

## Knowledge and Benefits of Farm Pond Scheme among Farm Women of Bhilwara District

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**ABSTRACT:** This study aims to examine farm women's awareness, utilization, and constraints related to the Farm Pond Scheme by the State Department of Agriculture. Findings from the survey of respondents revealed that approximately 55% were aware of the scheme's existence, and 53% comprehended its objectives. Conversely, a smaller portion, approximately 34%, possessed knowledge of its specific provisions. Approximately 40% of respondents reported benefiting from the scheme, indicating a noteworthy level of implementation. Analysis of constraints disclosed notable challenges, including reduced farm space due to pond installation, delayed supervisor responses, untimely subsidy disbursement, apprehensions about child safety, and perceived elevated construction costs despite subsidies. These limitations appeared to stem from factors such as limited awareness, low literacy levels, and constrained socio-economic conditions. Restricted access to banking services and difficulties posed by rocky terrain further compounded implementation challenges. The study illuminated a multifaceted landscape concerning the Farm Pond Scheme among female farmers. While a substantial proportion demonstrated awareness and participation, impediments in communication, safety concerns, and financial constraints posed barriers to optimal utilization. Mitigating these challenges necessitates targeted efforts to bolster awareness, optimize administrative processes, and offer specialized support for intricate terrains. Such actions hold the potential to enhance the scheme's efficacy, fostering sustainable agricultural advancement and socio-economic upliftment for farm women.

**Keywords:** Farm women, Knowledge, Benefits and Constraints, Government schemes.

### INTRODUCTION

Agriculture, as one of humanity's earliest endeavors for sustenance, remains the bedrock of economies, whether they are in the process of development or already developed (Misra *et al.*, 2020). In the context of India, a developing nation with a primarily rural population, agriculture's significance is undeniable. However, the challenges faced by rural communities have endured with minimal change over the past three decades (Pascaris *et al.*, 2021). A staggering 80% of Indian farmers fall into the category of marginal landholders (with holdings of less than 1 hectare) or small farmers (with holdings of 1-2 hectares). Despite engaging around 60% of the labor force, agriculture's contribution to the GDP is a modest 17%, largely due to diminishing profitability (Kumar *et al.*, 2020). The sector grapples with a myriad of challenges, encompassing the absence of quality seeds, untimely provision of essential inputs (such as seeds, fertilizers, and pesticides), inadequate mechanization, subpar irrigation facilities, fragmented land ownership, and

limited storage capacity. This convergence of issues has led to dire circumstances for the farming community (Du *et al.*, 2023). In this context, the State Department of Agriculture in Rajasthan has embarked on a mission to prioritize farmer welfare and elevate living standards. The overarching goal is to reinvigorate agricultural growth, amplify crop production, and enhance crop productivity, ultimately strengthening the economic standing of farmers. The department actively employs a range of strategies, including facilitating access to agricultural supplies at reasonable prices compared to prevailing high market rates (Fraser, 2019). These governmental initiatives serve not only to boost farmers' morale through the promotion of effective agricultural practices but also to disseminate knowledge about alternative methodologies. Furthermore, a comprehensive array of farmer-centric welfare schemes is in place to rejuvenate the agricultural sector and enhance economic well-being. These initiatives span diverse avenues, extending subsidies to farmers for crucial inputs such as seeds, fertilizers, bio-fertilizers, micro-nutrients, tools, plant protection equipment,

irrigation machinery, and agricultural tools. These subsidies empower financially disadvantaged farmers, enabling them to procure and utilize vital inputs at manageable costs, consequently elevating agricultural output. Collaborative endeavors between the State Department of Agriculture, central government, and state governments have yielded positive outcomes through numerous transformative schemes (Mapiye *et al.*, 2021). Notable examples encompass the Farm Pond Scheme (Khet Talai Yojna), Water Storage Tank Scheme (Jalhauz Nirmaan Yojna), Irrigation Pipeline Scheme, Sprinkler Irrigation and Mobile Rain Gun Scheme, Pradhan Mantri Fasal Bima Yojna (PMFBY), Soil Health Card Scheme (SHCS), Seed Minikit Scheme, and Crop Demonstration Scheme. These concerted endeavors collectively aim to enhance the quality of life for farming families and underscore the commitment to rejuvenate and uplift the agricultural sector. Additionally, it is imperative to acknowledge the significant role that women play in agricultural development and related domains, encompassing primary crop production, livestock rearing, horticulture, post-harvest operations, agro-social forestry, and fishing. In India, women emerge as major contributors to food production in terms of value, volume, and work hours. Around 78% of women are actively engaged in agriculture compared to 63% of men. In this realm, nearly half of rural female workers are classified as agricultural laborers, and 37% as cultivators (Lahiri-Dutt and Adhikari 2016). Recognizing this, it becomes urgent to provide support to women farmers to enhance farming practices, procure more productive inputs, alleviate work burdens, and enhance processing, storage, and marketing activities they undertake. Nevertheless, these farm women often struggle to access agricultural schemes, services, and production assets like seeds, water, credit, and subsidies due to a lack of awareness. Their multifaceted roles within both the family and the farm also limit their access to knowledge and information, thereby constraining their opportunities. The schemes introduced by the State Department of Agriculture bridge these gaps by offering crucial access to inputs and technological knowledge, empowering farm women to enhance productivity and improve their quality of life and livelihoods. However, the efficacy of these efforts hinges on engaging women farmers. A significant disparity exists between woman farmers and the fundamental information required to boost production, efficiency, and income. Given the substantial time that has elapsed since the inception of these schemes, it has become essential to investigate the extent of farm women's knowledge and the benefits derived from these schemes. This examination also aims to identify the challenges they face in availing scheme benefits, thereby enabling women to make effective contributions to enhancing agricultural production, income, and maximizing the benefits of these initiatives. Consequently, the present study was undertaken with this purpose in mind.

## MATERIALS AND METHODS

The current study was carried out within the Bhilwara District of Rajasthan, specifically in two randomly chosen administrative divisions known as panchayat samities namely Suwana and Mandal. Within these selected panchayat samities, four villages were further randomly selected: Arjia and BadaMahuwa from Suwana panchayat samiti, and Chileswar and Dhunwala from Mandal panchayat samiti. In each of these villages, 25 women engaged in farming activities were chosen through a random selection process, resulting in a comprehensive sample size of 100 respondents. The required data was collected through personal interviews conducted using structured interview schedules. To analyze the collected data, statistical methods such as Frequency/Percentage and Mean Percent Score were employed.

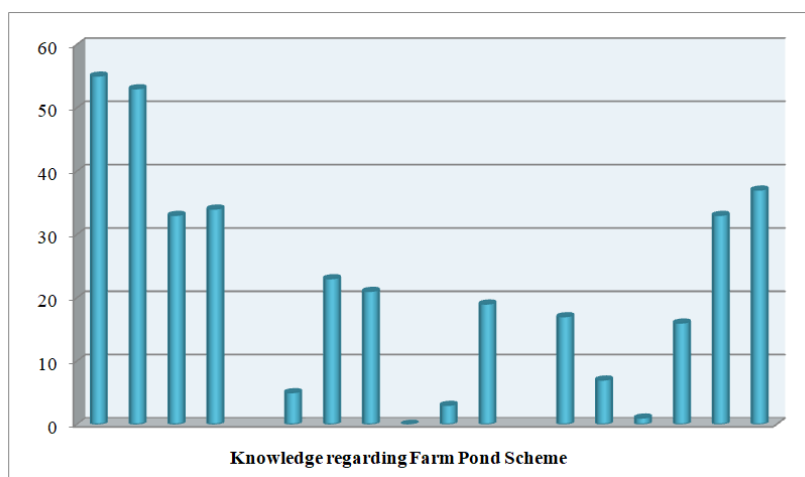
## RESULTS AND DISCUSSIONS

### *A. Knowledge of the respondents regarding Farm Pond Scheme (Khet Talai Nirmaan Yojana)*

The information presented in Table 1 and Fig.1 regarding respondents' familiarity with the Farm Pond Scheme highlights that over half of the respondents were acquainted with the scheme (55%) and its objectives (53%), which include aiding farmers by storing rainwater to ensure a consistent, reliable, and long-term water supply, thereby reducing the vulnerability and uncertainty faced by rain-fed farmers. Concerning the beneficiaries of this scheme, approximately 33% of the respondents were aware that the initiative targets small and marginal farmers who own 0.5 hectares of land. Around 34% of the respondents were knowledgeable about the provision of a 60% subsidy on the overall cost of the scheme, a benefit extended to farmers of all categories. Regarding the advantages offered by the scheme, it was found that only 23% of respondents were aware that farm ponds contribute to intensifying agriculture and increasing farm income, while 21% recognized that farm ponds collect excessive runoff during the rainy season. Few respondents (5%) indicated that farm ponds enhance water quality, and an even smaller percentage (3%) recognized that stored water can be used to supplement irrigation for crops. A mere 19% of respondents were familiar with the application procedure for the Farm Pond Scheme, involving the submission of an online application at the nearest e-mitra center along with the necessary documents. Concerning the required documents for account opening, 17% of respondents were aware of the need for a Bhamashah Card, while only 7% knew that the depositor's Jamabandi of khata was a necessary requirement. Additionally, 16% of respondents possessed knowledge about the provision for a 30% reservation for farm women under this scheme. Roughly a third of the respondents (33%) were aware that farm ponds equipped with plastic lining offer greater benefits. Lastly, when it comes to the minimum land area necessary to apply for the scheme, 37% of respondents were cognizant of the requirements.

**Table 1: Distribution of the respondents according to their knowledge regarding Farm Pond Scheme n=100.**

Sr. No.	Items	f/%
1.	Aware about the scheme	55
2.	Objective (Helps farmers by storing rain water to provide adequate, reliable, long-term water supply)	53
3.	Beneficiary (Only families belonging to small and marginal farmers residing in rural areas having land of 0.5 hectare)	33
4.	Provision under this scheme (To provide all category of farmers 60% of cost. Or maximum Rs 63000/-)	34
5.	Advantages of Farm Pond Scheme	
i.	Helps in enhancing water control	5
ii.	Contributes to agriculture intensification and boost farm incomes	23
iii.	Collects excess runoff during rainy period	21
iv.	Cost effective	0
v.	Stored water can be used for supplemental irrigation to crops	3
6.	Application procedure	19
7.	Documents required	
i.	Bhamashah Card	17
ii.	Jamabandi of Khata	7
iii.	Aadhar Card	1
8.	Reservation of farm women (30%)	16
9.	Type of farm pond (more beneficial)	33
10.	Minimum size of land area required to apply for a farm pond scheme	37



**Fig. 1.** Distribution of the respondents according to their knowledge regarding Farm Pond Scheme.

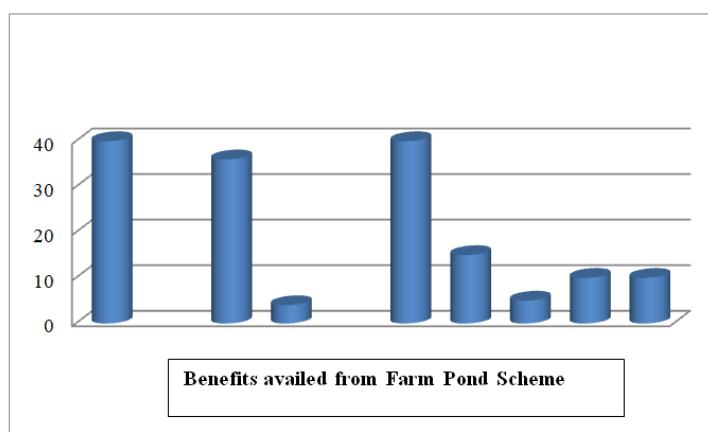
**B. Benefits availed by the farm women from Farm Pond Scheme**

The data pertaining to the Farm Pond Scheme, as presented in Table 2 and Fig. 2, demonstrates that 40% of the respondents were recipients of the scheme. Among these beneficiaries, 36% had been benefiting from the scheme for duration of less than 3 years, while a mere 4% had been availing its advantages for over 3 years. The data also indicates that 40% of the respondents received a subsidy under this scheme, which amounts to 60% of the overall cost or a maximum of Rs 63,000. This financial support was extended to farmers across all categories. Some respondents mentioned additional benefits: 15% noted that water could be stored for extended periods even after the conclusion of the rainy season, 10% reported utilizing the farm pond for azolla production, another

10% for crop irrigation, and 5% for fish farming. A similar investigation conducted by Kharkwal (2016) uncovered that a minimal number of respondents (2%) had insured their crops for a duration of fewer than 5 years under the Rashtriya Krishi Beema Yojana (RKBY), while none of the RKBY beneficiaries had secured coverage. Furthermore, the study indicated that a large majority of respondents (96%) had not reaped any benefits from the Rashtriya Krishi Vikas Yojna (RKVY). Only a small fraction of respondents (2%) had availed loans of Rs 10,000 and Rs 20,000. Negi (2020) on the benefits accrued from government schemes by rural women in Dehradun district, Uttarakhand, reported that respondents gained limited benefits from the Krishi Sinchayi Yojna and Soil Health Card Scheme, achieving Mean Percent Scores (MPS) of 5.2 and 14.25, respectively.

**Table 2: Distribution of the respondents on the basis of benefits availed from Farm Pond Scheme n=100.**

Sr. No.	Items	f/%
1.	Beneficiary	40
2.	Period of enrollment in scheme	
a.	1-3 years	36
b.	Above 3 years	4
3.	Benefits	
a.	Received subsidy ( 60% of cost maximum Rs 63000/ To provide all category of farmers	40
b.	Storage of water for long time	15
c.	Rearing of fishes (fisheries)	5
d.	Production of azolla	10
e.	For supplying irrigation to the crops in dry areas	10



**Fig. 2.** Distribution of the respondents on the basis of benefits availed from Farm Pond Scheme.

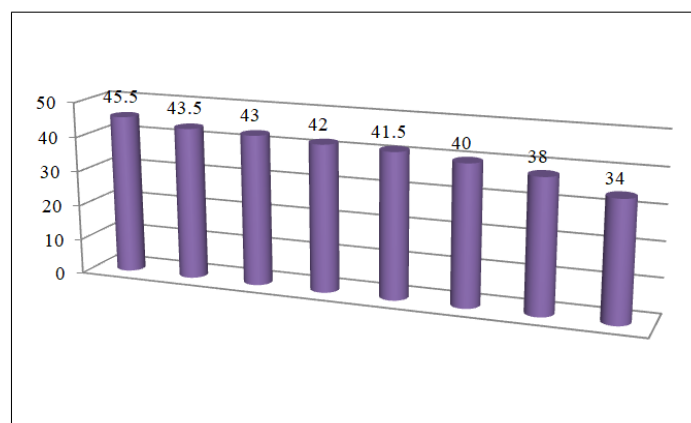
*C. Constraints faced by the farm women in availing benefit of Farm Pond Scheme*

The data illustrated in Table 3 and Fig. 3, outlining the challenges encountered by the respondents within the Farm Pond Scheme, indicates that a substantial proportion, ranging from 29% to 39% of respondents, faced these constraints to a significant degree. Conversely, a larger portion of respondents (48% to 65%) did not experience any constraints. The table discerns that a reduction in farm area, delays in supervisor responses, and untimely receipt of subsidy were noted as substantial constraints by 39% of respondents, with Mean Percent Scores (MPS) ranging from 43 to 45.5. Approximately 37% of respondents perceived farm ponds as risky for children and cost-prohibitive even when considering the provided subsidy. Such findings could be attributed to limited awareness of the scheme, low literacy rates, and socio-

economic challenges. Moreover, respondents cited the absence of bank accounts (34 MPS) and the difficulty of constructing farm ponds on rocky terrains (41.5 MPS) as constraints. A parallel study conducted by Bunker (2011) uncovered that farmers encountered notable difficulties in adopting drip irrigation technology, including irregular electricity supply, lack of available spare parts at the village level, high initial costs for installing drip sets, inadequate electricity supply, insufficient knowledge about the benefits of drip irrigation technology, and reduced profitability in areas with level land and ample groundwater availability. Similarly, Tayde *et al.* (2010) disclosed that beneficiaries of the sprinkler irrigation scheme faced major constraints including limited interaction with extension personnel, a scarcity of repair services and spare parts, and a deficiency in technical knowledge about sprinkler irrigation.

**Table 3: Distribution of the respondents by constraints in availing benefits of the Farm Pond Scheme n=100.**

Sr. No.	Constraints	f/%			MPS
		To great extent	To some extent	Not at all	
1.	Reduction in the area of the farm	39	13	48	<b>45.50</b>
2.	Delay in response from the supervisor	39	9	52	<b>43.50</b>
3.	Amount of subsidy is not received on time	39	8	53	<b>43.00</b>
4.	Dangerous for the children	37	10	53	<b>42.00</b>
5.	Difficult to construct in rocky lands	35	13	52	<b>41.50</b>
6.	Very costly even when subsidy is provided	37	6	57	<b>40.00</b>
7.	Lack of awareness	29	18	53	<b>38.00</b>
8.	Not having a bank account for receipt of the subsidy	33	2	65	<b>34.00</b>
<b>Overall MPS</b>		<b>40.93</b>			



**Fig. 3.** Distribution of the respondents by constraints in availing benefits of the Farm Pond Scheme.

The reason for such findings might be lack of knowledge about the scheme, illiteracy and low socioeconomic status. Further the respondents mentioned that they were not having a bank account (34 MPS) and it is difficult to construct the farm pond in rocky lands (41.5 MPS).

### CONCLUSIONS

The findings presented in this study shed light on the knowledge, benefits, and constraints faced by rural women in relation to the Farm Pond Scheme (Khet Talai Nirmaan Yojana). The study revealed that more than half of the respondents were acquainted with the scheme and its objectives, which include storing rainwater to provide a consistent and reliable water supply to aid rain-fed farmers, thus reducing their vulnerability. However, the awareness levels varied across different aspects of the scheme. A substantial number of respondents were aware of the scheme's objective and its applicability to small and marginal farmers, although a smaller percentage were familiar with the subsidy provision, advantages of farm ponds, application procedures, and required documents. In terms of benefits derived from the scheme, approximately 40% of the respondents were beneficiaries of the Farm Pond Scheme. Most beneficiaries had been availing its advantages for less than 3 years, with a notable proportion receiving a subsidy that covers 60% of the cost or a maximum of Rs 63,000. The beneficiaries reported utilizing the farm ponds for various purposes, including water storage, fish farming, azolla production, and crop irrigation. Despite the benefits, the study also indicated limitations in the beneficiaries' access to other government schemes, underscoring the need for broader outreach and engagement. However, the study also illuminated several challenges faced by the respondents in availing the benefits of the Farm Pond Scheme. A substantial proportion of respondents encountered constraints such as reduction in farm area, delays in receiving responses from supervisors, and untimely receipt of subsidies. These constraints, along with concerns about cost-effectiveness and risk, were significant impediments to fully realizing the scheme's potential. It is evident that these challenges were more pronounced among respondents with limited awareness, low literacy rates,

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and socio-economic vulnerabilities. In conclusion, the Farm Pond Scheme has contributed to improving the livelihoods of rural women by providing them with opportunities for water storage, aquaculture, and enhanced crop irrigation. However, there are still considerable challenges that need to be addressed, particularly with regard to spreading awareness, streamlining procedures, and mitigating constraints. Bridging these gaps will require collaborative efforts involving the government, local institutions, and community stakeholders to ensure that the benefits of such schemes effectively reach the intended beneficiaries and contribute to the overall development of rural communities.

**Acknowledgement.** The study highlights rural women's experiences with the Farm Pond Scheme, showing varying awareness levels. Approximately 40% benefited from the scheme, but challenges like delays and reduced farm areas persist, especially among less aware and socio-economically vulnerable individuals. Collaborative efforts are essential to enhance awareness, streamline procedures, and address these constraints for maximum impact.

**Conflict of Interest.** None.

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