



Baseline Report

Agricultural Practices and Challenges Faced
by Marginal Farmers
of Jharkhand

Topics

- Executive Summary
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- Major Findings
- Recommendations
- Conclusion



List of Acronyms:

1. EEWA Network: Empowering Energy-Water-Agriculture Network
2. PM KUSUM- Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan
3. JREDA- Jharkhand Renewable Energy Development Agency
4. JSLPS- Jharkhand State Livelihood Promotion Society
5. MGNREGA- The Mahatma Gandhi National Rural Employment Guarantee Act



Executive Summary

Jharkhand's rank in NITI Aayog's Multidimensional Poverty Index is the second lowest in the country. Agriculture is the primary livelihood for more than half of the state's population. Around 76% of its population lives in rural areas (Census, 2011).

SwitchON Foundation has facilitated the formation of EEWA (Empowering the Energy-Water-Agriculture Nexus) Network to build up strong interlinkages between energy-water-agriculture and work in a holistic approach. Presently, with 10 active civil society organizations in the districts of Deoghar, Dumka, Jamtara, Pakur, Sahibganj, Godda and Bokaro, SwitchON as a field level partner of Jharkhand Renewable Energy Development Agency (JREDA) has been doing promotional activities for solar pumps under PM KUSUM scheme.

A Baseline study was conducted in Deoghar, Jamtara, Sahibganj and Bokaro districts of Jharkhand in November 2021. **It was found out through the study that around 56% of the farmers have land size between 1-3 acres. Majority of the respondents have an income range between Rs. 3000 to Rs. 5000 per month but in Jamtara, income range falls below Rs. 3000 for most of the farmers.** More than 50% of the farmers depend on rains for irrigation till date pointing to the need for a reliable irrigation source.



Demographic profile

of the selected districts of Jharkhand



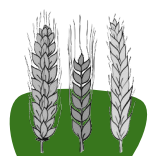
Population

Bokaro	5 th
Deoghar	9 th
Sahibganj	13 th
Pakur	18 th
Jamtara	19 th

Rankings in terms of population in the state of Jharkhand (Census, 2011).



Agricultural produce



Paddy

- Sahibganj
- Bokaro
- Deoghar
- Pakur
- Jamtara



Maize

- Sahibganj



Millets

- Bokaro

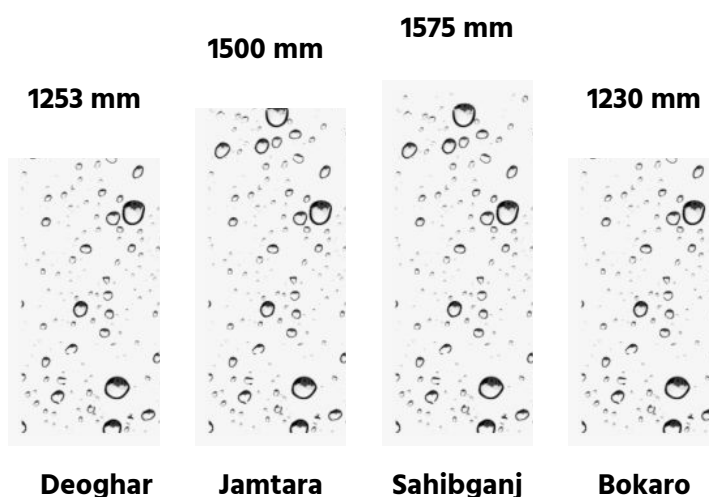


Pulse

- Bokaro



Rainfall



The per capita income in Jharkhand is around **Rs. 7000** for the year 2019-20.

Objective:

As SwitchON Foundation and EEWA Network is in the beginning phase of work in Jharkhand, a baseline study was conducted with 85 farmer households in four districts. The objective was to analyse and document their present socio-economic status particularly focusing on the present economic and irrigation status of the farmers.

Methodology:

The baseline study was a quantitative study conducted through survey forms by the EEWA Network partners. Purposive sampling method was used to include women farmers with whom solar pumps have been promoted. The data was collected through structured survey forms by our EEWA Network partners.

Major Findings:

The findings of the baseline study have been divided into various heads. The survey has been conducted in 4 districts covering 7 blocks- Deoghar (Devipur, Jharnawadi, Mohanpur and Karon), Jamtara (Fatehpur), Sahibganj (Barharwa) and Bokaro (Jaridih). A total of 11 Gram Panchayats and 17 villages have been covered in the study. Out of 85 respondents, 54% belong to Other Backward Castes. It is to be noticed that in Jamtara all the respondents belonged to the ST community, a fact that reflects with the 2011 Census data (30% of Jamtara's population constitutes Scheduled Tribes).

This section is followed by some recommendations that will help in building targeted area wise interventions.

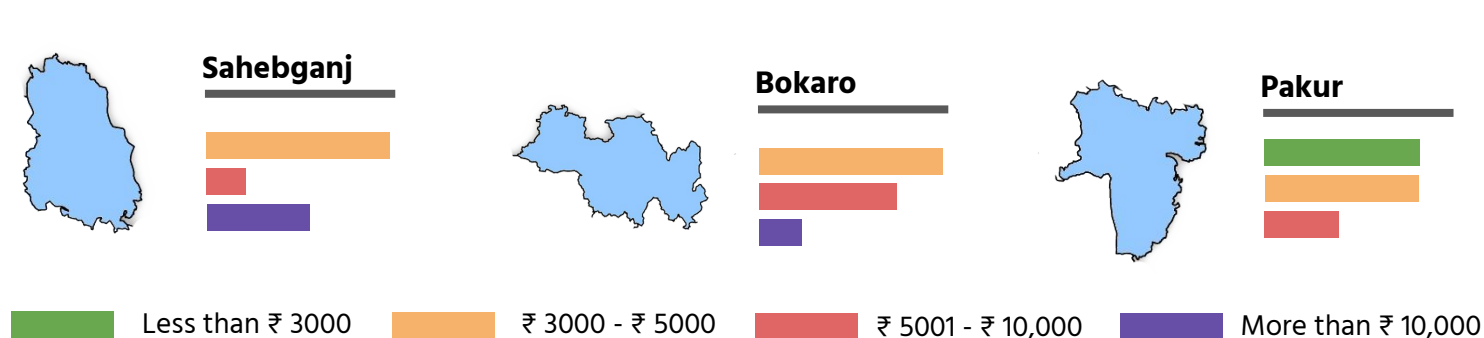




Findings

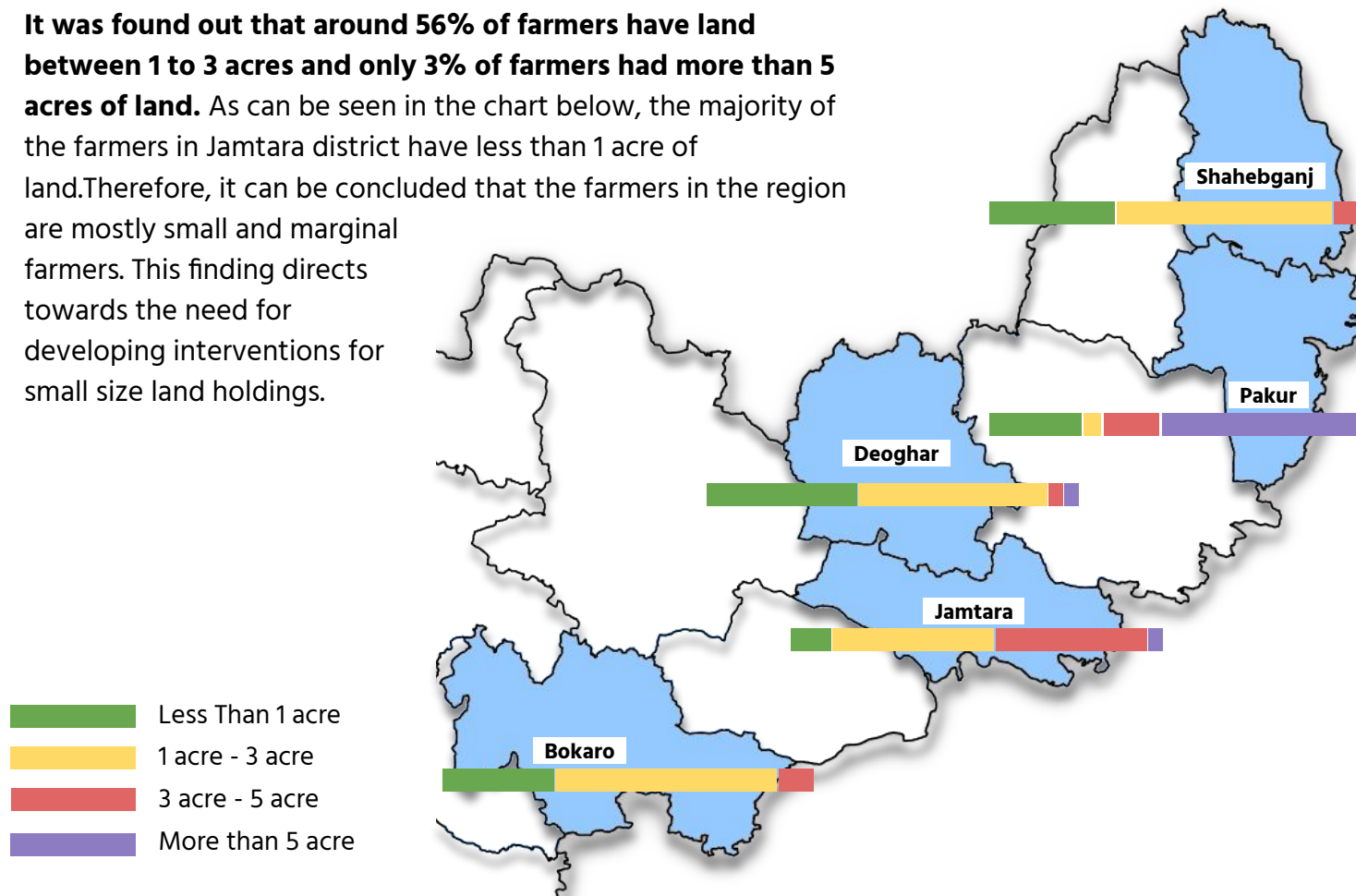
Income Status:

Around 30% of the respondents fall under the income category of Rs.3000-5000 per month. It can be seen that in Jamtara, the majority of farmers' income is less than Rs. 3000 per month and in Deoghar there the income levels of the farmers varies across all the ranges. It can be concluded that Jamtara has the highest number of poor farmers while in Deoghar there exists a difference in income standards of farmers.



Landholding Size:

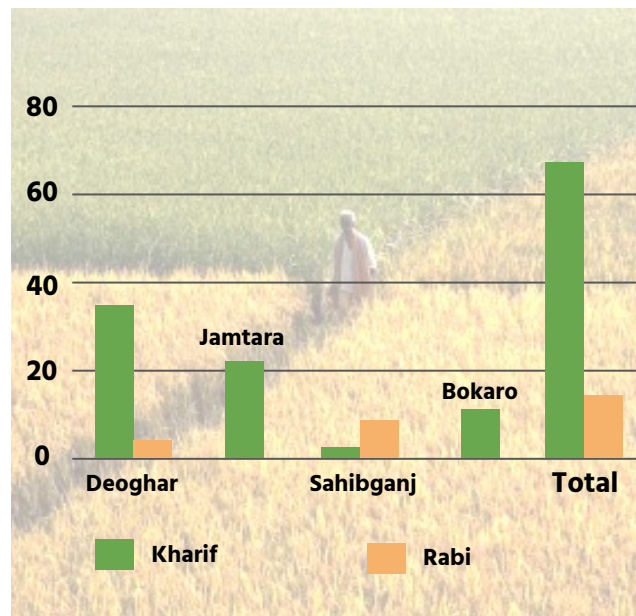
It was found out that around 56% of farmers have land between 1 to 3 acres and only 3% of farmers had more than 5 acres of land. As can be seen in the chart below, the majority of the farmers in Jamtara district have less than 1 acre of land. Therefore, it can be concluded that the farmers in the region are mostly small and marginal farmers. This finding directs towards the need for developing interventions for small size land holdings.



Cropping Seasons:

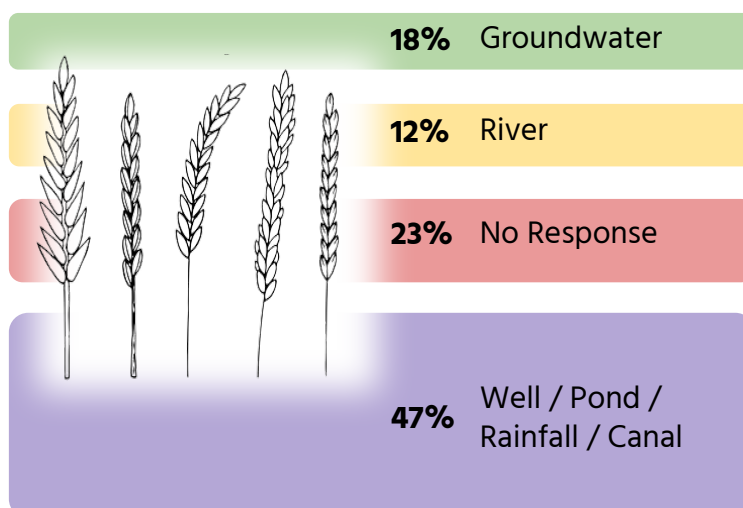
It is interesting to note that **76% of the respondents grow crops only during the Kharif season and only 14% of respondents grow crops in both Kharif and Rabi seasons.** Among the respondents, no one reported to have cultivated their land in all the three seasons. **Around 40% of the respondents practice multi-cropping i.e they grow grains, vegetables and oilseeds.**

At present farming in all the four districts is restricted to only one season. This emphasizes on the need of a reliable source of irrigation as it is a probable cause for not cultivating lands in non-monsoon seasons and this is where the promotion of solar pumps becomes timely.



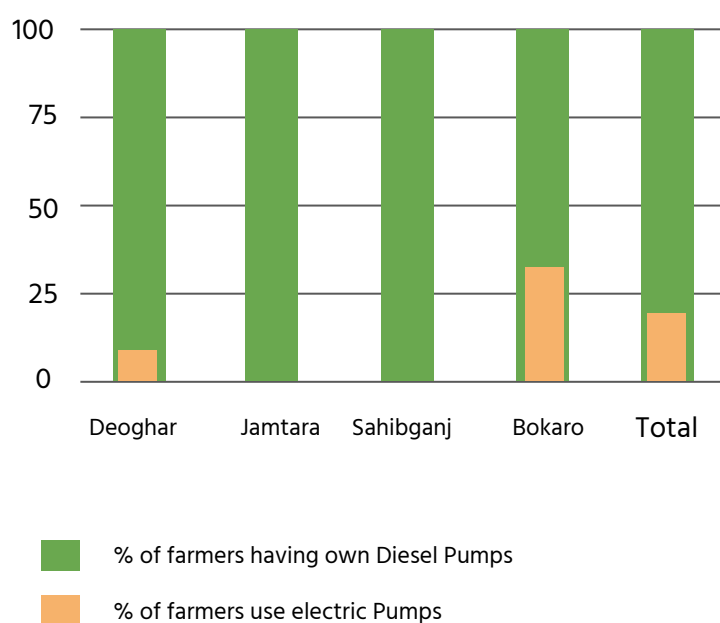
Present source of water for irrigation:

It was found out that **43% of the respondents used rainfall, ponds, wells or canals as a water source for irrigation while 34% of the respondents were dependent on groundwater.** It is important to note here that since a large percent of respondents are dependent on groundwater, installation of solar irrigation should not lead to another catastrophe of groundwater depletion. Hence, this points out to the need to combine solar pumps promotion with promotion of micro irrigation technologies like drip irrigation and sprinklers.



Present Pump Usage:

In the study, it was found out that around **50% of the respondents do not use water pumps at present and are mostly dependent on rains for their agriculture. Less than 1% of the respondents have separate electric connections for agriculture. Among the other 50%, around 37% of the farmers use diesel pumps to irrigate their land and the other 13% use electric pumps for irrigation.** This trend is highly disturbing as operating diesel pumps are not only expensive with the exorbitant rise in fuel prices but also polluting. The promotion of solar pumps is expected to help the farmers increase their income by allowing them to cultivate their lands in all the three seasons. It is also imagined to cut off expenses on maintenance that will help in increasing their savings over the years.



Recommendations:

From the above findings, the following conclusions can be derived- Jamtara is the most backward district in terms of economic status and land holding size of the farmers. The education level of the farmers in Jamtara is also poor compared to other districts with more than 30% of farmers being illiterate.

Therefore, based on the above observations, the following recommendations are being given-

Targeted Focus on Jamtara-

Targeted interventions can be developed in the Darpuja, Dandpuja, Tarabad, Manjhlachala, Bejbindha villages of Fatehpur block of Jamtara district as it has some of lowest percentage of economic and social indicators.

Convergence to increase livelihood opportunities-

Interventions towards convergence of different line departments like Jharkhand State Livelihood Promotion Society (JSLPS), Jharkhand Renewable Energy Development Agency (JREDA), Watershed Development Project, MGNREGA etc. can be worked towards. This will help optimum utilization of available resources keeping in mind the livelihood of small and marginal farmers.

Scheme Linkages-

Linking the farmers to the available schemes for uplifting their socio-economic condition.

Mass sensitization of farmers-

Awareness building and sensitization of community on different government schemes and services can be an important step. This will also serve as a tool of education for the community and enable them to participate better in democratic processes.



Conclusion:

With the present scenario in mind, the next steps will be to work on identifying specific locations in the identified villages that can be developed as exposure sites. Building local capacities among the rural communities on operating and maintaining solar pumps can be an immediate possible intervention. **Solar Pumps Technician training can be given to the young women farmers as a next step** for this. **Micro Irrigation technologies and drip irrigation and sprinklers** can also be promoted as next steps among the applicants of solar pumps so that water management and conservation is also kept in mind in future.



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