small, medium and number of large projects were built to harness most of the rivers of the country ground water which was never capped for large scale irrigation, before was exploited on huge scale. An attempt has been made to study the imbalance and management of water resource in Marathwada region.

Keywords: *Management, scarcity, water storage, ground water draft.*

Introduction:

Water is an important component of the life support system. Unfortunately water has been overused and even abused oven the centuries. But in the study area water resources are imbalanced with the reference to ground and surface water based on irrigation development and water supply. Water is an extremely valuable resource. Fortunately, this precious thing is not exhaustible by use the way mineral resources like petroleum and metallic are when we do not count sea water. In this connection I would like to study utilization and management of water resource in Marathwada region.

Problems of the region:

1) The region is facing problems of resources depletion and environmental degradation. The forests have been cut, wild life is becoming rare, water level is very deep, and soil fertility has been reduced in some of the districts in Marathawada.

2) The water resource, its distribution, utilization and conservation are the most dominant in the region.
3) Most of the region in every district is dry. High temperature and low rainfall is recorded.
4) Mismanagement in distribution and utilization of water resource has been observed in study area.
5) Most of the region in every district is dry. High temperature and low rainfall is recorded.

Aims and objectives:

To study the geographical background of Marathwada Region.

To study the Spatio-temporal analysis of surface water availability.

To study the agricultural development.

To analyze the district wise irrigation position.

To find out imbalance of irrigation.

Study area:

Marathwada region comprising of eight districts, viz. Aurangabad, Beed, Hingoli, Jalna, Latur, Nanded, Osmanabad and Parbhani. The location of Marathwada is 74° 40' to78°16 East longitude and 17°35 -20°41' north latitude forms the part of the vast Deccan plateau all of India and is one of the six divisions of Maharashtra state. Marathwada has an average rainfall of 882 mm and temperature fluctuations are generally large. Maximum temperature in summer is 43° C and 10°C in winter season.

Database and Methodology:

The study is based on extraction of data from various secondary sources which includes municipal corporation statistically office, ground water survey development agency, town planning office, and various publications. For the statistical analysis various techniques and methods will be applied. For this study statistical data are taken from 2001 to 2011.

Result and discussion :

In this study I have discussed water storage position from different irrigation projects, status of water scarcity villages, District wise Ground water resource Availability, Utilization and Stages of Development in Marathwada region. Below 800mm rainfall observed in Osmanabad, Aurangabad, Beed, and Latur districts, whereas Jalna, Parbhani, Nanded and Hingoli districts.

Water storage position in Major, Medium and minor irrigation projects

10.08.2011: Marathwada

Sr. No.	Region	No. of Prof.	Live Storage			
			Project	Today's	%	Water Storage in water last week same day
1	Major	09	4824	1512	31	1482
2	Medium	57	2286	2027	86.80	4794
3	Minor	532	4531	2286	16.84	6760

Source: Compiled by researcher.

Different type of irrigation projects/Schemes and storage position has been analyzed in the above table. It clearly shows that 09 major, 57 medium and 532 minor irrigation projects / schemes have been observed in Marathwada region. It is 24.56 % to state of Maharashtra. 56.35 % live storage of major, 16.84 % of medium 86.84% of live storage.

MARATHWADA: Ground water resource Availability, Utilization and Stages of Development

Sr. No.	Districts	Net annual ground water availability	availability of ground water draft			Projected demand for Demo. & Indu. uses for next 25 years (Name)	Allocation for projected demand (Nam)	Ground Water availability for future irrigation (Nam)	Stage of Ground Water development(%)	Is there significant decline of postman soon WTL (Y/N)
			irrigatin	dome. & indust	Total					
1	Aurangabad	120823	70131	3762	73893	7526	7082	39862	544	No
2	Jalna	111489	44264	893	45160	1787	1787	47021	414	No
3	Beed	133768	63778	4761	68537	9520	9476	55742	557	No
4	Osmanabad	114767	71855	1972	73826	3945	3897	37245	505	No
5	Latur	119276	91618	2064	93682	4690	3395	24824	741	No

Source: Compiled by researcher.

Above table clearly shows that higher percentage of net annual ground water is observed in Nanded district whereas below 1 lakh mcm net annual ground water draft for

irrigation utilization and domestic, industrialization sectors. Whereas Jalna, Parbhani and Hingoli districts have lowest rank in irrigation ground water drafts. 19.87 % ground water draft utilized in Latur district. 741 ham ground water available for future irrigation in Beed district. On the other hand Beed district has critical conditional category for future ground water development. Out of total districts Latur district is semi critical. Rest of districts have category.

Highest percent of net annual ground water available in vaijapur (A' bad), Ghansangavi (Jalna), Patoda (Beed), Tuljapur (Os' bad), Ausa (Latur), Kinwat (Nanded), Jintoor (Parbhani) and Vasmat (Hingoli) tahsils in Marathwada, whereas lowest in Fulambree (A' bad), Badnapur (Jalna), Parali (Beed), Bhoom (Os'bad), Anantpal (Latur), Dharmabad (Nanded), Sonpeth (Parbhani), and Hingoli tahsils. On the other hand, highest utilization of ground water for irrigation, domestic and industrial sector in Vaijapur (A' bad), Bhokardan (Nanded), Majalgaon (Beed), Osmanabad, Ausa, Mukhed (Nanded), Jintoor (Parbhani) and Kalamnuri (Hingoli) tahsils entire study area. It is shows that, higher percentage of ground water development stage is observed in Fulambri, Badnapur, (Jalna) Beed, Osmanabad, Nilanga, Renapur, Mukhed, Patri and Sengaon tahsils in Maharashtra whereas below 50 % in Pathan, Beed, Bhoom, Paranda (Osmanabad), Jalkot, except Ardhapur, Mukhed all tahsils in Nanded district all tahsils in Parbhani and Hingoli district in Marathwada region.

Conclusion

- Water problem causes enormous daily hardship to women and coupled with poor sanitation facilities leads to three kinds of health problems; water wash ailments like conjunctive caused by contact with poor quality water, decrease like dengue caused by water sanitation and waterborne diseases like diarrhea which is loading cause of infant death. This type of diseases mejoritialy observed in Jalna district.
- Poor surface irrigation causes taking more percentage of crops that require more water like paddy and sugarcane; poor maintenance of infrastructure due to financial constraints.
- Irrigation project are not often designed to extract maximum irrigation returns.
- High concentration of nitrate in ground water, a result of excessive use of chemical fertilizers is already reported in Beed, Osmanabad and Parbhani district.
- Due to increasing completion of ground water, the water table has dropped by over 300 feet observed in many villages in osmanabad, Beed and Latur district.

- Every year some part of this study area is affected by several water scarcities. Mostly drought affected talukas observed in major part of Marathawada.
- Poor planning and selection of sites, with the percolation tanks fail to meet their primary purpose.
- Water resources are not developed in an integrated manner.
- Cannel irrigation Marathawada is mark able achievements needed.

Suggestions

1. Rainfall water should be controlled by various project should be built.
2. To organize water literacy workshop, seminars.
3. To reform the water distribution system and modernize cannel system in medium projects.
4. To increase the number of minor projects through cannels.
5. To construct more weirs to increase the ground water level of water specially Jalna, Beed and Osmanabad districts.

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