

# **POLICY BRIEF**

## **EXPANDING WATER HARVESTING PRACTICES IN RAJASTHAN, INDIA THROUGH STRATEGIC POLICY ADVOCACY**



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## **PROBLEM STATEMENT**

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Since its creation, GGS' land and water harvesting model has been successful in over 75 villages in the Dang region. The organization's cutting edge work has significantly transformed the quality life of village residents. While GGS aims to expand its work to assist a larger pool of villages in the region, its reach is limited by a lack of resources and operational barriers.

## **BACKGROUND**

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The Dang region of Rajasthan is one of the most poverty-stricken regions in India, largely due to its arid climate. This further contributes to precarious living conditions for local residents. The data also suggests that community-led development approaches can create tangible changes for communities. The grassroots organization Gram Gurav Sansthan (GGS) has designed and successfully implemented community-led development approaches in the region. GGS' work yields significant improvements in the living conditions of participating villages. However, given its limited resources, GGS has been unable to upscale its successful practices across the region. In fact, over 2000 villages across the eight districts that form the Dang region have not benefited from their community-based water harvesting (CBWH) model and still require action. In 2004-05, the Government of Rajasthan (GoR) put in place a Special Purpose Development Agency (SPDA) coined the Dang Development Board (DDB) to address these issues. More specifically, the role of the DDB is to supplement development initiatives in the region including but not limited electricity, education, health, piped water etc. To rise up to the challenge, GGS hoped to utilize the DDB to channel funds to upscale their projects. However, evidence suggests that the DDB has been unable to generate effective and sustainable change in the region.

## **ANALYSIS**

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The data collected suggests that the DDB and GGS have misaligned values in terms of how to approach rural development, mainly surrounding community involvement initiatives. Moreover, GGS' involvement with the DDB reduces their autonomy during the implementation process. The following will detail the reasons why the DDB is not an appropriate financier for GGS projects, using data from the Rural Development and Panchayat Raj Department of the Government of Rajasthan for the years 2014, 2016, 2017, and 2018 (the data for 2015 are not available).

Between 2014-2018 the DDB reported 710 projects, out of which 498 are completed. 2014 had the highest year of completion where 323 out of 369 were completed. Successional years thereafter decreased; 2016 had 42 out of 68 projects completed; 2017 had 73 out of 128 projects completed; 2018 had 60 out of 145 projects completed. The DDB focuses on large contracts

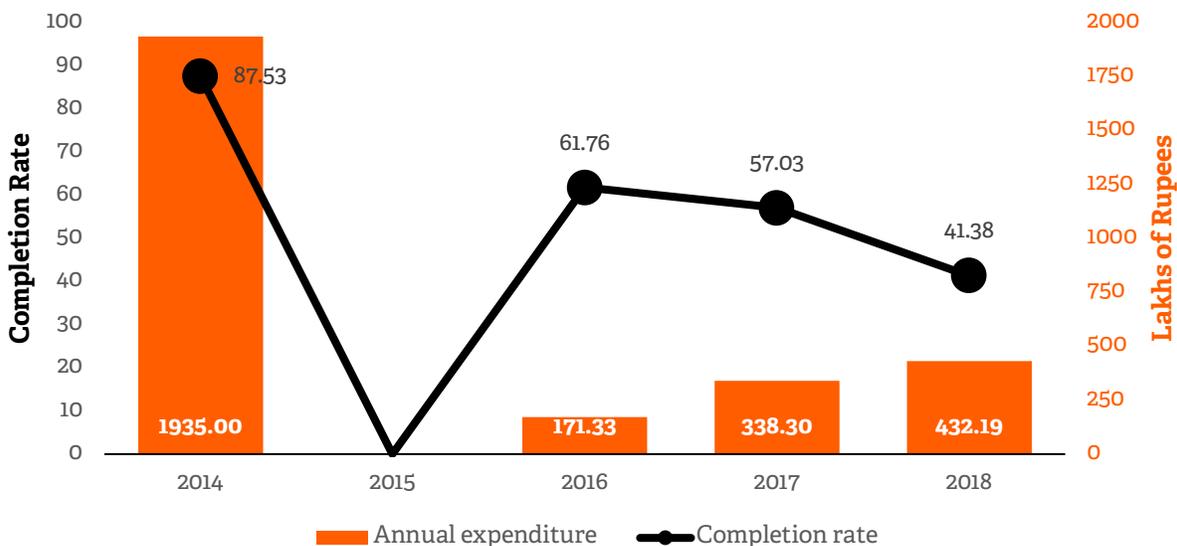
and gives its engineers complete autonomy for design and implementation. Larger contracts require more workers and materials. Between 2014-2018 there was a reported budget of ₹2,876.82 lakhs, with an average ₹3.34 lakhs per project. 12 percent of the total budget is purposed for maintaining the programs and strengthening the structures (Government of Rajasthan, 2015)

DDB projects are funded by the GoR. The process is as follows:



There is an inverse correlation between the total expenditure and the completion rate of the projects. That is, between 2016-2018 the yearly amount of rupees utilized increased however the rate of completion decreased

**DDB's Expenditure vs Completion**



The DDB's data shows that for 2014, 2016, 2017 and 2018, 97 percent of all projects are road construction, hand pumps and water tanks, which demonstrates that this agency is not concerned with increasing the water supply but increasing measures to obtain it. Its focus is on rural connectivity to assist in the drainage and smooth trafficking of villages. The Government has shifted its priority from rural to urban development. As a result of the prolonged drought, many rural populations are migrating to urban centers. The Government has chosen to invest in urbanization as it is perceived to eventually provide economic return. The DDB's projects are therefore expendable if water is unavailable. This disparity in priorities shows the disconnect between the government's actions and the community's needs.

In contrast, GGS focuses on increasing the water supply through implementing small water harvesting structures such as: *Pokhars, Taals, and Pagaras*. GGS projects are based on the principle of shared responsibility and are enforced through a cost sharing model— 30 to 50% of the costs in materials or labour depending on resource availability in the village. This prioritizes the community as the main stakeholder in the decision-making processes, ensures community involvement and maintenance of the structures. To further its practices, GGS needs funding for expansion and improvements and/or innovations. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA, also known as NREGA), for instance, is a scheme that provides funding for labour in rural areas for a period of 100 days. Its goal is to guarantee employment for those in need and through paying labourers they can sustain that goal. For GGS, although they would not be the main benefactor, their initiatives would prosper since the funds would stay within the community. Using the NREGA funds has the potential to allow GGS to expand into many of the 2000 villages that still require action. Moreover, GGS could build cost effective structures such as pokhars, taals, and pagaras. However, taals are currently the only one of the three not included on NREGA's list of admissible structures where rural workers can be employed. The table below illustrates the average cost of each structure as well as the percentage increase each structure provides. For instance, for pagara's, the average cost is ₹95646 and increases land irrigation by 176%, paddy production by 186%, pearl millet by 82%, wheat by 230%, mustard by 567%, availability of drinking water by 47% and ground level water by 42%.

<b>Variable by %</b>	<b>General</b>	<b>Pagara</b>	<b>Pokhar</b>	<b>Taal</b>
Land Irrigated	139	176	158	117
Paddy	198	186	231	140
Pearl Millet	76	82	62	83
Wheat	178	230	208	147
Mustard	90	567	50	127
Drinking Water	25	47	23	36
Groundwater level	30	42	25	22
Cost		95646	119185	213064

In regards to improvements and or innovation, GGS needs to secure funds that allows them to conduct research that improves their advocacy capacity and pushes innovation for their delivery methods to overcome challenges they currently face when working with the communities such as the appropriate way to incorporate women into their projects. While costs have an impact on the agricultural productivity of water harvesting structures, it does

not usually account for large increments of crop yield and it is not largely correlated with its relative increase either. This suggests that a significant part of the increase in productivity can be attributed to the other inputs that GGS brings including: quality in the construction of the structures, appropriateness of the location, planning and ownership, management and conservation (GGS, 2019).

Additional benefits from the GGS model includes: choice in cash crops and ability to pair crops to appropriate season; greener grass and increased water availability improves livestock productivity such as up to 30 percent increase in milk production; increased agricultural ability has decreased market dependency; drinking water and groundwater have shown an average of up to 50 percent improvements (GGS, 2019). The GGS model produces high quality outcomes for both building and impact on the villagers' livelihoods.

## **RECOMMENDATIONS:**

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### **1. Utilizing the NREGA scheme as an alternative source of funding**

In light of the recent inclusion of pagaras to the list of admissible rural projects supported by the NREGA, GGS can now support villages in areas appropriate for pagaras and pokhars. GGS should therefore design standardized procedures to a) assist villages in their application process to ensure approval; b) work alongside and advise Gram Panchayats in evaluating villages' proposals. GGS should also continue working in villages and carry out activities that reinforce the sense of ownership for ongoing or completed projects in villages that benefit from the NREGA funds. Lastly, GGS should further its attempts to include taals to the list of admissible projects.

- a. Short-term benefit - GGS: An alternative source of funds will help expand CBWH in the region, while helping to overcome the limitations the cost-sharing model has in terms of reaching new communities.
- b. Long-term benefit - The region: By building GGS-related projects under the umbrella of a government program such as NREGA, GGS will strengthen its case for CBWH practices and will give them leverage to advocate for the inclusion of social capital development as a fundamental element in future government projects.
- c. Cost of Inaction: If the status quo remains, GGS may not be able to access money for expansion. This implies that the CBO will be unable to cater to the growing needs of over 2000 villages in the region. As mentioned in previous sections, the precarious living conditions in terms of sustainable access to water and lack of infrastructure limit villagers' ability to access quintessential services such as education, hospitals etc. As such, maintaining the status quo may result in the proliferation of poverty for a region already plagued with difficult living conditions.

### **2. The use of data to support GGS/ advocacy strategy**

To increase GGS' advocacy capacity, data collection and analysis are essential. This would assist in the exploration of new variables to measure productivity, water accessibility and quality of life. It would also increase the agency's ability to regularly perform cost-benefit analyses which would increase its ability to evaluate effective and ineffective methods within the work performed. It would also strengthen the agency's authority during decision making processes. Within data collection methods, GGS should explore Contingent Valuation Methods (CVM) to evaluate the impact of work performed that has non-marketable value.

- a. Short-term benefit – GGS: Collecting and processing data will enable GGS to monitor, evaluate, and showcase the outcome of its activities, thus improving its advocacy capacity.
- b. Long-term benefit – The region: With more data collected and analyzed, GGS' lessons will be more easily communicated across the region with both the governments and other organizations for improved outcomes in natural resource regeneration.
- c. Cost of Inaction: In the policy world, evidence-based policies are paramount. It provides a foundation for stronger advocacy. While GGS already has significant amounts of data, maintaining the current state of affairs could result in missed opportunities to robustly demonstrate the superiority of its CBWH practices. Moreover, not making use of the available data weakens advocacy efforts given the technical aspects of water-related issues.

### **3. Improving outreach capacity**

RGICS and GGS should consider programs or activities that foster attention towards said agencies. This has the potential to create new opportunities for sources of funding and or collaborative efforts with other agencies or external bodies. Digital newsletters, publishing statistics or success stories, guided visits to the villages are examples of how GGS could promote their successful methods to interested actors and possibly future stakeholders.

- a. Short-term benefit - GGS: By communicating its challenges and success stories to a broader audience GGS will be able to rise interest in its activities and find new partners and potential sources of funding.
- b. Long-term benefits - The region: Increased outreach will enable GGS to foster the development of long-lasting networks, coalitions, and partnerships to advocate for and ultimately upscale CBWH. In addition, this could promote GGS' prestige.
- c. Cost of Inaction: Our field visit to Karauli revealed the difficulty and importance of attracting the attention of decision-makers on CBWH. Lack of attention to GGS' work can stifle funding and further disinterest of decision makers on the issue. If decision-makers do not know about GGS' successful practices, they cannot prioritize it in their policy agenda and GGS will thus not be able to expand nor innovate in its work.

#### 4. Adopting a gender lens

To expand its practices, GGS needs to incorporate women in its projects. Previous attempts have inadvertently overburdened women with community-tasks in addition to their domestic duties. GGS should apply CVM to incorporate market value for women's work within the household, therefore avoiding additional community pressures. Mechanisms or educational programs need to be designed and implemented to break down stereotypical roles of women within patriarchal societies. Doing so could eventually allow women to equally participate in community tasks rather than strictly within the household. To preserve family trust, GGS should frame women's involvement as a benefit to the family. Lastly, women should be consulted on how they want to contribute to community tasks, and if no options are provided by the women, GGS should provide options as well as training for specific roles. One relevant avenue is support for training programs for animal husbandry. If possible, GGS should hire female trainers to a) help build trust with women in the community; and b) show GGS' commitment to empowering women. The Animal Husbandry Department is mandated to do the training for free and its services are available to GGS as a facilitating agency. This would come at no additional costs, and therefore preserve GGS' funds.

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- b. Long-term benefits - The region: Increased outreach will enable GGS to foster the development of long-lasting networks, coalitions, and partnerships to advocate for and ultimately upscale CBWH. In addition, this could promote GGS' prestige.
- c. Cost of Inaction: As per the literature, the lack of involvement of women in CBHW practices restricts the scope and efficiency of solutions. This, in turn, limits the benefits of such initiatives for not only women, but also family and ultimately the community as a whole.