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WATER USER ASSOCIATIONS AND ITS ROLE IN IRRIGATION MANAGEMENT IN INDIA

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Abstract

Establishment of Water Users Associations (WUAs) is one of the most promising approach for improving the productivity and sustainability of irrigation. Improved management of irrigation can help tap the tremendous potential which the Indian agriculture sector holds. This will ultimately contribute to the overall economic development of the country. The Government of India, since the 1987 National Water Policy, has identified Participatory Irrigation Management (PIM) through WUAs as a key vehicle for achieving this end. Till date, around 85,000 WUAs covering an area of 14.5 mha have been formed in India across 24 states of India through the initiatives undertaken by the central and state governments. To realize the full benefit of WUAs, several constraints such as lack of a systematic organizational framework, insufficient awareness and trainings of farmers and technical staffs etc needs to be addressed.

Introduction

Water is a critical input in agriculture and has an influential effect on crop yield. Indicators of water stress and scarcity mirror the water availability in a region. A country is classified as water stressed and water scarce if the per capita availability of water falls below 1700m^3 and 1000m^3, respectively (Kummu et al., 2016). The annual per capita water availability in India declined from 1816m^3 in 2001 to 1544m^3 in the year 2011 (Dhawan, 2017). Therefore, our country falls under the 'water-stressed' category. Further challenged by the impact of climate change coupled with enormous wastage owing partly to poor management and distorted water pricing policies, it is rapidly moving towards water scarcity.

Combating over use of water consumption in the agriculture sector is crucial for the growth and sustainability of the sector. Optimizing water consumption and adopting efficient management strategy is the need of the hour. The implementation of a participatory management of water resources in the rural areas and the creation of Water User Association (WUA) can be a successful approach towards this management. Recognising this importance, states have been trying to encourage farmer participation in the management of irrigation systems in India particularly through establishment of Water Users Associations (WUAs) for raising the productivity and sustainability of irrigation systems. It helps address common issues with publicly-managed irrigation schemes, in particular poor upkeep of physical system, underutilization of irrigated area developed, high fiscal cost, low water productivity, and poor irrigation service.

What is Participatory irrigation management?

This refers to the involvement of irrigation users in all facets of irrigation management particularly through the establishment of WUAs. PIM approach is central for managing irrigation projects so as to conserve water resources and ensure its optimal utilization. It involves the participation of farmers, irrespective of gender, in the new irrigation system by letting farmers to participate in the design.

- Reduce the recurrent government expenditure on operation and maintenance by replacing financially self-reliant water service providers.
- Reverse the increasing rate of deterioration of irrigation infrastructure.
- Provide transparency in management and accountability of the service from provider to water use.

What are WUAs?

A Water Users Association (WUA) is a co-operative association of individual water users who wish to undertake water-related activities for their mutual benefit. WUAs are user-based and participatory ways to manage water resources. It is generally formed within the command areas of irrigation schemes (major, medium or minor) and help bring about farmer participation in irrigation systems management. They are aimed at achieving efficient and equitable water distribution for increased agricultural production and farm incomes. WUAs are intended to improve water delivery, enhance crop production by giving the farmers the chance to involve in the irrigation management process. It is important in managing and maintaining the irrigation system for effective and reliable supply and distribution of water. However, the specific nature WUA services varies as per situation as member needs also vary from one location to another.

Working of WUAs

Under the PIM system, WUAs has been formed within the command area of government irrigation schemes to hand over these irrigation schemes to WUA. WUAs are self-governed organisations of farmers who pool their financial, technical and human resources for the use and maintenance of a defined watershed, including irrigation agriculture, livestock production and fisheries. The daily functioning of WUAs is supervised by a managing committee which comprises of a president and managing committee (4-10 in number) who are elected by the members. Any dispute arising among members or between members and the managing committee members or among the WUAs is resolved by the apex committee

Importance of WUAs

WUAs acts as an interface between farmers and the main management system. This ensures optimal and equitable distribution of irrigation water in a phased manner. The farmer members of the WUAs are engaged in optimizing cropping systems to save water. It helps in creating a sense of ownership of water resources and the irrigation system among the users, so as to promote the economy in water use and preservation of the system thereby warranting its sustainability. Additionally, formation of WUAs aids in recommending cropping patterns and packages of agricultural practices suitable for the WUA's farmers. Moreover, the association helps in arrangement of inputs for its members for undertaking irrigated agriculture and assist in propagation of better on-farm water application.

Status of WUAs in India

Due to various awareness efforts taken up by the Ministry of Jal Shakti, GoI, the need for actively involving farmers in management of irrigation system has been recognised by the state governments. Presently, 16 Indian states have formulated legislation to support PIM and to enable the formation of WUAs. Punjab, Haryana and Manipur have drafted their PIM bills which are in the process of enactment. There is prospect of Arunachal Pradesh and Himachal Pradesh following the PRI Acts. Thus, most of the states have decided to move towards PIM. According to the Ministry, till date, around 85,000 WUAs covering an area of 14.5 mha have been formed in India across 24 states of India (Table 1) and are functioning with various degrees of success and impediments. The process

of formation of WUAs as a vehicle for better irrigation water management is gradually gaining momentum in the country.

Table 1: State-wise number of Water Users' Associations (WUAs).

Sl. No.	State	No. of WUAs	Area covered ('000 hectare)
1	Andhra Pradesh	10884	4179.25
2	Arunachal Pradesh	43	10.97
3	Assam	847	95.02
4	Bihar	80	209.47
5	Chhattisgarh	1324	1244.56
6	Goa	84	9.54
7	Gujarat	8278	662.99
8	Haryana	8490	1616.27
9	Himachal Pradesh	1173	140.56
10	J & K	383	32.794
11	Jharkhand	0	0
12	Karnataka	2787	1418.66
13	Kerala	4398	191.22
14	Madhya Pradesh	2062	1999.64
15	Maharashtra	2959	1156.22
16	Manipur	69	29.4
17	Meghalaya	159	20.17
18	Mizoram	390	18.23
19	Nagaland	24	3.44
20	Orissa	20794	1757.71
21	Punjab	4845	610.29
22	Rajasthan	1994	1144.45
23	Sikkim	0	0
24	Tamil Nadu	1910	935.664
25	Telangana	0	0
26	Tripura	0	0
27	Uttar Pradesh	802	318.69
28	Uttarakhand	0	0
29	West Bengal	10000	37
Total		**84779**	**17842.208**

Government Initiatives

There has been an increased awareness in our country for the need to actively involve farmers in management of irrigation system. Accordingly, the following states have enacted exclusive legislations for involvement of farmers in irrigation management:

- "Andhra Pradesh farmers" management of irrigation systems Act, March 1997.
- The Assam irrigation water users Act, 2004.
- "The Bihar irrigation, flood management and drainage rules, 2003" under Bihar irrigation Act, 1997.
- "Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Adhiniyam, 2006".
- "Goa command area development Act, 1997"

- Gujarat water user's participation management Act, 2007.
- Karnataka state promulgated an ordinance on 7th June 2000 for amendment of the existing Karnataka irrigation Act, 1957.
- "The Kerala irrigation and water conservation Act, 2003".
- "Madhya Pradesh Sinchai Prabandhan Me Krishkon Ki Bhagidari Adhiniyan, 1999.
- "The Maharashtra management of irrigation systems by farmers Act, 2005".
- Nagaland farmers participation in management of irrigation systems Act, 2013.
- "The Orissa Pani Panchayat Act, 2002".
- The Rajasthan Sinchai Pranali Ke Prabandh Me Krishkon Ki Sahabhagita Adhiniyan, 2000".
- "Sikkim irrigation water tax, 2002" and "Sikkim irrigation water tax Act, 2000".
- The "Tamil Nadu farmers" management of irrigation system Act, 2007.
- The 'Uttar Pradesh irrigation management Act, 2009".

Constraints in formation of WUAs

Several constraints are faced by farmers in the implementation of PIM and formation of WUAs. Mention may be made of lack of a strong legal framework for formation and working of WUAs, lack of sufficient awareness campaigns and trainings for the farmers, poor coordination with local authorities and state government, lack of leadership ability and administrative skills, uncertainty of water availability etc.

Conclusion

Efforts towards development, planning, conservation, utilization and management of both surface and ground water, in a judicious, equitable, sustainable and sound economic manner is of utmost importance, especially in a water stressed agriculture-based country like India. The role of PIM and efficient working of WUAs is of paramount importance in this regard. Farmer's participation will play a vital role in water conservation by optimal use of water. Apart from the continued effort made by the central government for development of WUAs, concrete steps towards overcoming the various constraints faced by the farmers and local authorities needs to be addressed with urgency.

References

Dhawan, V (2017). Water and Agriculture in India. Background paper for the South Asia expert panel during the Global Forum for Food and Agriculture (GFFA). OAV – German Asia-Pacific Business Association.

FAO (2007). Irrigation management transfer worldwide efforts and results; Food and Agriculture Organisation of the United Nations Rome Italy.

http://jalshakti-dowr.gov.in/programmes/status-participatory-irrigation-management

Kummu M, Guillaume J, de Moel H. ….and Ward, P.J (2016). The world's road to water scarcity: shortage and stress in the 20th century and pathways towards sustainability. Sci Rep 6, 38495.