



ISBN No. : 978-81-907287-8-2



शिक्षण प्रसारक संस्था, खानापूरचे

श्री संपतराव माने महाविद्यालय

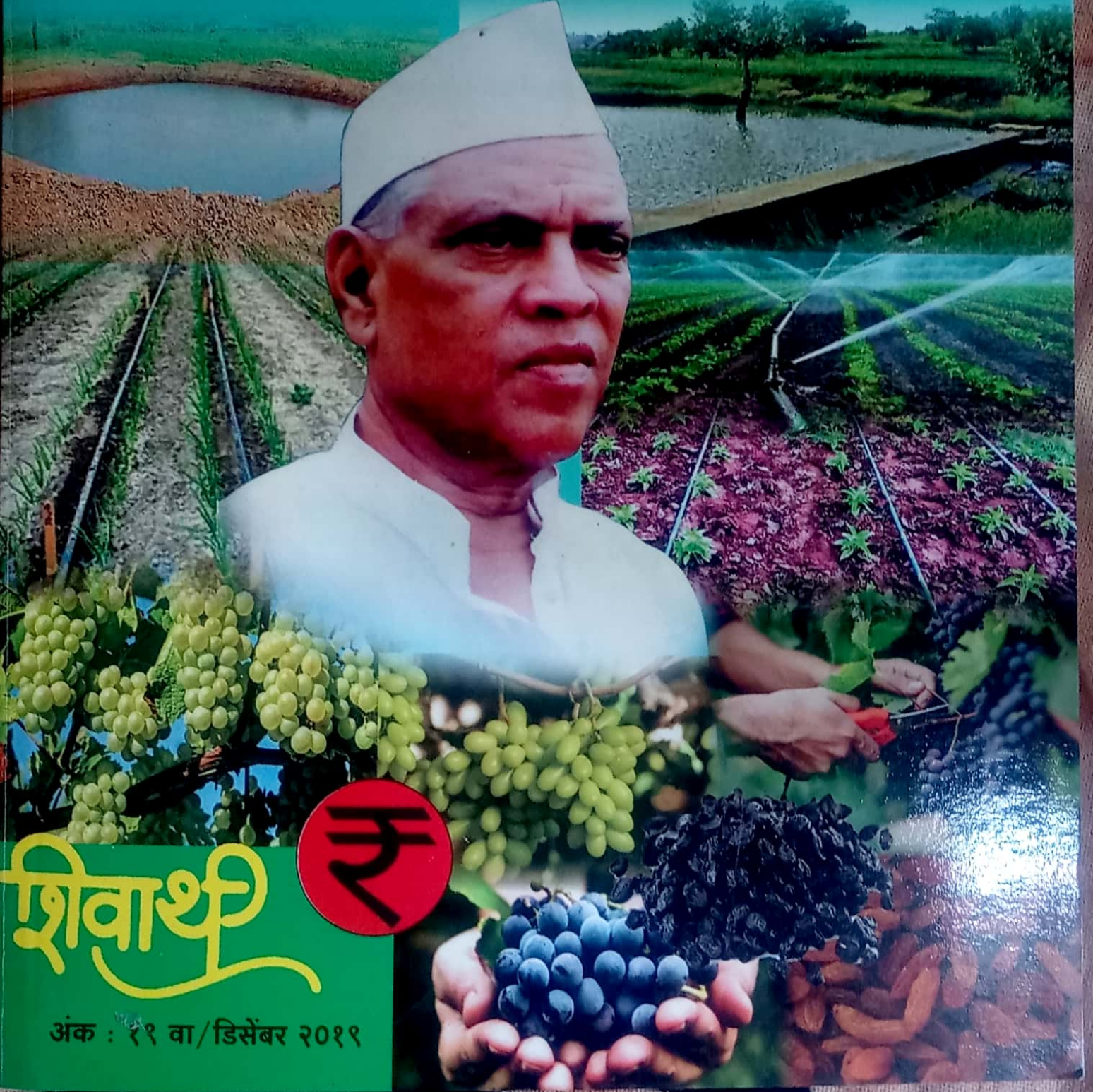
खानापूर, जि. सांगली

अर्थशास्त्र विभाग आयोजित

Re - accredited by NAAC 'B' Grade With CGPA 2.25

शिवाजी युनिव्हर्सिटी इकॉनॉमिक्स असोसिएशन, कोल्हापूर (सुयेक)

३० वे वार्षिक अधिवेशन



शिवाथी



अंक : २९ वा / डिसेंबर २०१९

अनुक्रमणिका

* स्वागताध्यक्ष - मनोगत	प्राचार्य डॉ. अर्जुन पाटील	५
* संपादकीय	प्रा. संजय ठिगळे	६
.....	प्रा. सुभाष दगडे	
* स्थानिक संपादक - मनोगत	प्रा. डॉ. अर्जुन येरगे	७
* स्थानिक कार्यवाह - मनोगत	प्रा. सुभाष मोरे	८
* अध्यक्षीय भाषण	डॉ. पी. एस्. कांबळे	९

विषय : अवर्षण प्रवण क्षेत्रातील जलव्यवस्थापन

* सुयोग्य पाणी व्यवस्थापनाचा अमृतकलश	प्रा. प्रविण डांगे,	३३
ठिबक सिंचन पध्दती	डॉ. विजय ए. पाटील	
* Water Management : An Approach	Dr. Shakuntala Patil	३७
* Water Resource Management by	Dr. P. S. Kamble	४२
Dams in Maharashtra	Mr. D. B. Mane	
* Water Resource Management for	Dr. P. S. Kamble	४८
Sustainable Development	Mr. Vishal M. Kurane	
* Need of Water Management for Agriculture	Dr. Ramjan F. Mujawar	५८
Development in India		
* Krishna River Water Management for	Dr. P. S. Kamble	६३
Sustainable Agriculture Development	Mr. Amol. C. Kamble	
* Foodgrains production in dry land area with	Dr. H. N. Kathare	७०
special reference to Sangli District	Dr. Rohit D. Barsing	
* Impact of water management on Crop	Dr. Anna K. Patil	७७
Diversification	Dr. Shankar P. Hajare	
* महाराष्ट्रातील जलसंधारण, जलयुक्त शिवार अभियान योजना	डॉ. यशवंत ध. हरताळे	८५
* Water Management in Drought Prone Area	Dr. Sujata J. Patil	९०
* W.U.A. : Way of Water Management	Dr. Kailas S. Patil	९३
* महाराष्ट्राचे जलधोरण आणि वस्तुस्थिती	डॉ. सुनिता एस. राठोड	९९
* Role of Micro Finance in Make in India	Dr. Pratibha S. Gaikwad ...	१०८
* Paani Foundation : A movement for	Dr. R.S. Jeur	११०
Drought free Maharashtra	Mr. Ashish Bhasme	
* महाराष्ट्रातील अवर्षण प्रवण क्षेत्रातील शेतीच्या आणि	प्रा. डॉ. जे. एस्. इंगळे	११३
शेतीच्या आणि शेतकऱ्यांच्या विकासासाठी काही शिफारशी		
* महाराष्ट्रातील जलयुक्त शिवार अभियानाचा आढावा	डॉ. धेडे शर्मा रानबा	१३०

WUA : Way of Water Management

Dr. Kailas Sunil Patil

Assistant Professor

Vivekanand College, Kolhapur (Autonomous)

Abstract:

Water scarcity constitutes a major problem in Maharashtra. It is a very scarce resource in the north east area of the Sangli district. The size of the irrigated area has rapidly increased in recent decades but it is necessary to supervise and make audit of use of water. Even it is responsibility of government it is very essential to make awareness about the use of water among this area by their cooperative style or collective management. In this paper, the research analyse the WUA strategy of water management with some evidences. Current situation and prospects of WUA in Sangli district and its need.

Key Words : water, Association, Management, Optimal

Introduction:

Since 1985 Ministry Of Water Resources has been inspiring farmers to participate in water distribution and management for its optimum use. The concept of participation of farmers in management of the irrigation system has been accepted as a policy of the Government of India and it has been included in the national water policy - 1987. The last few decades have seen dramatic change in the demand for water in India due to demographic trends and diversity of socio-economic processes. In another side it is found that supplies have also grown manifold, to keep rapidity with the demand through exploitation of surface water as well as groundwater. Agricultural production and productivity mostly depends of continuous availability of irrigation facility. Government tried to provide water to the drought prone area through different ways but it is also necessary to use it very carefully. It is possible to make aware the beneficiaries of different irrigation projects about the optimum use of water through establishing their associations as Water Users Association (WUA).

Objectives:

To understand concepts of water management and WUA

To study importance and applications of WUA in water management
Research Methodology:

This research paper is carried out with the help of only secondary data, the information has been collected primarily from journals, articles, books, reports, websites etc. Simple statistical tools or techniques are used for the analysis of the data as per requirement.

Water Management

The word management refers to the functions of management such as planning, directing, controlling, organizing, etc. in order to achieve defined specific objective. The success of management is depends on its demand and supply analysis of environment of that particular issue and appropriate strategies. The concept water management means dealing with water in the best probable way. This can be done by government at major, minor and related irrigation projects at macro level. This can be also done by local authorities like municipal corporations, gram panchayats. It can be done by group of individuals as an organized or unorganized form, that everyone has enough, and controlling water supplies and water treatment centers with required equipments and logistics relating to water so that they work in the best possible way. Water management is concerning with many aspects of human lives like drinking water, water for washing and cleaning etc. It is one of the basic needs of agriculture production and along with that it is required for the industrial development. It indicates that this is a very significant resource for the socio economic development of the region and nation.

Water Users Association (WUA) :

Water User Associations (WUAs) are self-governed organisations of farmers who pool their economic, technical and human resources for the use and maintenance of a defined watershed including irrigation for areas like agriculture, production of livestock and fisheries also. WUA members can range from small-scale to large commercial farmers. For policy-makers, planners and technical experts, WUA forms a conceptual and institutional tool to transfer water management from a higher political level to the actual users of water resources for agricultural production. This bottom-up organisational form of water governance aims to lead to integrated and sustainable reform in water management in order to improve perceived gaps in irrigation performance. Maharashtra is known as leading state in formation of WUA (Water User Association). After independence and formation of state, Government of Maharashtra (GOM) has taken large efforts to promote participation of end user farmers in irrigation water management. This was through formation of WUA and handing over irrigation project or part of it to WUA for water management. GOM, in 1976 through Maharashtra Irrigation act, promoted registration of WUA under autonomous body working under Ministry of Land Management Institute, Aurangabad (in Maharashtra) look initiative in formation of WUA and started conducting training for formation of WUA. Government of Maharashtra has passed MMISF act 2005 (Maharashtra Management of Irrigation Systems by Farmers) for giving legal status to WUA's. As on today 5026 WUA are formed.

The Maharashtra state has a long experience of Participatory Irrigation Management (PIM). Water is supplied to these beneficiaries' societies on volumetric basis by the Irrigation Department and Management, operation and maintenances of the distribution system is done by the water user's co-operative societies themselves. WUAs were registered by the groups of farmers under existing Maharashtra Co-operative Societies Act, 1960 till 2005. After 2005, Maharashtra Government has passed special Act for formation of WUA viz. Maharashtra Management of Irrigation Systems by the Farmers Act, 2005 (MMISF).

Role and Functions of WUA :

- a) A source used to manage, distribute, and conserve water jointly by the members of the Association
- b) To resolve conflicts between the associations of the members related to the joint use of water or a water resource
- c) Collect water user fees on behalf of the association
- d) To represent the special interests and values arising from the use of water for a public purpose, such as in an environmental and conservation area, or a groundwater controlled area.
- e) Exchange information and ideas on water resource use
- f) Monitor water availability
- g) Provide technical assistance in areas such as soil, water, and crop management, livelihood diversification, marketing, finance, and savings.
- h) Discuss potential projects and developments (including climate change) that may affect water usage

Through these above role and important functions WUA can arrange the water resource for its optimum use which can help to plan the cropping pattern, livestock production as well as aware the users for careful use of this water resource and helps to develop cooperative approach.

Waghad Experience- Success story:

Waghad dam was constructed in Dindori taluka of Nasik district in 1984-85. It is an earthen dam with masonry spillway. The maximum height of the dam wall is 47 m, and the total live storage capacity of the dam is 72.20 M. Cum (2550 MCFD). Two canals are constructed on this dam to provide water for irrigation. The two irrigation canals in this dam, right bank and left bank canal, are 45 km and 15 km respectively. The total cultivable command area is 9642 Hectare while total irrigable command area is 6750 Hectare. After its completion the dam could irrigate a small proportion of its actual irrigation potential and in the mid 80's dam was irrigating only about 30-35 Hectare land near the head area of the canals. The farmers in the tail area were not receiving any water. Mr. Bapu Upadhye of Samaj Parivartan Kendra organised the local farmers and mobilized them to come together and fight for their water quota. They formed a Water User Association (WUA) of tail end farmers of the canal under a circular issued by Ministry of Water Resources, Government of India, emphasizing the need for collective efforts by farmers for water management. The farmers made an agreement with the government on Rs. 100 stamp paper about assured water allotment. Since it is an 8 month system, the farmers are assured of

water in kharif and Rabi only. WUA decided that farmers will get water twice or thrice in Kharif and four times in Rabi season. After this, if some water is available in the dam, then it will be used for summer crops. This had led to establish the faith among the farmers and soon the farmers formed three water user associations, Banganga, Yogeshwar and Mahatma Phule in the tail end villages. SamajParivartan Kendra continued the farmers' mobilization and formed 24 WUAs in both canals and brought the whole command area of dam under WUAs network. Soon after, all WUAs were federated and on 1st November, 2003 management of Wagad Dam dam was transferred to the WUAs Federation. At present 15000 farmers are member of 24 WUAs and are irrigating 10000 hectare land.

The most important achievement of the project is the implementation of Management of Irrigation Systems by the Farmers Act, 2005, in Maharashtra. This Act has equipped the farmers to come together and manage their irrigation sources through WUAs. It was recognition of the fact that farmers themselves can manage their water resources and was a positive step towards Participatory Irrigation Management. Waghad project team, along with other compatible organisations has actively campaigned for bringing this Act in Maharashtra. The live successful example of Waghad Project also played very crucial role in passing the above said Act in the state.

The Cluster of Water Users Associations of Waghad project are supplying equitable, judicious, timely and assured water to farming community that results into innovative and sustainable irrigation management transfer. The project level associations of Waghad saved about one-third water supplied for irrigation apart from increasing productivity. This water has been used for additional area under irrigation. Waghad project has developed good rapport and coordination between various institutions involving in irrigation management. This innovative participatory water management model of Waghad project can be replicated in different part of the country and also in the world.

Water Management in Sangli:

Sangli district is located in the western part of Maharashtra. It is bounded by Satara, Solapur district to the north, Vijapur district to the east, Kolhapur and belgum to the south and Ramnagiri district to the west. The district is located in the river basins of mainly the Warna and Krishna river. The climate ranges from the rainiest in the Chandoli (Shirala) region, which has an average annual all of over 4000mm to the driest in Atpadi and Jath tehsils where the average annual rainfall is about 500 mm. The vegetal cover too varies from the typical monsoon forest in the western parts to scrub and poor grass in the eastern parts. It indicates that there is need to divert availability of surface water resource from western part to eastern. Irrigation department is trying to increase the coverage area of irrigation throughout the district. Number of WUA and their functions will helps to utilize irrigated water at its optimum level.

There are 284 villeges in the district comes under the drought prone condition and its area is 444916 hectore and its percentage to the total area of district is 51.90 %. The total number of all type of operational irrigation projects are 1052 (67 by irrigation department + 985 local level) and it covers 128238 hector land under cultivation. Arphal Storage, Bassappawadi, Dodtala,

Krushna Kalva, Krushna MhaishalBhag, Krushna TakariBhag, Mhaswad Kalva, Morana, Sankh, Siddhewadi, Thembu Upasa Sinchan Yojana, Warana Project etc. are contributing more in the irrigation programme of the district.

Table no.1 shows the number of water users association with their working condition in the district under MMSIF act and under Cooperative act. at various levels of irrigation projects. The information is collected from the report on 'Progress and current situation of different irrigation projects of the Sangli district' and it is analysed that up to the June 2018, there are 104 WUA established in the Sangli district and out of which 87 (83.65%) established under MMSIF and 17 (16.35%) are under Cooperative act. 90.38 percent WUA are in operative condition while 9.62 percent of WUA are inoperative condition. The report indicates that there are 295 WUA proposals under MMSIF act are in pipeline.

Table No. 1

Project	Number of established, working and in progress WUA in Sangli										
	Established WUAs			Operative WUAs			Non-Operative WUAs			New proposals for establishment of WUA	
	Under MMSIF act	Under Coop. act	Under MMSIF act	Under Coop. act	Under MMSIF act	Under Coop. act	Under MMSIF act	Under Coop. act	Under MMSIF act	Under Coop. act	
Major	38 (17228)	6 (1082)	38 (17228)	--	6 (1082)	--	6 (1082)	293 (202018)	6 (1082)	6	6
Medium	20 (6324)	--	17 (2904)	3 (3420)	--	3 (3420)	--	--	--	--	--
Small	21 (7859)	11 (3245)	20 (7729)	11 (3245)	1 (130)	11 (3245)	1 (130)	2 (1014)	--	--	--
other	8 (3082)	--	8 (3082)	--	--	--	--	--	--	--	--
Total	87	17	83	11	4	11	4	295	6	6	--

Note: * Figures in the bracket indicates area under cultivation in hectore
(Source: SarvaPatbandhareYojnanchiPragatiaanisadyasthitiDarshavnariJilhaPustika, SangliJilha,
June 2018, Irrigation Department, Government of Maharashtra.)

Conclusion :

The imbalance between the demand and supply of water resource is occurs year by year due to socio-economic issues and natural environment. Agriculture sector is backbone of the rural economy. Strategic plans of the water management will make the positive change in rural life and ultimately status of development. Irrigation department is successfully trying to cover land under cultivation through different types of irrigation project. WUA is a good way through which it is possible to use water resource for irrigation at its best level. In Sangli district there is need to promote farmers for WUA and through which it is possible to increase production and productivity of agriculture sector. It will also helps to increase cooperative behaviour among the farmers.

References :

- " Chatterjee S. N.; Water Resource, Conservation and Management, Atlantic publishers and distributors ltd., Delhi, 2008
- " Khan F.A.; Water Resource Management: Thrust and Challenges, Anmol publications private ltd., New Delhi, 1998
- " M. Dinesh Kumar, VishwaB.; Water Management Problems and challenges in India: An analytical Review, Institute of Rural Management Anand, January 2020.
- " Singh A., Saha D., Tyagi A.C.; Water Governance: Challenges and Prospects, Springer, 2019.
- " Awati J. Practices of Irrigation System in Sangli District, Abhinav journal publication, Vol. 1 Issue. 9, pp23-28.
- " Rajmane S. B.; A Study of Irrigation Setup in Sangli District, <http://ijrar.com>, Vol. 6, Issue 1, Jan. March 2019, pp i373-378
- " SarvaPatbandhareYojnanchiPragatiaanisadyasthitiDarshavnariJilhaPustika, SangliJilha., Irrigation Department, Government of Maharashtra, June 2018.
- " Ground Water Information Sangli District, Maharashtra, 2013
- " http://mahasdb.maharashtra.gov.in/SDB_Reports/Sangli/PDF/201112_Sangli_DSA_5_22.pdf

