

CSR Impact Assessment for Water Conservation Project

Location: Songadh, Tapi District Gujarat
**NGO Partner: BAIF Institute for Sustainable
Livelihoods and Development**

Prepared For



HDB Financial Services

Submitted By



SOULACE CONSULTING PVT LTD

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DELHI NCR | MUMBAI | KOLKATA

Website: www.soulace.in; Email: enquiry@soulace.in

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Acknowledgement

SoulAce wishes to express its sincere thanks to HDB Financial Services and BAIF Institute for Sustainable Livelihoods and Development for providing its full support and cooperation towards conducting the Impact Assessment Study of the CSR Initiative. The study was undertaken in the selected villages in Tapi District in Gujarat.

The Research team is equally grateful to all the communities, SHGs, farmers, elderly, sarpanch and other stakeholders for their kind cooperation in providing the required data and support for this study.

Last but not the least, the team would like to thank the team of HDB Financial Services for their faith in SoulAce to conduct the study.

Chapter 1: Introduction

Impact Assessment of Abhutthan

A Holistic Tribal Development Model Supported by HDB Financial Services Ltd. Implemented by BAIF Institute for Sustainable Livelihoods and Development

HDB Financial Services supported BISLD to execute various developmental interventions in 10 villages of Songadh block, Tapi District, Gujarat during the year 2018-19. The main focus of the project was to enhance the availability of water through water resource development and conservation of soil moisture, which would thereby enable the community to have access to an assured livelihood from agriculture. Various activities like check dam repair, well deepening, farm pond, farm bund, etc., were planned in order to get assured water supply, which have shown positive results in the last year.

After its commencement in mid-March 2018, initial efforts were made to prepare the groundwork for implementation of the various activities. Thereafter, implementation of the program commenced with community mobilization for active participation in the program. The project was able to initiate conservation of water and soil in the cluster in a participatory manner in the first quarter itself.

Along with the physical completion of activities, the quality and standard of work were also being maintained and regulated by the visits from the engineer.

The second quarter was therefore able to see an immediate outcome in terms of improved water availability. The third quarter was thereafter able to witness an improvement in livelihoods from 2nd cropping which started because of an increase in water availability even during the dry season. The focus was then shifted to internal re-allocation of water. The participants saw a remarkable change in their cropping patterns. They were able to cultivate commercial crops in small irrigated plots which were expecting good returns. This provided a sustainable source of livelihood for them from their own resource base. Most of the targets for the final quarter were not only met, but exceeded the goal. A large number of new households were covered in this quarter, which increased the area of the coverage as well.

“અભ્યુત્થાન” સર્વાંગી આદિબ્રહ્મીતિ પિકાસ ગ્રાવંકમ અમલો કૃત



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About BISLD

The BAIF Institute for Sustainable Livelihoods and Development (BISLD) is a not-for-profit organization associated with the BAIF Development Research Foundation. The organization operates in 13 states in India with a mission to create opportunities for gainful self-employment for rural families and ensuring sustainable livelihoods, an enriched environment, an improved quality of life, and good human values. The work in Tapi is managed by its western regional office located at Vadodara and its headquarters is in Nasik, Maharashtra. BISLD operates in about 250 districts in the country and is probably the biggest among the private development agencies that work in the development space in India.

It is committed towards promoting sustainable livelihoods for the poor. The BISLD programmes make long-term efforts to meet the needs of rural households through an innovative and integrated approach to rural development and environmental conservation.

It gives prominence to working in partnership with the rural communities and uses community participation as a strategy to ensure effective planning and delivery of its activities. The work of BISLD in Tapi is carried out in 10 villages, which are the main focus of HDB Financial Services. The main activities in the Songadh Block are on Natural Resources Management which incorporates water resource development and soil moisture conservation, and making provision for the sustenance of agriculture-based livelihoods in the region.

Chapter 2: Research Methodology

Research can be defined as a logical and systematic search for new and useful information on a particular subject matter. Social Science Research refers to the systematic activity of gaining new knowledge by following scientific principles and methods in order to minimize bias and subjectivity. As opposed to writing something based on assumptions or speculation. Though information about certain facts can also be gained through common sense and based on general observation and hearsay, those facts won't be considered valid until they have been obtained in a methodical manner that can stand the test of time. The defining characteristics of scientific research are objectivity, ethical neutrality, reliability, testability, and transparency.

Identification of the research problem provides the starting point of research, which is then defined and redefined through a proper review of literature on the problem or deliberations with research guides and knowledgeable others in the area of interest. Each research problem has a multitude of perspectives and dimensions. Research cannot go on covering all those in one study. Thus, we need to delimit the research problem into a measurable problem and formulate objectives, make decisions on the research design, sample design, type of research Instruments for collecting the data,

and how these data can be edited, coded, classified, tabulated, and interpreted so that findings and conclusions can be reached.

Every research needs to have a proper methodology so as to foresee problems that could arise in the course of research and also to steer through the research process in proper direction without losing focus.

Use of Mixed Methodology for Maximum Insights

The research problem consisted of understanding the extent of the impact created by HDBFS supported initiatives, to improve economic condition of the agrarian communities, through sustainable use of water resources and adopting environmentally friendly agriculture in conducting Impact Assessment of Abhutthan: A Holistic Tribal Development Model Supported by HDB Financial Services Ltd. implemented by the BAIF Institute for Sustainable Livelihoods and Development (BISLD) in Gujarat.

Towards this end, to gain maximal insights, both Quantitative and Qualitative Techniques are used.



Application of Quantitative Techniques

A Quantitative Study will be needed if the focus is on presenting the study problem in terms of numbers, frequencies, percentages, etc., A Quantitative study always uses structured tools like Questionnaire and Interview schedules, in which questions are planned well ahead by the researcher before entering the field.

Though the information that is obtained is easily amenable to various statistical measures and tests, quantitative information has its own limitations. It can uncover only the surface phenomenon. It is unable to penetrate beneath the surface and identify what is hidden deep beneath.

In this study on assessing the impact of the structured tool of Interview Schedule administered was used. This helped in getting quantifiable information.

Application of Qualitative Techniques

Qualitative Research can only reveal enriched and hidden information that may not be evident on the face of it. The qualitative approach is distinguished by deeper probing and flexibility, and it can yield massive amounts of data that were not anticipated when the research was initiated. For better accuracy while

ensuring anonymity and at the same time, to cover a larger sample population, Quantitative Techniques were used.

Qualitative Techniques of Interviews with Key Stakeholders and Interviews with Community People were adopted for a better understanding of the problem alongside Quantitative Research.

Ensuring Triangulation

Triangulation is needed to increase the credibility and validity of the research findings. It is also a measure taken to ensure the trustworthiness of the research process. The findings of the quantitative research have been verified with the insights from qualitative research and the report has also been structured to reflect this point.

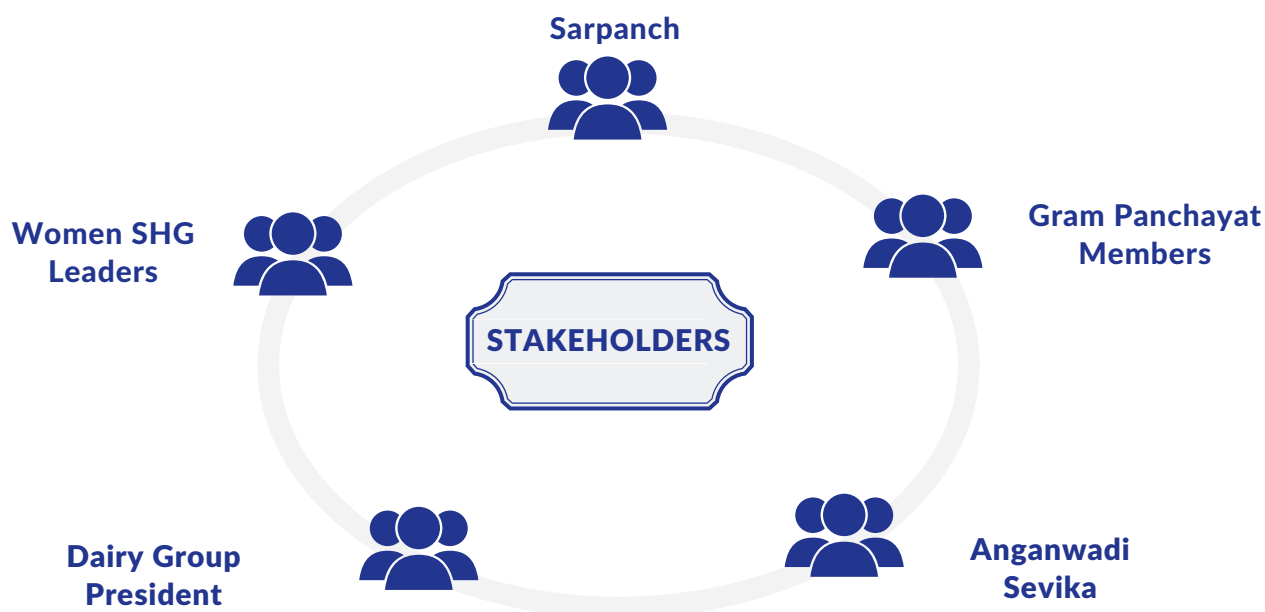
Research Design

- **Name of the project** : Abhutthan, Holistic Tribal Development Model Supported by HDB Financial Services Ltd. Implemented by BAIF Institute for Sustainable Livelihoods and Development (BISLD) in Gujarat.
- **Project Partner** : BISLD
- **Research Design used** : Descriptive Research Design
- **Sampling Technique** : Purposive Sampling
- **Sample Size** : 150
- **Qualitative Methods used** : Focus Group Discussions, In depth Interview and Case Studies.

List of villages covered during field study

S. No.	Name of the Village	Type of water conservation structure	Taluka	District
1	Chorvad	Nala bund, Masonry Field Outlet, check dam desilting.	Songadh	Tapi
2.	Karshi	Nala bund, Masonry Field Outlet, check dam desilting.	Songadh	Tapi
3.	Rampura	Nala bund, Masonry Field Outlet, check dam desilting.	Songadh	Tapi
4.	Kanadevi	Nalabund	Songadh	Tapi
5	Karshi	Check dam desilting.	Songadh	Tapi
6.	Kanala	Masonry Field Outlet, well deepening. Ground Open well.	Songadh	Tapi

Stakeholders Covered



Objectives of the Study

The Study intends to find out the Impact of the CSR Intervention of Abhutthan: A Holistic Tribal Development Model Supported by HDB Financial Services Ltd. implemented by BAIF Institute for Sustainable Livelihoods and Development (BISLD) in Gujarat.

Specific Objectives in the Thematic Area of Water

Project Partner	Specific Objectives
BISLD	To assess the extent to which the availability of water through the various water conservation structures has been enhanced through the project, Intervention
	To assess the extent to which check dam repair, well deepening, farm ponds, and farm bunds have resulted in changes in the cropping pattern and crop yield.
	To assess the extent to which the income levels of the farmers have been enhanced through the water conservation interventions.



Ensuring Commitment to Research Ethics

1. Anonymity

Anonymity refers to not revealing the identity of the respondents. This research study strictly sticks to not revealing the identity of respondents unless the same is warranted for illustration of success stories or case studies. After the research is completed, the research should not reveal which individual respondents answered which question in what manner. The results will be revealed only as an aggregate, so one will not be able to single out the identity of a particular respondent. This is required to not break the trust of the respondent by revealing the individual's identity.

2. Confidentiality

Research subjects participate in the process only on the basis of the trust that confidentiality will be maintained. Hence, the research will not reveal any data regarding the respondents for purposes other than the research study.

3. Non Maleficence

Research should not lead to harm to the research subjects. This study ensures that the respondents are not harmed in any way.

4. Beneficence

Any research study should lead to some benefits for the respondent. This research study ensures that individuals, groups, and communities are benefitted and their well-being enhanced.

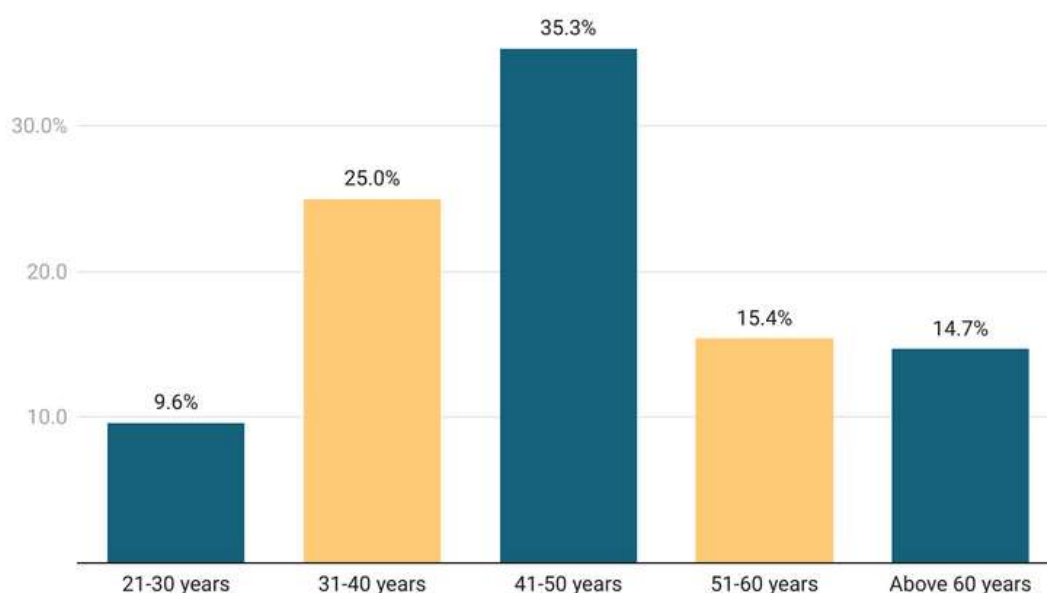
5. Justice

Justice refers to being fair to all. This research study ensures equal treatment of all its research subjects and no biases or prejudices towards any group based on social stereotypes or stigma associated with being a member of a certain group or class.

Chapter 3: Major Findings of the Study

Age Distribution of the Respondents

Percentage Distribution of respondents by Age

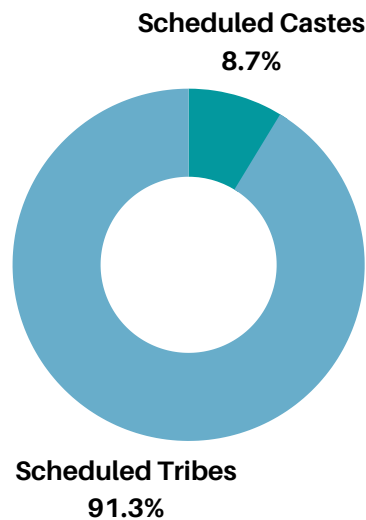


It can be observed that the respondents are spread across age groups from 21 to 60 years and above with the major proportion of 41-50 years at 35 percent followed by those in the age group 31-40 at 25 percent. Those in the age group 51 to 60 years form 15.4 percent, followed by

14.7 percent in the age group of more than 60 years and 9.6 percent of the respondents in the age group 21 to 30 years. Thus, it can be inferred that the majority of respondents (60.3%) are between the age group of 31 years and 50 years.

Community wise distribution of respondents

Percentage Distribution of respondents by community



It can be seen that almost the entire sample population i.e., 91.3 percent is composed of Scheduled Tribes and 8.7 percent of the respondents belong to Scheduled Castes.

SoulAce research team observed that the project communities were rightly chosen, as all these communities had a population predominantly consisting of small, marginal, and medium farmers belonging to the backward Gamit Tribes. The project communities were chosen by keeping in mind that the beneficiaries are really in need of a facilitation for economic and infrastructural support to spruce up their ailing agricultural activity.

Agricultural productivity was dwindling and farmers were losing hope in their ability to revamp agriculture. The agricultural lands were dependent on rainfall only for irrigation, and hence only single cropping was undertaken.



Repairing of wells to rejevunate lives – The story of how renovation of an open well brought hope to families



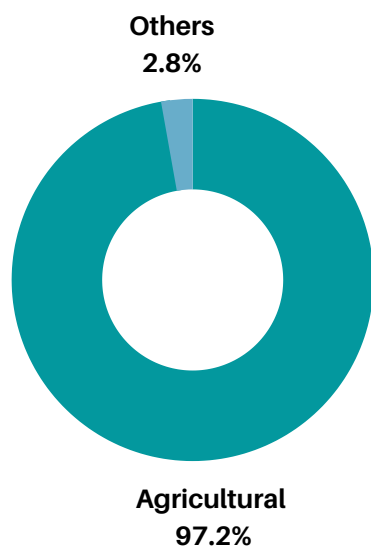
Divanjibhai Sonyabhai Gamit, hails from the village, Nanabandharpada. HDBFS undertook renovation of an open well near her farmland in the year 2020. Though Divanjibhai had 4 acres of land she was not able to use a major part of her land, as there was a dearth of water of irrigation in her field. She could cultivate her land only during monsoon with rainwater. When the Project staffs came to her village, during interaction she expressed her inability to cultivate the land properly. Project staff inspected her farmland and found an open well with water level almost touching the bottom with the depth of only 18 feet.

When they interrogated her regarding the open well and no maintenance, she said that her family did not have enough means for renovating the well. The Project staff assured her of their support and the staff team decided that excavating soil from the well and deepening it would help with better water catchment and retention. The Intervention of well deepening was undertaken and a brick-concrete wall was also built for safety reasons. Due to well deepening the water level of the well went up during the rainy seasons and there was better retention of the water, for 5-6 months after the last rain.

She expanded her cultivable land by more than an acre due to the availability of water. Earlier, she was cultivating Wheat and Green Gram and used to do single cropping only. After the deepening of the well, she is now able to undertake cropping two times in a year. She is now growing maize as well because of water availability. The farm income has gone up from Rs.21,000/- to about Rs. 57,000/-. Not only her, but about 8 farmers located in the proximity of the well were also benefited and were able to expand their cultivable area, change their cropping pattern and get more yield and income.

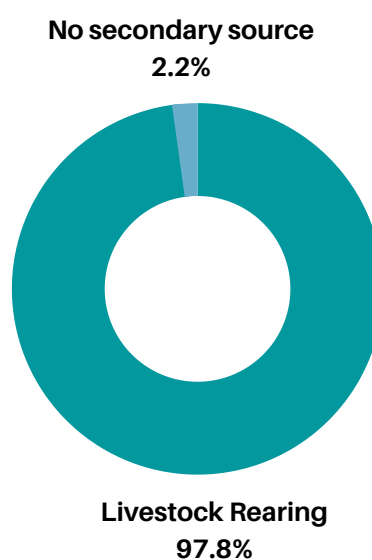
Primary and Secondary Source of Income of the respondents

Primary Income Source



It can be observed that almost all the respondents, i.e., 97.2 percent of the respondents have agriculture as their main source of occupation followed by 2.8 percent of the respondents who have activities other than agriculture as their primary source of income.

Secondary Income Source



When the respondents were asked about the secondary source of income, almost all the respondents, i.e., 97.8 percent stated that they were involved in livestock rearing, followed by 2.2 percent of the respondents who had no secondary source of income.



Ramabhai Ganabhai Gamit, 50 years, Male, Kanadevi said, "I have 1½ acres of land, and I cultivate paddy in it. If I had more land, I would have grown other crops too. Because of the Nala bund in my village, water availability has increased to an extent. Earlier, I used to raise a single crop, and would get around Rs.27,000/- from it. Now, I raise two crops of paddy and my income is around Rs.50,000/-."



Gurjibhai Nastakbhai Gamit
Rampura village, Songadh Block

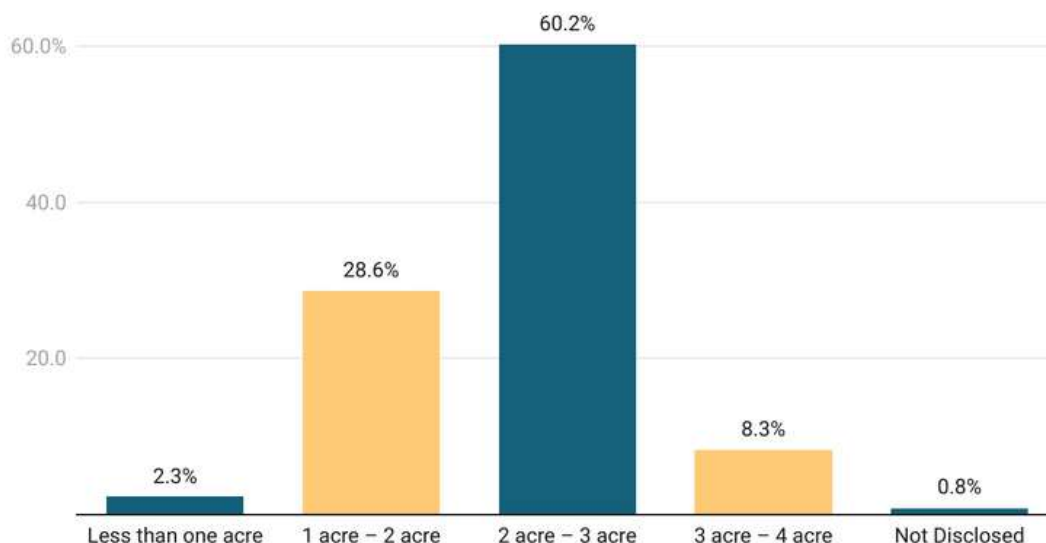


Gurjibhai Nastakbhai Gamit, 38 years, Rampura village, Songadh block says, "I belong to an agricultural family and my parents and forefathers had been traditionally doing agriculture only. I have only 1.75 acres of land and manage my crop cultivation within it, but only depending on rainwater.

The NGO people did the check dam desilting, because of that there is better water retention now. Earlier, I was cultivating Sorghum, Paddy, and Lentils and was able to do only single cropping. Now in addition to these crops I am also growing millets, and Tur Dal because the water situation is better now. I am also doing a second cropping which was not possible before. Because of the increased water availability and moisture in land we can see more greenery now-a-days in the village and the cattle are able to have better green fodder than before. Expenses on providing fodder to cattle have reduced to an extent".

Size of farmland

Percentage Distribution of households by the size of farmland



It can be observed that majority of the respondents, i.e., 60.1 percent of the farmers have a landholding from 2 to 3 acres of land, while 28.6 percent farmers have a landholding between 1 to 2 acres of land and 2.3 per cent having a landholding below 2.3 acres of land. Only 8.3 percent of the respondents have between 3 to 4 acres of land. Thus, it can be seen

that 91 percent of the respondents have a landholding less than 3 acres of land and these farmers are categorised as small farmers and their ability to produce more crops or diversify their crop production or use of modern technologies for cropping and harvesting, or making large scale investments for land improvement is very much limited.



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Jasvantbhai Pataliyabhai Gamit Aged 52 of Kanala village, member of Gram panchayat said, " There are about more than 50% of the farmers who own land of size 2 to 3 acers and come under marginal category hence it is very difficult for them to invest in large amount on fertilizers or in constructions of well due. This initiative has been a bliss to us and we are grateful to BAIF & HDBFS for their support.

— ” —

Jasvantbhai Pataliyabhai Gamit



From Grassland to cultivation of Paddy

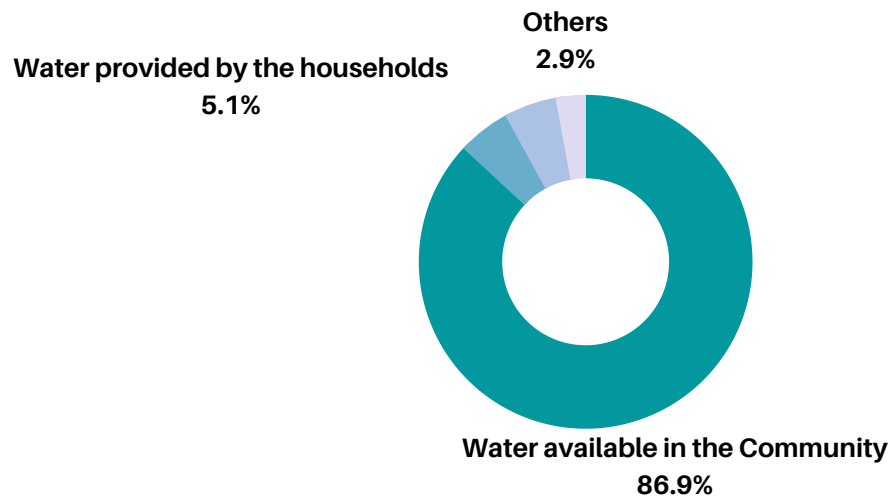


Vanitaben Harajibhai Gamit, 45 years, Female, of Chourvad, Songadh has 2 acres of land and was unable to cultivate anything useful on the land because of water unavailability. Her land was fully covered with grass and was growing paddy on and off, depending on the rainfall in that year. And the paddy grown in the land was sufficient for home consumption. She had given up hope of cultivating her land as she did not have any means to invest in bore wells and irrigate her tiny patch of Land.

But as she came in acquaintance and interacted with the Project staffs, she found a hope that she could improve the cultivation of her land, if she builds a farm pond on it. When she discussed this with her family members they were not enthusiastic and did not show any interest in it, and told her it would only be a waste of money and energy. But she was convinced through repeated conversations with the Project staffs and thought of taking a chance as a last resort. She somehow managed to convince her family members and all of them joined together in building the farm pond which was completed in the year 2019.

After the construction of the farm pond she could see the water retained in it even after 3-4 months of the last rain. She was able to raise about 2400 kg of paddy which she sold in the market and got an income of Rs.38,000/-. The water level and moisture has been observed to have increased in the wells of the neighbouring farmlands, after the construction of this farm pond. She thanked BISLD and HDBFS for making the farm pond possible.

Source of drinking water for cattle



When the respondents were asked about the source of water for drinking for the cattle, majority of the respondents, i.e., 92 percent stated that the water availability in the community, like lakes and ponds, used to be the source of drinking water for cattle, while 8 percent stated that individual households used to provide drinking water for the cattle.



Sumaben Jinaben Gamit
45 years, Female, Kanala

Sumaben Jinaben Gamit, 45 years, Female, Kanala said, "I have about 3 acres of land, and earlier, I used to grow Paddy, Tur, and Millets. Since, we were dependent on rainwater alone for irrigation, I was able to grow these crops only. Adding to this, the cattle also have to be provided with water to drink. After the various water conservation activities of the NGO in this village, the water situation has improved a lot. Now I am growing eggplant, small quantities of tomatoes, and maize on my land. Some of the maize we give to the cattle. Earlier, it used to be very difficult to make arrangements for drinking water for the cows and buffaloes. Now they go for grazing in the community and have access to water from the water bodies in the community. So I am very relieved and it is a relief to all farming households like me, most of whom will be having cattle too."



Check dam repairs have aided the optimum flow of water

SoulAce Research team found that the check dams constructed across streams to increase water holding capacity and enhance availability in

the upstream command area were in good shape and were found to reduce the speed of runoff water and also maintain the optimum flow of water.

Farm ponds aid in the recharge of ground water

Farm ponds constructed to serve the purpose of water harvesting and storage for critical irrigation were found to be retaining water even after 4-5 months of the last rain. These farm ponds not only aided the irrigation of the agricultural lands in which they were located but were also helping in

recharging the ground water in the nearby regions.

Four farm ponds each of size 15 m x 8m x 1m and one of 7 m x 5 m x 1m dug-out for a cumulative capacity of storage of over 5 lac litres water were found to be functional.

Bunds and Nala Plugs are found aiding soil moisture conservation to a large extent

Bund, outlet and Nala plug constructed in the project villages were found to be optimizing soil moisture conservation and also providing channel for the drainage of

water. Soil erosion and conservation of soil moisture, were reported to have been achieved as revealed through the conversations with community members.

Repair of open wells

Open wells in the project communities were identified and excavation and deepening work of the wells were carried out to enhance their water

storage capacity. These open wells are functional and also aid in recharging the groundwater of the areas proximal to it.





Check dam constructions/renovated have aided the optimum flow of water

SoulAce Research team's interaction with the farmers and various stakeholders revealed that the check dams constructed and those renovated are helping in slowing the speed of the surface run off water and

also and enhancing availability in the upstream command area. The check dams were in good shape and were found maintaining the optimum flow of water.

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Fishing opportunities by fishing in farm ponds



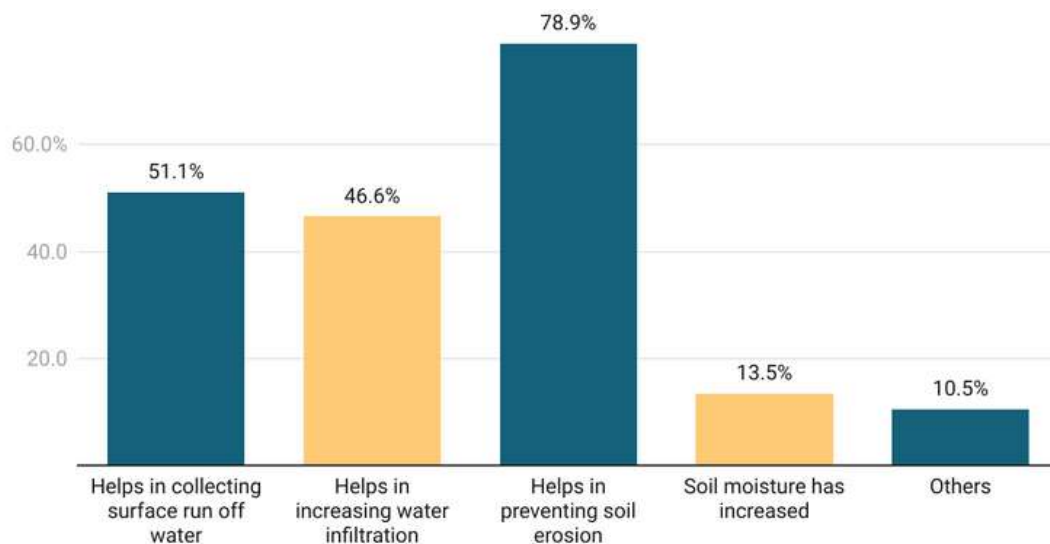
Gamit Balubhai Shankar hails from Tokarava village in Songadh Taluk.

She had 2 bighas of land but was unable to make any productive use of the farmlands. She was restricted by her limited financial resources and sole dependency on rain water for irrigation. She used to cultivate small quantities of paddy and vegetables, which were just sufficient for home consumption, and she was worried that she could not make anything worthwhile from the farmlands. Although she had two buffaloes, she was not able to provide proper fodder for them regularly. When the Project team approached her for construction of farm pond, she was not hopeful initially and thought that is not going to change her life in any way.

Later, she reluctantly agreed, but her family members also joined in the work of pond construction. During monsoon, she was amazed to find the amount of water stored in it. She never thought that the rain water would be held for over 6 months in her field. Then she consulted with Project Team about nurturing fish in the farm pond and whether that would be a viable option. Later, she started cultivating edible freshwater fishes in her farm pond, which multiplied by huge numbers in a short span of time.

In over a period of 8 months, since she started the activity, she was able to procure about 175 Kg of fresh fish which was of good quality and taste. The fish was of such good quality that she was able to sell one kg of fish for Rs.240 and there was a good demand for pond fish in her community and neighbouring villages. She got an income of Rs.42000/- in a year, which was hugely disproportionate to the investments she made. Her family was happy about the extra income and they were able to repay some of the long-lasting loans with this amount.

Environmental benefits because of various water conservation activities



When the respondents were asked about the benefits they experienced by the community because of the various water conservation activities, 78.9 percent of the respondents stated that soil erosion is prevented to a larger extent, 46.6 percent of the respondents stated that water infiltration has increased.

51.1 percent of the respondents stated that they see a better collection of surface run-off water now, and an equal percentage of respondents stated that soil moisture has got increased because of the various water conservation structures in the community.

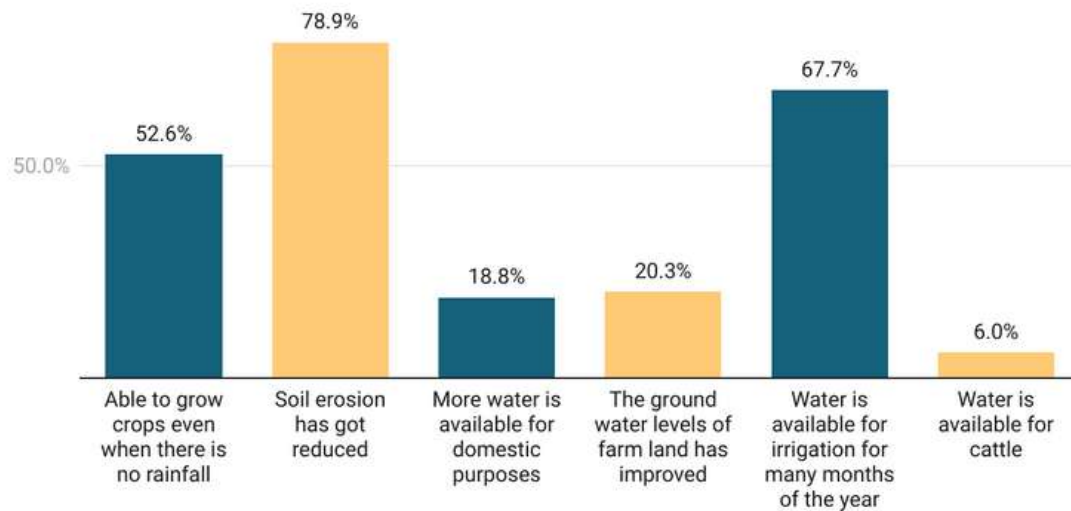


Gulbiben Rahnjibhao Gamit, 61 years, Female, Rampura Village, Songadh block said, “The NGO built Nala bund in our community and because of this, soil erosion has been prevented. Soil moisture has increased to a large extent. Earlier, I was cultivating sorghum and paddy in about 1½ acres of land because of limited water supply and was dependent on rainwater alone. Now because of increased soil retention, I am now able to cultivate millets, lentils, and tur dal too. This has improved my farm income by about 30%.”

Gulbiben Rahnjibhao Gamit



Benefits experienced Individuals due to increased water availability



When the respondents were asked about what were the benefits that were experienced by them because of the various water conservation structures, 52.6 percent of the respondents stated that they were able to grow crops even when there

was no rainfall, followed by 78.9 percent of the respondents stated that the soil erosion reduced. 67.7 percent of the respondents stated that the water is now available for irrigation for most of the months in a year.



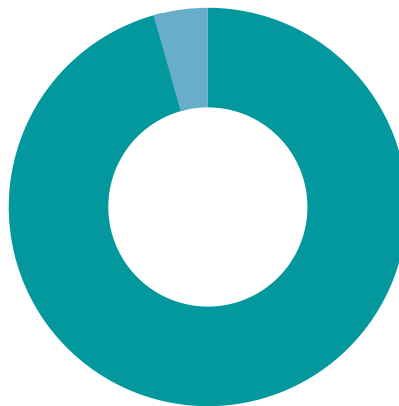
Gamit Chandiyabhai Bekriyabhai, 42 years, Male, Kharshi, said, "I can see the community has become more green these days compared to 4-5 years ago. There is a lot green fodder available for cattle. I have heard my neighbours mentioning that the yield of paddy has increased and most of them have started growing different crops as well, which I think is because of better water availability. Earlier, I was growing paddy and lentils. Now, I am growing Tur, millets, and sorghum also."

Gamit Chandiyabhai Bekriyabhai

Contribution of manual labour for construction of water harvesting structures in the community

Percentage distribution of households by their contribution of manual labour for the water harvesting structures in village

% of HHs didn't contribute manual labour
4.4%



% of HHs contributed manual labour
95.6%

Consultation and participation is the key to success of any community initiative. Hence, when the respondents were asked whether they were involved in the lake renovation undertaken in their community, almost

all the respondents, i.e., 95.6 percent stated that they participated by involving in manual labour while only a negligible proportion of 4.4 percent stated that they did not involve in the process.



— “ —

Rameshbhai Kishanbhai, Member of farmer group Aged 47 resident of Kharsi village he said that the support provided has helped the farmers to take up second crop which are of good market value, such as Tomato, Brinjals and have increased their annual income by 10000 to 15000 approximately.

— ” —

Rameshbhai Kishanbhai

Community was taken into confidence to ensure maximum support

Komabhai Jatriyabhai Kanadevi



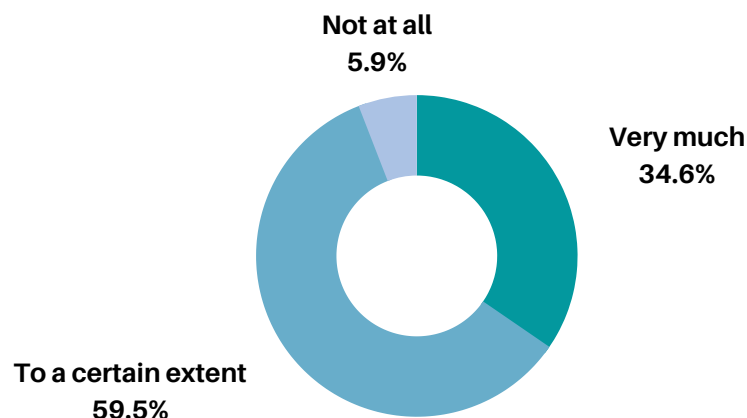
SoulAce Research Team's interaction with the community members in the different project communities revealed that there was a good amount of effort expended towards ensuring community mobilization. The meeting held with the community members helped in sensitizing the community of the need to conserve the scarce water resources of the communities by undertaking appropriate activities towards the same with community participation.

Community members were consulted during site selection as they had more knowledge about the terrain and the catchment areas. To ensure Community's continued involvement in maintenance of the structures and also to inculcate in them a sense of ownership, Community was involved in the execution of the project activities. This also helped in economising the labour costs for the project.

Kamabhai Jatriyabhai, of Kanadevi said, *"The Project people came to this village and in th neighbouring villages, to conduct survey in different places. They discussed with the community people about their requirement of any water conservation structure like farm ponds or masonry field outlets or nala bunds. Based on whatever is suitable for a particular community, they constructed it over there. Since, people knew that the NGO is undertaking these activities for their sake, they all supported these activities in some or the other. When they were building the Nala bund, many people, both young and old went there, including myself and extended hand in the construction work. I am of the opinion that only if people get involved in some work, they can feel some responsibility towards it".*

Participation in the discussion process during the planning stage

Percentage distribution of households by their contribution of ideas for the construction of the water harvesting structures



When the respondents were asked whether they were consulted during the planning process, 59.6 percent of the respondents stated that they were asked for their ideas for the construction of water harvesting structures. The community members do have more knowledge about their geographical terrain, the water holding capacity of their land, nature of soil, water catchment area, etc., and the challenges involved in and taking them into confidence and getting their

inputs is vital for proper designing of the water harvesting structure and its continued maintenance. Hence, when the respondents were asked whether they contributed their suggestions/ideas for the construction of the water harvesting structures, 59.6 percent of the respondents stated that they contributed their ideas/suggestions to a certain extent, while 34.6 percent of the respondents stated that their ideas were very much taken into account.



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Kantiben Gamit (President Maa Meldi SHG) informed SoulAce that the project team had visited their village before the beginning of the project and had held meetings with residents and asked for their requirements, after which they designed their interventions which best suited the villages.

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Kantiben Gamit, President Maa Meldi SHG

Jasodaben Girishbhai Gamit,

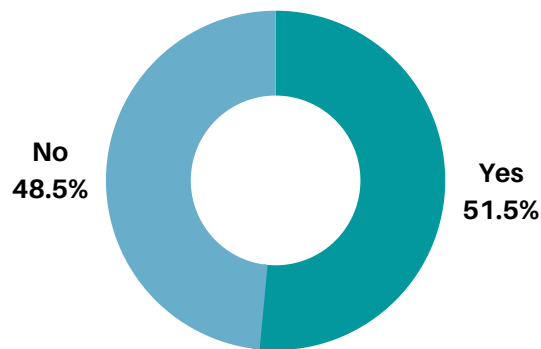


Jasodaben Girishbhai Gamit, 39 years, Female, Ramapura said, "The NGO came to our village 3-4 years ago and told us they were going to carry out some water conservation activities in the village, which would be helpful for irrigation of our lands. There was a check dam in our village, which was defunct because of improper maintenance.

They told us that they would repair it, desilt it, and consult with the community people. My husband also participated in some meetings. Now, the check dam is very helpful in water retention and preventing soil erosion."

Water user group

Percentage of households being part of water user group



When the respondents were asked whether they were part of any water user group, 51.5 percent of the respondents stated that they were part of a water user group while 48.5 percent stated in the negative.



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Dasriyabhai Kaliyabhai Gamit Aged 63 resident of Rampura village said that he owns 3 to 4 acers of land on which he used to cultivate Tur, paddy, lentils for about 25 to 30 years were the prime source of his income but after the support from HDBFS project for the manure provided by Desilting Check dam desilting the productivity of the farms has increased and additionally, 0.76 acres to 1 acre has come under cultivable due to the availability of water so he is able to cultivate crops which are of good market value such as Millet, Sorghum, Sugar Cane which has contributed in an increase in his annual income from 25,000 to 56,000.

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Dasriyabhai Kaliyabhai Gamit



Empowering women's life with Power Machineries. - The case of Portable life irrigation through women's collective.



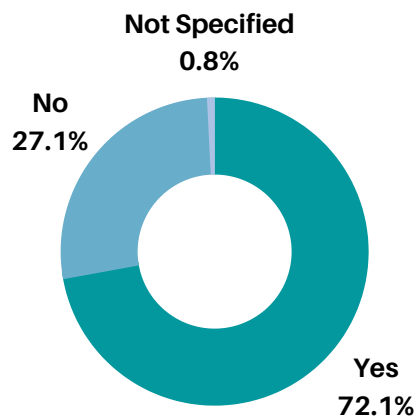
Achhalva village belongs to Songadh Taluk and is located at a distance of 10 Km from the headquarters of Songadh Taluka. The village has a Gram Panchayat of its own and has families belonging to Gamit Tribes occupying it. Considering the backwardness of this village in terms of its socio-economic and demographic indicators, HDBFS thought of adopting this village to bring about development projects. HDBFS along with BAIF decided to implement the Abhutthan project to spruce up declining agricultural productivity in this village by supporting the conservation of the scarce and underutilised water resources of this community.

Women of this village were all interested in contributing to family income from some or other productive activity, they lacked the knowledge. The project team brought 12 women together based on their common interest in economic activity and organised them into a SHG. They facilitated them with new cropping techniques and imparted sufficient training on these. As water used to be a persistent problem in these villages, the group brought one H.P. machine to pump out water for irrigation purposes. All the families used the H.P. machine for irrigation of their farmlands and in order to make extra money out of the machine, the group also rented out the machine to farmers who were in need of the machine for irrigation.

Due to this, not only the families of the SHG members were able to carry out irrigation on their lands, but other farmers in the village also benefited from the increased irrigation. This gradually led to increased yield and increased income. This group is cultivating green gram and the quantity is more than 8 quintals. The group also sells the Green gram in market and earns money from it. The women of SHG members realised an income of Rs.40,000/- from selling Green Grams and are hopeful of undertaking more diversification of their farm activities, so that they can contribute more income to their families.

Training in cropping Techniques

Percentage of households reported about receiving any training from the Project regarding cropping techniques

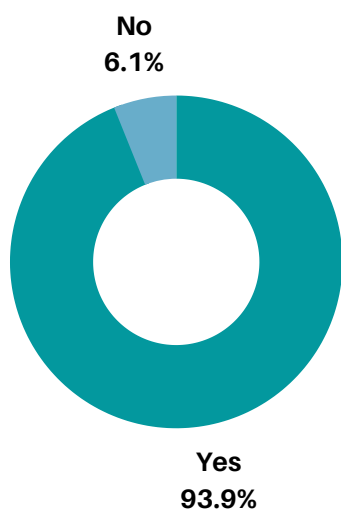


When the respondents were asked about whether the Project trained them in any cropping Techniques , 72.2 percent of the respondents stated that they were trained in

cropping techniques by the Project, while 27.1 percent of the respondents stated that they did not receive any training from the Project.

Participation in well deepening exercise

Percentage of households reported about participation in well deepening exercise

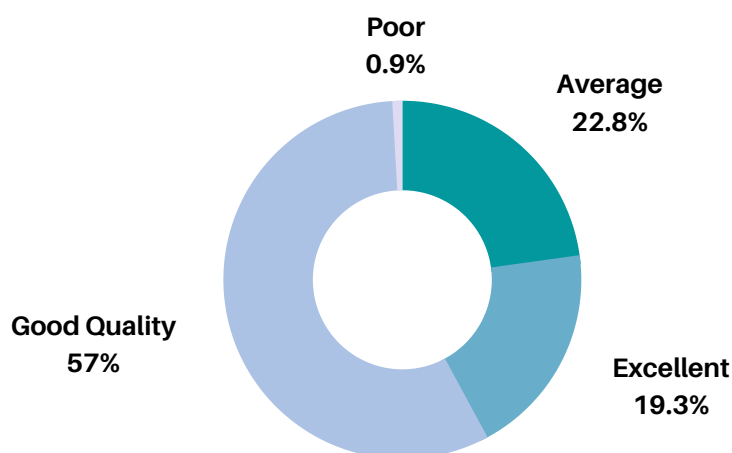


When the respondents were asked whether they participated in well deepening exercise, 93. 9 percent of the respondents stated that they participated in the same, while 6.1 per cent respondents denied that they participated in well deepening exercise.

Chapter 4: Impact of the CSR Intervention

Quality of well water

Percentage of households reported about quality of water fetched from these wells



When the respondents were asked about the quality of water from the wells, 57 percent of the respondents stated that the water is of good quality. The quality of water is average was mentioned by

22.8 percent of the respondents. There were also 19.3 percent of the respondents who noted that the quality of water from the wells was excellent.

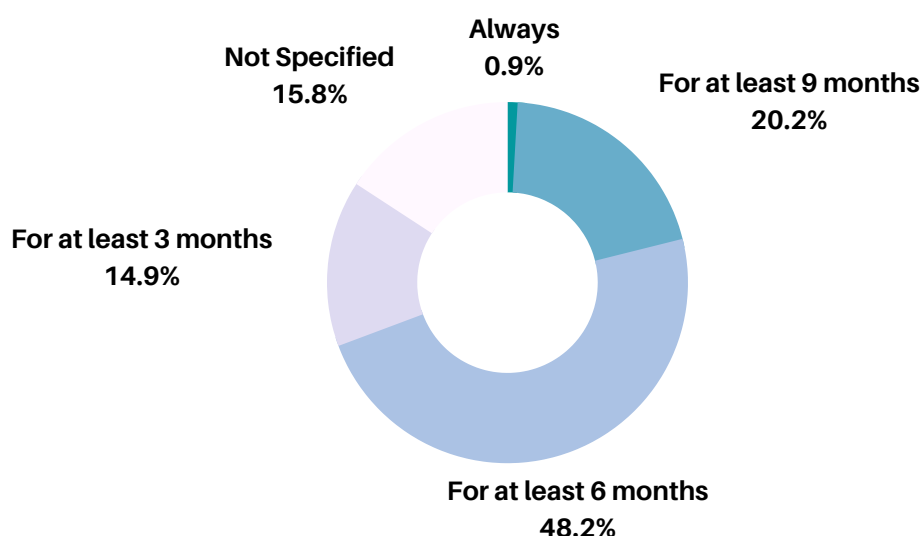


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Nathubhai Bhikhabhai Gambit, 62 years, Male, Rampura said, “When I started living here with my wife after marriage, the water used to be sweet and so good. But in the past 10-15 years, the water quality has deteriorated. But after the project team came and did work on various water conservation projects, I can sense the water levels have increased and the water quality has also improved.”

Nathubhai Bhikhabhai Gambit

Increased retention of water in the deepened wells noticed

Percentage of households reported about no. of months wells have water as compared to the times before they were deepened



When the respondents were asked for how many months were the wells able to retain the water levels after the deepening work took place, it was stated by 48.2 percent of the respondents that the water was retained for 6 months in a year, while 20.2 percent of the respondents

stated that the water would last for atleast 9 months. The water would last for atleast 3 months was stated by 14.9 percent of the respondents. Thus, it can be inferred that the wells were able to retain water from a minimum of 3 months to a maximum of 9 months because of deepening of the same.



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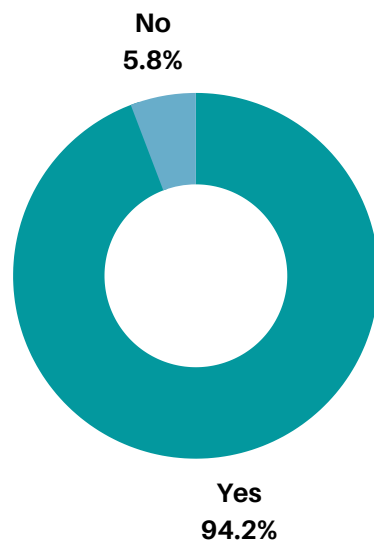
The members of Pipala Faliyu SHG - Kharasi village mentioned that the water quality of the well has improved and they have witnessed very less number of waterborne disease and also the water is odour less and clear. This is due to the repair work of the well conducted by HDBFS, which has turned the well into a catchment area to store rain water and is easily accessible for the community.

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Members of Pipala Faliyu SHG - Kharasi Village

Participation in check dam construction exercise

Percentage of respondents reported about participation in the check dam construction exercise



When the respondents were asked whether they participated in the check dam construction exercise, 94.2 percent of the respondents stated that they participated in the same, while

5.8 percent did not participate in check dam deepening exercise. Thus, it can be inferred that almost all the respondents were involved in the check dam deepening exercise.

Proper Technical Feasibility study were undertaken before Project Implementation

Interactions with community people and other stakeholders revealed that there was good participation from community members in the check dam construction exercise. Since, the project is themed around water resources development and soil moisture conservation the activities were commenced during summer months, when the water bodies would be dry and there would not be much hindrance in draining the water bodies of water to carry out the excavation work.

The selected sites were validated for their technical feasibility by the NRM expert and further reviewed by senior staff. Thereafter, guidelines were prepared for execution, contribution, use and maintenance. Design and site wise cost estimation were completed along with the required approvals.

Lifting lives out of poverty with Portable lift irrigation - Realization of Women empowerment

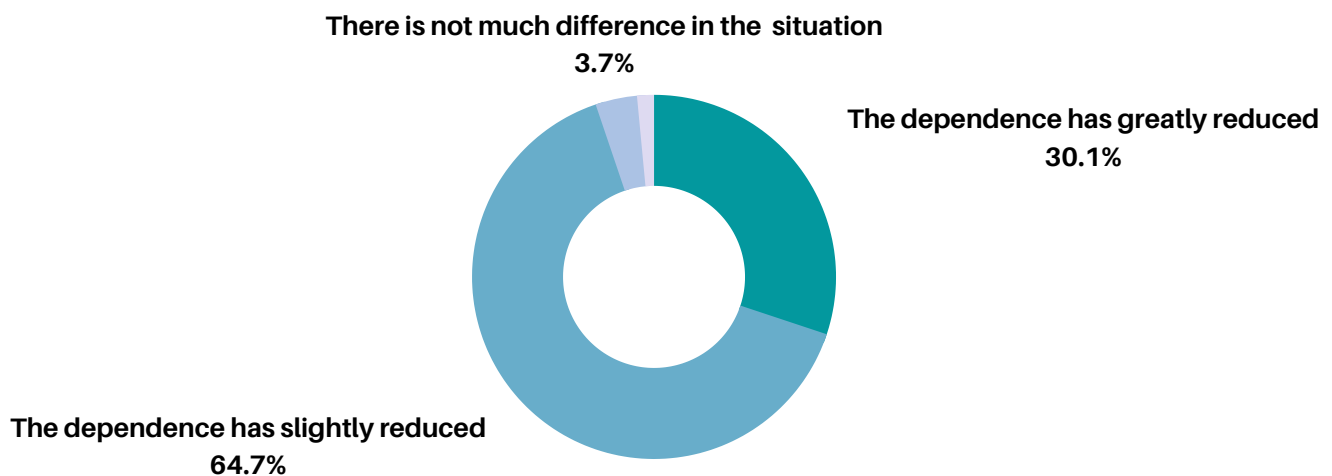


Project Team also facilitates the formation of female groups and the undertaking of productive activities by them as a means of empowering women. Project Team in the course of project activities in the Chorvad village formed the Jay Dashama group with 16 women from the community in the year 2019. All the women had 1 to 2 bighas of land but were concerned over their inability to cultivate anything useful or on a large scale from their lands for the purpose of realizing any monetary gains and contributing to family income. This was mainly because of cultivation being dependent on rainwater alone and not having any means of properly irrigating their lands.

Then Project Team mooted the idea of buying a portable pump for irrigation purposes and all the female members agreed that it was a good idea and pooled in their money for the purchase of the portable pump. Now they are able to carry out irrigation in their farmlands and they have started growing paddy, maize, oats, jowar, sorghum, millets, etc., and getting considerable income from it. Apart from using the portable pump for their own purposes, the group also rents out the pump to other members of the community and earns an additional income from it. Now, totally 36 families are benefited out of the irrigation facility made possible through the availability of portable lift irrigation and all the members thanked BISLD and HDBFS for making this happen.

Dependence on rainwater alone for irrigation has reduced to a large extent

Percentage distribution of households by their dependence on rainwater alone for irrigation after the construction of the water harvesting structures



When the respondents were asked whether their dependence on rainwater alone for irrigation has decreased or not, a major proportion of the respondents, i.e., 64.7 percent of the respondents stated that the dependence on rainwater alone for

irrigation has slightly reduced while 30.1 percent of the respondents stated that the dependence has greatly reduced. There was not much difference to the situation was also the response of 3.7 percent of the respondents.



Ruvajibhai Gopalbhai Gamit Aged 43 resident of Rampura village and a beneficiary of Nala bund project implemented by HDBFS - BAIF mentioned that the development work has helped him with the water storage of water even after 2-3 months of monsoon due to which the yield of the crops have increased.

When questioned that if he has observed any benefits pertaining to the quality of soil, he said, the soil erosion level has reduced, as previously there were incidents in which the sown crops did not grow well. Further, he notably mentioned that the check dams have also served as good drinking water sources for his cattles.

Ruvajibhai Gopalbhai Gamit

Yogeshbhai Girishbhai Gamit

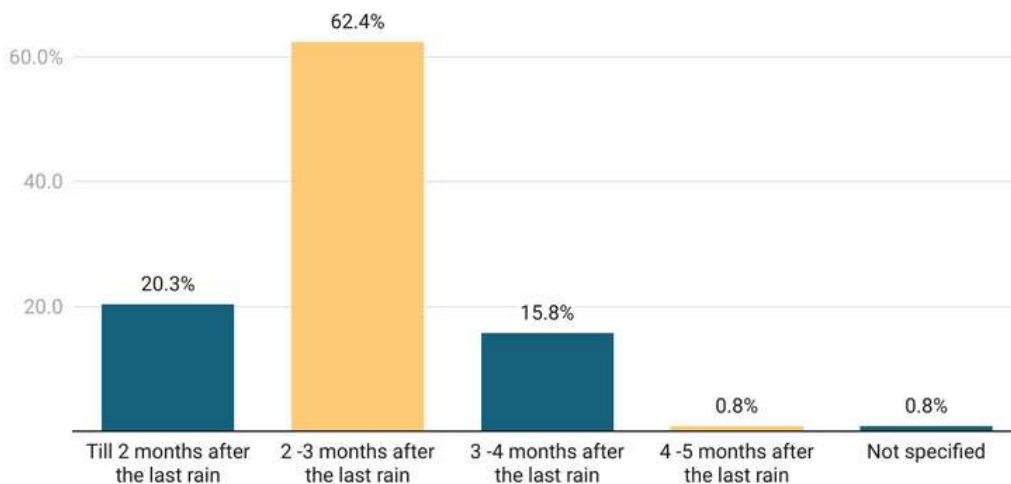


Yogeshbhai Girishbhai Gamit, 35 years, Male, Chorvad Village, Songadh Block said, "I have 2 to 3 acres of land, but was able to undertake cultivation only in a small part of my land and I used to do my cultivation dependent on the rainy season only. In some years we get good rains and some years it is dry. The NGO people did excavation of the open well near my field,

and because of it, there is good water availability now. Earlier, I was only cultivating Paddy, Toor, and millets. More water is available and the water table has also risen, I feel there is better water now, as compared to 4-5 years ago. I am cultivating in another 0.75 acres of land and growing millets, eggplants, and Tomato. I am also growing oats as there is good market for it."

Water retention after the rainy season

Percentage of households reported about the no. of months their farms ponds are able to retain water after the rainy season



When the respondents were asked how long the various water harvesting structures would hold water after the rainy season, the majority of the respondents, i.e., 62.4 percent of the respondents stated that the water would last for 2-3 months after the last rain, while 15.7 percent of the

respondents stated that the water would be there for 3-4 months after the last rain. Thus, it can be inferred that the water would be retained in the water harvesting structures from a minimum of 2 months to a maximum of 5 months after the last rain.



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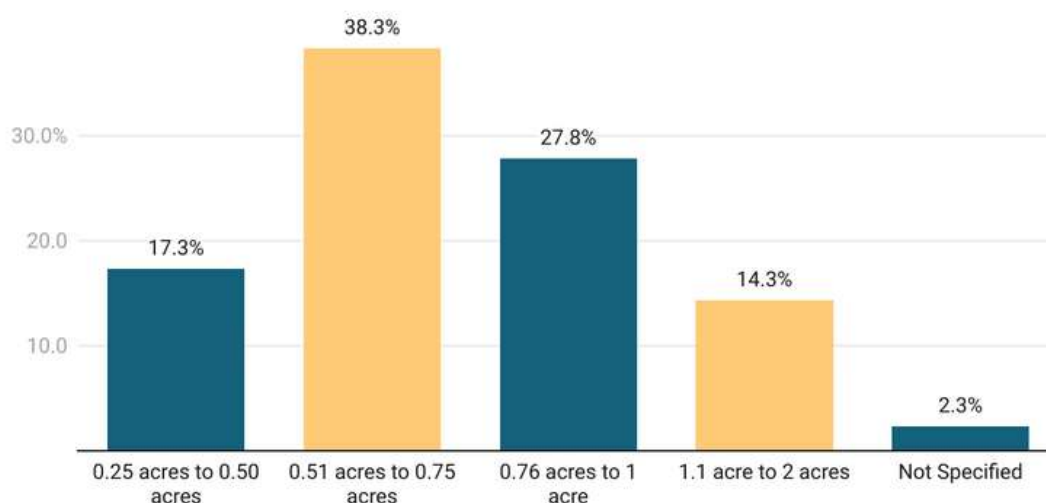
Yogitaben Jigneshbhai, Aged 32 resident of Chorvad village she runs a small dairy business from her home. She said, "The village had a shortage of water during the summer season, hence the village was tanker fed, but due to the construction of check dams and farm buds, we can see water in the village for longer duration during the year by collecting surface run off water. When questioned about being aware of the organisation supporting the project, she mentioned HDBFS.

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Yogitaben Jigneshbhai

The Land holding under cultivation has increased because of the water conservation activities

Percentage of households reported about acres of land additionally made cultivable because of the water conservation activities



When the respondents were asked about the increase in landholding made cultivable because of increased water availability due to the various water conservation structures, a majority of the respondents, i.e., 38.3 percent stated that there is an increase of 0.51 to 0.75 acres of land holding made cultivable because of the water conservation activities, while 27.8 percent of the respondents stated that an increase of 0.76 to 1 acre of cultivable land holding had

been made possible. An increase in 0.25 to 0.50 acres of additional land brought to cultivation was observed by 17.3 percent of the respondents, while 14.2 percent of the respondents also observed a change of landholding made cultivable between 1.1 acres to 2 acres. Thus, at least a minimum increase of 0.50 acres of land has been additionally made cultivable because of the various water conservation activities of the Project.

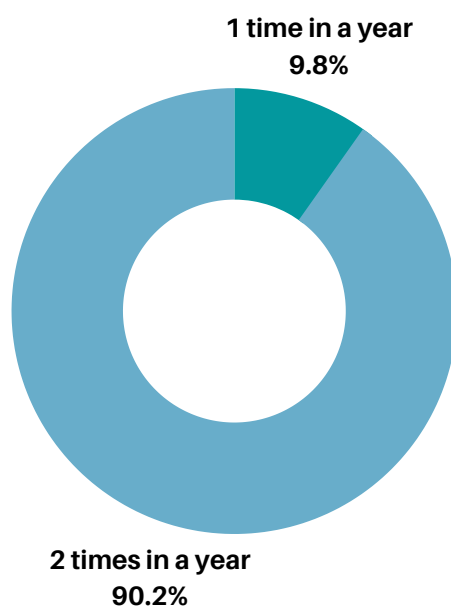


Nileshbhai Vechyabai Gamit, 35 years, Male, Kanadevi, said, "The NGO constructed a Nala Bund in our village, and because of that, we have increased water storage and the moisture content of the soil is well retained. I used to grow only a single crop of paddy before, but now I am able to grow two crops. Earlier, I was growing Paddy only. Now I am growing Paddy, Jawar and Bhendi too. As I have started cultivating new crops, I have also extended the cultivation to about another 0.75 acres."

Nileshbhai Vechyabai Gamit

There is a visible change in the number of times cropping was done.

Percentage of households reported about number of times cropping was done before and after the construction of the farm ponds



When the respondents were asked how many times they would crop in a year before and after the construction of the water harvesting structures, 62.4% of the respondents stated that they would crop one time in a year, while 37.4% of the respondents only stated that they would crop two times in a year. After the construction of the water harvesting structures, this has

significantly changed, only 9.8% of the respondents were undertaking cropping one time in a year, while 90.2% of the respondents started growing two crops in a year. This increase in the number of times cropping was done could be attributed to the increased availability of water due to the various water harvesting structures.

The story of how farm outlets let lives out of misery



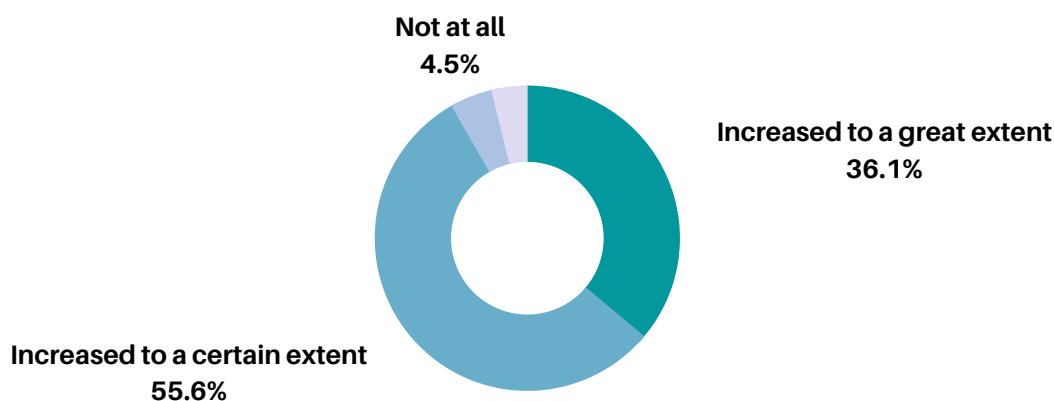
Lalubhai Narayanbhai Gamit, 76 years, Male, Gopalpura village was finding it very difficult to carry on cultivation in his land due to the sloping nature of his agricultural area, where water would run off and could not be retained. The terrain of his land was prone to frequent soil erosion, and the loss of fertile land mass also led to his struggling to carry on any productive activity in the field. Due to the huge amount of water wasted in run off, the field would become dry soon after the rains.

When Project staff visited his farmland, he narrated his problem to the staff and the technical team wanted to find a sustainable solution to this problem, so that his land could be put to some good use and he could derive some income out of it. The team decided to build a masonry field outlet so that the runoff water could be stopped and retained in the field. The building of the structure helped in largely reducing water loss as well it led to rapid reduction in soil erosion.

Now, his land is now able to retain moisture content for a long time. He is now able to step up his paddy production and encouraged by the results he has started growing Channa as a winter crop. The growing of the Channa crop also aerates the land and provides additional nutrition to the soil. Lalubhai has been able to increase his farm income by about 40% and he feels he is now in a better position to take care of his family.

The water harvesting structures have resulted in increased yield of crops

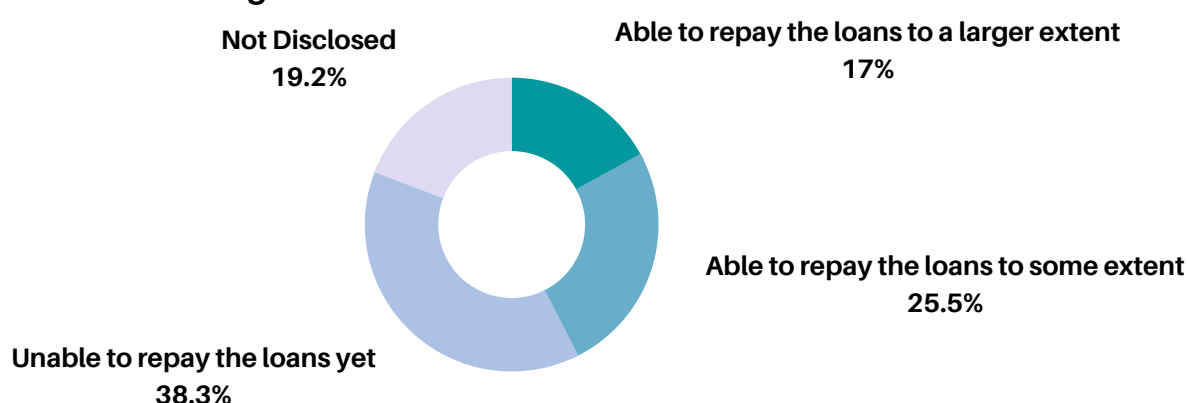
Percentage of households reported about status of yield of crops per acre due to construction of the water harvesting structures



When the respondents were asked whether the yield of crops increased because of the water harvesting structures, 55.6% of the respondents reported a moderate increase in the yield of crops, while 36.1 percent of the respondents stated that the yield of crops increased to a great extent. Only a negligent proportion of respondents that is 4.5% of the respondents stated that the yield did not increase at all. Thus, it can be inferred that the yield of crops increased from a moderate extent to a great extent as felt by beneficiaries.

The various water harvesting structures have resulted in increasing the water table in the project communities

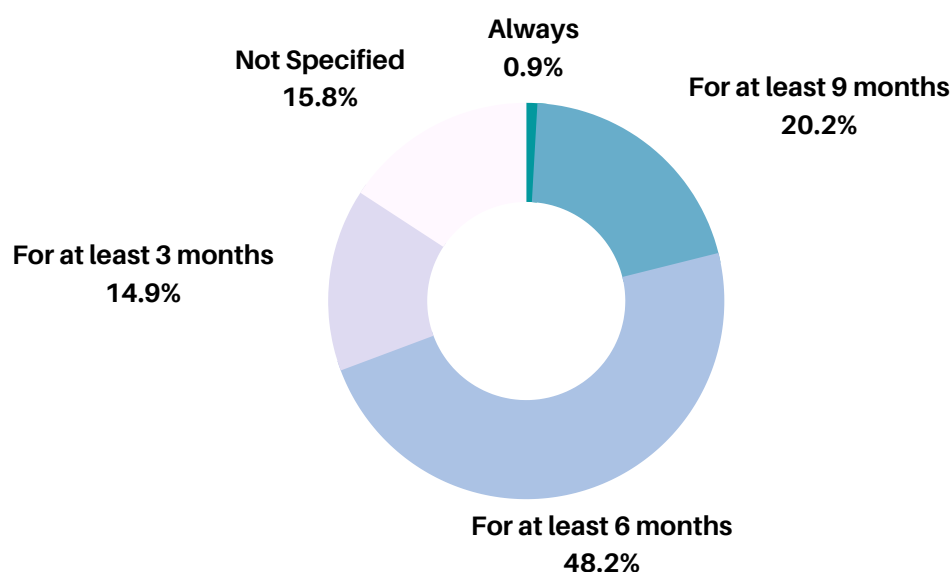
Percentage of households reported about increase of water table in the water bodies / ground water of village



When the respondents were asked whether the water harvesting structures have resulted in increasing of the water table in the project communities, 54.9 percent of the respondents stated that the water table increased to a certain extent, while 18% of the respondents stated that the water table increased to a large extent. I do not have any idea about the same was stated by 20.3 percent of the respondents, while 6.8 percent of the respondents stated that the water table existed only like before.

Increased retention of water in the deepened wells noticed

Percentage of households reported about no. of months wells have water as compared to the times before they were deepened



When the respondents were asked for how many months were the wells able to retain the water levels after the deepening work took place, it was stated by 48.2 percent of the respondents that the water was retained for 6 months in a year, while 20.2 percent of the respondents

stated that the water would last for atleast 9 months. The water would last for atleast 3 months was stated by 14.9 percent of the respondents. Thus, it can be inferred that the wells were able to retain water from a minimum of 3 months to a maximum of 9 months because of deepening of the same.



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Jigneshbhai Kanajibhai Gamit Aged 35 years resident of Kharsi Village mentioned that the youths are getting employment opportunities in the village itself and do not have to migrate in search of jobs. This is because of the availability of water due to which people are getting work like farm labours or transportation of vegetables and flowers to market-place in their pickup trucks. He even mentioned that the training programs conducted by Project team have provided knowledge as to how to use the existing land and conduct multiple cropping cycles through out the year.

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Jigneshbhai Kanajibhai Gamit

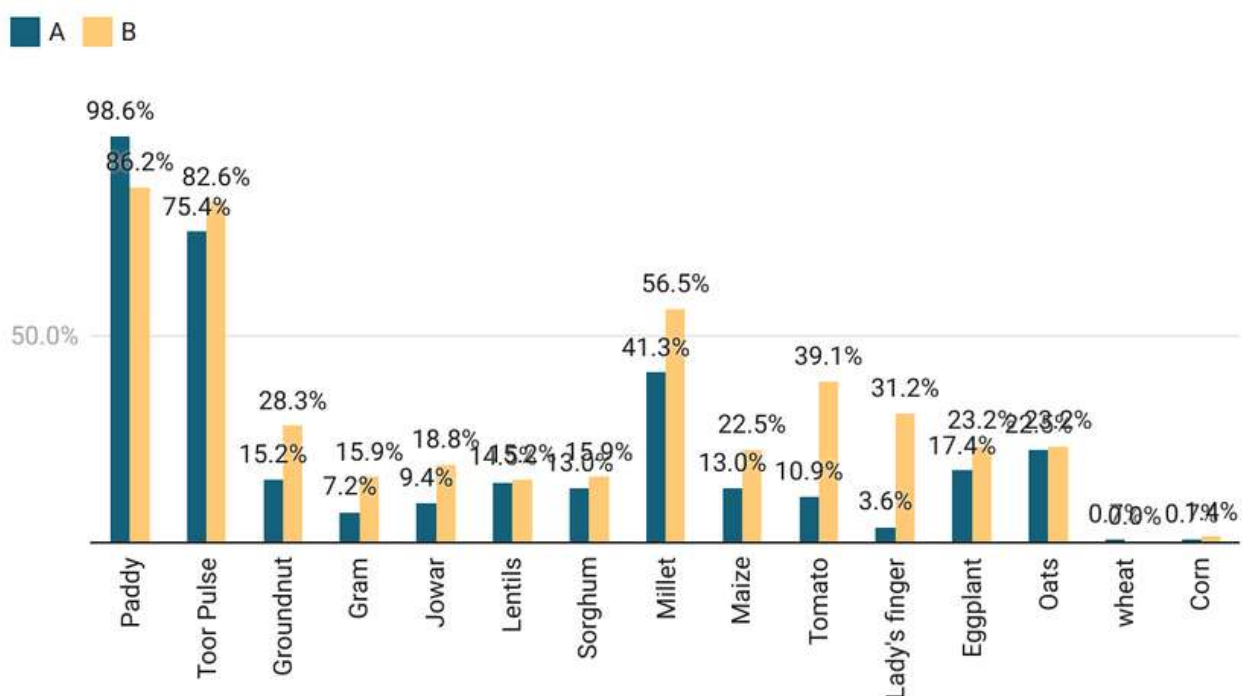
There is a significant change in cultivation of vegetables before and after the construction of water harvesting structures

In order to find out whether there has been any significant change in the adoption of vegetable plants for cultivation a t- test was made and the following hypothesis was tested.

Null Hypothesis (H₀): There is no significant relationship between the construction of various water harvesting structures in the community and the cultivation of vegetable crops.

Alternative Hypothesis (H_A): There is significant relationship between the construction of various water harvesting structures in the community and the cultivation of vegetable crops.

Vegetables grown before and after the construction of water harvesting structures



It can be observed that 10.9 percent of the respondents only were cultivating tomato before the advent of the water harvesting structures in the project communities. This has changed to 39.1 percent after the intervention. Ladies finger was grown only by 3.6% of the respondents before the construction of the water

harvesting structures which has changed to 31.2% of the respondents growing the same, because of increased availability of water. Eggplant has seen a slight increase, with 17.4% of the respondents growing it before the intervention which changed to 23.2 after the intervention.

Vegetables grown	Mean before Intervention	Mean After Intervention	S.D before the Intervention	SEM before the Intervention	SEM before the Intervention	SEM after the Intervention	Two Tailed P value
Tomato, Ladies Finger, Eggplant	10.63	31.16	6.904	7.950	3.986	4.590	0.0278

The two tailed P value equals 0.0278, by conventional criteria, this difference is considered to be statistically significant. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted to be true, which means that there is a significant relationship between the construction of various water harvesting structures and the cultivation of vegetable crops by the farmers.

Adoption of Toor Dal, Gram Dal and Ground nut before and after the construction of the water harvesting structures

In order to test whether there is any change in the crops of Toor dal, gram dal and ground nut among farmers because of the various water conservation measures, a paired t test was made and the following hypothesis were tested.

Null Hypothesis (H₀): There is no significant change in the yield of crops like Toor Dal, Gram and Ground nut and the water conservation program.

Alternative Hypothesis (H_A): There is a significant change in the yield of crops like Toor Dal, Gram and Ground nut and the water conservation program.

Farmers growing Toor Pulse

■ % of households growing crops After construction of the water harvesting structures

% of households growing crops Before construction of the water harvesting structures

75.4%

% of households growing crops After construction of the water harvesting structures

82.6%

Farmers growing Ground Nut

■ % of households growing crops After construction of the water harvesting structures

% of households growing crops Before construction of the water harvesting structures

15.2%

% of households growing crops After construction of the water harvesting structures

28.3%

Farmers growing Gram Dal

 % of households growing crops After construction of the water harvesting structures

% of households growing crops Before construction of the water harvesting structures

15.2%

% of households growing crops After construction of the water harvesting structures

28.3%

It can be observed from the above bar diagrams, that Toor Dal was cultivated by 75.4 percent of the respondents before the Intervention, which increased to 82.6 percent after the intervention.

Gram Dal was grown by 7.2 percent of farmers before the intervention, which

went upto 15.9 percent after the intervention.

Groundnut which was grown by 15.2 percent of farmers changed to 28.3 percent of farmers adopting the crop after the intervention.

Crops grown	Mean before Intervention	Mean After Intervention	S.D before the Intervention	SEM before the Intervention	SEM before the Intervention	SEM after the Intervention	Two Tailed P value
Toor Dal, Gram, Groundnut	32.60	42.26	37.28	35.47	21.52	20.48	0.0319

On observation of the P value which is 0.0319, it can be stated that the difference in yield of the above crops before and after the intervention of water conservation program has been found to be significantly related.

There is a significant change in the Income levels of the respondents before and after the Intervention

In order to test if there is any significant change in the income levels of the farmers before and after the Intervention of the water conservation programs, the following hypothesis were tested.

Null Hypothesis (H₀): There is no significant change in the Income of the respondents and the water conservation programs.

Alternative Hypothesis (H_A): There is a significant change in income of the respondents and the water conservation programs.

Mean Income before Intervention	Mean Income After Intervention	S.D before the Intervention	SEM before the Intervention	SEM before the Intervention	SEM after the Intervention	Two Tailed P value
19695.58	31663.10	11949.55	1104.73	18476.30	1708.13	Less than 0.0001.

The mean income before the intervention of water conversation activities is Rs.19,695.58, which increased to Rs.31,663.10.

Since, the P value is less than 0.0001, the difference by conventional criteria is statistically significant.

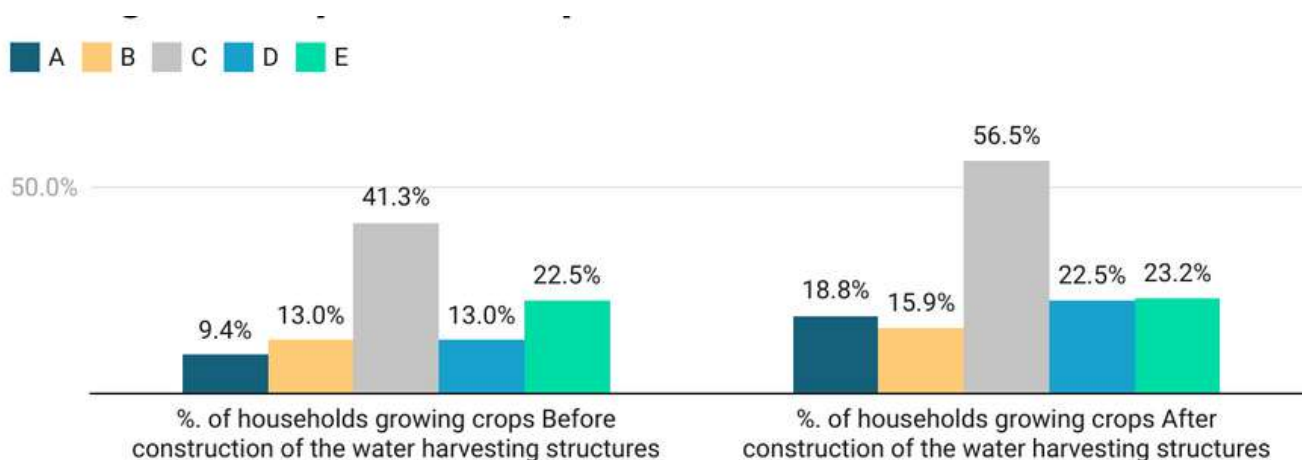
The mean of After Intervention minus Before intervention equals 11967.52137

95% confidence interval of this difference: From 10545.18854 to 13389.85419.

Thus, the null hypothesis is rejected and the alternative hypothesis that there is significant relationship between the increase in income levels and the water conservation activities is accepted.

There is not much significant change in cropping pattern of certain millets and related crops

Change in adoption of crops



It is observed that there is a significant change in the adoption of like Jowar, Sorghum, Millet, Maize, and oats.

Jowar was cultivated by 9.4 percent of farmers before the Intervention, and after the intervention it is adopted by 18.8 percent of farmers.

Sorghum was cultivated by 13 percent of farmers before the Intervention, and after the intervention it is adopted by 15.9 percent of farmers.

Millet was cultivated by 41.3 percent of farmers before the Intervention, and after the intervention it is adopted by 56.5 percent of farmers.

Maize was cultivated by 15 percent of farmers before the Intervention, and after the intervention it is adopted by 22.5 percent of farmers.

Oats was cultivated by 22.5 percent of farmers before the Intervention, and after the intervention it is adopted by 23.5 percent of farmers.

Name of crops cultivated	Mean of percentage of farmers cultivating the crops before Intervention	Mean of percentage of farmers cultivating the crops before Intervention	SD before the Intervention	SD after the Intervention	SEM before the Intervention	SEM after the Intervention	Two tailed p value
Jowar, Sorghum, Maize, Oats, Millets	20.28	27.44	12.79	16.52	5.72	7.39	0.456

The two-tailed P value equals 0.4656. By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:

The mean of After the Intervention minus Before Intervention equals 7.160
95% confidence interval of this difference: From 14.390 to 28.710

Thus, the null hypothesis that there is no significant relationship between the cultivation of millets and related crops and the Intervention of water conservation activities is accepted.

There is a significant change in the Income levels of the respondents before and after the Intervention

In order to test if there is any significant change in the income levels of the farmers before and after the Intervention of the water conservation programs, the following hypothesis were tested.

Null Hypothesis (H₀): There is no significant change in the Income of the respondents and the water conservation programs.

Alternative Hypothesis (H_A): There is a significant change in income of the respondents and the water conservation programs.

Mean Income before Intervention	Mean Income After Intervention	S.D before the Intervention	SEM before the Intervention	SEM before the Intervention	SEM after the Intervention	Two Tailed P value
19695.58	31663.10	11949.55	1104.73	18476.30	1708.13	Less than 0.0001

The mean income before the intervention of water conversation activities is Rs.19,695.58, which increased to Rs.31,663.10. Since, the P value is less than 0.0001, the difference by conventional criteria is statistically significant.




The mean of After Intervention minus Before Intervention equals 11967.52137
95% confidence interval of this difference: From 10545.18854 to 13389.85419.

Thus, the null hypothesis is rejected and the alternative hypothesis that there is significant relationship between the increase in income levels and the water conservation activities is accepted.

Chapter 5 : OECD Framework

Criteria	Justification/ Arguments supporting or against the Criteria	Ratings
Relevance Has the program met its objectives? Is the CSR Project meeting the needs of the beneficiaries?	<p>The project communities in the Songadh district are dependent on rainwater alone for cultivation. Due to lack of proper irrigation facilities most of the farmers in the project communities who are small and marginal farmers could not invest much resources for irrigation of their farmlands. Though there were some open wells and check dams in some communities, they were defunct due to lack of proper maintenance. Due to this, there was only single cropping and there was limited diversification of crops grown. The people in these communities are Scheduled Tribes and are socio economically backward. The Abhutthan Project of HDBFS has helped these communities get structures for proper water conservation, which greatly aids in improving their cropping pattern and improving their agricultural yield. This project has addressed the felt needs of the community. Hence, the Project is highly relevant.</p>	
Coherence Is the CSR intervention in line with other similar Interventions of the State or the Central Government?	<p>The Project is well aligned with multiple SDG Goals:</p> <p>Goal 1: No Poverty Goal 6: Clean water and sanitation Goal 10: Reduced Inequalities Goal 13: Climate Action</p> <div> </div>	
Effectiveness Has the Program met its objectives? To What extent the expected results have been achieved? Has it reached the Right Target Groups?	<p>The program has improved the water retention capacity of check dams, farm ponds, Open Ground wells, etc.,</p> <p>Hence, the project is highly effective as it has largely met its objectives, achieved the results expected, and reached out to the right target groups.</p> <p>Hence, the project can be said to be highly effective.</p>	

Index: 5 Points - Very High ; 4 Points - High ; 3 Points - Moderate ; 2 Points - Low ; 1 Point - Very Low

Criteria	Justification/ Arguments supporting or against the Criteria	Ratings
Efficiency The extent to which the CSR Project delivers, or is likely to deliver, results in an economic and timely way.	Considering the investments made on check dam desilting, open ground wells, and farm ponds and the benefits obtained by the farmers in terms of increased yield, diversity of crops, and increased income levels as reported by the farmers, it can be said that the project is highly efficient in nature.	
Impact The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.	The Program has improved the economic levels of the agrarian community to a large extent. The Project has resulted in diversifying the crops, improving yield and productivity, which has in turn improved the standards of living of the beneficiaries in the project villages. Hence, the project can be said to be highly impactful.	
Sustainability The extent to which the net benefits of the intervention continue or are likely to continue.	As the community's participation was ensured during the planning and implementation stages of the project, there is more acceptance, enthusiasm, and ownership towards the various water harvesting structures. The beneficiaries also stated that they would maintain these structures in the future too. Hence, the project can be said to be highly sustainable in nature.	

Index: 5 Points - Very High ; 4 Points - High ; 3 Points - Moderate ; 2 Points - Low ; 1 Point - Very Low

Chapter 6 : Recommendations

1. Sensitization on maintenance of water bodies among the younger generation :

Youth and adolescents of the community should be sensitized about the need for continued maintenance of the lakes, check dams, open wells, and farm ponds. As the present generation is moving to greener pastures in urban areas and leaving agriculture, the sustained maintenance of the water bodies lies in the hands of the younger generation. Hence, more awareness campaigns should be undertaken to impress upon young minds the need for maintaining and protecting water bodies. Awareness campaigns and training programs on water conservation should be periodically held in schools, so that the younger generation shows interest in the same. Awareness among young minds will have cascading effects when they impart the knowledge to their parents at home and this will lead to greater community participation in the maintenance of the common community assets.

2. Planting of Grass varieties to prevent soil erosion

The embankments of farm ponds can be planted with tough, deep rooted, ornamental grass varieties to strengthen the walls of the farm ponds and to prevent soil erosion from happening. Purple needle grass, vetiver grass, and hybrid buffalo grass can be planted to protect the top soil of the embankments of farm ponds.

3. Scaling up Horticultural Production:

Interactions with the community members reveal that the production of vegetable crops is done at a moderate level and that the production is just enough to meet the needs of domestic consumption. To draw economic benefits out of them, the production of horticultural crops should be stepped up and appropriate training should be imparted. Farmers should be facilitated in selecting good seed varieties that give the maximum yield.

4. Boosting of Horticultural Production

The vegetables currently cultivated are on a small scale, and most of the vegetables are used for domestic purposes only. Though it is an appreciable fact that the families get nutritious food, impetus should be given to taking up horticultural cultivation on a large scale so that the farmers get commercial benefit out of it.

5. Commercialising the plantation of Coconut Trees

It was observed by the research team that the coconuts grown on the farmland are mainly used for domestic purposes. There is good potential for commercial production of coconut by taking up the plantation on a large scale. Hence, impetus should be given to this.

6. Market Linkages should be created

According to the research teams' interaction with the community members, lack of knowledge about potential markets and accessibility in reaching them seems to be one of the main hindrances for farmers not making commercial gains from their agricultural produce to a large extent. Hence, market linkages should be created and handholding should be done during the initial phases, after which the farmers would themselves become confident in taking up these activities.