

ENVISAGING DEVELOPMENT THROUGH AMRIT SAROVAR: A STUDY OF MANN KI BAAT CASES FOR REVAMPING WATER STORAGE AND CONSERVATION

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Abstract

With a view to conserving water for the future, the initiative of Mission Amrit Sarovar was launched on 24th April 2022. The mission aims at developing and rejuvenating 75 water bodies in each district of the country under the aegis of Azadi Ka Amrit Mahotsav. In this paper, the authors studied the cases of four Amrit Sarovars that found mention in Prime Minister's 'Mann ki Baat' (MKB) program, dated 28th August 2022 (92nd episode). The selected Amrit Sarovars are situated at Lalitpur (Uttar Pradesh), Mandla (Madhya Pradesh), Warangal (Telangana) and Bagalkote (Karnataka). These cases have not been well-documented and analysed and hence this paper attempts to highlight their impact in detail. Literature review indicated that ponds like Amrit Sarovars can be effective in climate-proofing and can help in adaptation to climate change. The authors examine the salient success factors for the development of the Amrit Sarovars, cost incurred and the source of funds, physical features, amenities present, availability of water, and impact on usage, post the mention on MKB program. Also, they assess the impact of Mann ki Baat on expansion of Amrit Sarovar initiative and consequently, impact of Amrit Sarovar on water storage and conservation, change in agricultural production and ecology around Amrit Sarovar and socio-cultural cohesion. The paper illustrates the way in which the mission involves community participation in the form of mobilising local residents to actively participate in the development and management of water bodies and formation of user groups. Lastly, the paper highlights a cross-case analysis for the indicators related to income generated and increase in irrigated area along with way forward for better utilisation of the Amrit Sarovars. It was found that the MKB address contributed substantially to expansion of the Amrit Sarovar initiative with some States coming forward to increase the number of Amrit Sarovars beyond the targets. An increase in enthusiasm was also found among the Amrit Sarovar stakeholders not only to better utilise the existing Amrit Sarovars but to expand their coverage in space and time, post the MKB address.

Keywords: Mann ki Baat, Amrit Sarovar, Water Conservation, Community Mobilisation, Climate Proofing.

Reference of the episode of Mann ki Baat for the study: 92nd Episode- 28th August, 2022

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Introduction

Mission Amrit Sarovar launched on 24th April 2022 by the Hon'ble Prime Minister aims at developing and rejuvenating 75 water bodies in each district of the country under the aegis of Azadi Ka Amrit Mahotsav. The Aazadi Ka Amrit Mahotsava is an initiative of the government of India to celebrate and commemorate 75 years of progressive India and the glorious history of its people who have not only been instrumental in bringing India this far in its evolutionary journey but also hold within them the power and potential to enable the Prime Minister's vision of activating India 2.0 fuelled by the spirit of Atmanirbhar Bharat.

This paper draws focus on four Amrit Sarovars situated at Lalitpur (UP), Mandla (MP), Warangal (Telangana) and Bagalkote (Karnataka). These are the four exemplary cases that were mentioned by the Hon'ble PM in his Mann Ki Baat programme (MKB, 92nd episode). Therein, the PM had emphasised the importance of water and its conservation as well. He cited a shloka from the Rig Veda:

Oman-mapomanushi:
amritkamdhaattokaytanayaayashyamyao: I
YooyamHisathaBhishjoMatritamaVishwasyaSth
atu: JagatoJanitri: II

(Meaning - O water, you are the best friend of humanity. You are the giver of life. Food is produced from you, and from you is the well-being of our children. You are the protector of us and keep us away from all evils. You are the best medicine, and you are the sustainer of this universe.)

He expressed that after his initial mention of Amrit Sarovar on MKB programme, the local administration and voluntary organisations came together and thus through crowd mobilisation, various Amrit Sarovars were developed across the country.

Review of Literature

In the rain-fed arable systems of India which account for about 55% of the total sown area

(Shankar, 2011), capturing and efficiently using rainfall is the most critical component for profitable and resilient rain-fed systems. The successful production of rain-fed crops largely depends on how efficiently soil moisture is conserved in situ or by harvesting the surplus run-off and recycling it for supplemental irrigation. The importance of rainwater harvesting for agriculture is now more urgent with increased climatic variability and higher frequency of extreme weather events (Rao et al., 2009; IPCC, 2014). Rainwater management is one of the most critical components of rain-fed farming and the successful production of crops largely depends on how efficiently soil moisture is conserved and the surplus run-off is harvested, stored and reused for additional irrigation and also for recharging (Rao, 2010; Srinivasrao, 2013).

Farm ponds offer value to farming activities by providing water for domestic use as well as animals. It provides irrigation facilities for growing crops and helps in fish farming. As per Cuence et.al. (2023), these ponds and "pondscapes" (networks of ponds) are crucial habitats for biodiversity and for delivering multiple benefits to humans, so-called "Nature's Contribution to People", such as climate mitigation and adaptation to climate change, creation, and maintenance of habitat for biodiversity, water purification, food mitigation and cultural benefits (e.g., recreational possibilities). To facilitate improved implementation of ponds as nature-based solutions for the delivery of a wide range of nature contributions to people, it is important to generate and integrate biodiversity, ecosystems, and societal, economic and policy knowledge. Hence, there is a need for evidence-based guidance to support the broader use of ponds. The study by Manikandan & Bhuvanesvari (2022) reveals that farm ponds are one of the best alternative methods for collecting and storing rainwater for future use. Farm ponds are usually small dugouts in a square or rectangular shape. In rural areas, farm ponds are used for irrigation purposes, cultivating vegetables, and are used as sources of drinking water for cattle, etc. The study mainly focuses on the impact of farm ponds on rural livelihood in India.

The article by Rao et. al, (2017), summarises the utility of farm pond technology as an adaptation strategy to overcome water shortage due to several reasons, including climate change. This technology has the potential to increase the availability of water for supplemental irrigation, and increase in cropped area and productivity leading to an increase in net returns from crops. Farm pond offers a solution to overcome the increased frequencies of drought, particularly mid-season and terminal droughts under climate change scenario. The article advocates policy intervention to promote one pond for each farm holding an area of 2.0 ha at the individual farm level or on a community-sharing basis. Over the past decades, water scarcity issues have aggravated resulting in intensive competition for freshwater among the stakeholders of interest and imposed necessity of carrying out optimal allocation of water resources (Friesen et al., 2017; Shao et al., 2015). A number of factors, including geographic location (i.e., upstream versus downstream), inequalities in class, caste, and gender, and choice of technology, contribute to inequities in watershed programmes (Rajora, 1998; OIKOS and IIRR, 2000; Joy & Paranjape, 2004). In order to create an equitable distribution of the benefits of the development of land and water resources and the ensuing biomass production, to involve village communities in participatory planning and implementation, to create social and environmental arrangements, to maintain assets, and to operate in a more inclusive social environment, equitable access to water resources is to be ensured.

On the lines of farm ponds, Amrit Sarovars were constructed under the Amrit Sarovar Mission since 24th April 2022. Across the country, 100311 sites were identified and finally 44,613 sites reached completion with construction of Amrit Sarovars. Most of the works undertaken for development of Amrit Sarovars was met through Mahatma Gandhi NREGA. The Financial year 2014-15 had been declared as the year of convergence under Mahatma Gandhi NREGA by Ministry of Rural Development, Government of India. The purpose of this is to optimise public investments for creating durable and productive

assets and securing livelihood of rural households through convergence of Mahatma Gandhi NREGA works with the resources of other programmes/ schemes available with Panchayat and Rural Development Department and other Line departments. There is a need to optimize efforts through inter-sectoral convergence of development programs. It is to be noted that convergence optimizes synergies between Mahatma Gandhi NREGA and schemes of other ministries encouraging innovative projects at the district level. There are three levels of operationalization of convergence:

- macro convergence with agriculture,
- convergence at the level of micro-level planning under Integrated Participatory Planning Exercise (IPPE) and,
- convergence at the level of resources.

Farm ponds have become increasingly popular in India as a means of water conservation and storage for agriculture. A cost-benefit analysis of farm ponds in India would involve examining the costs associated with building and maintaining the pond, as well as the benefits of increased water availability for crops. Indicators like size and location would determine construction cost. As such ponds need regular maintenance to function properly, the cost of maintenance will depend on the size of the pond, the frequency of maintenance, and the labour costs. Benefits reaped out of the construction of ponds include increased water availability leading to increased crop yield and improved food security and increase income from enhanced production. Farm ponds can help in reducing soil erosion by holding water and preventing runoff.

Objective

The paper aims to examine the salient success factors for development of Amrit Sarovars along with their post-Mann ki Baat status.

Methodology

NIRDPR study teams went to four states to conduct this particular study on Amrit Sarovars. A comprehensive research protocol involving a uniform methodology to build evidence for the case studies was adopted by the study teams. The data collection tools included semi-structured questionnaires, check-list to conduct Focussed Group Discussion and field observations were made by the study teams. Daily field notes were collected and compiled. Stakeholders such as beneficiaries, PRI members and concerned villagers were interviewed. Review of literature along with brain-storming and briefing of teams was done prior to field-work to ensure consistency in data collection. After the data collection phase, the teams were briefed together and a qualitative case analysis framework was developed based on cause-effect relations. Individual case reports were analysed from a cross-case comparison perspective, with an emphasis on the Amrit Sarovar intervention.

Mann ki Baat Programme

The Mann ki Baat programme is a radio programme that is broadcasted every month where the PM interacts with the citizens of the country on themes and issues that are a prime concern for the countrymen. The term Mann ki Baat translates to "words from the heart" in English. The program is broadcast by All India Radio (AIR), Doordarshan and on the Narendra Modi App. The topics of this program range from social issues to governance and development initiatives. The program garners attention and appreciation as it features stories, cases and incidents from the lives of the common country folk who have in some manner or the other made significant contributions to society and country at large. The program also aims to provide a platform for dialogue between the 'Transformational Prime Minister' that Modi ji has proved to be and the citizens. The program has led to creating awareness about various government interventions among the masses.

One of its unique features is that it is a radio

program. Radio can be seen as a means of communication that connects people across long distances, disseminates information, and also provides entertainment. The program has positively influenced the life of the Indian people as opined by Garg (2020). Sharma & Dubey (2021) suggest that the oratory skill and use of carefully chosen words in the Mann ki Baat programme is successful in motivating the citizens. In a country of 1.3 billion people, the use of radio as a medium for Mann ki Baat programme is found to be effective (Giri & Tripathi, 2018; Saxena, 2016). Gandhi & Balamurugan (2017) feel that this show has the potential to mold and give a better shape to the future of the country. Mann ki Baat as an initiative proved to be a successful idea to connect the leader with the citizens of the country. But in a country as diverse as India in terms of culture, language, religion etc., there is always scope for improvement to make the initiative a truly transformational one for country that is aspiring to become a developed nation.

Mission Amrit Sarovar

The word 'Amrit' has multiple meanings and connotations in Indian culture and religion. Hence, it is used to convey the idea of purity and rejuvenation. The word 'Sarovar' means a lake or a pond in Hindi. The word 'Amrit Sarovar' intends to convey the idea of having pure and rejuvenated water body to address the problem of water scarcity. The word 'Amrit' that means nectar or elixir is here reflecting the cultural and religious significance of water in Indian society and underlines the government's initiative to address water woes. Mission Amrit Sarovar's major goal is to "build/develop at least 75 Amrit Sarovar (ponds) in every rural district of the country." Each Amrit Sarovar will have a minimum pondage size of 1 acre (0.4 hectare), with a water holding capacity of roughly 10,000 cubic metres. All rural districts will grow and have at least 75 Amrit Sarovars, with a total of roughly 50,000 Amrit Sarovars across the nation.

Study Area

The study team examined the four Amrit Sarovars as mentioned by the Hon'ble Prime

Minister in Mann ki Baat programme. The table below shows how the States stack up on the status of Amrit Sarovars across the country.

Table 1

Status of Amrit Sarovars in India at a Glance

S. No.	State/UT	Total number of sites identified	Total number of works commenced out of total identified sites	Total number of works completed out of the commenced works
1	Andaman and Nicobar	353	204	156
2	Andhra Pradesh	4643	3355	1320
3	Arunachal Pradesh	2611	1562	1274
4	Assam	3338	2784	2135
5	Bihar	3692	2374	1083
6	Chhattisgarh	3808	2859	1957
7	Goa	165	165	164
8	Gujarat	2693	2667	2145
9	Haryana	7454	3115	1137
10	Himachal Pradesh	2189	1398	822
11	Jammu and Kashmir	4066	2682	2438
12	Jharkhand	4103	2098	1277
13	Karnataka	6460	4998	2451
14	Kerala	911	644	212
15	Ladakh	174	134	131
16	Madhya Pradesh	7234	5949	3246
17	Maharashtra	3115	2517	1776
18	Manipur	1349	868	767
19	Meghalaya	1100	481	318
20	Mizoram	1155	813	753
21	Nagaland	270	181	53
22	Odisha	4277	2909	1377
23	Puducherry	170	153	142
24	Punjab	2046	1307	803
25	Rajasthan	4035	3335	1885
26	Sikkim	279	221	156
27	Tamil Nadu	3172	2261	1546
28	Telangana	3358	2085	935
29	Dadra and Nagar Haveli, Daman and Diu	95	81	81
30	Tripura	998	988	772
31	Uttarakhand	1943	1251	1116
32	Uttar Pradesh	18775	12102	10178
33	West Bengal	280	16	7
Total		100311	68557	44613

Source: <https://amritsarovar.gov.in/Master> report as on 23rd April, 2023.

As can be seen from Table 1, across India, 100311 sites are identified and in 68557 sites, work is going on and in 44613 sites work is completed as on 23rd April 2023. Contextualising the four cases in this study, it can be observed from the Table above that out of the four, two cases are from North India and two are from South India. Uttar Pradesh (18775) and Madhya Pradesh (7234) are States that have the highest number of sites identified, and they happen to be the same states with highest total number of works completed out of the commenced works. For Telangana, the total number of sites identified was 3358, out of which the total number of works commenced were 2085. However, In total, only 935 total works were completed out of the commenced works. While Karnataka has 6460 total number of sites identified out of which work started at 4998 sites and completed at 2451 sites.

As is known from the guidelines, the mission Amrit Sarovar is taken up in mission mode with the convergence of various ministries like Department of Rural Development, Department of Land Resources, Department of Drinking Water and Sanitation, Department of Water Resources, Ministry of Panchayati Raj and Ministry of Forest, Environment and Climate Changes. Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N) has been engaged as a technical partner for the Mission and was the concerned authority to identify and recommend sites for construction of the ponds. Once the Amrit Sarovar is constructed, it is envisaged that groundwater level would increase; area of irrigation will expand, leading to better crop and livestock productivity and thus benefitting the masses. The intervention also mandated the participation of local people in construction of the ponds.

As mentioned above, the four Amrit Sarovars that were mentioned by the Hon'ble Prime Minister in his Mann ki Baat programme have been selected. Following are the brief profiles of the four villages/Thandas.

1. **Amrit Sarovar at Lalitpur, Uttar Pradesh:** This Amrit Sarovar is at Niwari Gram Panchayat which comes under Mehroni Block of Uttar Pradesh. It is named as Shaheed Bhagat Singh Amrit Sarovar. The Panchayat has a population of 2175 in 312 Households. This Gram Panchayat is located 44 km away from district and 5 km away from block headquarters. Cultivable area under the Gram Panchayat is 1221 hectares, with an average rainfall of 939.30 mm. As per the geological observations, the village has predominantly hard rock terrain as it lies in the Bundelkhand region.
2. **Amrit Sarovar at Mandla, Madhya Pradesh:** This Amrit Sarovar is located in the picturesque dense forest (buffer zone) of Kanha National Park, Mocha village, which is about 50 km away from the district Headquarters of Mandla, towards South East in Madhya Pradesh. There are six villages in Mocha Gram Panchayat namely Mocha, Manegaon, Lamna, Setiya, Patpara and Boda Chapri.
3. **Amrit Sarovar at Warangal, Telangana:** Amrit Sarovar at Warangal is constructed at Mangtya Valya Thanda. It lies about 10 km away from Mandal Parishad office at Parvathgiri Mandal, Warangal District, in Telangana State. Mangtya Valya Thanda is a newly formed Gram Panchayat from the erstwhile village Burugumadla Panchayat as part of the state government's initiative on upgrading Thandas into Gram Panchayats. There are three other hamlet tandas known as Ranju Thanda, Edubugadda Thanda and Harisingh Thanda. The Gram Panchayat is 10 km away from Parvathgiri Mandal headquarters and 50 km away from District headquarters Warangal. There are altogether 123 households with a population of 515. The Gram Panchayat covers an area of 300 acres of land with a total cultivated area of 235 acres. The average rainfall is 900mm.
4. **Amrit Sarovar at Bagalkote, Karnataka:** Amrit Sarovar at Bagalkote is situated on the North

Karnataka Plateau which is a part of the larger Deccan Plateau. Located in north Central Karnataka, Bagalkote is surrounded by Belagavi district on the West, Vijaypur and Kalburgi on the North and North-East and Raichur on the East, Koppal, Gadag and Dharwar on South-East, South and South-West, respectively. Bilkerur Gram Panchayat consists of three villages, namely Sangapur, Achanaur, and Bilkerur with a total of about 3380 hectares.

Cross-Case Analysis

In this section of the paper, a cross-case analysis of the four Amrit Sarovars is presented by examining in detail the variation in indicators and analysing them across the four cases.

Table 2

Status of Amrit Sarovars

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
1	Date of Commencement and Completion	Started on 17 th June 2022 and ended on 18 th August 2022.	Started on 30 th April 2022 and is yet to be completed.	Started on 12 th May, 2022 and ended on 31 st July, 2022	Started on 18 th June 2022 and ended on 13 th February 2023
2	Status of completion	Sarovar Construction completed. Supporting/ appurtenant works in progress.	Work-in-progress of Amrit Sarovar	Construction completed	Construction completed
3	New/ Rejuvenation of old pond	New Construction	New construction	New construction	Rejuvenation of old pond
4	Area/Pondage	1.5 acres	2.5 acres approximately	1 acre approximately	0.5 acres
5	Length and Depth	Length – 90 m Breadth- 45 m Depth – 2 m	Length- 110 m Breadth-80 m Depth- 6.77m	Length - 80 m Breadth- 120 m Depth – 1.5 m.	Length – 45 m Breadth- 44.5m Depth – 2.5 m
6	Quality of Bund: Needs Strengthening/ fit for stone pitching	Needs Strengthening	Stone pitching is in progress	Needs Strengthening	Stone pitching is done
7	Quality of Plantation: Adequate/ Needs increase	Needs to be increased	Adequate	Needs to be increased	Adequate

Even though work commenced in all four Amrit Sarovars in the first quarter of 2022, there is a significant variation in the time for their completion. While work is still in progress at Mandla, MP it took about five months to complete the work at Lalitpur, 3 months at Warangal and rejuvenation of the old pond at Bagalkote was done in 9 months. Substantial variation was seen in the size of the ponds, ranging from 0.5 acres to 2.5 acres and

there were variations in the dimensions too. In two cases, it was observed that bunding needs strengthening while in two other cases, stone pitching is either done or is in progress. As far as plantations are concerned, plantation around the pond was adequate at two ponds, while at the other two ponds, an increase in plantation was suggested.

Table 3*Financial Details of Amrit Sarovars*

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
1	Source of Fund/ Convergence a. Mahatma Gandhi NREGS b. XV FC c. Any other	a. Mahatma Gandhi NREGS (Rs. 25.82 lakh) b. SFC – Rs. 1.6 lakh c. Forest Department distributed 150 plants	a. Mahatma Gandhi NREGA (Rs.24.95 lakh) b. No c. 1.20 lakhs by Hotel and Restaurant Association	Mahatma Gandhi NREGS (Rs.9.93 lakh)	a. Mahatma Gandhi NREGS (Rs. 19.9 lakh) b. Forest department distributed plants and SHG women planted the plants.
2	If Mahatma Gandhi NREGS, then: a. Estimated cost b. Actual expenditure c. Material d. Wages	As on 31/03/2023: a. Rs. 25.82 lakh b. Rs. 12.64 lakh c. Rs. 3.99 d. Rs. 8.56 lakh	a. Rs. 24.95 lakh b. Rs. 21.22 lakh c. Rs. 11.25 lakh d. Rs. 9.9 lakh	a. Rs. 9.93 lakh b. Rs. 6.74 lakh c. Rs. 5300 d. Rs. 6.69 lakh	a. Rs. 19.9 lakh b. Rs. 18.7 lakh c. Rs. 16.1 lakh d. Rs.3.87 lakh
3	Person-days generated	4,826 till 31 st March 2023	5227	4171	1254
4	Per Acre Cost on Actual (Total cost/ pondage area)	Rs. 8.42 lakh	Rs. 8.49 lakh	Rs. 6.74 lakh	Rs. 37.40 lakh
5	Person-days per acre of pondage (Total person days generated/pondage area)	3217	2091	4171	2508

It can be observed from the table above that the Amrit Sarovars mainly drew funds from the Mahatma Gandhi National Rural Employment Guarantee Scheme (Mahatma Gandhi NREGS). While a panchayat added funds from the Fifteenth Finance Commission grants, in the case of Mandla, funds were mobilised from the Hotel and

Restaurant Association. Forest department also contributed to plantations in the case of two Amrit Sarovars.

The wage and material cost was also found to be variable. In the case of Lalitpur, the percentage of material to wage cost is 32:68, for Mandla it is 53:47, for Warangal it is 1:99 and for Bagalkote it is

81:19. Variability can be attributed to the difference in topography, the Mahatma Gandhi NREGS works, soil type, size of the pond and pending works regarding beautification and strengthening of the bunds.

Variability is observed in per acre cost calculated on actual costs, however, in both the Northern states, the cost per acre is almost similar. It is substantially high in Bagalkote because of cement work, stone pitching and other beautification works done in the water-logged area. The difference can be attributed to the

topographical variances in all four sites. As far as the person-days per acre of pondage (total person days generated/pondage area) are concerned, variation from 2091 to 4171 person-days is seen which again can perhaps be attributed to the differences in geographical, topological, soil type, ground-water table levels in all four cases. However, the fact that this led to providing employment opportunities to the local people, especially in Mandla and Warangal, where tribal populations (Lambadis and Gonds) inhabited cannot be disregarded.

Table 4

Water Availability and Usage of Water of Amrit Sarovars

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
1	Whether Amrit Sarovar got filled at least once?	Yes	Yes	Yes	Yes
2	Water-stressed area or Flooded area	Water stressed area	Water stressed area	Water stressed area	Flooded area
3	Reduction in soil erosion	Yes	No	Yes	Yes
4	Whether Amrit Sarovar led to groundwater table increase?	Yes	Yes	Yes	Yes
5	Availability of drinking water for Livestock and Wild animals and birds?	Yes	Yes	Yes	Yes
6	Recharging of wells	Yes	Not applicable	Yes	Yes
7	Months for which Amrit Sarovar water was available	6 months	Work in progress	7 months	10 months
8	Increase in irrigated area	50+ acres.	Work in progress	30+ acres.	22+ acres.

As can be seen from the Table 4, the Amrit Sarovars at Lalitpur in UP, Mandla in MP, and Warangal in Telangana, water filled up to the brim and was full at least once during the year as had been reported by the key informants and as concluded from the FGD responses. However, Amrit Sarovar at Bagalkote was a rejuvenated pond and had water availability throughout the year. The variation in availability of water in the pond ranged from 6 months to 10 months. It was also noted that while three of the four Amrit Sarovars were in water-stressed areas, one was situated at a flood-prone area.

It was observed that at all Amrit Sarovars, soil erosion had been reduced substantially and increase in water table was also reported at all four places by the stakeholders. Though the water in the pond was not used for drinking purpose, it was used for livestock and irrigation purposes. Wild animals and birds also used the pond. While recharging of wells was seen at Lalitpur, Warangal and Bagalkote, it was not applicable in Mandla. At Mandla, increase in irrigated area was not evident, however at Lalitpur, Warangal and Bagalkote an increase from more than 50, 30 and 22 acres, respectively, was reported.

Table 5

Amenities/Facilities around Amrit Sarovars

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
1	Availability of Recreation facilities	Fully developed	Yet to be developed	Partial facilities available	Yet to be developed
2	Status of user group formation	Yet to be formed	Yet to be formed	Formed	Formed
3	Enhancement of Tourism	Not Yet	Yes	Not yet	Not yet

As per the Amrit Sarovar guidelines, all Amrit Sarovars should have plantation around the pond and a user group to maintain the site. The study team observed that Amrit Sarovar at Lalitpur had seating arrangements made, along with pathway of interlocking bricks, an arch at entrance and plantations done while at Mandla, since work was still in progress, only plantation was done. Amrit Sarovar at Warangal had a crematorium, playground, nursery, a park and dumping and segregation yard. Amrit Sarovar at Bagalkote was

surrounded by agriculture fields and had plants around it. Amrit Sarovar at Warangal and Bagalkote have user groups formed namely Baluchulabodu and Bilwasree Sanjeevani respectively while at the other two ponds, user groups are yet to be formed. As it is a new intervention, tourism is yet to pick-up at the pond sites though at Mandla it was reported that post-Mann ki Baat mention, the site had garnered attention of tourists those who were also visiting the adjacent Kanha National Park.

Figure 1

Cause and Effect Relationship for the Impact of Amrit Sarovars Accelerated by Mann ki Baat

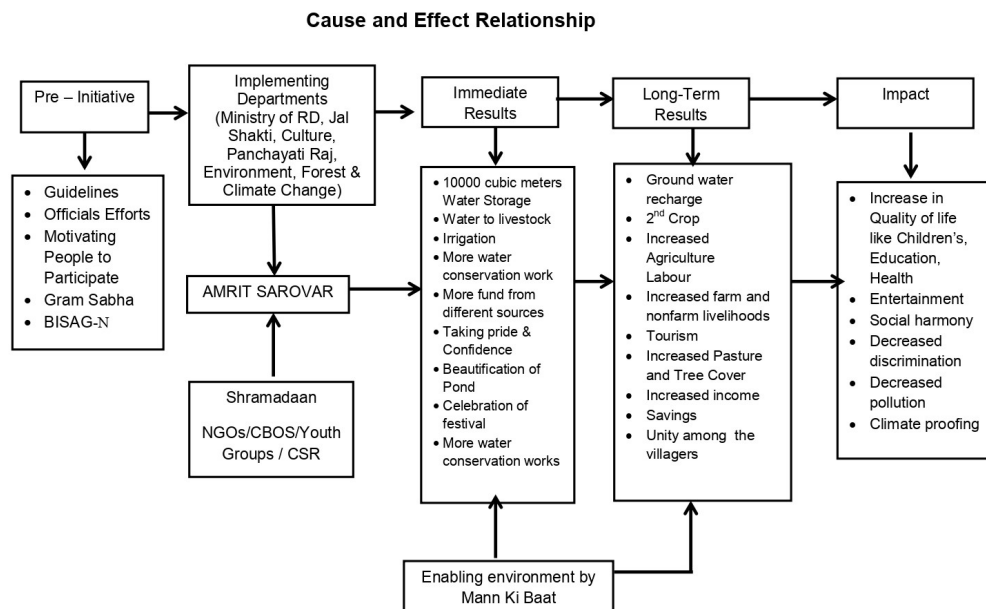


Figure 1 draws attention to the immediate results of development of a water conservation pond, leading to long-term results. The figure depicts the impact post-Mann ki Baat programme

and how development of Amrit Sarovar led to better quality of life for people, good health and education for children, entertainment, social harmony, decreased pollution and climate-proofing.

Table 6

Impact of Amrit Sarovars

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
Impact on Agriculture					
1.	Whether average income increased due to Amrit Sarovar?	Yes	Additional works under progress	Yes	Yes
	Whether the number of Livestock animals increased?	Yes	Additional works under progress	Yes	Yes
	Whether there is an increase in the extent of Cultivable land	Yes	Additional works under progress	Yes	Yes
	Whether there is an increase in land brought under cultivation due to irrigation?	Yes	Additional works under progress	Yes	Yes

Table 6 shows the impact of construction of Amrit Sarovars on income, livestock, cultivable land available and fallow land which was cultivable post-construction of Amrit Sarovar. As can be inferred from the Table, income increase was seen from Rs. 10,000 to Rs. 80,000 across the four cases due to Amrit Sarovar. The cultivable land available was 150 acres and there was no impact seen on converting fallow land to cultivable land at Lalitpur. At Mandla, as the work was in progress, impact on

income, etc., was not applicable. The possibility of growing second crop (maize) had led to increase in income levels in Warangal. 235 acres of cultivable land was available wherein thirty acres were rain-fed and post construction of Amrit Sarovar, twenty-four acres became cultivable. At Bagalkote, incomes had increased since it was a flood-prone area, and the construction of Amrit Sarovar led to protection of crops in 22.78 acres from waterlogging.

Table 7

Social Capital Enhancement Due to Amrit Sarovars

S. No.	Indicator	Amrit Sarovar at Lalitpur, Uttar Pradesh	Amrit Sarovar at Mandla, Madhya Pradesh	Amrit Sarovar at Warangal, Telangana	Amrit Sarovar at Bagalkote, Karnataka
1	Building of social capital (gatherings, flag hoisting, honouring elders/freedom fighters/martyrs/celebration of festivals)	Flag hoisting done; Kartik Maas celebrated by women at the Sarovar.	Yes, family of Late Manglu Baiga is felicitated on occasion.	Festivals like Teej being celebrated; Flag hoisting done; Elder most citizens honoured.	Flag hoisting done; Cultural Programmes of the Children, Elder most citizen honoured and Ex-servicemen hoisted the flag.
2	Whether there any Equity issues?	No	No	No	No

Amrit Sarovars at all four places led to building of strong social capital amongst the community. No equity issues in gaining access to benefits from Amrit Sarovars were noticed by the study teams. Though in the case of ten farmers at Bagalkote, who were earlier suffering from waterlogging problem, substantially benefitted by the development of the Amrit Sarovar, in Mandla and Warangal, presumably the homogeneity in populations was a strong reason to witness the concordance. At Warangal, the people of adjacent Thandas were drawing benefits from the Amrit Sarovar without any restrictions. At the other two places, i.e., Lalitpur and Bagalkote, stakeholders made use of the pond without any discords for livestock rearing and domestic chores.

Discussion

The paper here discusses the four Amrit Sarovars as were mentioned by the Hon'ble PM in his Mann ki Baat programme, and developed at Lalitpur in Uttar Pradesh, Mandla in Madhya Pradesh, Warangal in Telangana and Bagalkote in Karnataka. Study teams from the National Institute of Rural Development and Panchayati Raj, Hyderabad visited these sites and assessed the extent of success and factors contributing to success in construction of the farm ponds. Amrit Sarovars have substantially benefitted villages in water-stressed regions as well regions that were prone to waterlogging. These ponds were found to be effective water conservation structures, though some works are in progress and strengthening of

bunds is required in some cases. Stakeholders of Amrit Sarovars felt that connection with channels or water bodies is required for perennial availability of water, not just during the rainy season. Seeing the success and utility of Amrit Sarovars, the stakeholders sought deepening and widening of their community farm ponds with a view to gaining year-round access to water resources. Amrit Sarovars taken up for study have led to increase in groundwater levels consequently increasing the moisture retention of soil thus making it fertile and cultivable as well as recharging of wells in the vicinity. Most Amrit Sarovars in the study showed that farmers have benefitted considerably from the Amrit Sarovars as yields increased and they are also able to grow more crops due to increased availability of water. The average annual income also increased significantly. The Amrit Sarovars in all four cases have also emerged as drinking water source for the livestock, wild animals and migratory birds and for domestic chores of the villagers. Funds for development of Amrit Sarovars have mainly been drawn from Mahatma Gandhi NREGS, though in 2 out of 4 cases additional funds were mobilised from other sources.

It was seen that three out of the four Amrit Sarovars are new while the fourth was rejuvenation of an existing pond. The cost of construction of the community farm ponds showed a reasonable degree of consistency around the mean value for new ponds. On the other hand variation in the person days per acre was found and the same could be attributed to the geographical and topographical differences in the four cases. It was seen that periods for completion of Amrit Sarovars studied varied from a month to about a year and their sizes varied from 0.5 to 2.5 acres. Following the guidelines for development of Amrit Sarovars, plantations were done with Neem, Peepal, etc. but, it was found that plantation needs to be increased in 2 out of 4 cases. User groups had been formed at 2 places and at the other two places they were yet to be formed. It was observed that the Amrit Sarovars have led to strong build-up of social capital with people gathering at the site for celebrating local and national festivals, flag hoisting, honouring the elders and people of

esteem. They have led to people coming up with creating common utilities such as parks with benches, open gymnasiums, nurseries, flag post, crematoriums, etc. at the site, and two out of four Amrit Sarovars studied were being used for recreational purposes.

The study revealed that the Mann ki Baat mention accelerated the development of the Amrit Sarovar sites. Apart from infusing new zeal into stakeholders, MKB mentions have motivated stakeholders to come forward for volunteering in development initiatives. While individual Amrit Sarovars benefitted from Mann ki Baat mentions through greater attention from the officials and other stakeholders, these mentions galvanised the community by creating an identity for themselves through the Amrit Sarovars. Mann ki Baat mentions also had a spin-off effect of strengthening the initiative in at least two out of four case study states which came forward to double the target of Amrit Sarovars.

Conclusion

Community water-conservation ponds such as Amrit Sarovars can play an important role in climate-proofing by helping to mitigate the impacts of climate change on water resources. Climate change is expected to result in more frequent and severe droughts, floods, and other extreme weather events, which can have serious implications for water availability and quality. These ponds can have a significant beneficial impact, especially in areas where water scarcity is a major issue. They can help to conserve and store rainwater, which can then be used for a variety of purposes such as irrigation, domestic use, and livestock rearing. They can help to increase groundwater levels in the surrounding areas. This can be particularly important in regions where the groundwater table has been depleted due to overuse or drought. By collecting and storing rainwater, these ponds can help to replenish the groundwater and make it more accessible for local communities. By using water from these ponds, small-scale farmers can increase their crop yields

and improve their economic prospects. Amrit Sarovars also reduce the risk of flooding in low-lying areas. By capturing rainwater and allowing it to slowly percolate into the ground, these ponds can help to reduce the amount of surface run-off that can contribute to flooding during heavy rains.

The success of these community farm ponds depends on a range of factors, including proper maintenance, effective community engagement, and appropriate design and placement. Post Mann ki Baat mention, all four cases have garnered attention from local administration, print and press media coverage, activists and NGOs. The study

team noted that recognition from Mann ki Baat program has led to new enthusiasm amongst the masses to come forward for water conservation activities. It was found that the Mann ki Baat address contributed substantially to expansion of the Amrit Sarovar initiative with some states coming forward to increase the number of Amrit Sarovars beyond the targets. An increase in enthusiasm was also found among the Amrit Sarovar stakeholders not only to better utilise the existing Amrit Sarovars but to expand their coverage in space and time, post the Prime Minister's address.

Author's Contribution:

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