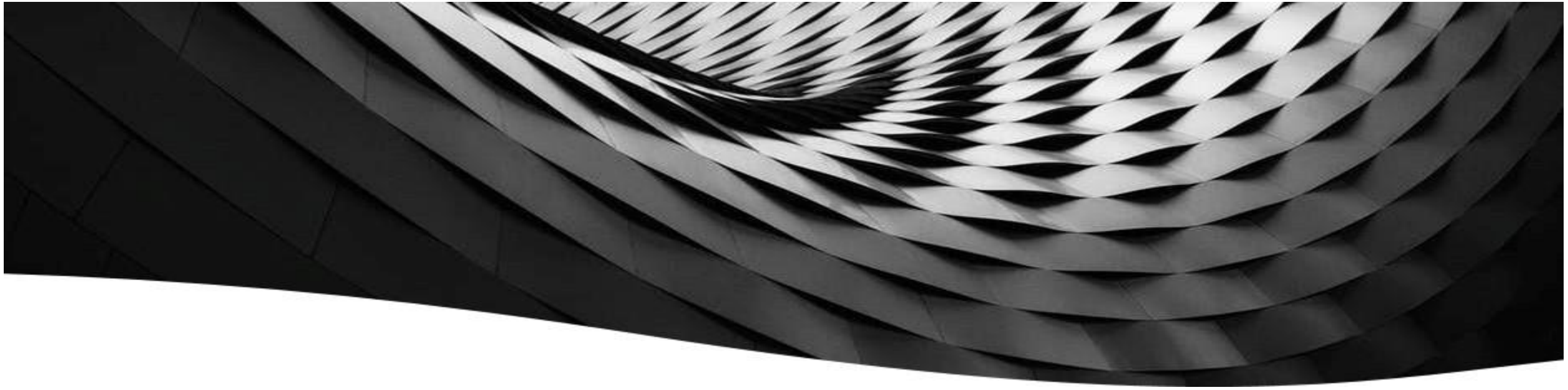


Crompton

Impact assessment of CGCEL's water conservation projects in Maharashtra – Karjat

January 2023

TTC connecting ideas for impact

Contents

Executive summary (I of II)

Project summary

Project name

Soil & Water Conservation & Livelihood Opportunity at Grassroot

Project area

Three villages of Karjat block in Ahmednagar district, Maharashtra

Project duration

April'2021 to March'2022

Implementation partner

BBKGSS

Key objectives

- ✓ Increase **ground water level and stabilize the water table**
- ✓ **Conserve soil and water** through soil and water conservation structures
- ✓ **Decrease soil erosion**; revive the non-functional wells
- ✓ **Increase awareness** about the importance of water & soil conservation and government schemes
- ✓ **Increase employment options** within agriculture & allied activities
- ✓ **Increase and stabilize income** from agriculture, horticulture and animal husbandry

CGCEL engaged TTC to undertake impact assessment study of the project

Assessment methodology

Literature review → Assessment tools → Data collection → Analysis and reporting

Sample coverage:
272 households under quantitative survey and undertook
4 FGDs, 8 IDIs under qualitative research

Executive summary (II of II)

Impact snapshot

Water availability	▪ Project has achieved 100% target against the planned hardware activities for year 1
Yield and cropping intensity	▪ An **improvement in the yields of Maize and Tur was reported and attributed to the high yielding varieties of seeds distributed and promoted under the project**
Animal husbandry	▪ The project has promoted a high yielding variety of maize crop which is used as the fodder crop for livestock ▪ **An increase in fodder productivity post the project** ▪ **Availability of green fodder has also improved number of households practicing animal husbandry, herd size and milk yield**

Key areas for consideration

- Villages were selected as a cluster **and the drainage boundaries were not considered**
- **Involvement of the larger community was observed to be limited especially women**
- A **lack of top to down watershed approach which has resulted in creation of water structures at unsuitable locations.** Further, **technical limitations were also observed in the structures**
- **Lack of awareness amongst the respondents on importance of efficient and sustainable use of resources was observed**

Recommendations

- **Need to strengthen the technical approach and ensure larger community participation** from both the gender
- Scale up the **soil and water conservation activities**
- Explore ways for **immediate repair of the structures** with technical limitation and other structures damaged after the rains
- Mobilize community members **through the formation of a committee**

SECTION 1: BACKGROUND AND METHDOLOGY

Introduction

- The Corporate Social Responsibility (CSR) policy of Crompton Greaves Consumer Electricals Limited (CGCEL), is rooted in the belief that **business sustainability is closely connected to the sustainable development of the communities and environment in which the business operates**
- **CGCEL focuses on various thematic areas under its CSR policy such as health, education, environment sustainability etc.** CGCEL collaborates with grassroot level implementation agencies with relevant experience in the thematic areas
- One such project was **"Soil & Water Conservation & Livelihood Opportunity at Grassroot"** implemented across **three villages of** Karjat block in Ahmednagar district**, Maharashtra**. The implementation was carried out by **Bhartiya Bahuuddeshiya Khadi Gramoudyog Shikshan Sanstha (BBKGSS), The project duration was 1 year i.e., Apr'2021 to Mar'2022 with a target of 3713 beneficiaries**
- **The project objectives are:**

Increase **ground water level and stabilize the water table**

Conserve soil and water through **soil and water conservation** structures

Decrease **soil erosion**; revive the **non-functional wells**

Increase **awareness** about the importance of water & soil conservation and government schemes

Increase **employment options** within agriculture & allied activities

Increase and stabilize income from agriculture, horticulture and animal husbandry

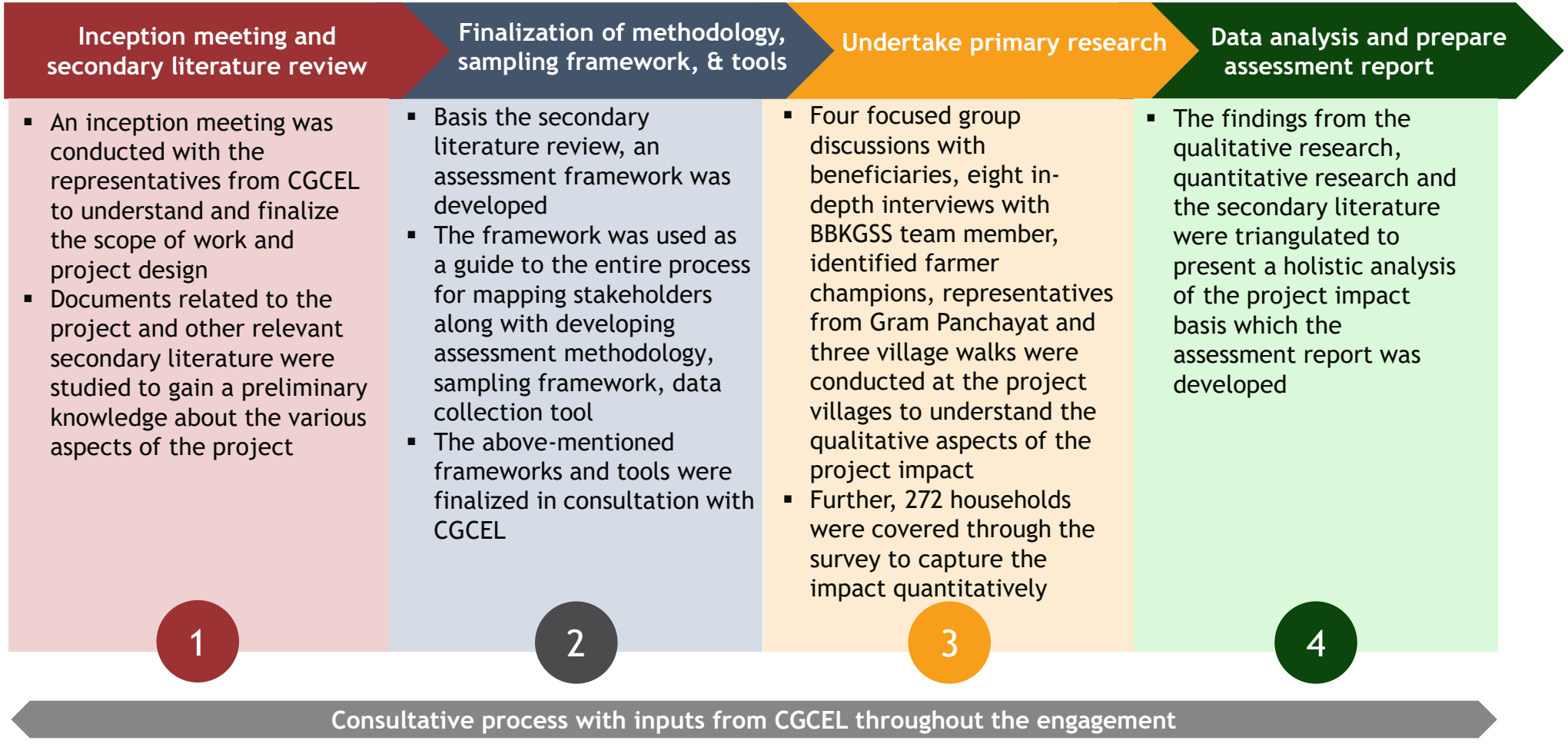
CGCEL intended to assess the impact of the project on the beneficiary community simultaneously receiving future recommendations for the way forward of the project. It thus engaged the services of Thinkthrough Consulting (TTC) with the following scope of assessment:

1. Understanding the project context through secondary literature review and stakeholder consultations
2. Mapping the key stakeholders; and developing analytical framework, methodology, statistically significant sampling framework, and tools
3. Undertaking primary research in the project geography and assessing the impacts of the project on all the stakeholder groups involved in the project and analyse their perspectives
4. Developing an impact assessment report for the project which documents the project impacts, lessons learned, and provide recommendations for the way forward

This report presents the key findings of the assessment

Methodology*

The assessment was carried out using a mixed method approach (qualitative and quantitative) for the collection of data/information and develop insights. The key steps of the assessment are illustrated below:



*The detailed methodology along with qualitative and quantitative sample coverage are attached under the annexures

Limitations

This report sets forth the project team's views based on the completeness and accuracy of the facts stated or provided in the written material shared with TTC and any assumptions that were included; the inaccuracy or completeness of these facts, accordingly, have a material effect on the conclusions

While performing the assessment, TTC assumed the genuineness and validity of information and authenticity of the documents. We have not independently verified the correctness or authenticity of the same

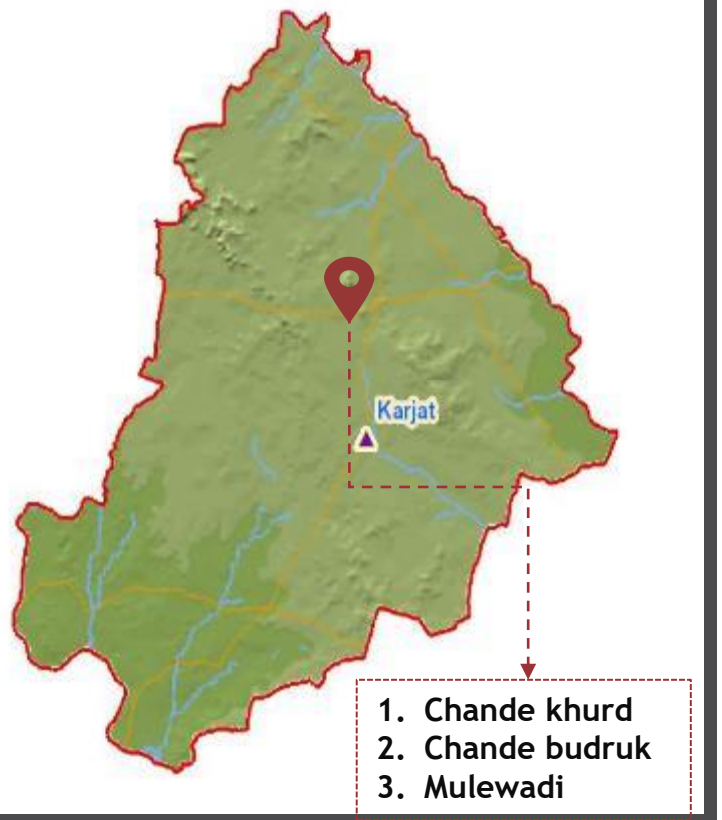
While TTC has been extremely cautious to ensure the inclusion of all-important areas within the ambit of our review, it might have inadvertently excluded the review of some other equally important issues

The insights presented in this assessment report are based on data/information provided by the various stakeholder to the best of its ability, the assessment team has tried to ensure and validate the authenticity of data/information submitted by the respondents. However, it would be fair to assume certain errors in data recording

SECTION 2: PROJECT CONTEXT

Project area (I/II)

The project was implemented across three villages i.e, Chand budruk, Chande khurd and Mulewadi of Karjat block in Ahmednagar district, Maharashtra.
Details on agricultural, geological, and hydrogeological context of Karjat block have been discussed below:



A terrain map of Karjat block highlighting the project villages*

Agriculture context**

The block receives an average annual rainfall of 503.5 mm which is below the district's average of 621 mm. A decadal decrease of 5.58 mm/year has been observed between 2010 – 2020

Key crops – cotton, cereals, oil seeds, sugarcane, fruit and vegetables

Out of the total cultivable area in the block, 95% is sown annually. However, only 5% of the net sown area comes under double cropped area

Geological & Hydrogeological context**

Deccan Trap Basalt of late Cretaceous to Eocene age is the major rock formation

Maximum area of the block is covered by gravelly sandy clayey soil followed by moderate to deep clayey loam. This soil have poor drainage properties which allows for higher soil erosion

Water level of more than 10m is observed across majority of the block which is less than the district average of 35 m

Specific challenges of Karjat are detailed in the next slide

Source - https://stategisportal.nic.in/stategisportal/Home/Map/27

** *Aquifer Maps And Ground Water Management Plan Ahmednagar District Maharashtra, 2021*

Project area (II/II)

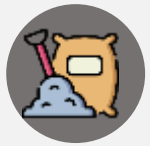
- Karjat is situated in **"Rain Shadow" zone of Western** Ghats. The region often suffers drought conditions and is thus considered 'Drought Area'**
- **Karjat has been characterized as a semi critical watershed with rapidly declining ground water levels *(Hydrogeological report*, *Atal Bhujal Yojana)* . Shortage of water has been recognized as a key challenge under the report.** It further stressed on the issue of seasonal availability of water for irrigation and drinking purposes. These water issues **adversely impact the agricultural productivity of the region which in turn affects the livelihood.** The limited availability of water also unfavorably impacts agriculture allied sectors such as animal husbandry, horticulture, etc.
- The "Rapid Water Balance Assessment of Karjat in Ahmednagar District for Water Security" **indicates the need and scope for improving the current physical infrastructure of the irrigation system in Karjat***
- A **medium level potential for ground water development in Karjat** has also been identified by the Central Ground Water Board which would support in eradicating the water challenges of the block**
- **In light of the above challenges, ground water management plan for the block recommended small schemes of water conservation for harvesting the surface run off and maintaining the supply during lean period.** Storage tanks for villages on hill tops, nala bunds, contour bunds, gully plugs, continuous contour trenches etc., were also suggested. Repair of the existing infrastructure is also recommended in the plan**

The **project design contributes towards addressing the above given challenges, aligning the overall project with the needs of the community as well as geography**

Source – *https://www.soppecom.org/pdf/Water-balance-assessment-for-the-karjat-and-jamkhed-taluka-final-report.pdf*
**Aquifer Maps And Ground Water Management Plan Ahmednagar District Maharashtra, 2021

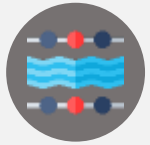
Project interventions (I/III)

The key interventions and the overall achieved outputs* are presented below. The village wise coverage of the project interventions are attached as an annexure.

Name of the intervention			
 Construction and repair of Cement Nala Bund (CNB)	 Repair of Matti Nala Bund	 Contour Bund	 Gabion and Vanrai Bund
About the intervention			
CNBs acts as a barrier that reduces the speed of the water and prevents soil erosion. CNBs were constructed and repaired for drainage line treatment across all three project villages	Matti Nala Bund were constructed with soil across the stream to check soil erosion, store water and to drain out excess water. The project repaired the existing bunds which were defunct	The Bunds were constructed as barrier to the flow of water, thus reducing the amount and velocity of the runoff and improve water infiltration in the soil. It consists of building earthen embankments across the slope of the land, following the contour as closely as possible	The Gabion and Vanrai Bunds served the same purpose as Contour Bunds but were made from different materials. Gabion bunds consists of rocks that are placed in galvanized hexagonal meshes while Vanrai bunds consists of sealed gunny bags refilled with locally available soil or sand. They were constructed across the natural flow of a stream or Nala
Intervention output*			
The project have constructed 4 new CNBs while repaired 5 existing CNBs	9 Matti Nala Bunds have been repaired under the project	A total of 255 Ha. of land have been covered through Counter Bunds	10 Gabion Bunds and 38 Vanrai Bunds have been constructed

 **The output numbers have been reported as per the project completion report submitted by BBKGSS*

Project interventions (II/III)

Name of the intervention			
 Continuous Contour Trenches (CCT)	 Well recharge systems	 Nala desilting	 Loose Boulder Structures (LBS)
About the intervention			
A continuous contour trench was dug at a right angle to the slope and are planned along contour lines. The trenches helped in stopping the water flowing downhill in its tracks, and water percolation	Well recharge is an artificial recharge technique. The intervention was carried out to recharge excess water in underground aquifers for the improvement of ground water levels	Nala desilting was carried out to remove fine silt and sediment that was collected in the canal. This helped in restoring the canal to its natural capacity, without any widening or deepening	The LBS comprised of loosely arranged boulders which helped in reducing the speed of water and improve water infiltration in the soil
Intervention output*			
The project have covered a total area of 122 Ha through CCTs	48 Well recharge systems have been supported through the project	3 Ha of Nala have been desilted	The project established 50 LBS

 **The output numbers have been reported as per the project completion report submitted by BBKGSS*

Project interventions (III/III)

Name of the intervention			
 Promotion of fodder crop & development of water tank for livestock	 Distribution of horticulture plants	 Distribution of vermi compost units	 Distribution of high yielding variety seeds
About the intervention			
The project promoted high yielding variety of fodder crop to support animal husbandry. The intervention aimed to strengthen and diversify livelihood options for the community. The water tanks were created to improve access to water for animals. This intervention aimed to build drinking water facilities for animals which was a key issue in the summer season	The project supported progressive farmers with horticulture crops such as pomegranate, lemon and mango to diversify livelihood options for the community	Vermi compost units were distributed to create awareness about organic practices which improves soil health. The units were distributed to the progressive farmers	The economically backward farmers were supported with high yielding variety of seeds for cereals with an objective of supporting poor farmers and creating awareness around high yielding varieties in the community
Intervention output			
The fodder crop have covered a total area of 58 Ha and 6 water tanks were constructed	146 Ha of land have been covered through the horticulture plants distributed under the project	15 farmers have been supported with vermi compost units	A total of 270 Ha have been land was covered under the high yielding variety of seeds

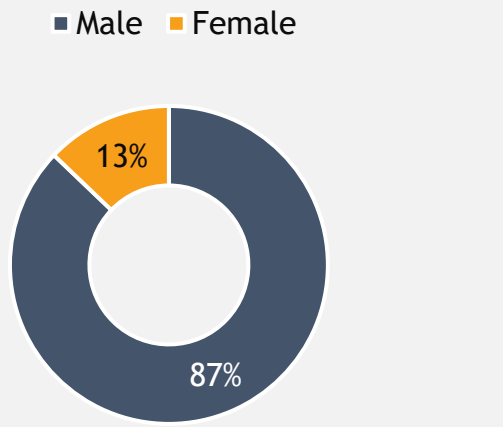
 **The output numbers have been reported as per the project completion report submitted by BBKGSS*

SECTION 2: RESPONDENT'S PROFILE

Gender profile

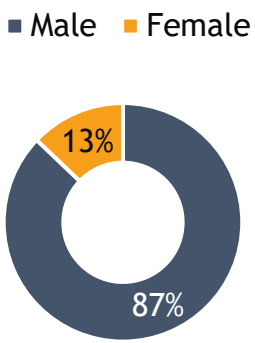
The assessment covered beneficiaries from different socio-economic groups of the society in order to understand the project impact on different stratas within the community. The gender profile coverage of the study is illustrated below:

Overall



N=272

Chand budruk



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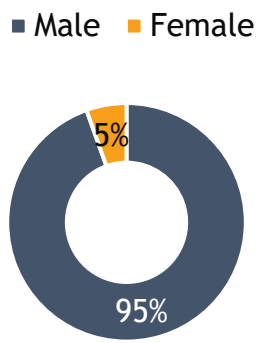
Chande khurd



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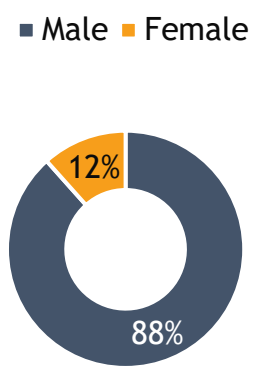
Mulewadi



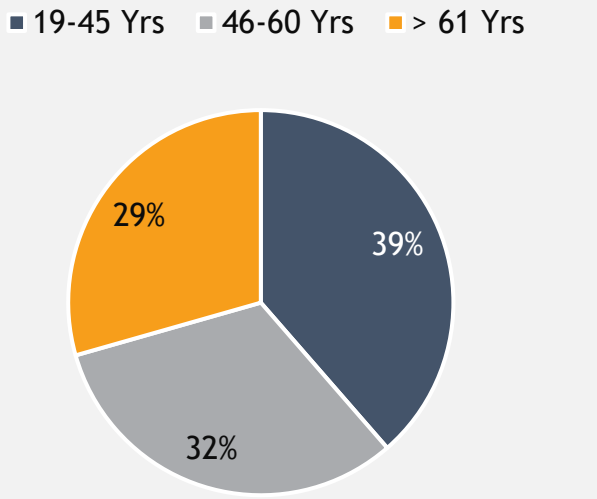
N=112

The majority of direct project beneficiaries* were males. The assessment coverage aligns with the beneficiary population characteristic. **In Chand budruk, 87% of the participants were males while 95% in Chande khurd and 88% in Mulewadi.** The assessment team observed **a lack of special focus on gender inclusion under the project design.**

Age profile

The respondents were covered from various age group to gather insights on targeted age groups amongst the beneficiary population, as illustrated below:

Overall



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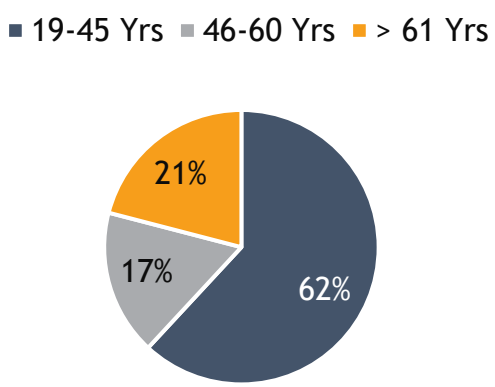
Chand budruk



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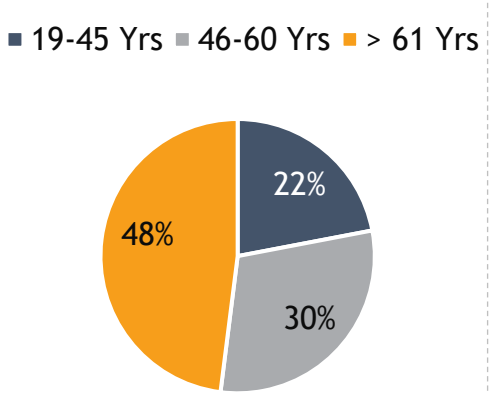
Chande khurd



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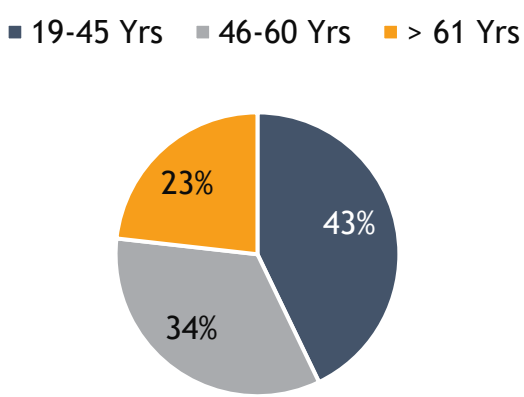
Mulewadi



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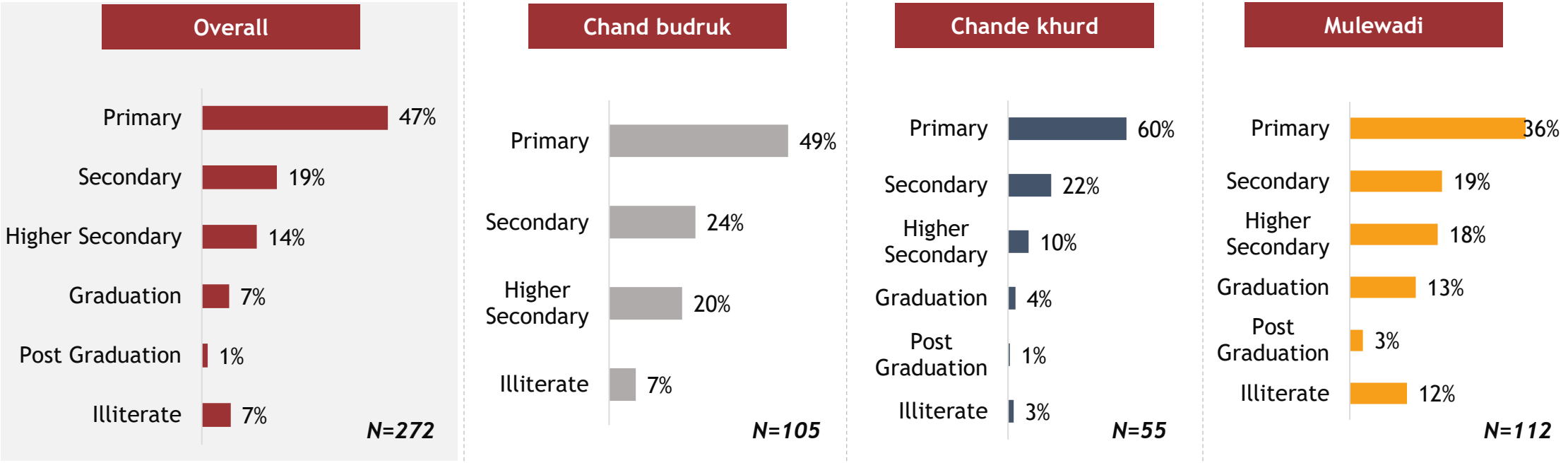
In Chand budruk and Mulewadi, majority of the respondents came under the age group of 19-45 years while in Chande khurd 61 years or above emerged as the key group**. It was observed that the project focused on the all-age groups amongst the population.**

Education profile

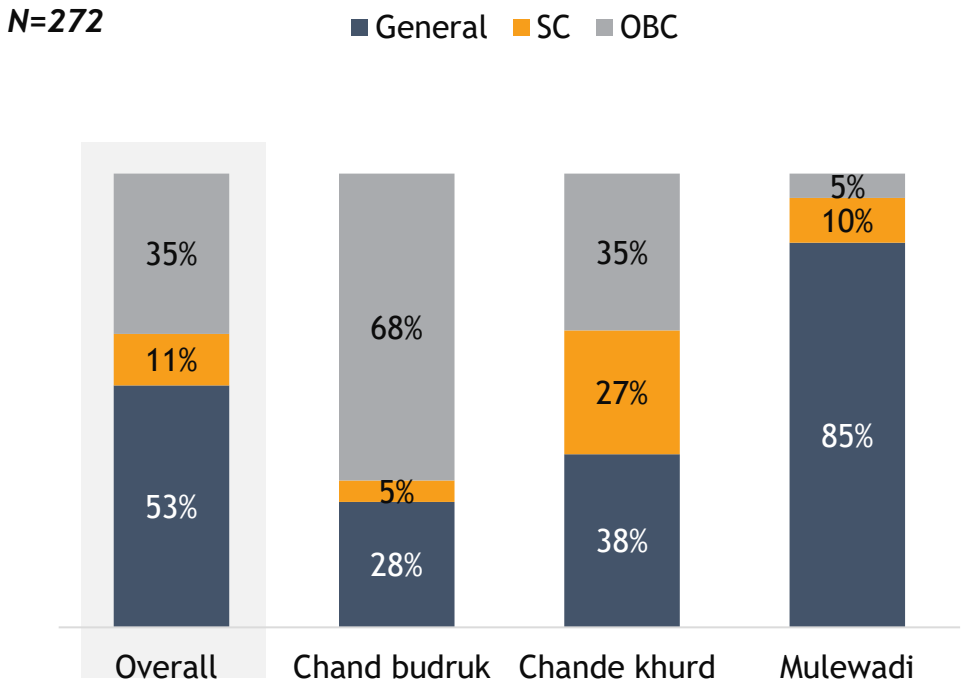
The education levels of the respondents are illustrated below



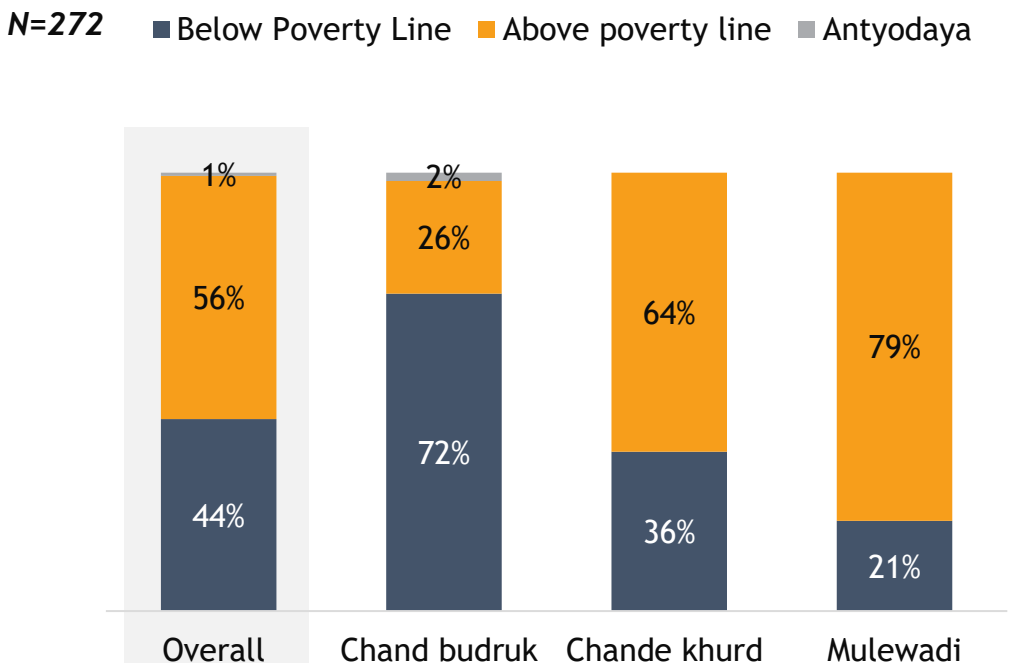
Across the sampled population, **47% of the respondents have acquired education only till primary level**. The second highest education level observed amongst the respondents is till the secondary level. In Chande khurd and Mulewadi few of the respondents also obtained graduation and post graduation degrees while only 7% of the total respondents are illiterate**.** Even though, 86% of the sampled females are literate, majority of them acquired education only till primary level. The observation was noted across all three villages. **The low education levels in the community underline the importance of creating awareness, especially on livelihood related aspects, which is also incorporated as an objective under the project.**

Social and economic profile

The respondents were covered from all social and economic categories within the village to capture holistic perspective on the project impact:



Across the sampled population, **53% belonged to general category, 35% from OBC and 12% from SC category.** In Chand budruk, the respondents were predominantly from the OBC category while in Chande khurd and Mulewadi, general category formed the majority of the respondents. It was observed that the project **included all social categories** within the beneficiary community.

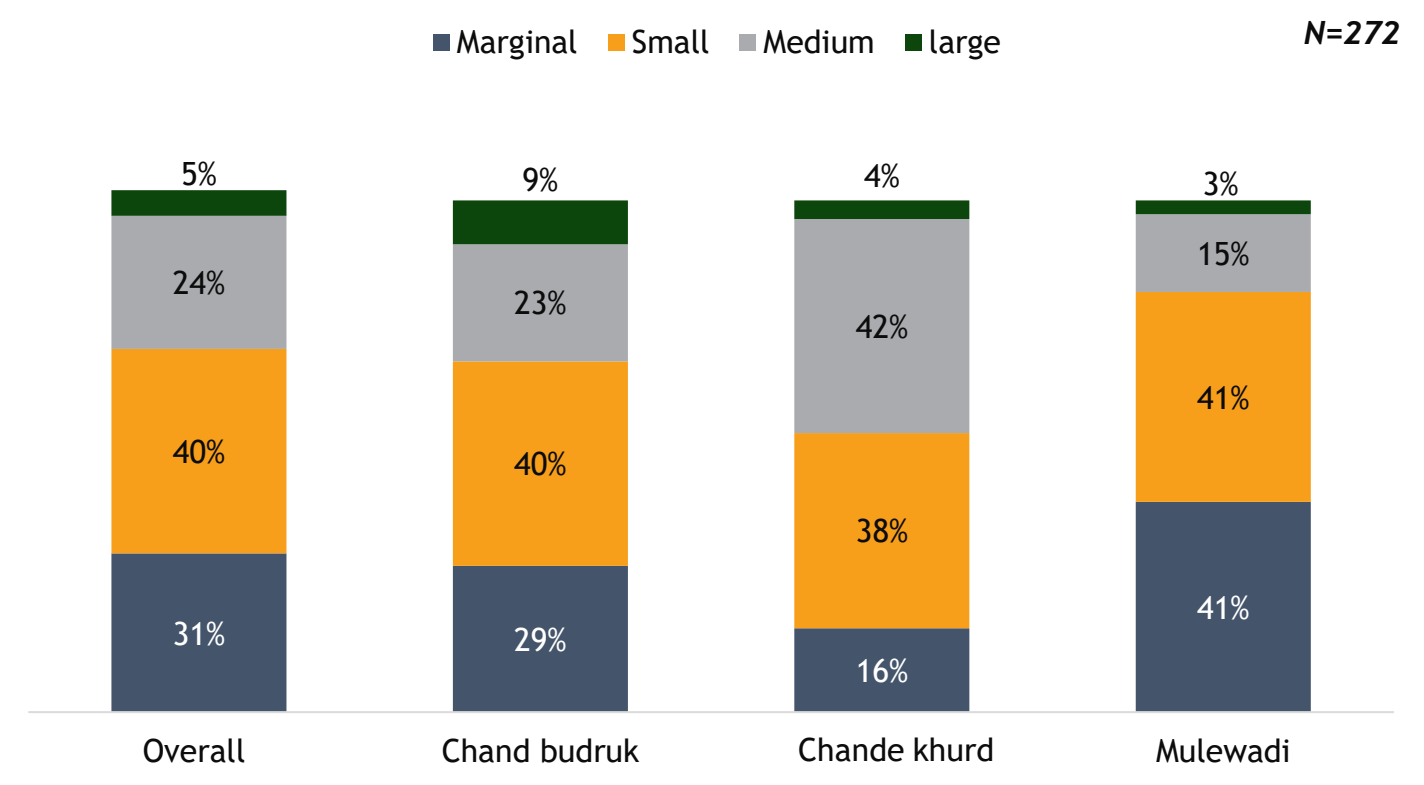


Across the sampled population, **44% were Below Poverty Line (BPL) and 56% were Above Poverty Line and only 1% of the respondent farmers were under Antyodaya category.** In Chand budruk, the respondents were predominantly from the BPL category while in Chande khurd and Mulewadi, APL category formed the majority of the respondents.

Farmer categories

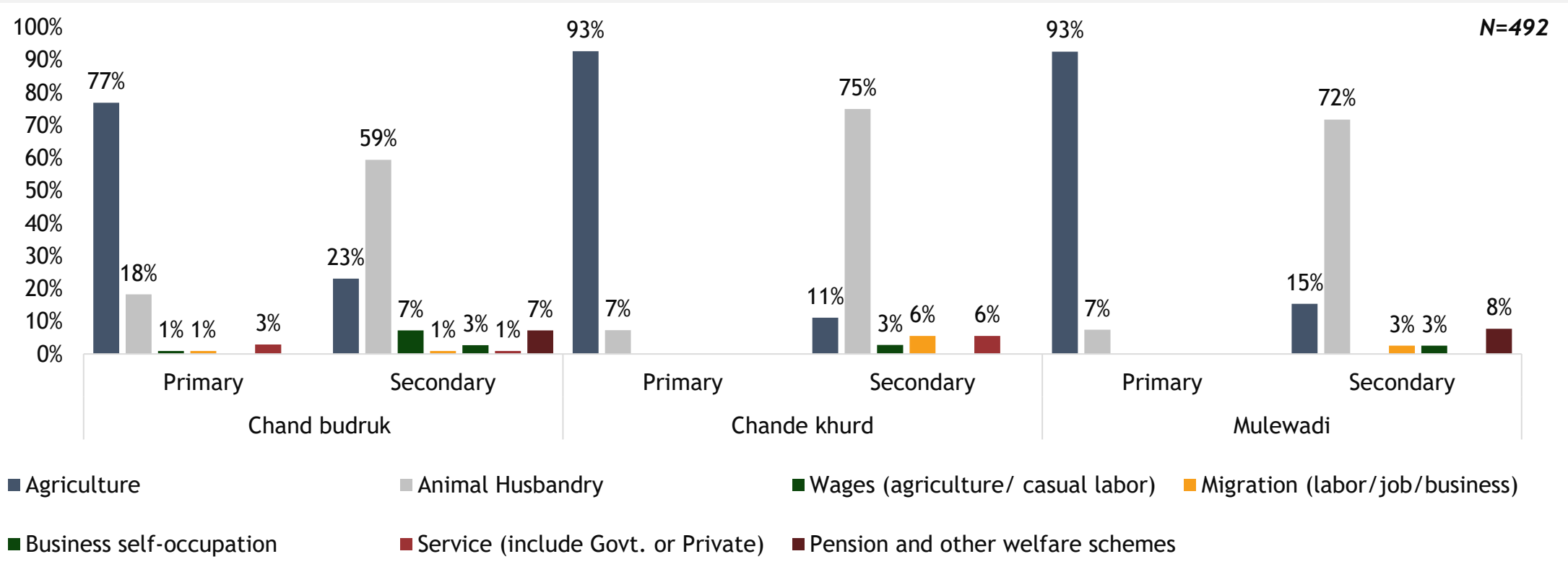
The assessment covered all categories of the farmers within the community as illustrated below:

- The respondents covered under the assessment belongs to 4 categories of farmers i.e., marginal (up to 2.5 acres of land); small farmers (2.5 – 5 acres); medium category (5-12.5 acres) and large category (more than 12.5 acres).
- The **project primarily focuses on marginal and small category of farmers,** which constituted the largest group of respondents across all three villages.
- **A total of 31% of the respondents were marginal farmers with highest percentage in Mulewadi while 40% were small category farmers with highest percentage in Chand budruk.**
- The medium category farmers are the third largest group amongst the respondents with a total coverage of 24% while only 5% of the respondents came under large farmer category.



Sources of livelihood

The village wise key sources of livelihood are detailed below:



Agriculture and animal husbandry has been reported as the key sources of livelihood across all three project villages. The majority of the respondents shared that animal husbandry is practiced in parallel to agriculture and acts as a secondary source of income for the community while agriculture acts as a primary source of income. The **project design primarily targeted these two key sources of livelihood** to create a wide scale impact which benefits majority of the beneficiary population

SECTION 4: KEY RESULTS AREAS

Results chain

The results chain captures project interventions, outputs, intermediate outcomes, long - term outcomes, project impact and indicates the timeline required for its realization by the beneficiaries

Project interventions	Output areas (1 yr)	Intermediate outcomes (1-2 yr)	Long term outcomes (2-3 yr)	Project impact (3-5 yr)
▪ Construction and repair of Cement Nala Bund ▪ Repair of Matti Nala Bund ▪ Construction of: - Gabion bund and counter bund - Continuous Contour Trenches (CCT) - Well recharge - Loose boulder structures ▪ Nala desilting ▪ Promotion of fodder crop ▪ Distribution of horticulture plants and vermi compost units ▪ Distribution of high yielding variety seeds ▪ Development of water tank for livestock	▪ Number of: - CNB constructed and repaired - No. of Matti Nala Bund constructed and repaired - No. of gabion bunds and counter bunds constructed - CCT constructed - Well recharged - Loose boulder structures constructed - Vermi compost units distributed - Water tanks developed ▪ Area covered under : - nala desiltaion - Fodder crop promoted under the project - Horticulture plants - High yielding variety of seeds	▪ Change in: - Soil and water conservation measures - Water availability and usage - Area under cultivation - Cropping pattern - Agriculture productivity - Availability of fodder crop - Herd size ★	▪ Improved soil health and decrease in soil erosion ▪ Improved agriculture productivity ▪ Diversified sources of livelihood through horticulture and animal husbandry ▪ Increase in income from agriculture and allied sectors	**Improved ground water levels and water availability** **Improvement in livelihood opportunities at the village level** **Improvement in overall standard of living of the community**

**The project has achieved the intermediate outcome areas. These areas are discussed in detail in the coming slides.*
*** The challenges to achieve the Long- term outcomes areas have been discussed under the way forward section along with strategic recommendations for the sustainability of the project*

Observations on project design

To appreciate the project's current status and outcomes in the coming slides, the assessment team's observations on project's planning and grounding approach is given below:

Village selection criteria

1. The project district of Ahmednagar was suggested by CGCEL as it is one of the prioritised geographic area under its CSR
2. BBKGSS undertook a review of the district and block level government plans
3. The three villages were selected as they were **prioritized under the government plans due to high potential for watershed development**
4. The villages were also selected as they form a contagious cluster with a common catchment area

Activity and site selection criteria

1. Post the selection of villages, BBKGSS **undertook a rapid rural appraisal with members of Gram Panchayat (GP) along with opinion holders. A detailed baseline study was not undertaken**
2. The rural appraisal provided insights on the challenges of the community and supported in selection of hardware activities as well as site identification
3. The sites which could not be treated under Government of India's Integrated Watershed Management Project (IWMP) were selected. **The selected sites were on common land which were under GP to avoid any conflict**
4. **A technical survey was undertaken to ensure site feasibility. However, no supporting documents for the same were available with the project team. The assessment team observed various technical limitations with the site and activity selection which are detailed in the next slide**

Beneficiary selection

1. As per the project team the ground water recharged through the project structures benefitted the entire village community. Thus, **the project considered the entire village community as beneficiaries**. However, as the structures do not uniformly impact the community, **a beneficiary segregation into direct and indirect beneficiaries was crucial to monitor and capture the project impact holistically**
2. **Non objection certificates** were obtained from beneficiaries with lands adjoining from the project structures

Community participation

1. The project design and implementation involved the GP. However, **involvement of the larger community was observed to be limited especially women**

Technical observations on soil & water conservation structures

The assessment team observed **few gaps in the design and construction of the structures. This may have impacted the quality of soil & water conservation structures and may impact the sustainability in the long run**. The observations are detailed below:

- A lack of top-down watershed approach to treat the drainage line was observed by the assessment team. This has **resulted in creation of water structures at unsuitable locations** which has impacted the soil and water conservation potential created under the project and sustainability of the structures
- Even though a technical survey was undertaken prior to the project, parameters such as catchment area, L sections, cross sections, slope, the geo hydrology maps & data, average rainfall, soil type, rainfall intensity, etc. were not considered in the planning and design phase **which has adversely impacted the quality of project structures.** Further, means of verifications for the technical survey were not available with the project team
- In the physical work done for various structures, **certain technical limitations were observed**. E.g., Lack of a core wall in Matti Nala bunds; lack of quality in banks of Cement Nala bund; lack of outlets in the bunds; the contour bunds are not aligned with the contours; seepage issues in the structures etc.

Gabion bund constructed at unsuitable site without proper mash coverage

Gabion bund constructed next to a Matti Nala Bund

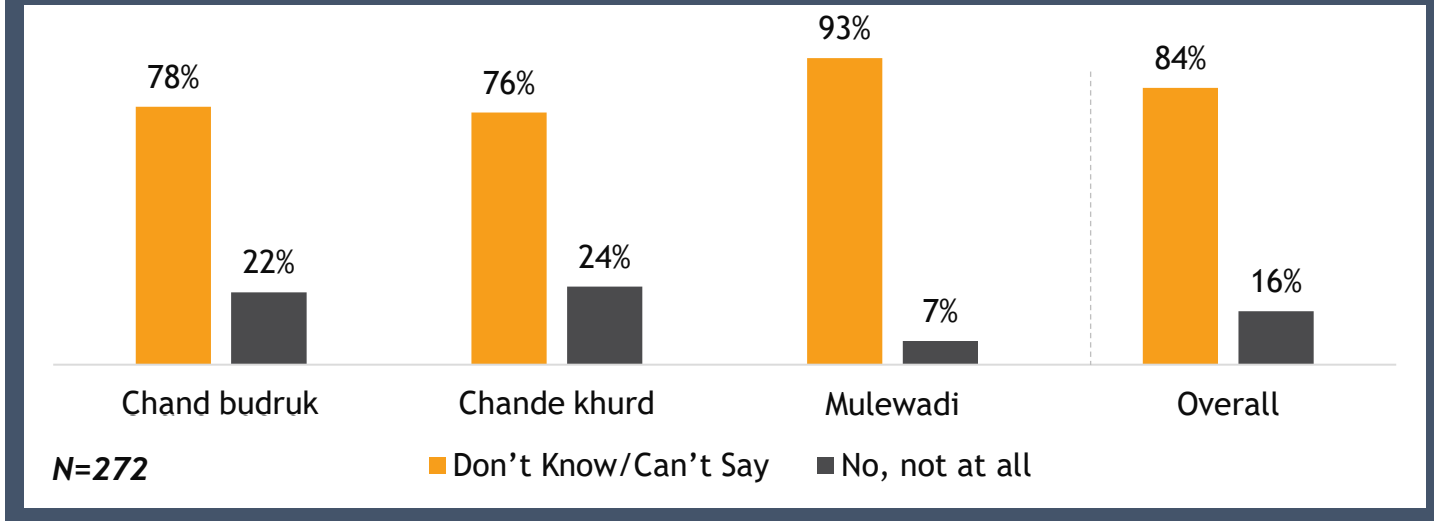
Matti Nala Bund with no core wall

Lack of outlet in contour Bunds

Change in soil and water conservation measures

- The community has observed one monsoon post the project completion. They reported that there is a certain degree of improvement in **the soil and water conservation measures in the project area**. Prior to the project, the **rain- water would run off as there were defunct structures which could not slow down water and recharge ground water levels**. The surface run off used to contribute to **soil erosion as well which also has reduced post the project**
- **As per the project completion report, the project has achieved the targeted number of water structures.** However, as no baseline study was undertaken, comparative analysis between baseline and endline data could not be made. Further, the assessment team observed **a lack of documentation on the area covered under soil and water conservation structures.** Thus, the impact on area covered and treated is also not quantifiable

Community's perception on change in water table



- As the project has been completed only 8 months prior to the assessment, **the community across all three villages did not report any significant change in the water table as of now. 83.82% of the total respondents were not aware about any changes in the water table**
- As per the project team, structures created under the project were handed over to the Gram Panchayat for operations and maintenance (O&M). **However, the GP members shared that there is a lack of fund for the O&M.** The project has not leveraged any community contribution

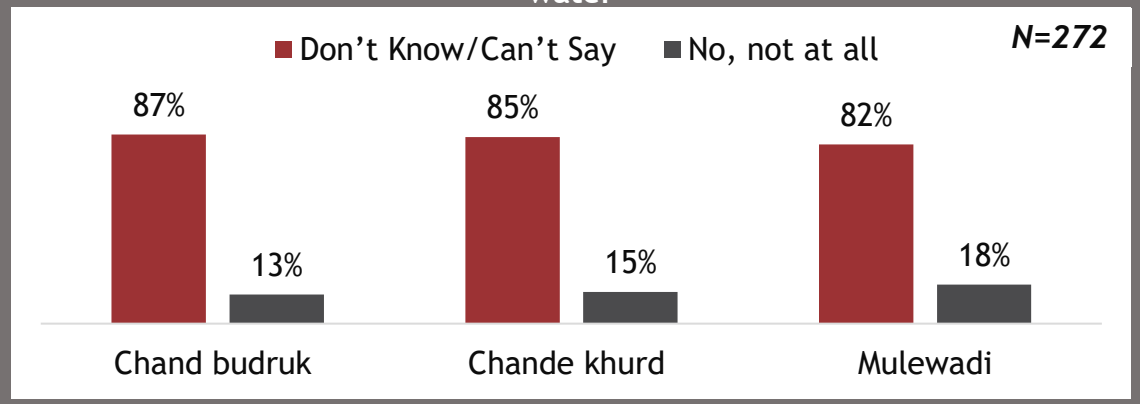
Change in water availability and usage

- The community anticipates an improvement in the access of water resource due to the water structures created under the project. The community acknowledges the forthcoming benefits of the structures i.e., improvement in water availability around the year and ground water recharge which would lead to improvement of water table
- Although the project has worked towards augmenting water in the region, the assessment team has observed **a lack of awareness amongst the respondents on importance of efficient and sustainable use of resources e.g., the community continues to practice flood irrigation technique across all three villages**
- The respondents also shared the **need for water harvesting structures on private land** such as farm ponds which would further help them in increasing their agriculture yield and income

As the community has not observed any changes in the water table, the **impact on availability of drinking water is also not evident.** An average of 85.5% of the respondents reported that no change in the availability of drinking water has been realised

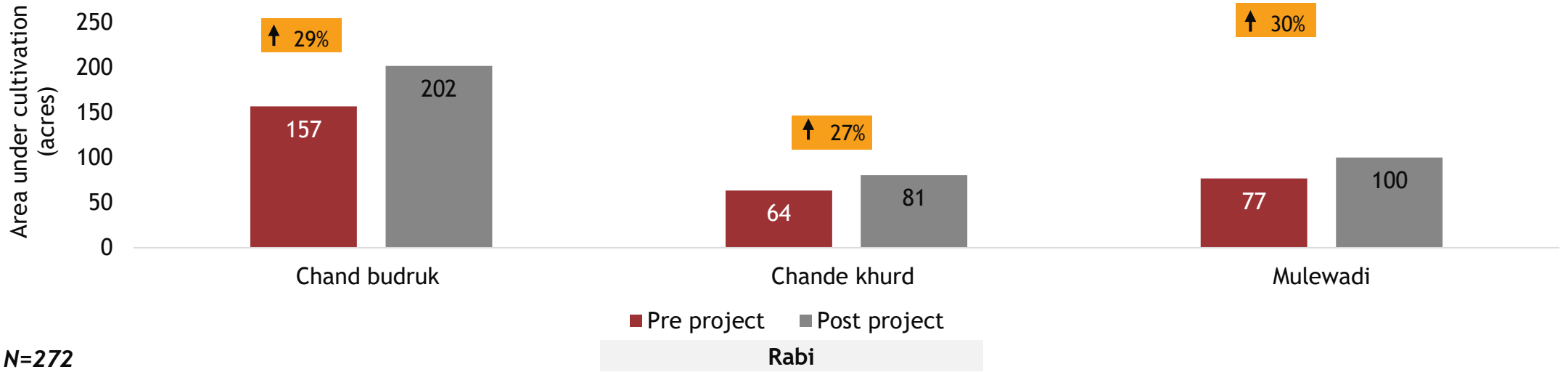
However, during the qualitative survey, the community shared the water augmented and recharged due to the project structures might last till the March of 2023 which will **help in reducing the number of drinking water tankers in the summer season**

Community's perception on the improvement in availability of drinking water



Change in area under cultivation

- The assessment observed no significant changes in the area under cultivation for Kharif. The community shared that they were **utilizing the entire cultivable area under Kharif prior to the project as well because of sufficient rainfall for irrigation purposes. Thus, only 7 acres of increase in area under cultivation was reported for Kharif**
- **In Rabi, an average increase of 28 acres of area under cultivation was observed. The increase is highest in Chand budruk with 45 acres of increase in land followed by Mulewadi with 23 acres of land. The total increase of 85 acres have been reported in Rabi. Community partially attributed the change to the improved water availability in the villages because of the soil and water conservation structures created under the project.** The change is also partially attributed to the higher rainfall observed in 2022. **Further, structures helped in slowing the rainwater and runoff along with retaining the water for a longer period**
- The community also shared that the area under cultivation will further increase in the coming years. The beneficiaries have utilized the first year, post the completion of the project, to monitor and understand the change in water availability. The shift in agriculture practices will take place once the community have estimated the changes in water resources created under the project



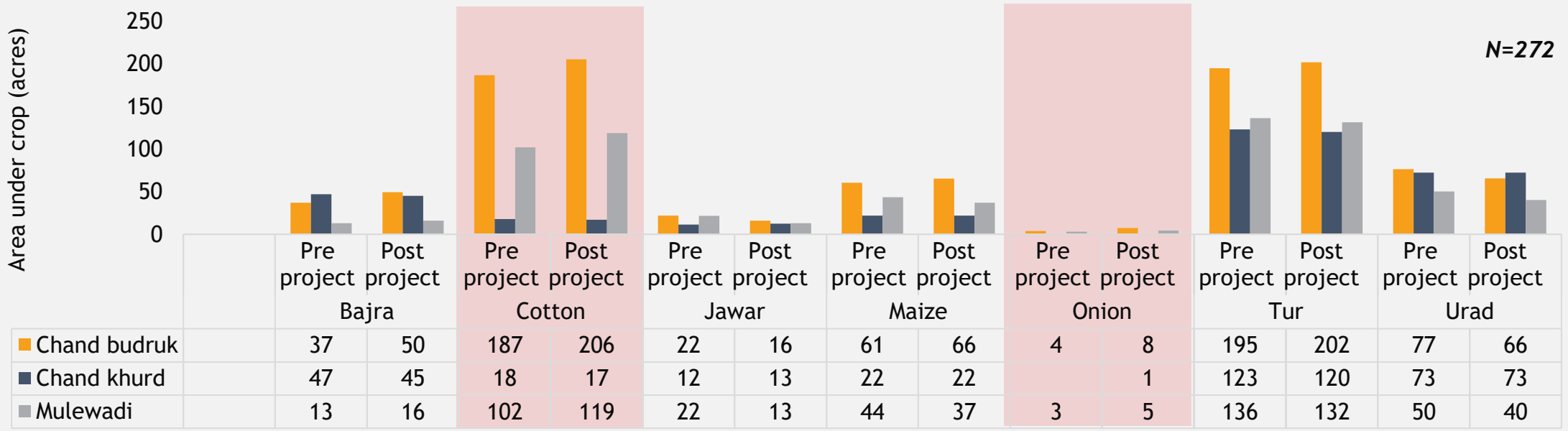
N=272

Although the area under cultivation has improved in Rabi, the community does not foresee any changes in the Zaid season. They shared that **a third crop in the season of Zaid is not possible due to lack of water availability post the project as well. The observation was noted across all three project villages**

Percentage change – pre vs. post

Change in cropping pattern (I/II)

Kharif



	Bajra		Cotton		Jawar		Maize		Onion		Tur		Urad	
	Pre project	Post project	Pre project	Post project	Pre project	Post project	Pre project	Post project	Pre project	Post project	Pre project	Post project	Pre project	Post project
Chand budruk	37	50	187	206	22	16	61	66	4	8	195	202	77	66
Chand khurd	47	45	18	17	12	13	22	22		1	123	120	73	73
Mulewadi	13	16	102	119	22	13	44	37	3	5	136	132	50	40

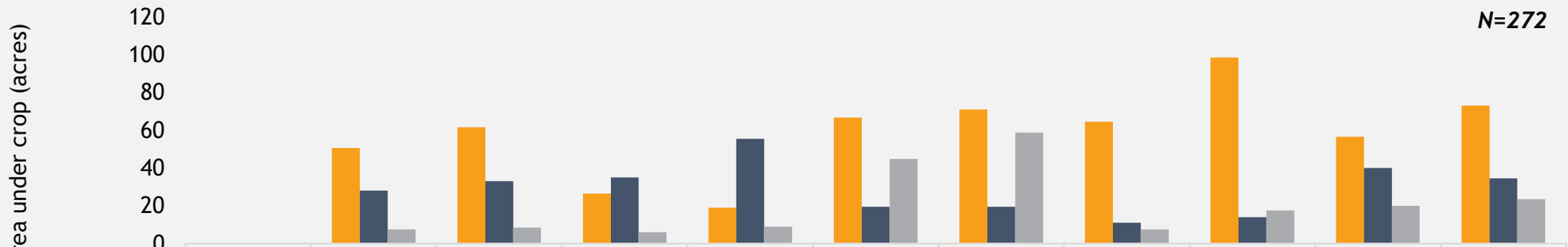
Key changes in the cropping pattern of Kharif

- A slight increase in area under Cotton, Onion were reported by the community. An average increase of 12 acres for cotton and 2 acres for Onion were reported. The shift have taken place from Urad and Jawar crops.
- The community shared that the shift to cotton and onion is due to comparatively higher market prices of these crops which helps in earning additional income for the farmers. It may be noted that the shift can not be attributed to the project for the following reasons:

1. The community have not realised the water availability potential created under the project yet. The community shared that they may shift to cash crops once they understand the change in water availability
2. The project design did not incorporate any activities on agriculture aspects such as package of practices

Change in cropping pattern (II/II)

Rabi (%)



	Gram		Jawar		Maize		Onion		Wheat	
	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project
Chand budruk	51	62	27	19	67	71	65	99	57	73
Chand khurd	28	33	35	56	20	20	11	14	40	35
Mulewadi	8	9	6	9	45	59	8	18	20	24

Key changes in the cropping pattern of Rabi

- **The community has reported no significant change in the cropping pattern of Rabi. All the key crops have been continued post the project as well. However, an average increase in overall areas of all key crops were reported. This was because of an increase in area under cultivation of Rabi due to improvement in availability of water for irrigation as discussed earlier**
- **The community has increased areas under cash crops such as onion and wheat** which is being used for selling purposes and earn an additional income for farmers
- The project supported farmers with **high yielding varieties of maize crop which also motivated farmers to increase area under maize.** Maize is used as a fodder crop and supports in providing regular food for livestock

Change in agriculture yield

Change in agriculture yield - Kharif (%)

	Bajra		Cotton		Jawar		Maize		Onion		Tur		Urad	
	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project	Pre Project	Post Project
Chand budruk	267	337	1311	1486	104	113	2220	2514	210	465	944	1531	292	331
Chand khurd	279	376	140	120	53	100	586	830		70	625	929	301	385
Mulewadi	85	87	660	779	46	61	1561	1969	525	626	1036	1613	37	45

Key changes in the agriculture yield

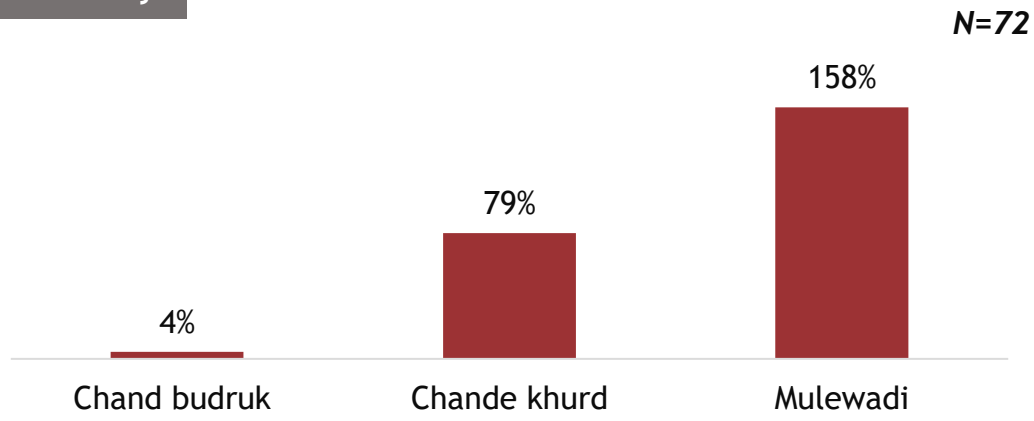
- An **increase in the yield has been observed for all the key crops of the Kharif season**. The highest average increase was reported for the yield of Tur at 489 Qt and Maize at 316 Qt
- The community has attributed improvement in the yields of Maize and Tur **due to high yielding varieties of seeds which were distributed and promoted under the project. While the improvement in the yield of rest of the crops have been attributed to higher rainfall in the year of 2022**
- As the assessment was undertaken in the first Rabi season post the completion of the project, the **community could not report the change in agriculture yield of Rabi crops**

Change in agriculture allied sector – Animal husbandry (I/II)

The fodder crop and water tanks promoted under the project have also benefitted animal husbandry. The key impact areas are discussed below:

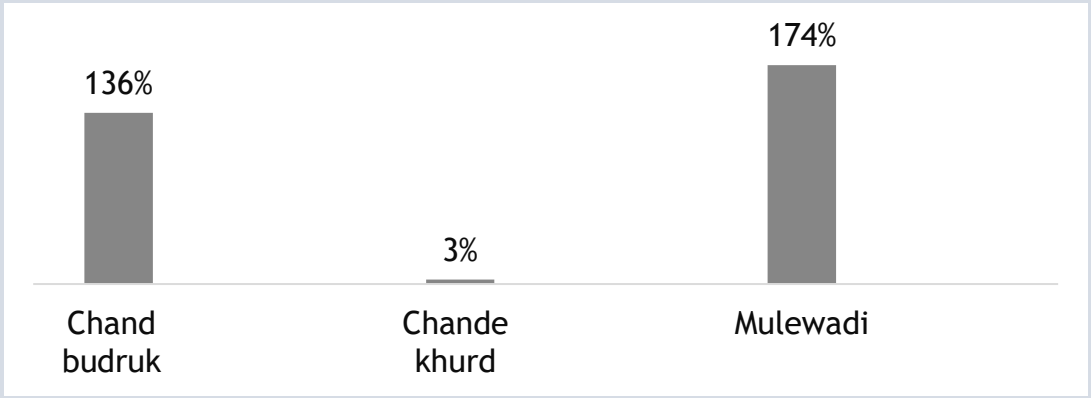
Change in fodder crop productivity

- The project has promoted a high yielding variety of maize crop which is used as the fodder crop for livestock
- There has been a **significant increase in fodder productivity post the project.** The change in Chande khurd and Mulewadi are more significant however, only 4% productivity has improved in Chand budruk



- As the project has **improved the availability of fodder crop for the livestock around the year, there is an increase in number of households practicing animal husbandry** across all three villages
- An average increase of 35 households have been reported across the project villages with 49 households in Chand budruk, 17 in Chande khurd and 40 in Mulewadi
- Animal husbandry has emerged as a **key source of income in all three villages**. Unlike the agriculture income, the income from selling milk is consistent throughout the year and **provides a monthly income for the community which is utilized for the day to day household expenditure**

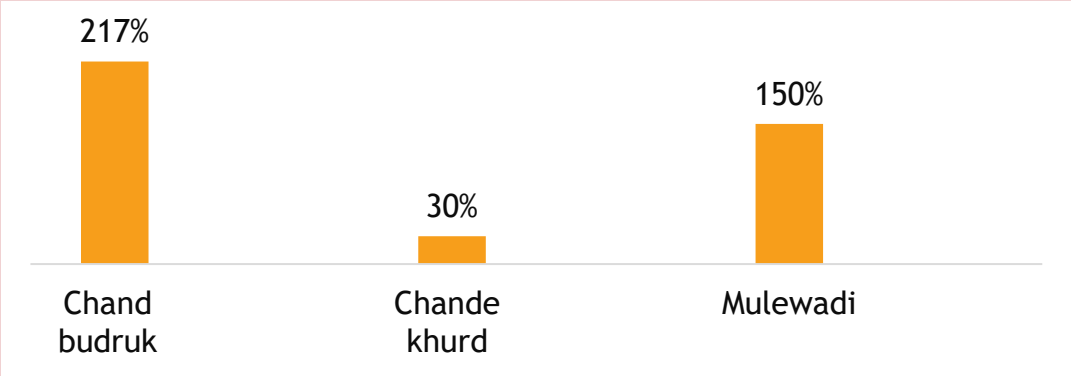
Change in no. of household practicing animal husbandry



Change in agriculture allied sector – Animal husbandry (II/II)

Change in no. of milk yielding animals (%)

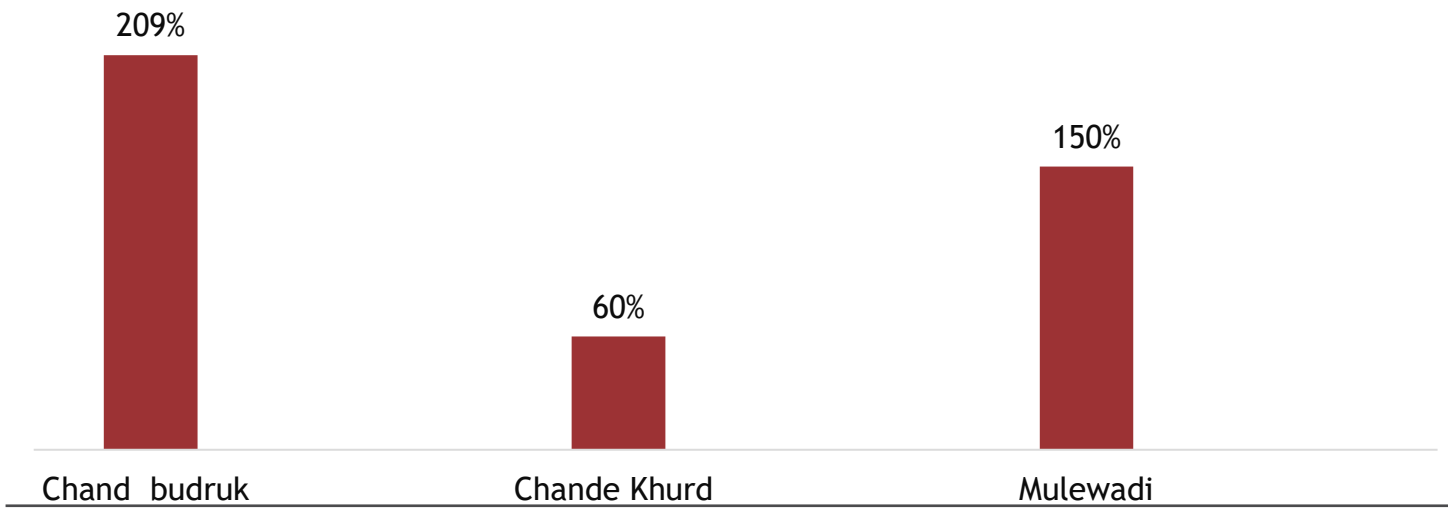
N=108



- The consistent earning from animal husbandry and improved availability of fodder has **motivated farmers to increase their herd size. An average increase of 4 animals in Chand budruk, 2 in Chand khurd and 3 in Mulewadi were reported across each household**
- Further, as the farmers are growing fodder crops themselves**, the need to purchase fodder has been eliminated which has also supported in reducing the input cost**

Change in milk production per day (%)

N=108

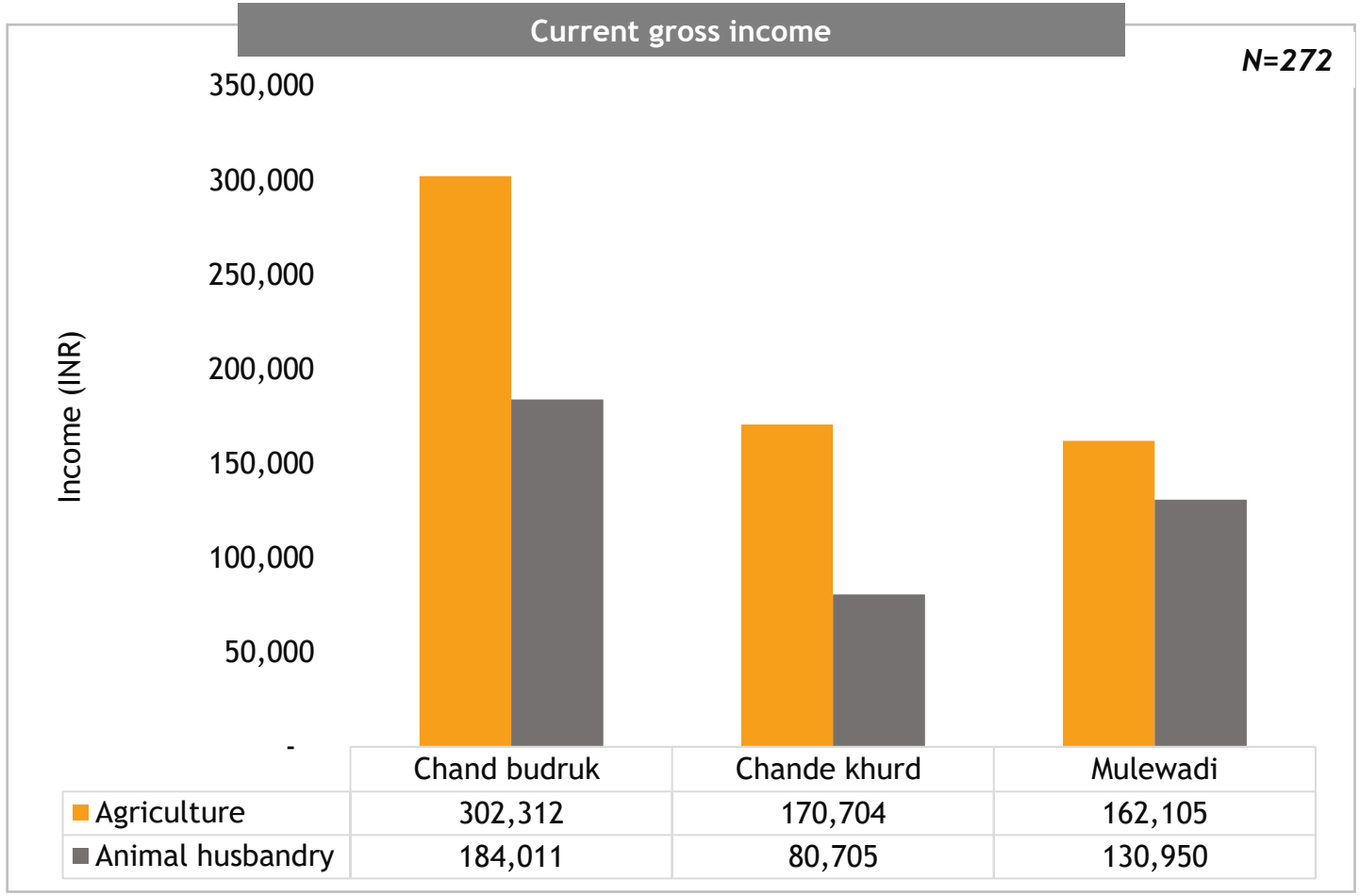


- The improved herd size and continuous availability of fodder crop **has also contributed in increasing the total milk production. This further indicates an overall improvement in cattle health**
- **The increase in total milk production has been observed across all three villages**
- The average increase in milk quantity stands at 11 litre/per day with highest in Chand budruk at 14 litre/day followed by 9 litre/day at Chande khurd and 6 litre/day in Mulewadi

Gross income level

The change in income across the key sources of livelihood are illustrated below:

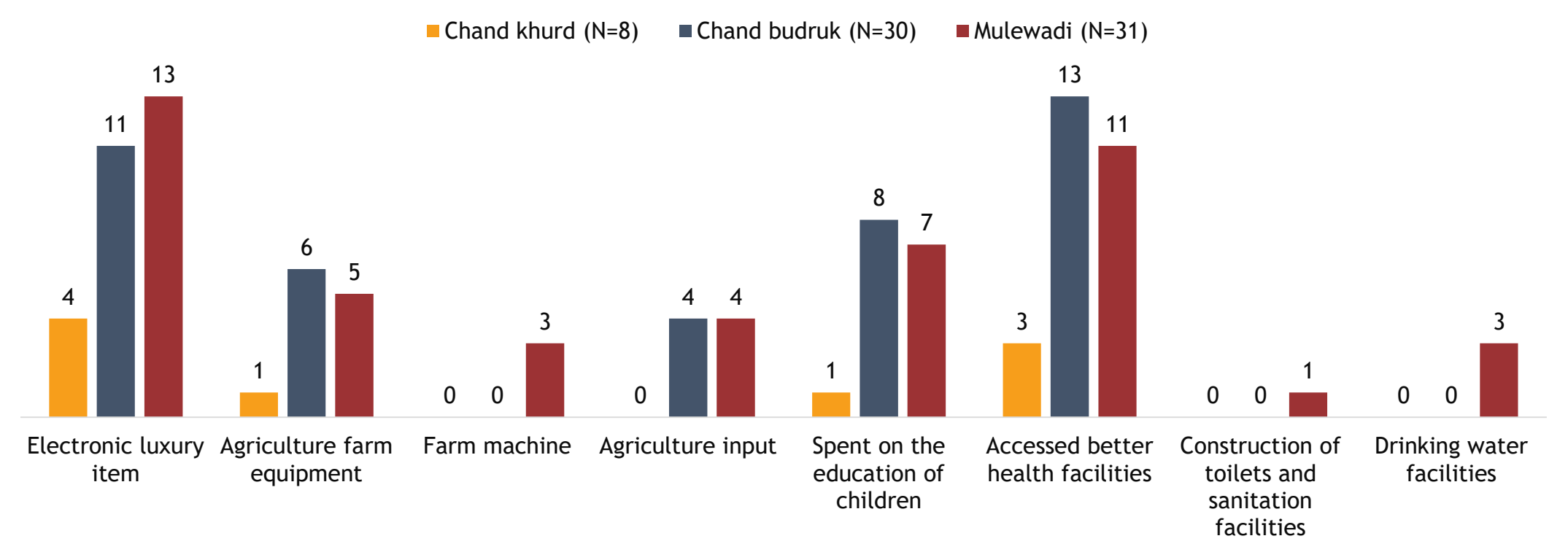
- An increase in the gross income is reported across all project villages. 25% of the total respondents reported an increase in income. As the project did not capture the baseline income, the comparison between pre and post project incomes could not be captured
- As per the qualitative interactions, the increase in income **was only partially attributed to the project as the complete project benefits have not been realised by the community yet**. The change was **mainly attributed it to the increased market prices of crops and milk**



	Chand budruk	Chande khurd	Mulewadi
Agriculture	302,312	170,704	162,105
Animal husbandry	184,011	80,705	130,950

Investments & expenditure

The areas of investment reported by the community:



The community has invested their increased income for various purposes. The highest no. of investments were reported in Mulewadi and lowest in Chande khurd. There is an increase in number of families who are spending for private school education for their children especially in Mulewadi. Other key areas reported by the community is investment on electronic items such as mobile, television etc. and farm equipments. Access to better health care facilities has also been reported majorly in Chand budruk and Mulewadi.

SECTION 5: WAY FORWARD

Considerations for way forward (I/II)

Area of consideration	Observation	Way forward
Project approach, planning and implementation 	▪ The assessment team observed few gap areas in the design and implementation of the structures which has impacted the quality of WHS structures and can impact their sustainability in the long run. The observations are discussed under the results section ▪ A lack of documentation on the effective storage of old structures on which renovation was undertaken along with additional storage increased and area covered under the new structures. Thus, the impact was not quantifiable ▪ Any project branding on the WHSs were not evident	▪ For the future implementation of similar projects or phase – III of the same project, the project team could strengthen their technical planning approach along with documentation of the same ▪ The project should explore ways for immediate repair of the structures with technical limitation and other structures damaged after the rains specially contour bund and cement nala bund ▪ A comprehensive monitoring framework could be developed with quantifiable project objectives which would support the project team in showcasing the impact better ▪ The project could scale up the water and conservation and groundwater recharge activities as the need for the same was reported by the community. This would help in the treatment of the rest of the village area to saturate the drainage line ▪ The project team could ensure branding across all hardware activities
Awareness on the importance of water & soil conservation practices and government schemes	▪ The assessment team observed a lack of awareness and knowledge on water efficient irrigation techniques and soil conservation practices	▪ For the future implementation of similar projects or phase – III of the same project the project team could: ➢ To ensure judicious use of water and efficient use of water, water budgeting training should be provided to the village community, and the village water security plan and water budgeting plan of each WHS should be prepared

Considerations for way forward (I/II)

Area of consideration	Observation	Way forward
Awareness on the importance of water & soil conservation practices and government schemes 	▪ As per the project proposal, the project would promote relevant government schemes in the project villages to create awareness. However, the respondents did not report any such activity	➢ Water efficient irrigation technologies and practices may also be promoted through the training. Awareness regarding relevant government schemes such as Micro irrigation schemes, could also be included and convergence can be explored ➢ Trainings on soil testing, organic fertilizers and pesticides could also be explored to create awareness on soil health
Institutionalization 	▪ The community participation was observed to be limited in the project especially from women. The assessment team observed an eagerness amongst the women respondents for an active participation in the project as they are also actively involved in agriculture ▪ The Gram Panchayat reported a lack of funds for the maintenance of the structures created under the project which could impact their sustainability ▪ The project design did not incorporate any form of community contribution for the structures which has limited community's ownership on the structures and resulted in lack of funds for the O&M of the structures post the project	▪ The project could involve community members through the formation of a committee which could also be leveraged for the operation and maintenance of structures. Active participation of women participation can also be explored through the institutions ▪ The institutions could be further strengthened by regular training and exposure visits on need basis to achieve self-reliant institutions which could support in efficient resource management ▪ An operations and maintenance fund could be established for post-management of the hardware activities. This may be done by leveraging the village institution and community contribution along with liasoning with relevant government departments

SECTION 5: ANNEXURES

Project coverage (I/II)

As per the project completion report, the project has achieved the targeted number of water structures. This was further validated by the project team during the KII. The village wise list of coverage are detailed below:

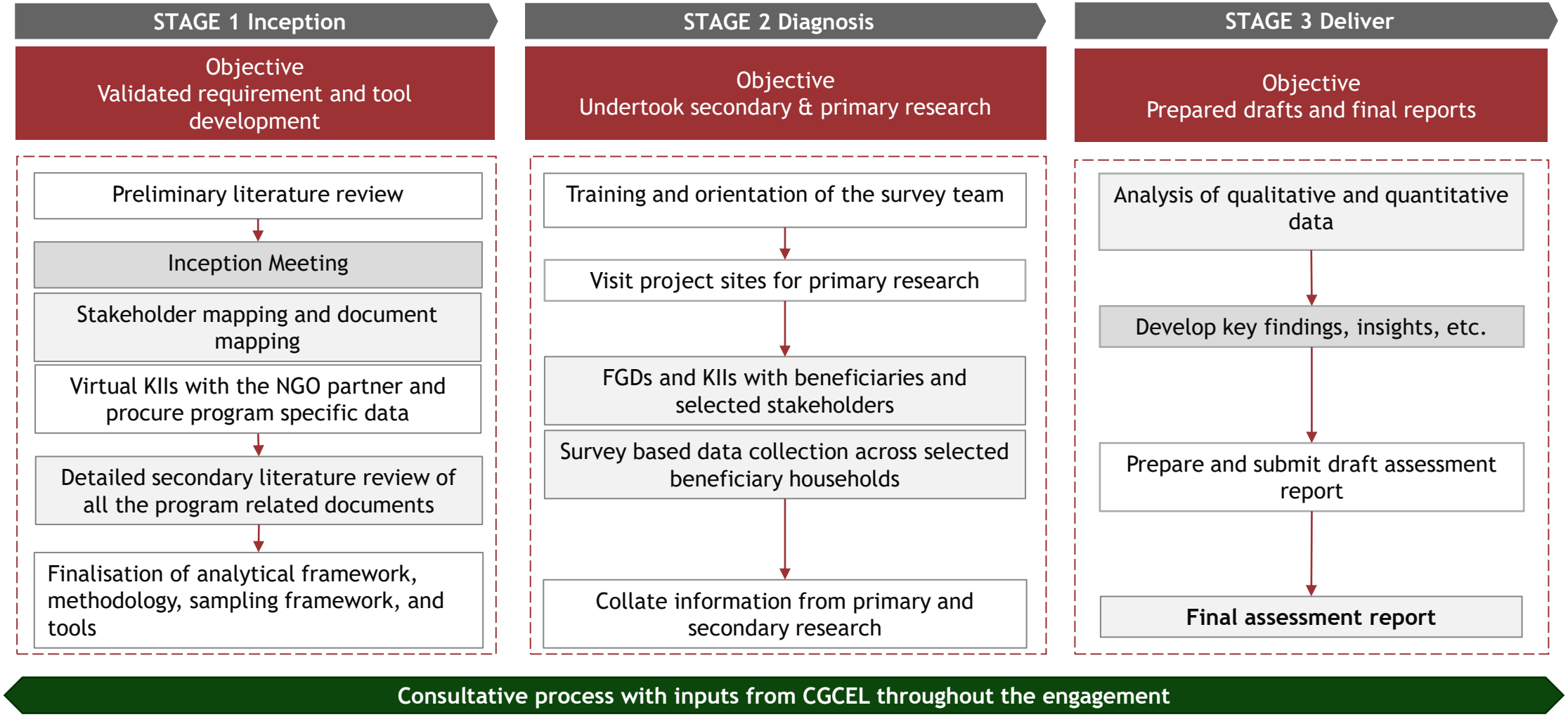
Name of the village		Chand budruk		Chand khurd		Mulewadi		Total	
Name of the Activity	Units	Target	Completed	Target	Completed	Target	Completed	Target	Completed
Gabion Bunds	Number	3	3	3	3	4	4	10	10
Counter Bunding	Hectare	75	75	80	80	100	100	255	255
Nalla Desilting	Hectare	0.23	0.23	2.26	2.26	0.50	0.50	2.99	2.99
Well recharge	Number	10	10	13	13	25	25	48	48
Construction of Cement Nala Bund (CNB)	Number	2	2	-	-	2	2	4	4
Repairing of Cement Nala Bund (CNB)	Number	1	1	2	2	2	2	5	5
Matti Nala Bund Repairing	Number	3	3	3	3	3	3	9	9
Contonious Contour Trench (CCT)	Hectare	62	62	60	60	-	-	122	122
Vanarai Bunds	Number	14	14	12	12	12	12	38	38
Loose Boulder Structure (LBS)	Number	0	0	50	50	0	0	50	50

Project coverage (II/II)

Name of the village		Chand budruk		Chand khurd		Mulewadi		Total	
Name of the Activity	Units	Target	Completed	Target	Completed	Target	Completed	Target	Completed
Fodder crop	Hectare	18	18	15	15	25	25	58	58
Horticulture plantations	Hectare	60	60	30	30	56	56	146	146
Vermi compost unit	Number	5	5	5	5	5	5	15	15
Seed and land prep exp given to farmers	Hectare	90	90	90	90	90	90	270	270
Water Tank for Drinking Purposes	Number	2	2	2	2	2	2	6	6

Methodology

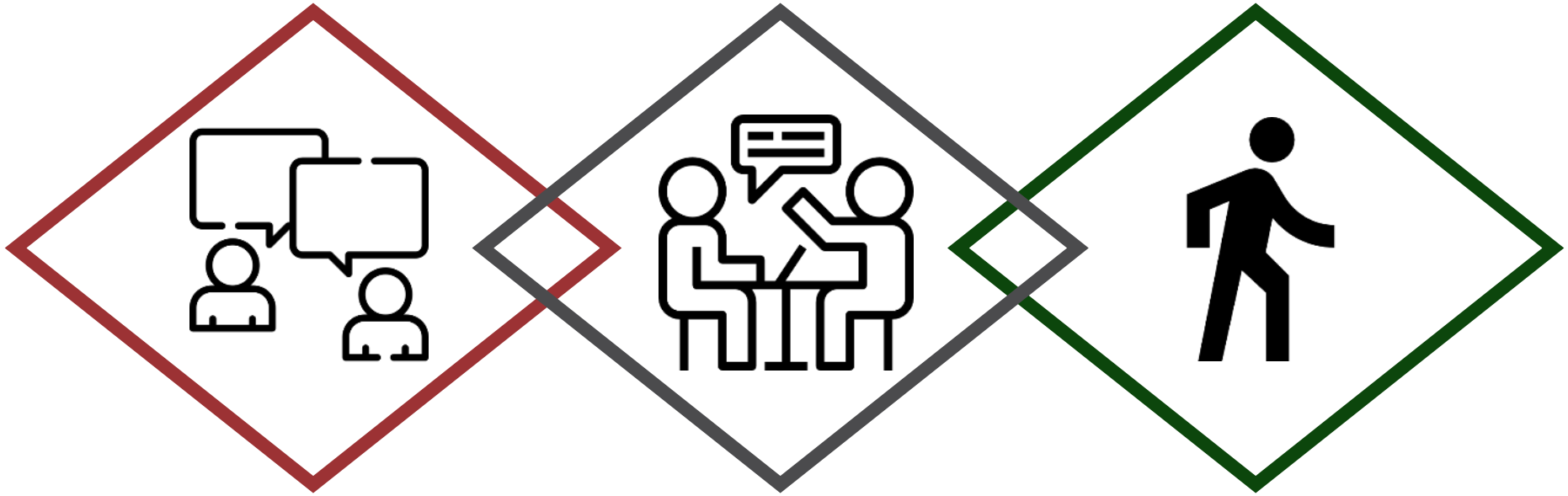
The assessment was carried out in three different stages - inception, diagnosis and deliver. The key steps of each phase are detailed below:



Consultative process with inputs from CGCEL throughout the engagement

Sample coverage – Qualitative

A mixed methodology study was conducted where both qualitative and quantitative data was collected to gauge a 360-degree snapshot of the project. The qualitative assessment primarily leveraged the three tools indicated below:



	Focused group interactions	In depth interviews	Village walks and mapping
Coverage	**4**	**8**	**3**
Stakeholders	Beneficiary farmer groups (both male and female farmers) from different social categories such as ST, SC, OBC etc. and all primary & secondary occupations	BBKGSS team member, identified farmer champions, representatives from Gram Panchayat	Village opinion leaders, farmers, government representatives, etc.

Sample coverage – Quantitative

A beneficiary household level survey was also undertaken and quantitative data on various aspects was collected.

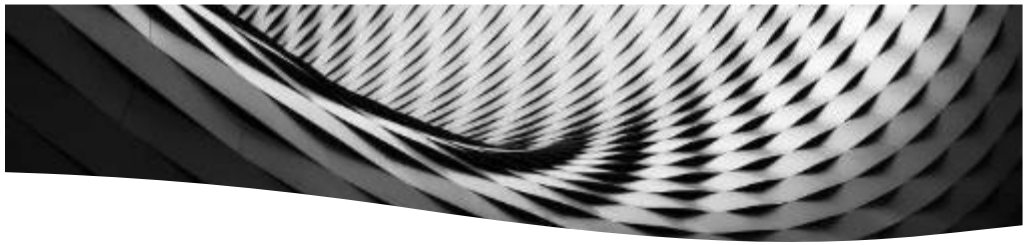
Sampling methodology

Given the project coverage, the statistically significant stratified sample at confidence Level of 95% and margin of Error at 5% is 272 HHs for Karjat
The beneficiary households were selected to ensure the coverage of all hardware activities carried out under the project along with coverage of all social categories within the village.

- TTC calculated population weightage for each activity based on the total number of beneficiary of that activity out of the total no. of beneficiaries of all activities
- Similarly financial weightage was computed by the total expenditure of an activity out of the total expenditure of all activities
- Equal weightage (50%) was given to both population and financial weightage to compute the aggregate weightage
- Aggregate weightage was determined by multiplying population and financial weightage by 0.5 and adding both the value
- Finally, the sample size was computed for each activity out of 272, by multiplying aggregate weightage to 272. Furter, the sample size of key activity has been classified on the basis of proportion of unit cost

S. No.	Name of village	Target sample size	Achieved sample size
1	Chande khurd	55	55
2	Chande budruk	105	105
3	Mulewadi	112	112
	Total sample size	**272**	**272**

Thank you



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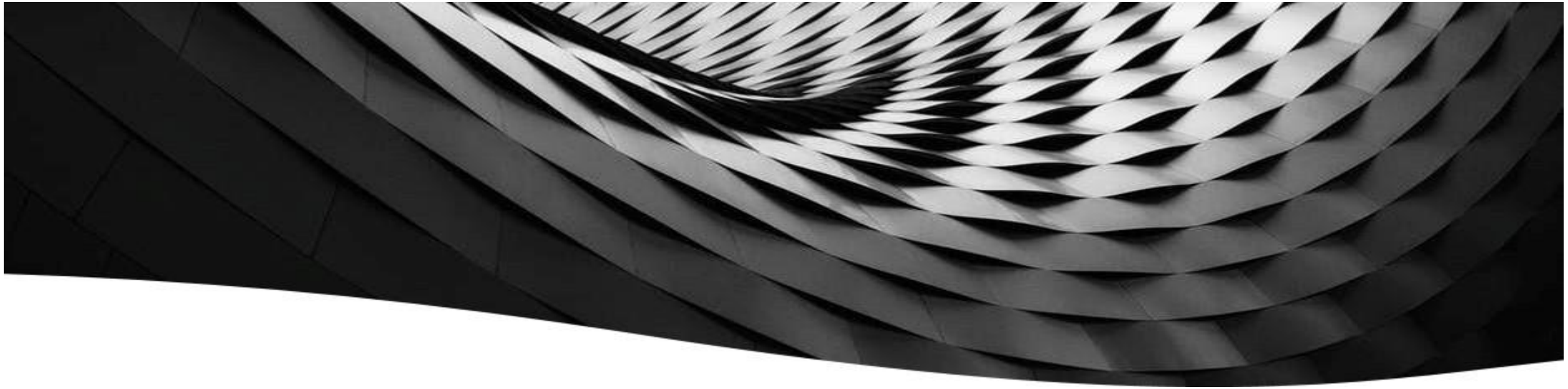


Crompton

Impact assessment of CGCEL's water conservation projects in Maharashtra

January 2023

TTC
connecting ideas for impact

Contents

Executive summary (I of II)

Project summary

Project name

Enriching land & water productivity through soil & water conservation

Project area

Paregaon Khurd village in Sangamner block of Ahmednagar district

Project duration

April 2020 to March 2021

Implementation partner

VANARAI

Key objectives

- ✓ **Water resource conservation** through rainwater harvesting
- ✓ **Development and promotion of farmers capabilities-** based water use for better crop production in the area
- ✓ Improved **water productivity, water use efficiency,** resource development through community participation
- ✓ **Capacity building of the local community** with the necessary data, skills and knowledge to manage land & water resources sustainably

CGCEL engaged TTC to undertake impact assessment study of the project

Assessment methodology

Literature review → Assessment tools → Data collection → Analysis and reporting

Sample coverage:
150 households under quantitative survey and undertook
5 FGDs, 3 IDIs under qualitative research

Executive summary (II of II)

Impact snapshot

Water availability	▪ Project has achieved 100% target against the planned hardware activities for year 1 ▪ Increase in water **table up to 5-15 ft** which has resulted in an **increase in the number of supplemental irrigations** in rabi crops ▪ **Community avails life saving irrigation facility in Kharif and thus the area under irrigation increased from 13 % to 57 %. A significant increase from 36 % to 85 % was also reported for Rabi**
Yield and cropping intensity	▪ **Yield has improved for all crops**, but it has significantly improved for Jowar and Bajra in Kharif. For Rabi, wheat yield has improved because of better access to irrigation ▪ **Cropping intensity has increased by 57% for the village**
Animal husbandry	▪ **Increase in number of households practicing animal husbandry across the village.** ▪ **Increase herd size and increase area under fodder crops**
Income	▪ an **average increase of 12% income in the agriculture sector** ▪ An **average increase of 38% was reported in animal husbandry**

Key areas for consideration

- **Limited knowledge and awareness** was observed on efficient water conservation methods and water budgeting
- Community Institution was formed in one meeting, and it has **not played any key role in the project implementation**
- **Limited involvement and participation of the community** especially of women

Recommendations

- **Need to strengthen the technical approach and ensure larger community participation** from both the gender
- Scale up the **soil and water conservation activities**
- **Promote water efficient irrigation technologies and sustainable agriculture practices**

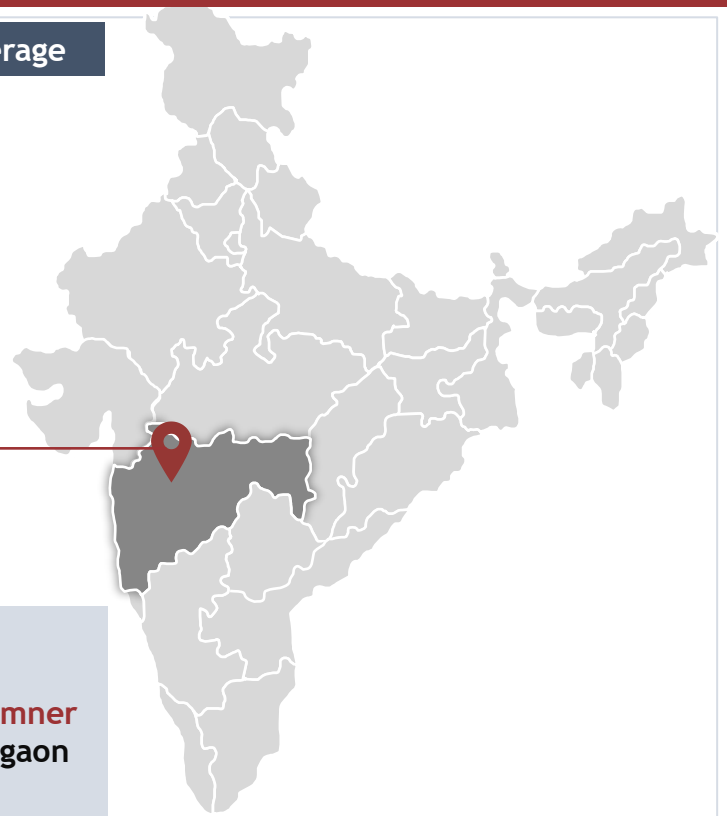
SECTION 1: BACKGROUND

Background

The Corporate Social Responsibility (CSR) policy at Crompton Greaves Consumer Electricals Limited (CGCEL) is rooted in the belief that **business sustainability is closely connected to the sustainable development of the communities that the business is a part of and the environment in which the business operates.** The CSR projects at CGCEL are carried out in collaboration with grassroot level implementation agencies with experience in thematic areas that CGCEL aims at working in.

About the project

Project coverage



District - Ahmednagar
Block - Sangamner
Village - Paregaon Khurd

Project brief

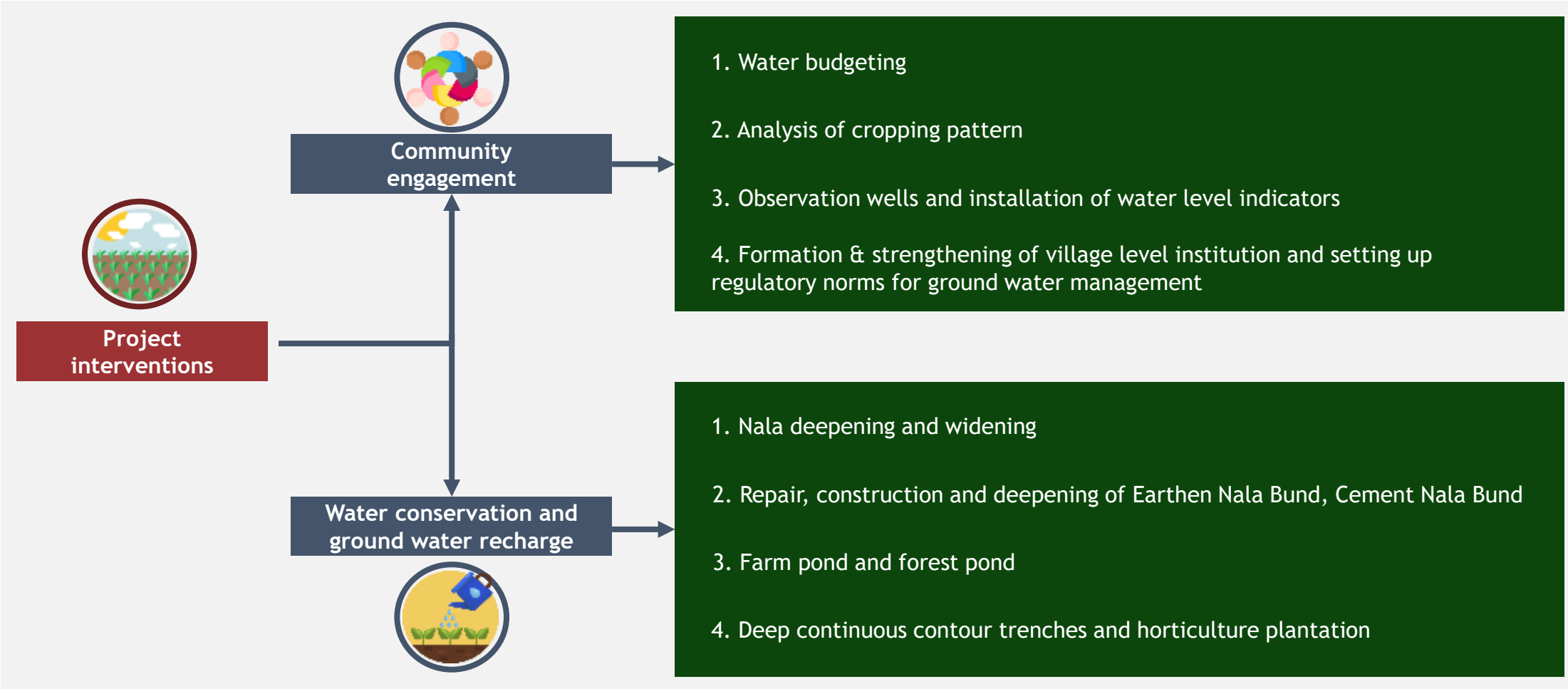
- The project aimed at **enriching land & water productivity through soil & water conservation**
- The project was implemented by an NGO partner - **Vanarai** which is aligned with CGCEL's thematic priorities and aims to combat the challenges of climate change through people's movement in enriching the ecosystem
- The project **duration was 1 year i.e., Apr'2020 to Mar'2021 with a beneficiary population of 1235 from 244 households**

Project objectives

- **Water resource conservation** through rain water harvesting
- **Development and promotion** of **farmers capabilities-** based water use for better crop production in the area
- **Improved water productivity**, water use efficiency, resource development through community participation
- **Capacity building of the local community** with the necessary data, skills and knowledge to manage land & water resources sustainably

Proposed project interventions

The key interventions proposed under the project are detailed below:



Project approach

Although the detailed project report was prepared for a duration of 3 years, the project was sanctioned for 2 years out of which the actual implementation period was only 1 year. The project team reported a participatory resource identification & planning process which is detailed below:

Village was selected basis the **identified water challenges which were significant for the community along with the geographical location of the village** in the watershed. A detailed secondary literature review was conducted for the selection of the village

Vanarai team **consulted members of Gram Panchayat along with opinion holders** from the community to gather insights on the challenges of the community and site identification for the hardware activities

A **technical survey** was undertaken basis which a detailed project report was prepared. A top-down watershed approach was followed to treat the drainage line. However, **no supporting technical document were available with the project team**

A glance at the project village

A brief overview of the project village is illustrated below:

The village is **90 Km from Ahmednagar** (district head quarter) and **13 Km from the Sangamner** (tehsil headquarters)

The total **population is 1235 (711 working and 524 nonworking) with 244 households. The gender ratio is 102.79**

The literacy rate of the village is **73.16% out of which 83.18% males and 62.01% females are literate.**

The main crops:
Kharif – Maize, Bajra, Jowar, Onion
Rabi – Maize, Wheat, Gram, Onion

The village was treated under Government of India's Integrated Watershed Management Project in the year of 2013-14. Around 430 Ha area was treated under the project. The gram panchayat representatives reported that there was still untreated area in the village and hence a further scope of watershed related initiatives

**Source – Census 2011*

Project context (I/III)

A terrain map of Sangamner block highlighting Paregaon Khurd*

Project's alignment with geographical challenges and government priorities

- As majority of the Ahmednagar district is situated in **"Rain Shadow" zone of Western** Ghats, it often suffers drought conditions
- As per the central ground water control board's report**, Sangamner block has shown a trend of **declining ground water levels (>20m/yr.)** and is considered an **over exploited** block with respect to ground water resources
- The report further identifies **higher surface run off in** Sangamner block due to prominent hill ranges, isolated hillocks and undulations etc.
- In light of the above challenges, the central ground water control water has recommended **ground water development in areas with high and medium potential - which is observed across Sangamner**
- The ground water management plan, 2016 for the block has prioritized **small schemes of water conservation** for harvesting the surface run off and there by maintaining the supply during lean period. The plan suggests the **construction of percolation tanks/ponds and checks dams, nala bunds, contour bunds, storage tanks, etc., as per the feasibility**

✓ As the project activities are aligned to the recommended water conservation activities under the ground water control board for Sangamner, the project is relevant to the identified challenges of the geography

*Source - https://stategisportal.nic.in/stategisportal/Home/Map/27**
***http://cgwb.gov.in/District_Profile/Maharashtra/Ahmednagar.pdf*

Project context (II/III)

Project's contribution to national and global agenda

SDG 1 - No poverty

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

As the project aims to enhances the water productivity and capacitate the farmers which in turn improves the agriculture livelihood, thus the project objectives are aligned with SDG 1

SDG 2 - Zero hunger

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

The project contributes to zero hunger by increasing agriculture productivity and income of small-scale food producers

SDG 6 - Clean water and sanitation

By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

As the project is increasing the water harvesting potential in the village and capacity building of the community, it contributes towards SDG 6

As illustrated, the project is contributing towards the SDGs and is relevant in the global context. It can also be safely concluded that the project is contributing to the efforts of the Government of India in its global commitment towards SDGs to a certain extent

Source - https://stategisportal.nic.in/stategisportal/Home/Map/27

Project context (III/III)

Village level challenges identified prior to the project by key stakeholders

- Prior to the project, community identified shortage of **water as a key challenge** in the village which negatively impacted their cropping intensity, yield and quality of yield

- As the village is **situated on a slope with average slope more than 3%,** the surface run off was high which also led to soil erosion

- Most of the existing water **harvesting structures in the village were defunct** and could not contribute to percolation of water

- The community struggled to get **drinking water after the months of December - January** and relied on **government or private tankers which increased their living expense**

- Most of the agriculture land was **rainfed and area under irrigation was quite less.** The community largely practiced **flood irrigation and there was a lack of knowledge about water efficient irrigation technologies**

- In the absence of assured irrigation, **farmers were averse to any shift in the cropping pattern.**

Given the village level challenges, the **project design was relevant to the needs of the community.** This was further validated by the community as **92% of the community shared that the project has addressed to their needs up to certain extent** and acknowledged the relevancy of the project design against the challenges of the village.

SECTION 2: METHODOLOGY

Scope of work

CGCEL engaged Thinkthrough Consulting Pvt. Ltd. (TTC) to assess the impact of its project(s) implemented by Vanarai. The scope of engagement includes:

- Identify a **statistically significant** sample
- Review **secondary literature** relevant to the project
- Undertake **primary research** in the project geography
- Develop an **impact assessment report** for the project

Relevance

Effectiveness

Efficiency

Impact

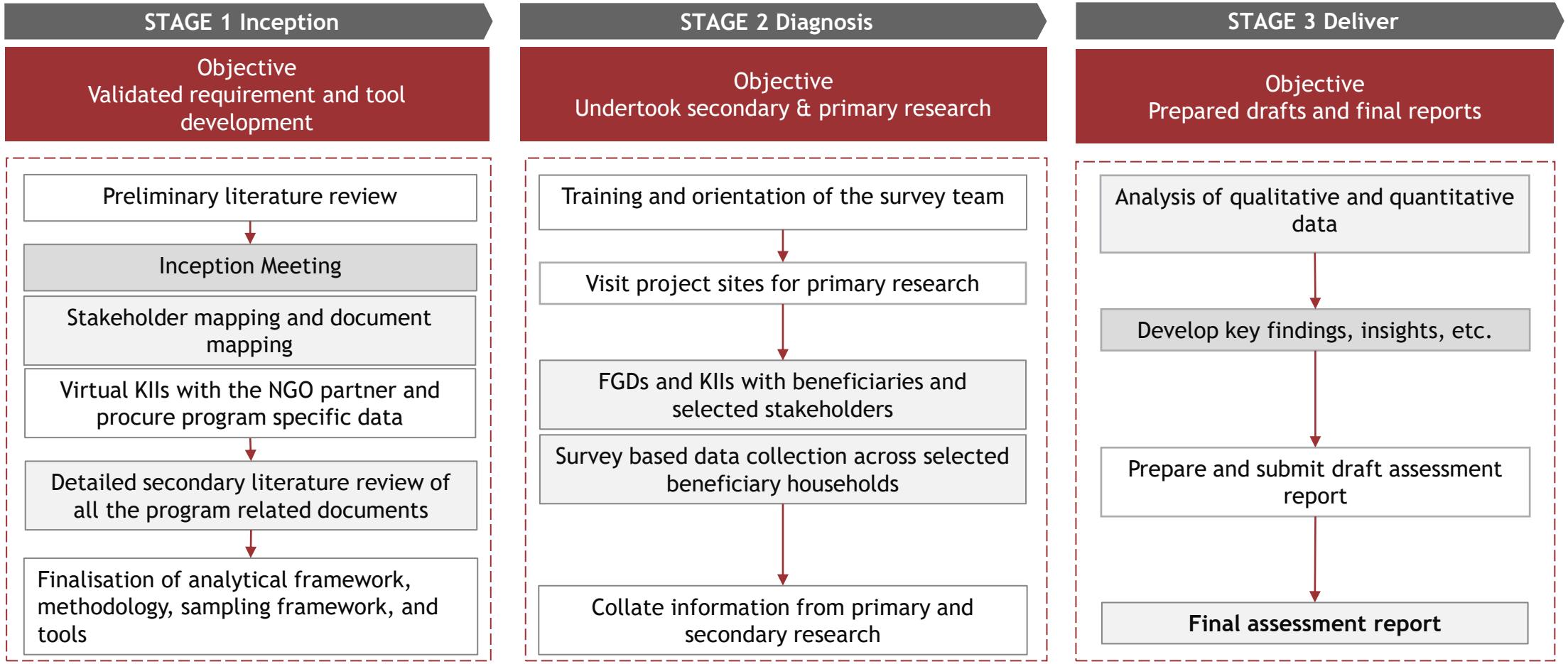
Sustainability

The assessment was undertaken through application of the OECD-DAC Criteria

*The assessment has been carried out using a **mixed methodology approach** (qualitative and quantitative) for collecting required data/information, and developed insights based on robust analysis. The evaluation framework was used as a guide to the entire process for mapping stakeholders, designing data collection tools and plan for data analysis.*

Methodology

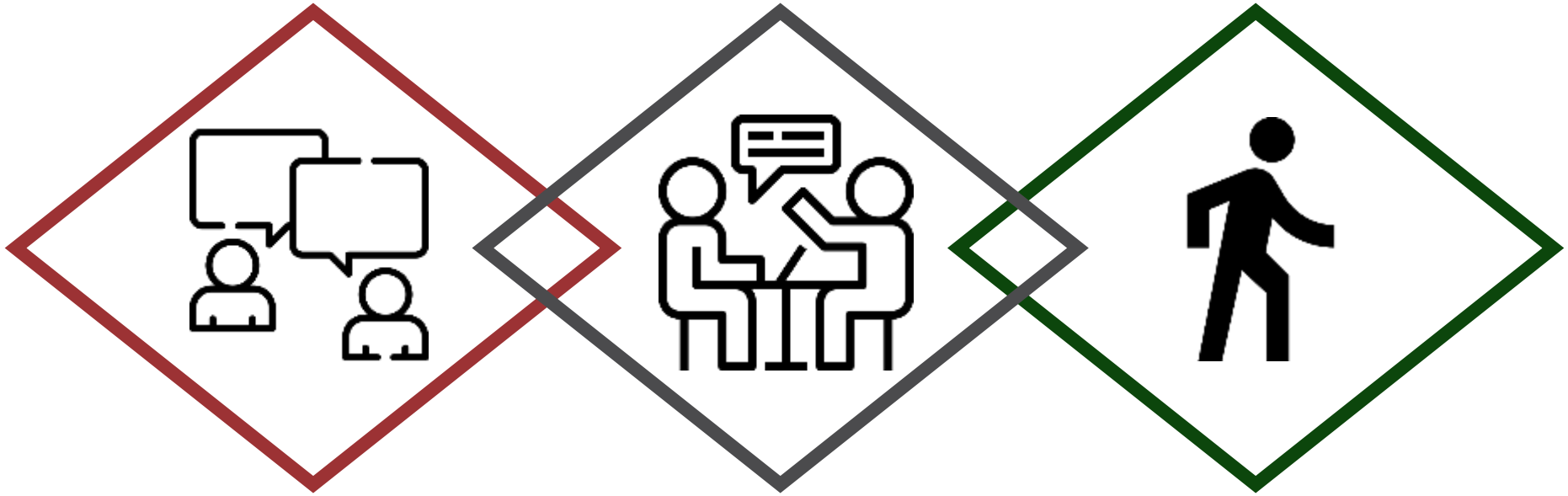
The assessment was carried out in three different stages - inception, diagnosis and deliver. The key steps of each phase are detailed below:



Consultative process with inputs from CGCEL throughout the engagement

Sample coverage – Qualitative

A mixed methodology study was conducted where both qualitative and quantitative data was collected to gauge a 360-degree snapshot of the project. The qualitative assessment primarily leveraged the three tools indicated below:



	Focused group interactions	In depth interviews	Village walks and mapping
Coverage	**5**	**3**	**1**
Stakeholders	Beneficiary farmer groups (both male and female farmers) from different social categories such as ST, SC, OBC etc. and all primary & secondary occupations	Vanarai team member, identified farmer champions, representatives from Gram Panchayat	Village opinion leaders, farmers, government representatives, etc.

Sample coverage – Quantitative

A beneficiary household level survey was also undertaken and quantitative data on various aspects was collected.

Sampling methodology

Given the project coverage, the statistically significant stratified sample at confidence Level of 95% and margin of Error at 5% is 150 HHs respectively for Paregaon Khurd
The beneficiary households were selected to ensure the coverage of all hardware activities carried out under the project along with coverage of all social categories within the village.

- TTC calculated population weightage for each activity based on the total number of beneficiary of that activity out of the total no. of beneficiaries of all activities
- Similarly financial weightage was computed by the total expenditure of an activity out of the total expenditure of all activities
- Equal weightage (50%) was given to both population and financial weightage to compute the aggregate weightage
- Aggregate weightage was determined by multiplying population and financial weightage by 0.5 and adding both the value
- Finally, the sample size was computed for each activity out of 150, by multiplying aggregate weightage to 150. Furter, the sample size of key activity has been classified on the basis of proportion of unit cost

S. No.	Name of Activity	Target sample size	Achieved sample size
1	Cement Nalla Bund	28	32
2	Nala Widening and deepening	47	51
3	In situ moisture conservation	2	2
4	Earthen Nala repair and deepening	51	45
5	Repair of cement Nala bund	22	20
	Total sample size	**150**	**150**

Limitations to the study

Baseline study

As the project did not undertake a baseline study, comparative analysis between baseline and endline data could not be made. The analysis would have further supported in the quantifying the impact created under the project

Project documents

Technical documents like Great Trigonometrical Survey sheets drainage maps, geo hydrological maps and data, and other documents such as theory of change budget Vs utilization were not available with the implementation partner. The documents would have supported the assessment team to gather a better understanding of the project design and implementation

Village level data

The rainfall data for the last 10-30 years along with water quality reports for the village were not available on government sites. The data would have supported in documenting the challenges of the village along with the project impact

Project duration

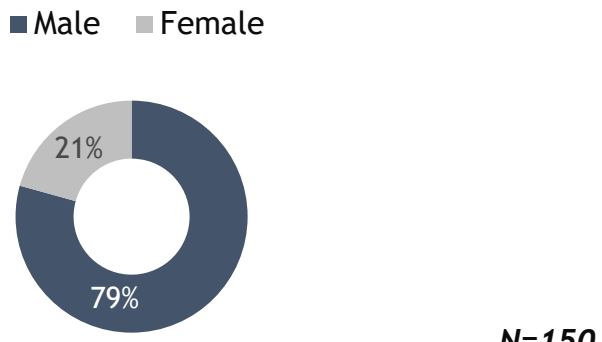
Although the detailed project report was prepared for a duration of 3 years, the project was sanctioned for 2 years out of which the actual implementation period was only 1 year. The duration of the project may have impacted the extent of impact of certain project activities as discussed in the coming sections.

SECTION 3: SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

Respondents profile (I/III)

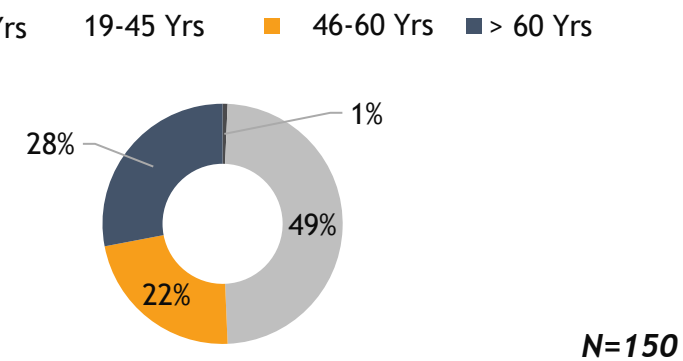
The assessment ensured a gender inclusive coverage of the respondents along with representation of different age groups

Gender



N=150

Age

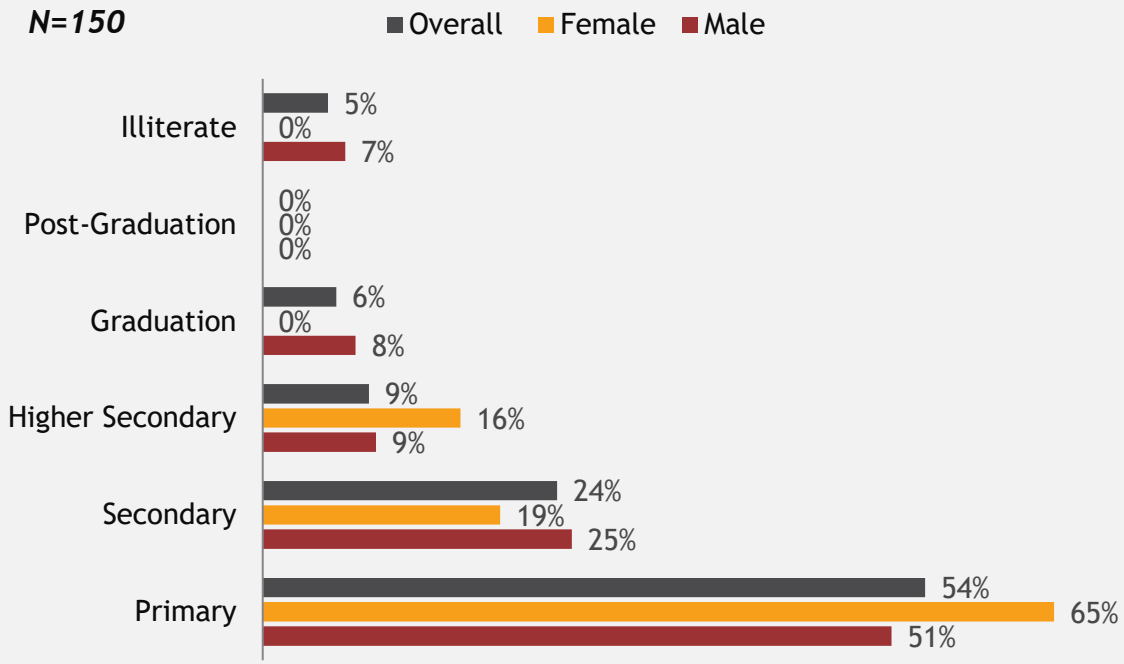


N=150

As majority of the direct beneficiaries were male, 79% of the respondents covered under the assessment were male and belonged majorly from two age groups i.e., 19-45 Yrs. & 45-60 Yrs.

Education

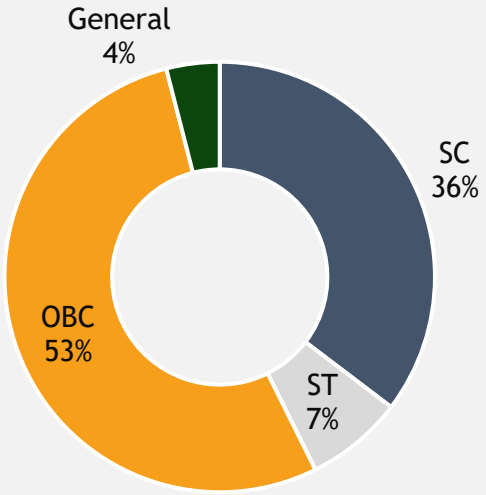
N=150



54% of the respondents were educated till primary levels while 24% of the respondents acquired a secondary level education. Only 9 % of the respondents had a higher secondary education while only 6% acquired a graduation. A low literacy rate is observed especially amongst the female respondents

Respondents profile (II/III)

Social category

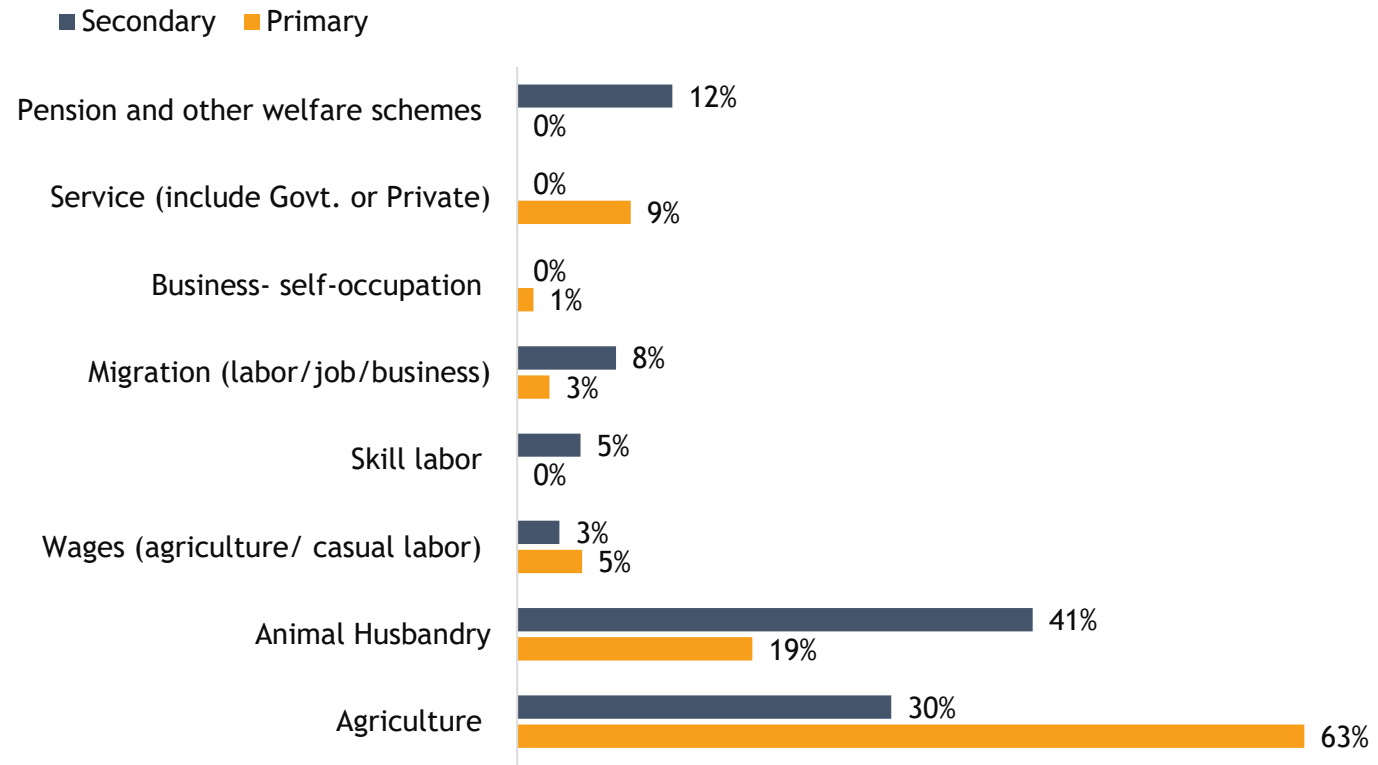


N=150

The assessment covered all social categories within the village. Amongst the respondents 81.3% were **Below Poverty Line (BPL)** while 2% were under the **Antyodaya category**. Only 16% of the respondent farmers were **Above Poverty Line**

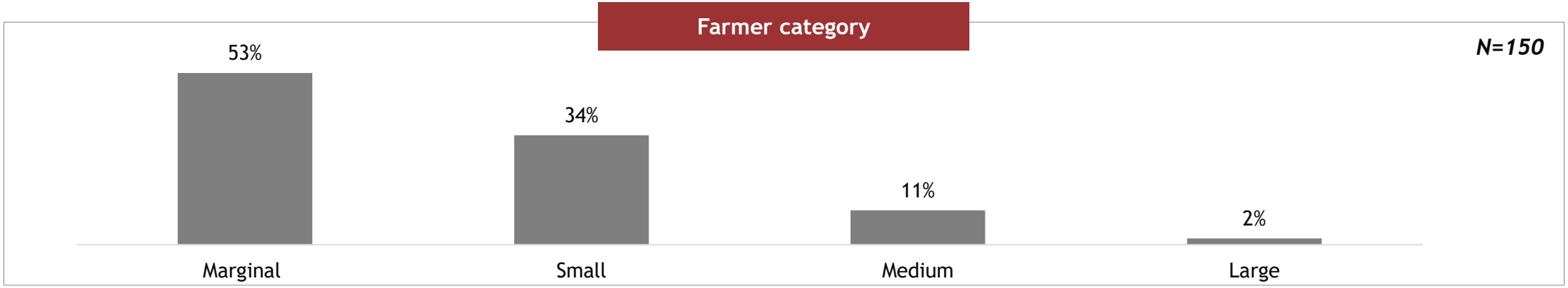
Sources of income

N=150



*The key source of income was reported to be **Agriculture and Animal Husbandry** as 83% of the respondent's reported them as their primary source of income. This further validates the relevance of the project design as the primary focus of the project was on water conservation which would have direct impact on agriculture and indirect impact on animal husbandry. Thus, the project would support the livelihood of majority of the population*

Respondents profile (III/III)



The project primarily focuses on marginal (up to 2.5 acres of land) and small farmers (2.5 - 5 acres), which constituted 53.3% and 34% of the respondents, respectively. The assessment also covered 10.7% farmers from the medium category (5-12.5 acres) and 2% of the large category (more than 12.5 acres) to capture the project impact across all the economic categories of the farmers

Farmer responding for a household survey

Beneficiaries interacting during a Focus Group Discussion

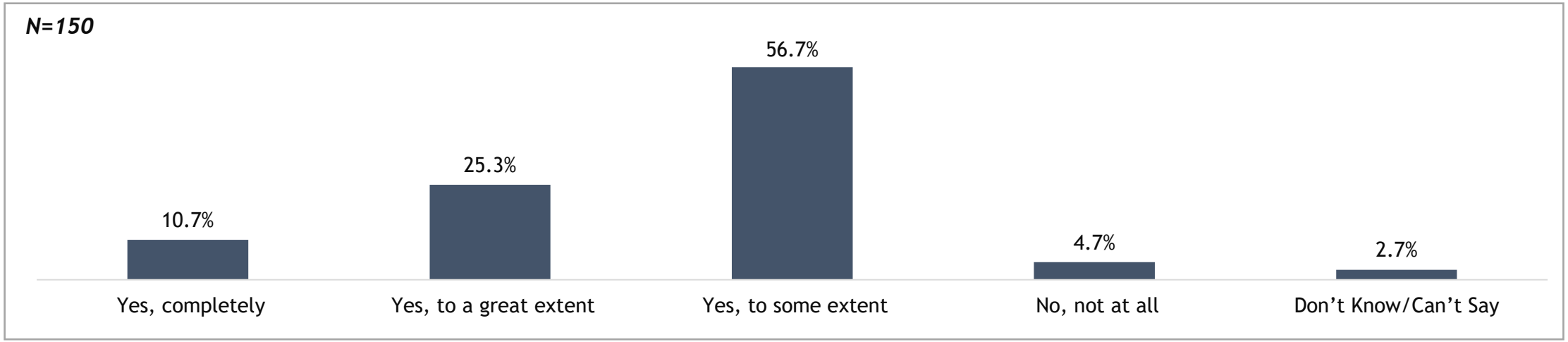
SECTION 4: KEY IMPACT AREAS

Change in water availability for irrigation

Availability of water for irrigation

- The project has achieved 100% target against the planned hardware activities for year 1*
- Activities such as building farm ponds, and earthen & cement nala bunds helped **improve the groundwater recharge which in turn enhanced the access to water for irrigation.**
- Increased ground water availability helped the farmers in **improving the number of irrigations for Rabi crop from once to twice. In certain cases, the water is also available for third round of irrigation if required for the crop**

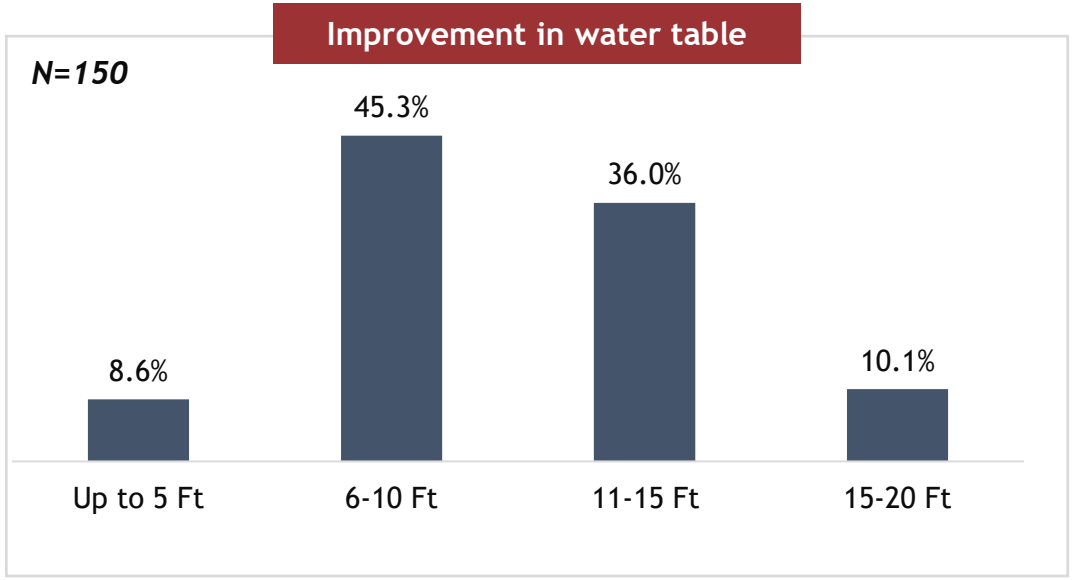
Community's perception on Change in water availability in water structures due to the project



93% respondents reported a positive impact on **availability of water for irrigation** which now lasts till the month of February & **support Rabi crop**

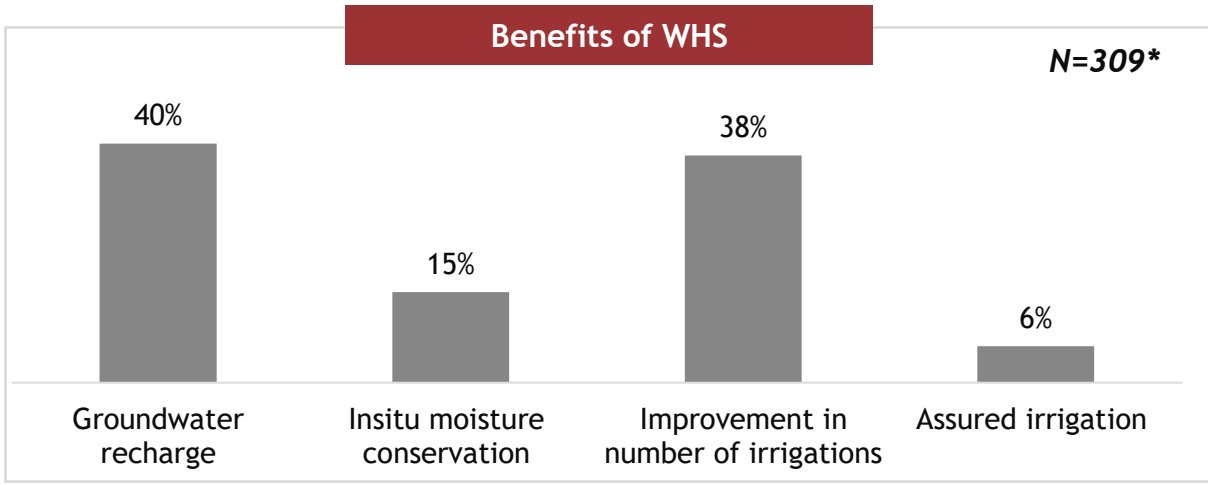
Source - Project completion report

Change in water table and water augmentation



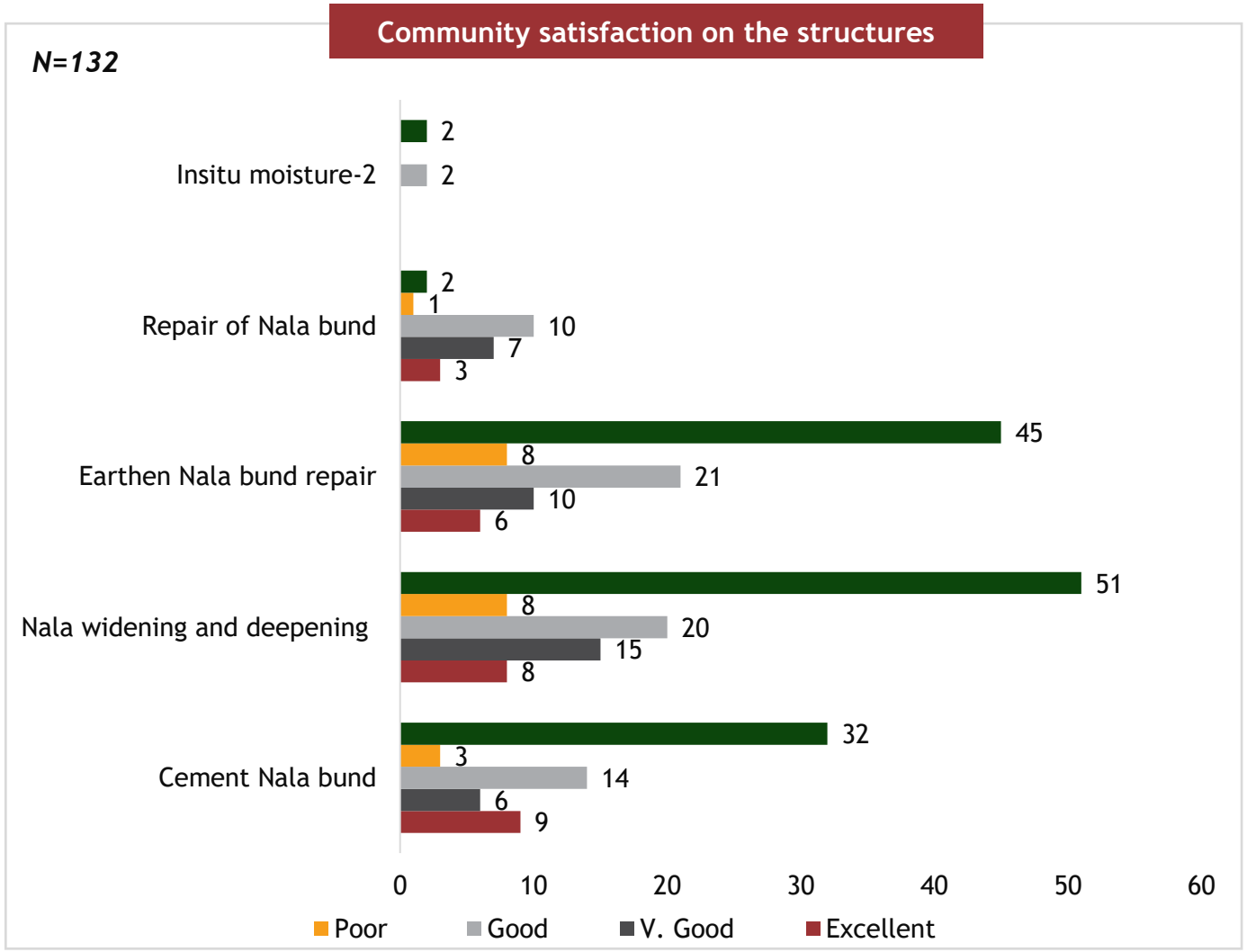
- An improvement in the water table was reported by all the beneficiaries especially in the season of Rabi. **Around 45% of the respondents observed an improvement of 6-10 ft while 36% reported 10-15 ft.**
- Pre project, the rainwater would last till the month of January and would be available at the depth of 40-50 ft. However, post the project water for **irrigation is available till early March and can be procured between 6-20 ft.**
- Beneficiaries are able to run their motor for an **average of 6-7 hours which was only 2-3 hours in pre project scenario.** This further indicates an improved well yield

- All the respondents reported positive benefits of the water harvesting structures. 40% of the respondents reported that the structures **have recharged the groundwater while 38% shared that there is an improvement in no. of irrigations due to water availability**
  - The structures have also provided **assured irrigation especially in the season of Rabi**
- Another perceived benefit is **in-situ moisture conservation**



Multiple choice question

Community satisfaction on the structures



- Majority of the respondents have shared that they are **satisfied with the structures prepared under the project**. The highest satisfaction was observed for **nala widening and deepening activity along with earthen nala bund repairs**. The least satisfaction was observed for activity related to in situ moisture conservation. However, this is only because less no. of beneficiaries of the activity under the project

As per the project team, structures created under the project were handed over to the Gram Panchayat for operations and maintenance (O&M). However, the **GP members shared that there is a lack of fund for the O&M.** The project has not leveraged any community contribution

Change in availability of potable water and quality of water

- 100 % of the respondents shared that the project has improved the **availability of drinking water all round the year**

- Previously, the villagers **dependent on government & private tankers to procure drinking water for 5-6 months in a year.** Each household required at least 4 – 5 tankers in a month at a cost of INR. 2000/- for each tanker.
- Post the project the villagers are **no longer dependent on tankers** as the water is available in the wells for the entire year
- 95% of the respondents also shared **a reduced drudgery for women and girls** as the need to walk long distances, carry heavy weight, pull heavy weights from the depth of the well for procuring drinking water no longer exist
- Further, young **girls had to skip school on certain instances to obtain the drinking water.** This practice also does not exist anymore as water is easily available.
- However, this is partially attributed to the project as there **are two RO plants installed in the village through other CSR initiatives** post the project which made drinking water easily accessible

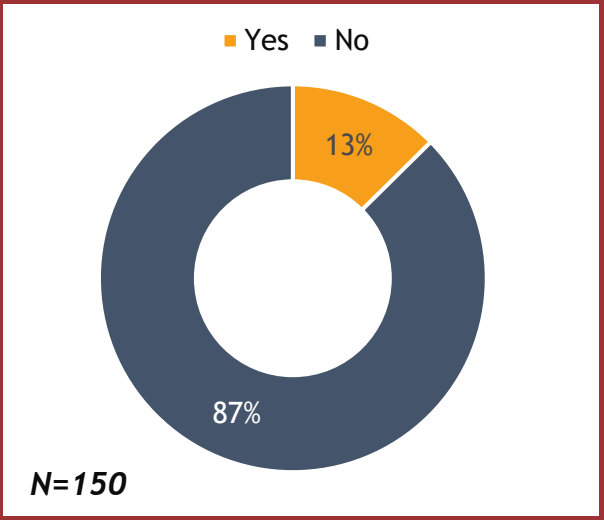
Water level in a well in November

Although the village community largely have not observed any impacts on water quality, but during the FGDs **women reported a positive change in odor and taste of the water in wells**

Change in awareness and knowledge regarding efficient use of water

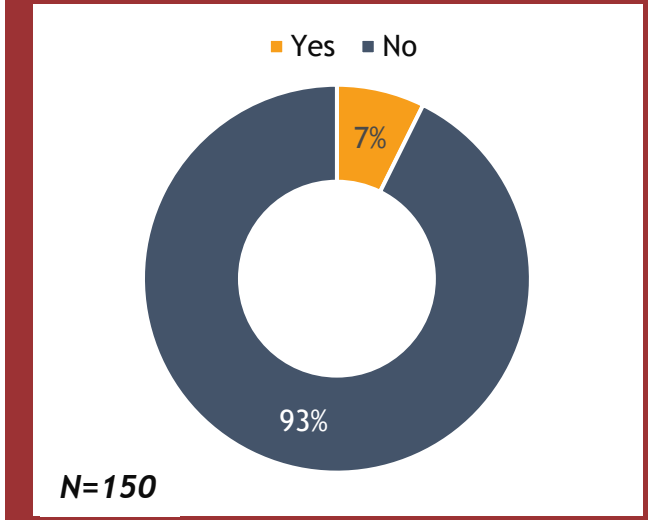
The project design incorporated water literacy trainings, water budgeting exercises along with analysis of cropping pattern. The impact areas of these interventions are discussed below:

Participation in water literacy trainings



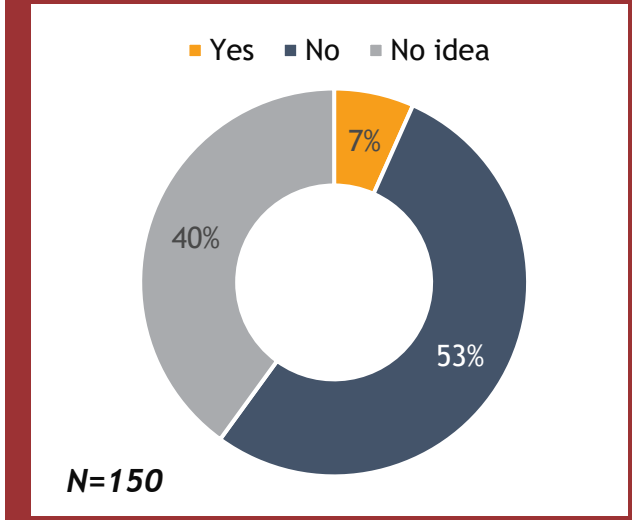
- **Low participation was observed in water literacy trainings** as only 13% of the respondents had attended
- FGDs and KIIs **revealed low recall value of learnings shared under the trainings**

Awareness on water budgeting



- **Low awareness was reported on water budgeting** as only 7% of the respondents gave an affirmative answer
- The farmers **reflected limited understanding on monitoring their water requirements** which was the key objective of the exercise

Plan for improving water efficiency & cropping pattern

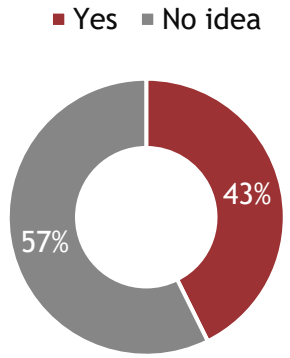


- The farmers were found to be practicing **conventional irrigation practices such as flood irrigation**
- **Awareness on water efficient irrigation technologies and government schemes was observed to be limited**

Institutionalization & Well monitoring

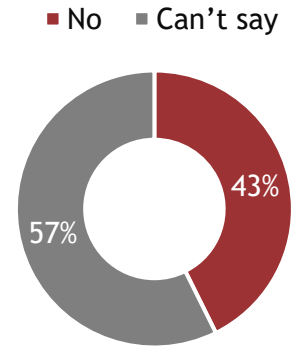
The project aimed to form and strengthen a village level institution which will evolve self regulatory norms to develop and manage the water resources of the village. The findings related to the activity are given below:

Respondent's awareness about the institution



N=150

Respondent's awareness about regulatory norms developed by committee if any



N=150

The **"Vanarai Crompton Gram Vikas Samiti"** comprised of 17 members out of which 9 were male and 8 female. The members included elected representatives from GP, a local NGO led by local MLA, all social categories of the village

The committee was formed basis a discussion with the Gram Sabha representatives. However, the democratic **involvement of the larger village community was found to be limited** in the formation of the institution

The **involvement of the institution during the planning, implementation and post implementation phase was observed to be limited**

The project was initially designed for 2 years however the actual implementation period was 1 year. This has **impacted software activities such as strengthening of village institution and development of resource regulatory norms by the institution**

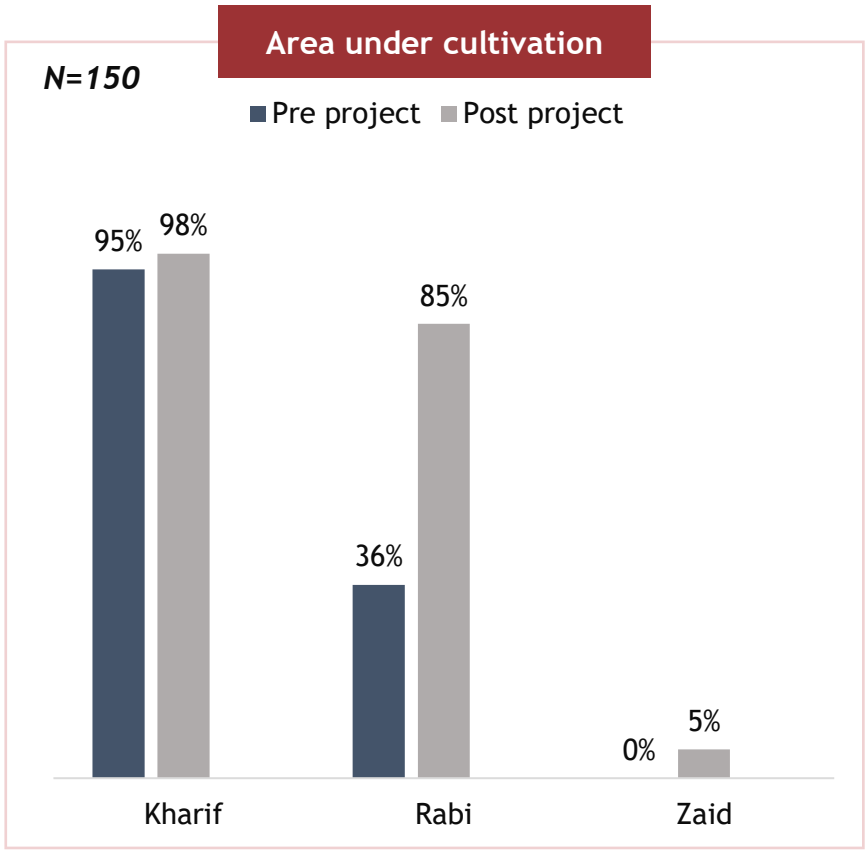
Well monitoring

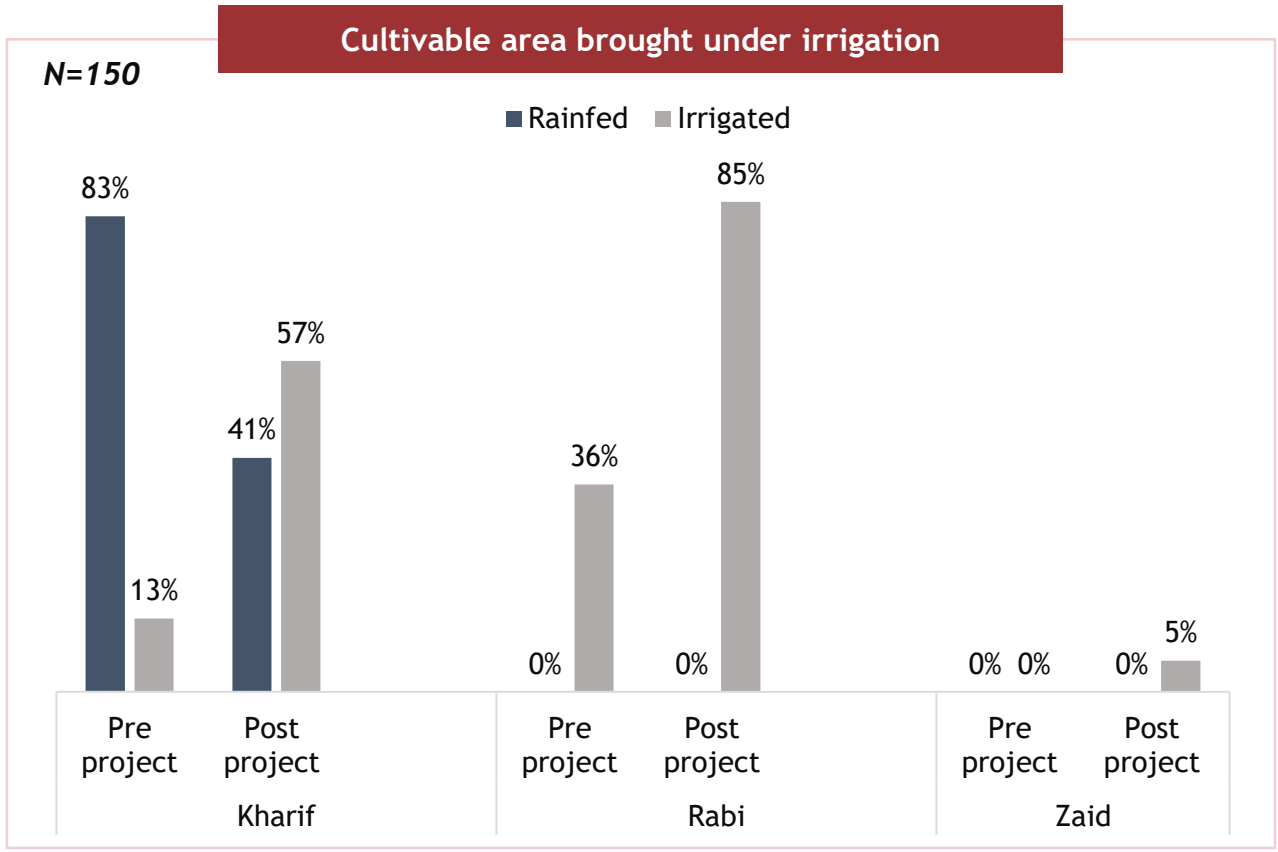
- Around 97 wells* were selected for water monitoring which were spread across the entire village to gather a well represented data
- Only **7% of the respondents were aware about well monitoring.** However, none of the respondents were aware about the findings of the collected data
- As per the objective of the activity, the data would help in improving water use efficiency and cropping system. **However, the utilization of this data for the same was not evident**

**Source - Project coordinator*

Change in cultivation area and irrigation

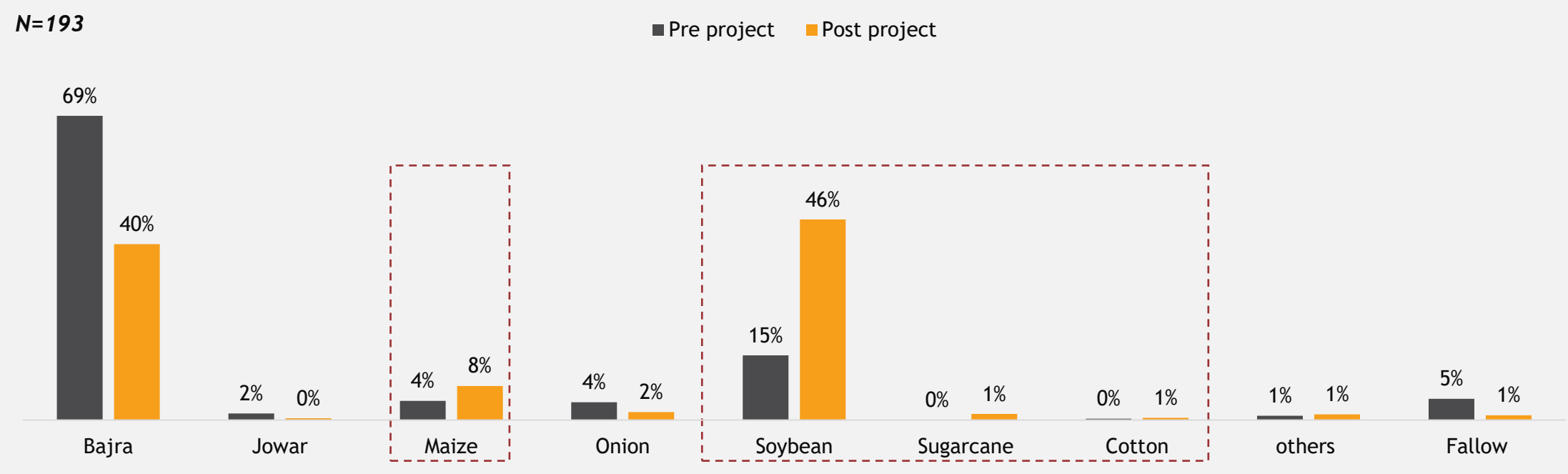
The water augmented under project has increased the area under cultivation by 3% in Kharif, 49% in Rabi and 5% in Zaid. The project has also supported in increasing area under irrigation. Majority of the area in the project village was rainfed across all seasons prior to the project. Irrigated area has increased by 44% in Kharif, 49% in Rabi and 5% in Zaid





Change in cropping pattern (I/II)

The community reported that the project has provided assured irrigation for 2 cropping seasons which has helped them in changing their cropping pattern. Further, area under cultivation has also increased due to the availability of water. The change in cropping pattern of Kharif is given below:

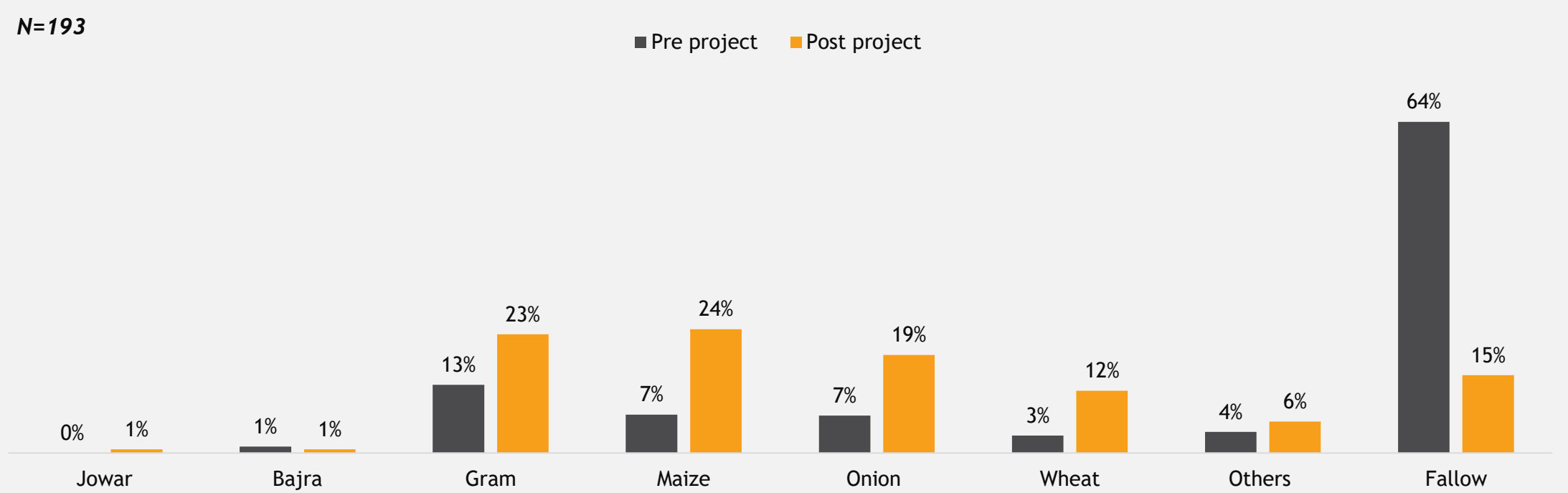


Key changes in the cropping pattern of Kharif

- Shift from Bajra to Soybean which is being used for selling purposes and earn an additional income for farmers
- Increase in maize cultivation which is being used as a fodder crop and supports in feeding the livestock resulting in improved herd size and health of the cattle
- New crops – sugarcane and cotton have been introduced as the new crop
- Fallow land brought under cultivation

Change in cropping pattern (II/II)

The change in cropping pattern of Rabi is given below:

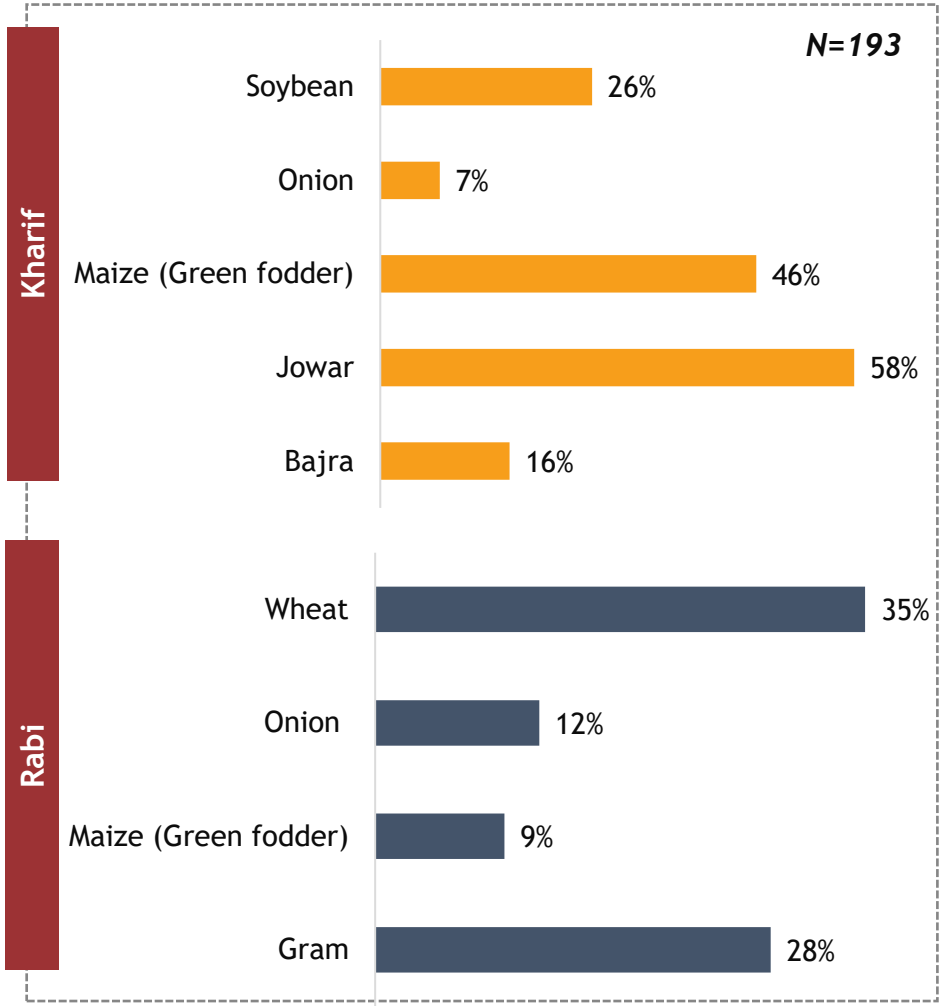


Key changes in the cropping pattern of Rabi

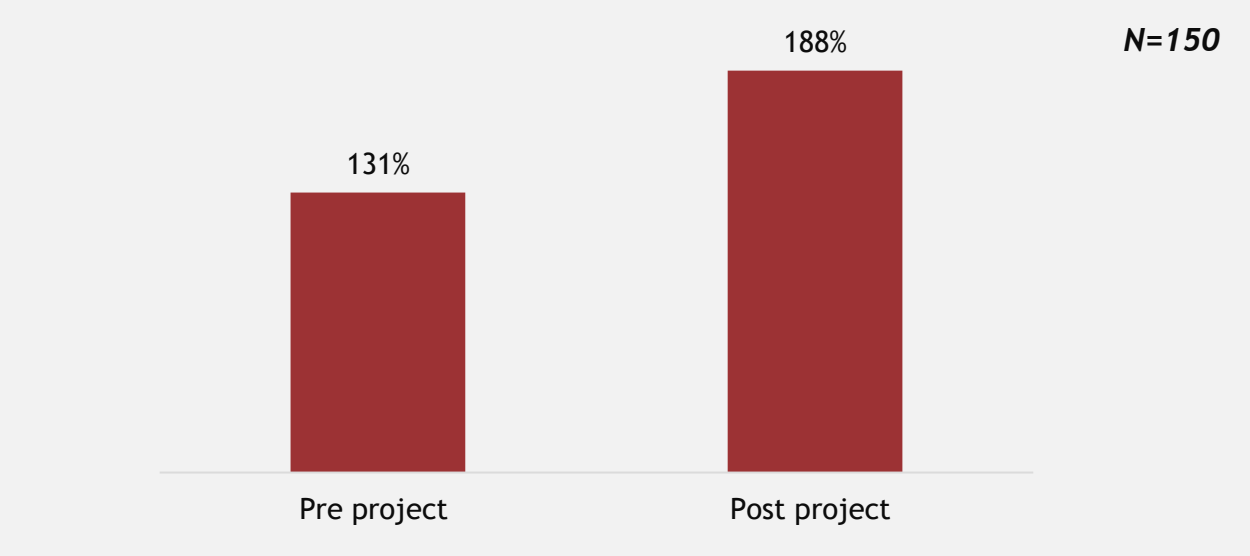
- Increase in cultivation of wheat and onion which is being used for selling purposes and earn an additional income for farmers
- Increase in cultivation of Maize and gram which is being used as a fodder crop and supports in feeding the livestock resulting in improved herd size and health of the cattle
- A significant area of fallow land brought under cultivation

Change in crop yield and intensity

Change in crop yield



Change in cropping intensity



- The community have reported an improved for all the main crops of Kharif as well as Rabi. In Rabi, the increase in yield is attributed **to the improvement availability of water which has allowed the community to take a crop in Rabi and has increased the no. of irrigations for the crop**
- **As the community is able to take a second crop in Rabi due to availability of water, the cropping intensity has increased by 57% for the village**

Change in agriculture allied sector – Animal husbandry

The water augmented under the project have also indirectly benefitted agriculture allied sector - animal husbandry. The key impact areas are discussed below:

- As the project has **improved the availability of drinking water for the livestock around the year, there is an increase in number of households practicing animal husbandry** across the village
- Animal husbandry has emerged as the **key primary source of income for 25-30% of the community**. Unlike the agriculture income, the income from selling money is consistent throughout the year and **provides a monthly income for the community which is utilized for the day to day household expenditure**
- The consistent earning from animal husbandry and improved availability of water has **motivated farmers to increase their herd size and increase area under fodder crops.** Further, as the farmers are growing fodder crops themselves**, the need to purchase fodder has been eliminated which has also reduced the input cost**
- The increased milk production across the village have established new market linkages and **attracted new dairy cooperatives to the village. The number of milk collection outlets have also increased**

Key impact areas ***N=108***

29% increase in no. of households practicing animal husbandry

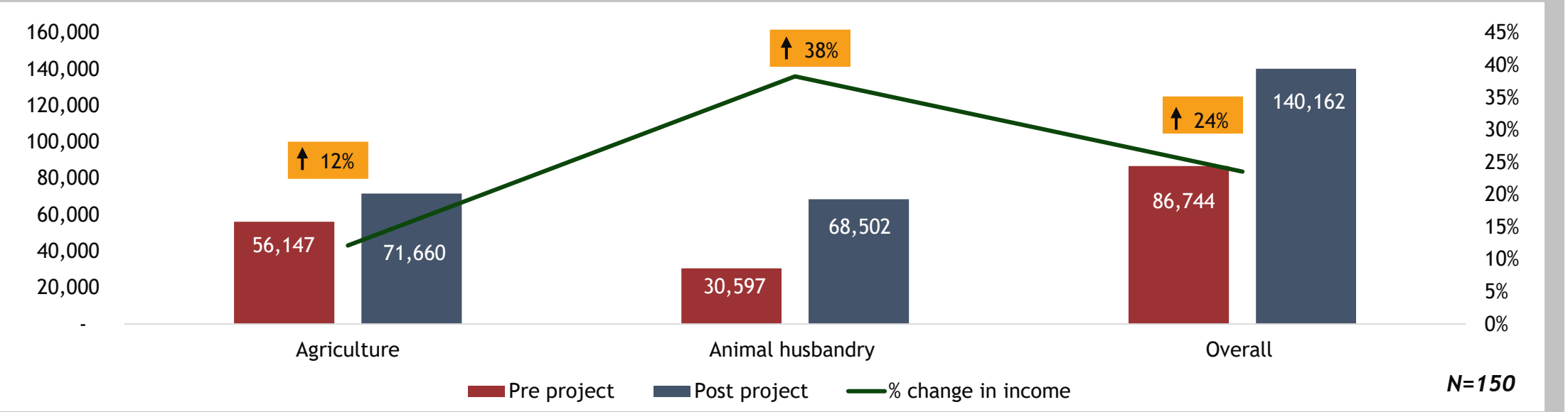
40% increase in number of livestock i.e. cows and goats

An average increase of 1.85 liters of milk yield per day per cow

An increase of 2155 Kg in the per day sale of milk at village level

Change in income

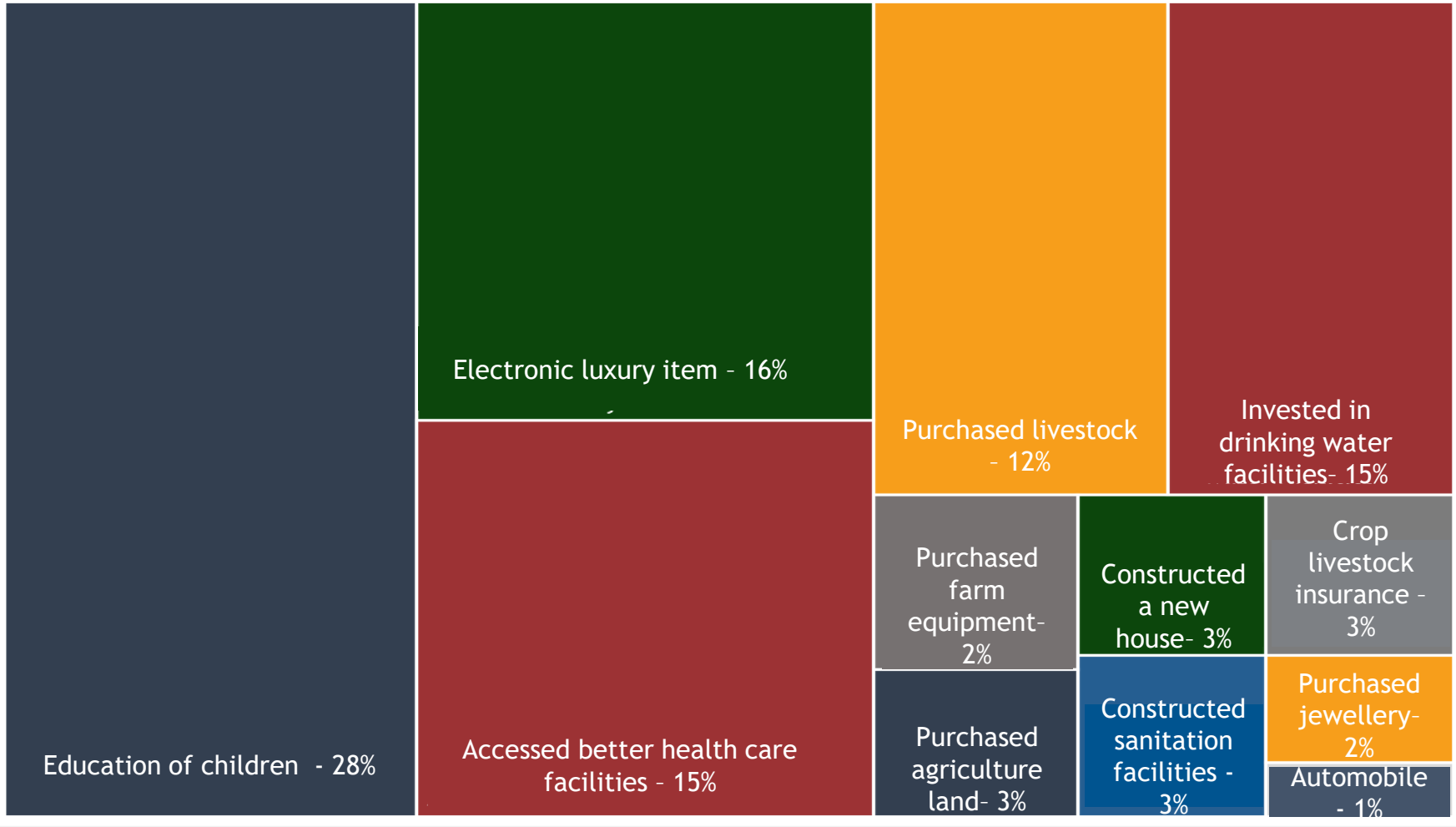
Change in income across the key sources of income



- 80 % of the respondents shared that **project has positively impacted the two key sources of income** of Paregaon Khurd i.e., Agriculture and Animal husbandry
- There is an average increase of **12% income in the agriculture sector which can be contributed to increased yield and cropping intensity.** This in turn is due to improved availability of water post the project.
- An average increase of **38% was reported in animal husbandry due to the increased herd size, milk yield and decreased input cost on fodder.** As the water augmented under the project contributed for drinking and irrigation purposes in livestock rearing and fodder crop, the increase in income can be attributed to the project

Change in income investment

Area of income investment reported by the community (%) ***N=234***



The community has invested their increased income for various purposes. There is an increase in number of families who are spending for private school education for their children. Other key areas reported by the community is investment on electronic items such as Mobile, Television etc. and access to better health care facilities. Apart from the illustrated areas of investment, few other areas which emerged during FGDs are:

- Constructed cattle shed
- Marriage of children
- Repayment of old debt

SECTION 5: WAY FORWARD

Considerations for way forward (I/III)

Area of consideration	Observation	Way forward
Water conservation and ground water recharge 	▪ The assessment team observed few gap areas in the design and implementation of the structures which has impacted the quality of WHS structures and can impact their sustainability in the long run. The observations are detailed below: ➢ Even though a technical survey was undertaken prior to the project, parameters such as catchment area, slope, the geo hydrology maps & data, average rainfall, etc. were not considered in the planning and design phase. Further, no means of verification for the technical survey were available with the project team ➢ In the earthen work done for various structures, certain physical limitations regarding the slope angle, compaction, dressing and workmanship were observed ▪ A lack of documentation on the effective storage of old structures on which renovation was undertaken along with additional storage increased under the new structures. Thus, the impact was not quantifiable ▪ The watershed approach of the project undertook activities related to drainage line treatment. Activities for arable and nonarable land such as Continuous Contour Trenches, Deep Continuous Contour Trenches, Loose Stone Check Dam could also have been incorporated in the project design for better ground water recharge ▪ The project design did not incorporate any form of community contribution for the structures which has limited community's ownership on the structures and resulted in lack of funds for the O&M of the structures post the project ▪ Any project branding on the WHSs were not evident	▪ For future implementation of similar projects or phase – II of the same project, the project team could strengthen their technical approach in planning along with documentation of the same ▪ A comprehensive monitoring framework could be developed with quantifiable project objective which would support the project team in showcasing the impact better ▪ The project could scale up the water and conservation and groundwater recharge activities as the need for the same was reported by the community. This would help in treatment of the rest of the village area to saturate the drainage line. Activities like CCT, DCCT etc. could be incorporated in the project design ▪ "Water Kosh" could be established for post management of the hardware activities. This may be done by leveraging the village institution and community contribution ▪ The project team could ensure branding across all hardware activities

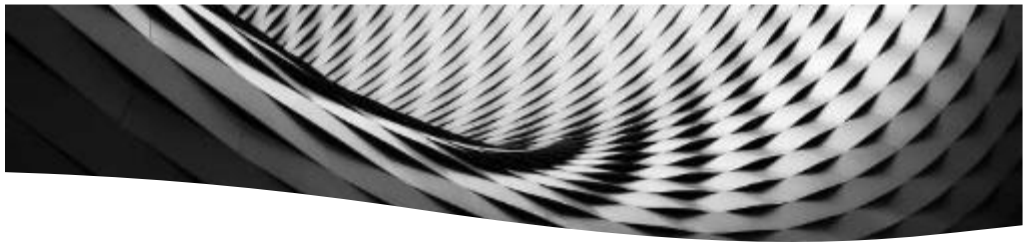
Considerations for way forward (II/III)

Area of consideration	Observation	Way forward
Water literacy trainings, water budgeting exercises and well monitoring 	▪ The participation of the community for the activity was observed to be limited. Low recall value on the learnings of these trainings and exercises was also observed ▪ The farmers reflected a lack of understanding and knowledge on water efficient irrigation techniques ▪ The outcomes of water budgeting, land use trainings and other software exercises were not evident as none of the respondents incorporated the findings of these exercises in their resource and crop planning ▪ The details regarding the topics covered under the trainings, no. of participants, selection criterion of the participants were not available with the project team	▪ To ensure coverage of equitable benefits to all and efficient utilization of water, the project team may ensure larger community participation from both the gender under trainings and other exercises. ▪ The project team could also monitor the farmer level adoption of the learnings and information imparted under these activities ▪ Water efficient irrigation technologies and practices may also be promoted through the trainings. Awareness regarding relevant government schemes could also be included
Institutionalization 	▪ The involvement of the larger village community was found to be limited in the institution as majority of the members are representatives of already existing institutions such as Gram Panchayat, NGO, Vanarai ▪ The role and responsibilities of the institutions and its members during the implementation as well as post implementation phase was found to be limited ▪ As per the objective of institutionalization, the institution would be leveraged to develop norms for water resource development and management in the village. However, the members did not report development of any plan	▪ The project could involve members from larger community which would help in representation of opinions from different categories and genders of the community ▪ The institutions could be further strengthened by regular trainings and exposure visits if required to achieve self reliant institutions which could support in efficient resource management

Considerations for way forward (III/III)

Area of consideration	Observation	Way forward
Agriculture practices 	▪ A need to capacitate the community on sustainable agriculture package of practices along with establish forward and backward market interlinkages was identified by the assessment team for a holistic development of the beneficiary community	▪ Climate resilient sustainable agriculture practices could be promoted through regular trainings and demo plots. This could be explored for project design of phase – II of the project

Thank you



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Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Chande Budruk Village, Karjat Block, Ahmednagar District

Submitted By: NuSocia|06/03/2023

NuSocia
Impact. Evident.

Acknowledgement

The Endline Assessment along with the Outcome Study Report of the Water Conservation Project in Chande Budruk village of Karjat block of Ahmednagar district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration with Crompton CSR Foundation(CCF).

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Prakash Jagtap and the team of BBKGSS, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations

Maati Nala Bund Desiltation

- In the report, the ‘Year’ referred to is calculated from Mid-Jan 2022 to Mid-Jan 2023; during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted.

Content

Repairing of Percolation Tank

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

Mati Nala Bund Repairing

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Ahmednagar district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration and suicide, especially among smallholder farmers.
- **Major parts of the district(** central, northern and eastern parts) **is also showing trends of falling groundwater level**
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN AHMEDNAGAR DISTRICT MAHARASHTRA

Overview

CCF initiated Water Conservation Project in **Chande Khurd** with implementation partner BBKGSS with the following objectives:

1. To Increase the soil water level and stabilize the water table, to conserve soil and water through proper conservation techniques and structures.

2. To decrease soil erosion and revive the nonfunctional wells.

3. To Increase awareness about the importance of water and soil conservation.

4. To Increase income generation opportunities within agriculture and allied activities, increase and stabilize agriculture and horticulture, and animal husbandry income, and generate local employment opportunities for the marginal farmers through agri-allied and tech-savvy activities.

NuSocia, an impact advisory firm, has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

- Study Objectives & Phasing

Objective

To conduct an end line study and assess the outcomes of the project

Phasing

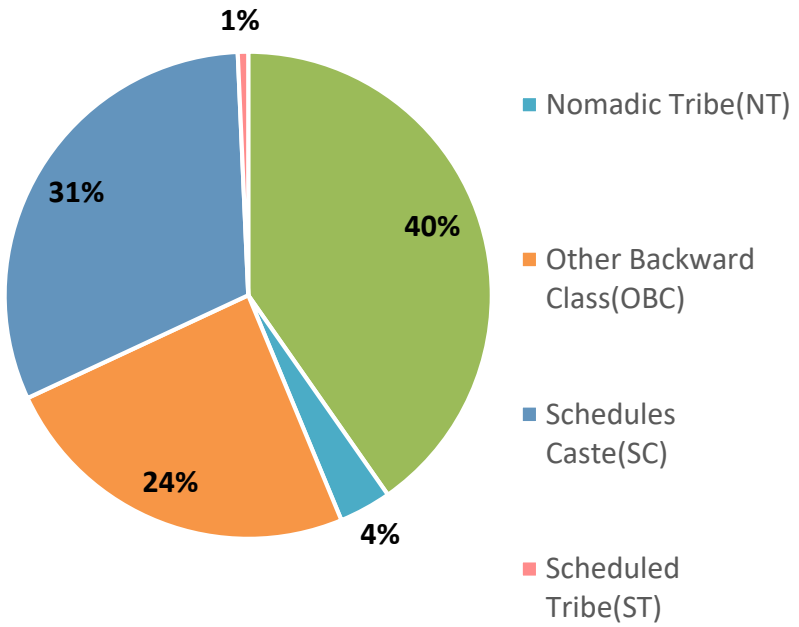
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study – **5 Key Informant Interviews** (Panchayat Member, Livestock Rearers, Farmers) • **2 Focus Group Discussion** Farmers, Women • **144 Community Survey** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of End line assessment • Final report with observations, analysis, inferences and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

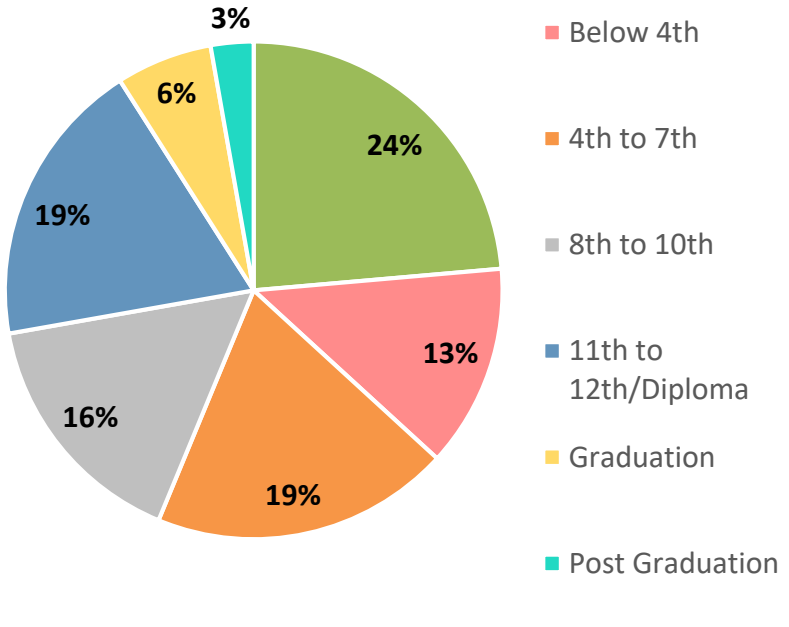
Profile Of Respondents

Caste



n=144

Education



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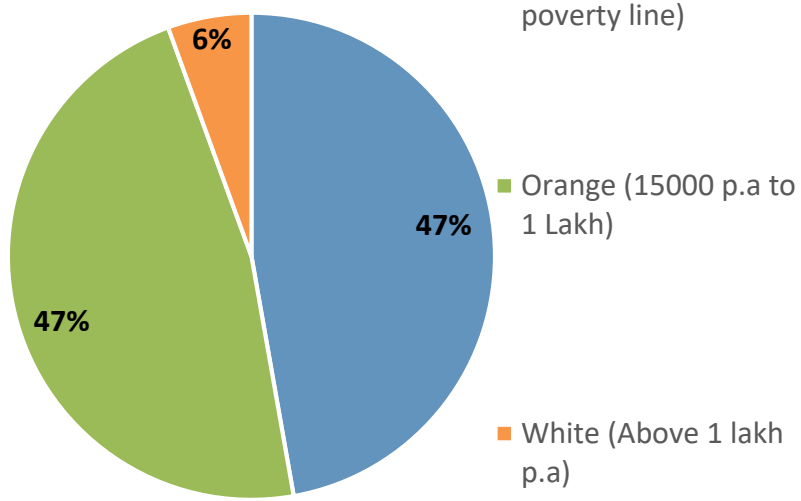
Ration Card Holder



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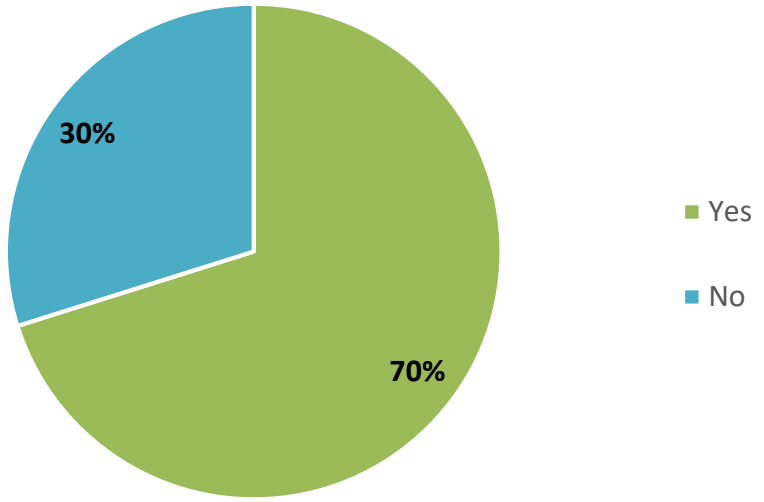
Participation of **51 to 70 years age group respondents was higher** and **male members majorly** participated in the survey.
96% respondents belong to **Hindu** and 40% of the total belong to the **general category** and 31% belong to Schedule Caste.
Out of the total respondents, **only 28% have completed their education above 10th class**.
47% respondents belong to **Below Poverty Level.**

Beneficiary Mapping

Awareness of the Project



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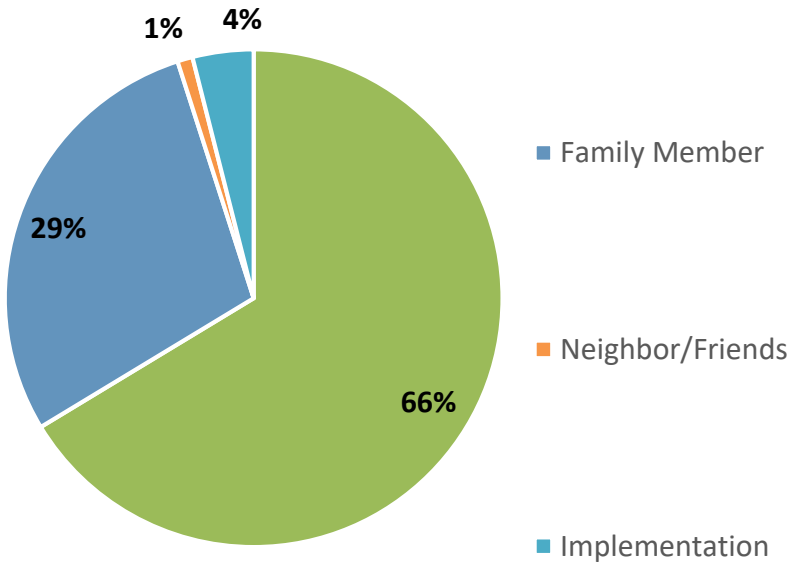
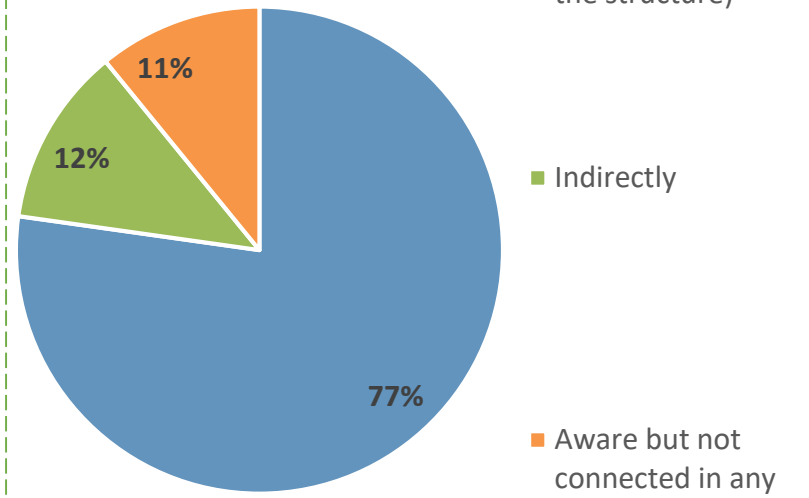
Source of Awareness



n=101 (70%)

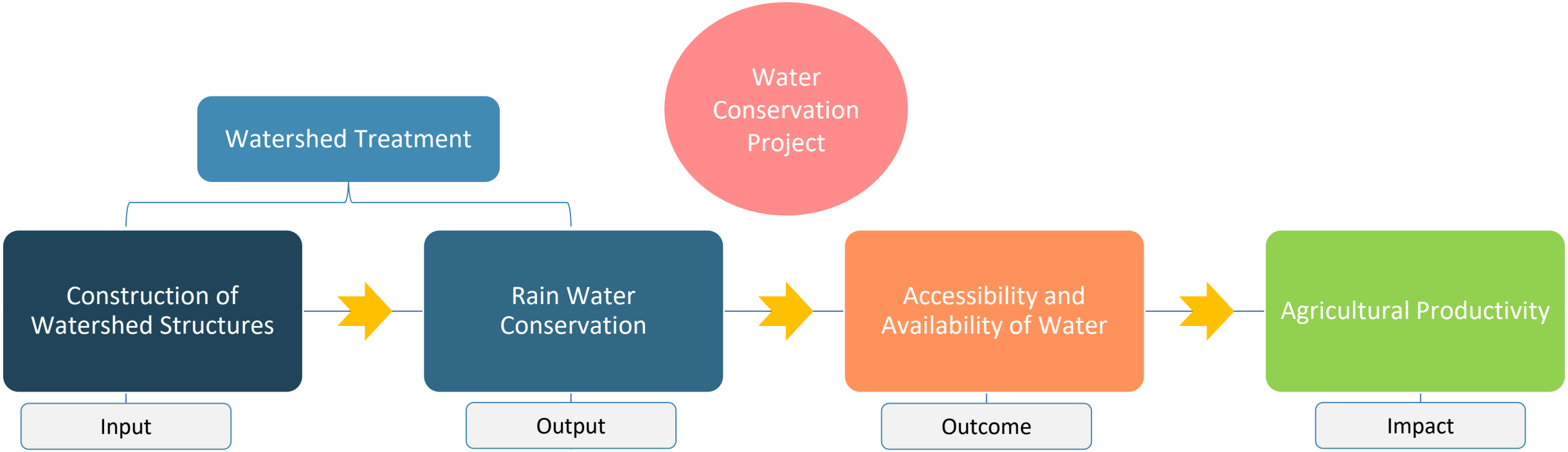
Benefited By



n=101 (70%)

The **majority of the respondents are aware** of the project and 66% of them had heard about it through the Grampanchayat.
77% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it and 12% of them benefited **indirectly.**

Impact Map

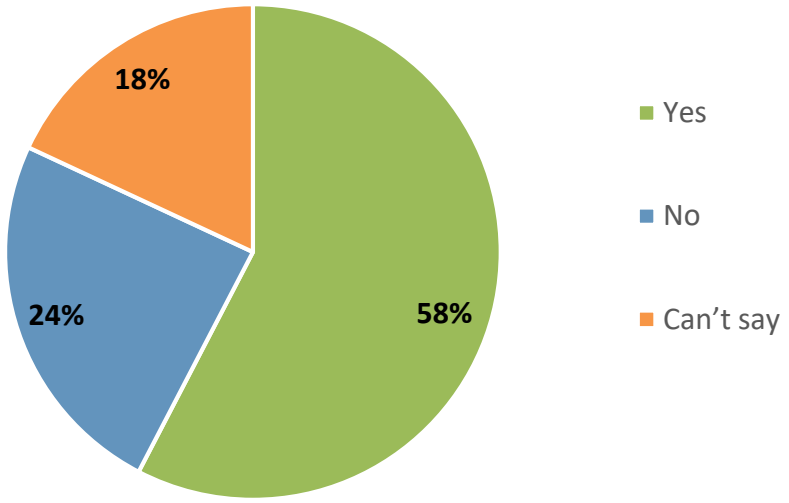

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

Output: Achievement

Intervention Helping In Rain Water Conservation



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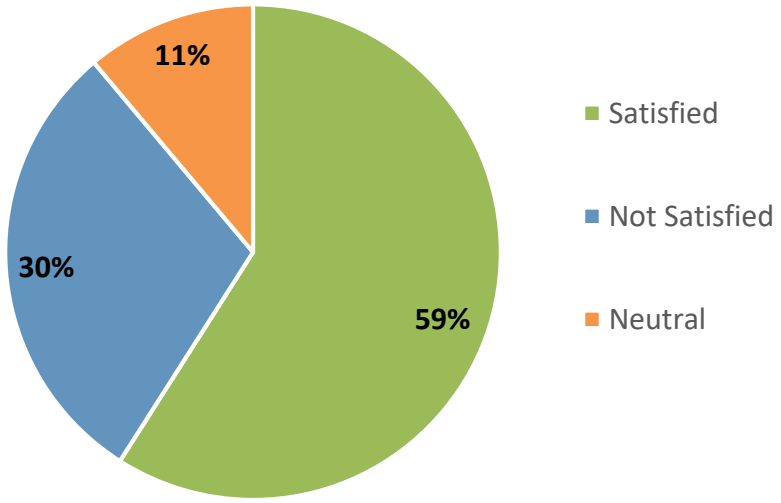
Level of Satisfaction Towards Project



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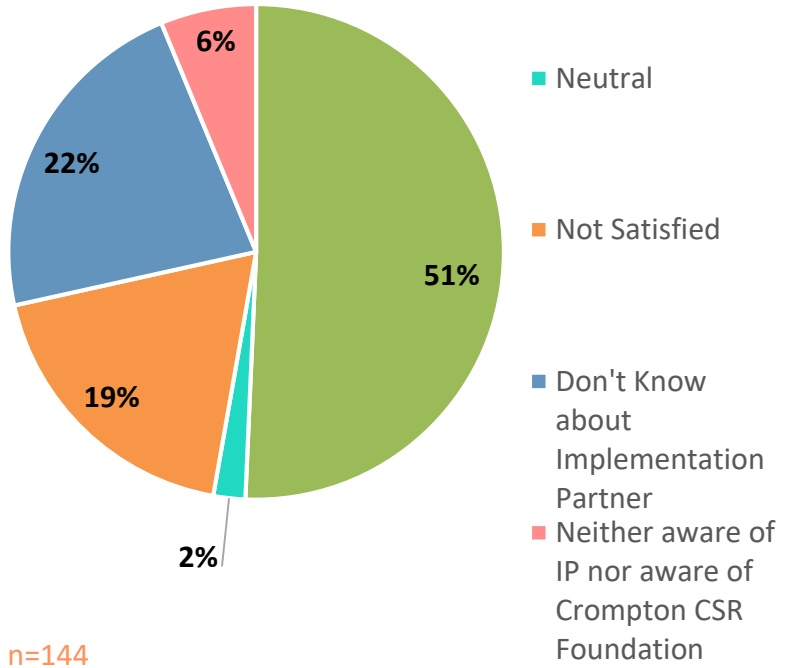
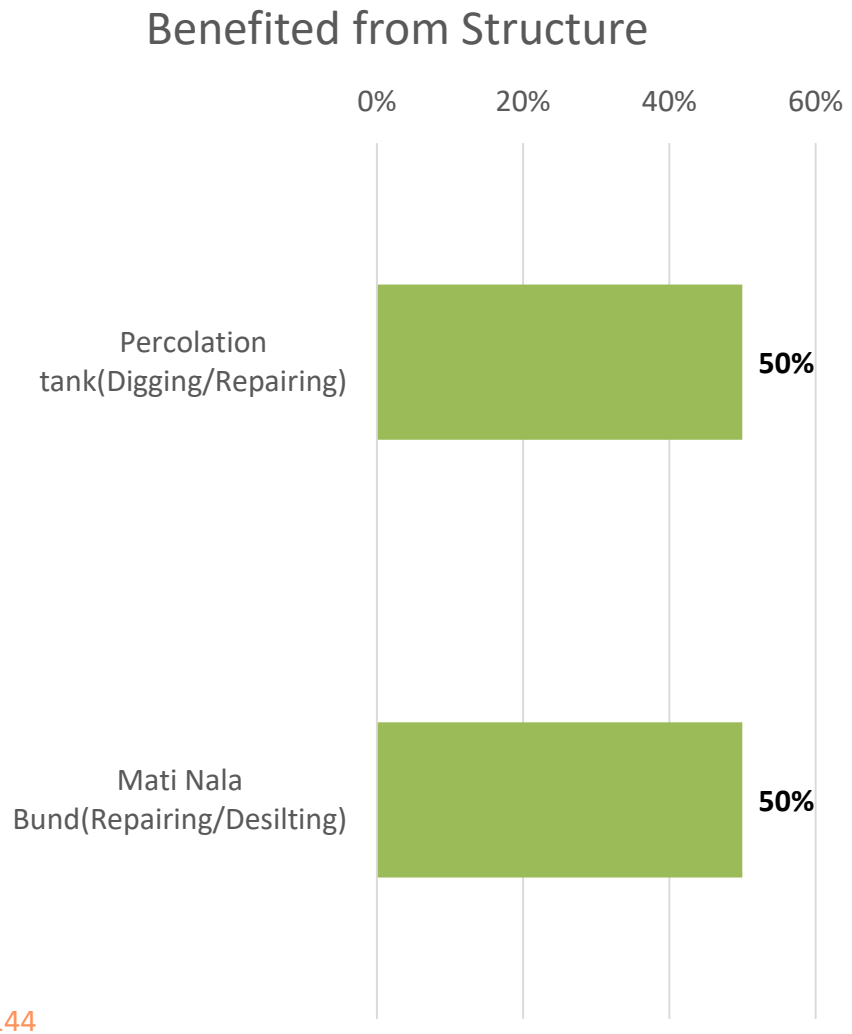
Level of Satisfaction Towards Implementation Partner



n=144

A total of 58% of respondents think that the **watershed interventions are helping in rainwater conservation**.
59% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working of the Implementation partner**, 28%(22+6) **aren't aware of the implementing agency** whereas 51% are **satisfied** with their way of working.

Output: Intervention Performance



All the structures are playing a significant role in rainwater conservation equally.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.** Hence the water resources **started to dry up** after Diwali.(Oct/Nov month).
- **CCF Phase I intervention helped in rainwater conservation** but **wasn't sufficient** as per the **village water requirement/needs.**

Endline

- **Percolation tank plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.
- Along with Mati Nala Bund repairing, the importance given to Mati Nala Bund Desilting is the major contributor to water percolation. Being in a different locations, these structures benefit the villagers who reside in different pockets(Wadi/Wasti).

Women FGD

Water Availability at Percolation Tank

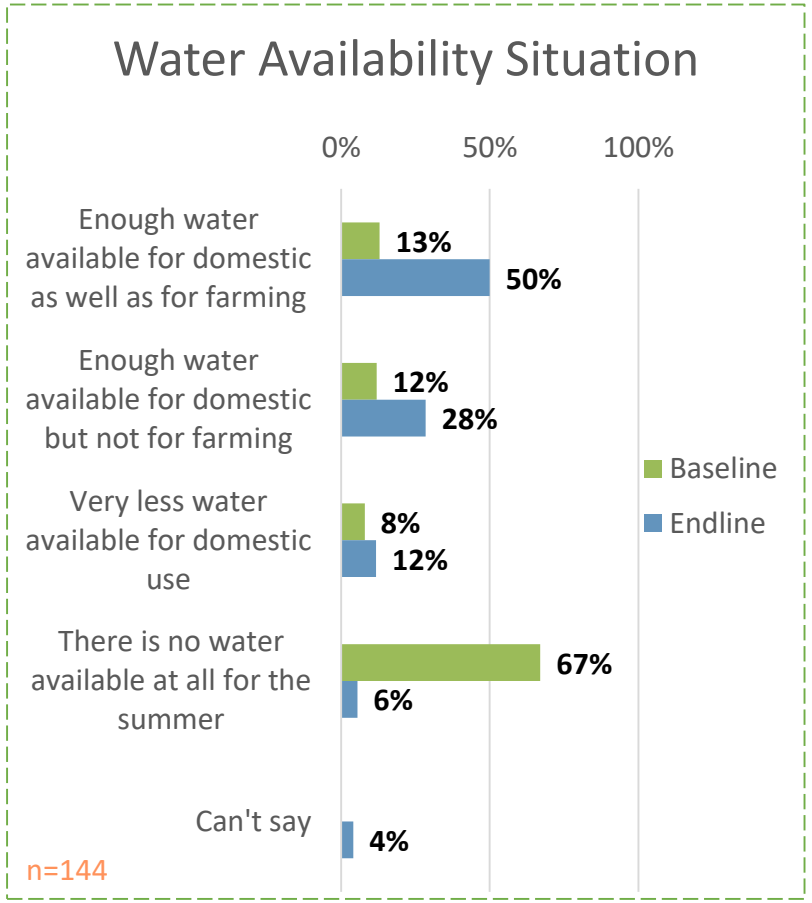
Outcome

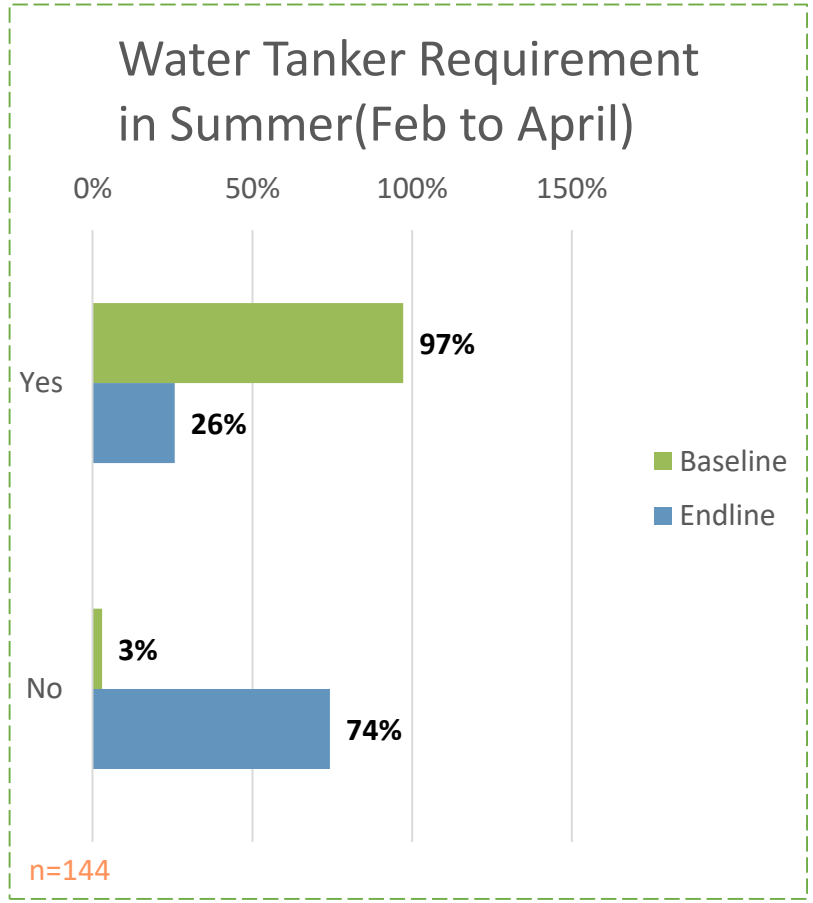
- Availability & Accessibility
  1. Water Source & Availability
  2. Accessibility

Outcome: Water Source & Availability

Gram Panchayat Common Water Storage Tank

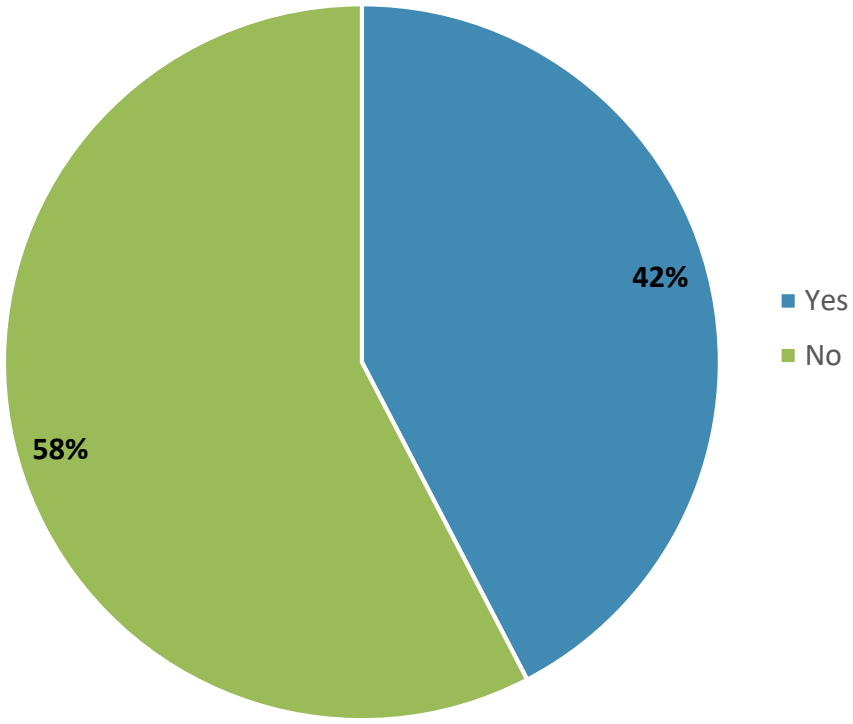
Indicator		Baseline	Endline
Water Source for Household	Individual Tap Water	19%	31%
Water Source For Farming	Common Well/ Borewell	17%	42%





- **Dependency on individual tap water** for drinking purposes and **common well/borewell dependency** for farming purposes **has increased** due to the availability of water. Gram panchayat was unable to supply water hence dependency on individual wells/borewells was higher at the time of baseline.
- **37% increase** among those beneficiaries who said that **there was enough water available for both domestic as well as for farming use.**
- Compared to the baseline study, significant **61%** lesser respondents **mentioned that there is no water available at all in the summer.**
- Significant change in the requirement for water tankers as **74%** respondents now feel that there **won't be any requirement for water tankers** in this summer season.

Outcomes: Accessibility



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42% respondents opine that because of the water conservation project **livelihood opportunities this year have increased** & 49% of those said livelihood opportunities have increased in **farming** whereas 28% said it increased in **livestock rearing.**

Baseline

- **Gram Panchayat was unable to ensure equitable water distribution** to each household.
- Gram panchayat **used to call for water tankers from January onwards**. From **January to March there is a requirement for one water tanker** and from **April onwards the village needs two water tankers daily**.
- **Villagers had taken multiple borewell connections** for water requirements because **some existing water sources (like handpumps) inability to provide water.**
- Women preferred to gather at each other's houses **due to safety issues** when male members of the family **used to travel to different villages to collect fresh green fodder** as they can't cultivate fodder crops due to lack of water.

Endline

- **Dependency on individual tap water connection** has **increased** because of the **ability of gram panchayat to equitable water distribution. Panchayat also started an RO filter plant this year because of water availability.**
- **The need for water tanker requirement is reduced** and the majority of respondents stated that there is no requirement in the upcoming summer season now.
- Compared to the baseline, **there is no change observed in taking multiple borewells**, but farmers stated **borewells are now running for almost 90 minutes** whereas, **at the time of baseline, it was 50-60 minutes** time.
- Because of enough drinking water availability **no one has to travel to collect water or fodder** resulting that **family members could spend time with each other.**

Discussion with Woman

Community Survey

Impact

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

यंदाही शेतकऱ्यांचा कांदा लागवडीकडेच कल

नगरमधील स्थिती ; एक लाख ७२ हजार हेक्टरवर लागवड

सूर्यकांत नेटके : ॲग्रोवन वृत्तसेवा

नगर : मध्यंतरीच्या पंधरा दिवसांचा अपवाद वगळला तरी कांद्याला गेल्या वर्ष-दीड वर्षापासून जास्तीत जास्त पंधरा ते सतरा रुपयांपेक्षा अधिक दर नाही. साधारणपणे बहुतांश शेतकऱ्यांना आठ ते दहा रुपये किलोनेच कांदा विकावा लागला. त्यामुळे कांदा उत्पादकांचे आर्थिक गणित बिघडले, असे सांगितले जात असले तरी पुढील काळात दर येईल या आशेने नगर जिल्ह्यात रब्बीत यंदाही विक्रमी सुमारे १ लाख ७२ हजार १४२ हेक्टर क्षेत्रावर आतापर्यंत लागवड झाली आहे. यातही अजून वाढ होण्याचा अंदाज आहे.

राज्यातील बहुतांश भागात कांदा पिकाला आता प्राधान्य दिले जात आहे. नगर, नाशिक, पुणे भागात सर्वाधिक कांदा लागवड मिळून जवळपास दोन लाख हेक्टर क्षेत्राचा टप्पा पार केला होता. मात्र दिवाळीच्या काळातील एक पंधरा दिवसाचा अपवाद सोडला तर गेल्या दीड वर्षापासून कांद्याला १५ ते सतरा रुपयांपेक्षा अधिक दर नाही. बियाणे, मजुरी, व अन्य खर्चाचा विचार करता हा दर पडरवडणारा नाही.

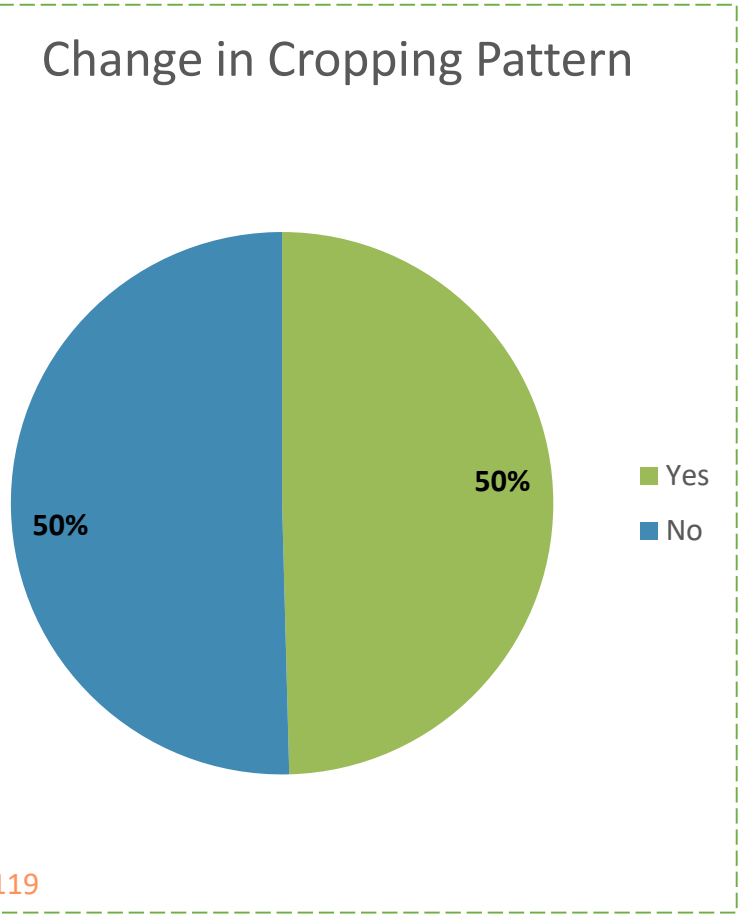
यंदा कांदा उत्पादकांचे आर्थिक गणित बिघडले असल्याचे बोलले जात असले तरी यंदाही शेतकऱ्यांनी कांदा लागवडीला प्राधान्य दिले असल्याचे दिसत आहे. यंदा आतापर्यंत जिल्ह्यात १ लाख ७२ हजार १४५ हेक्टरवर कांदा लागवड झाली आहे. अजूनही अनेक भागात कांदा लागवड सुरू आहे. त्यामुळे यंदाही दोन लाख हेक्टरच्या जवळपास कांदा क्षेत्र होण्याचा अंदाज व्यक्त केला जात आहे. सध्या कांद्याला प्रती किलो १६ रुपयांपर्यंत जास्तीत जास्त दर मिळत

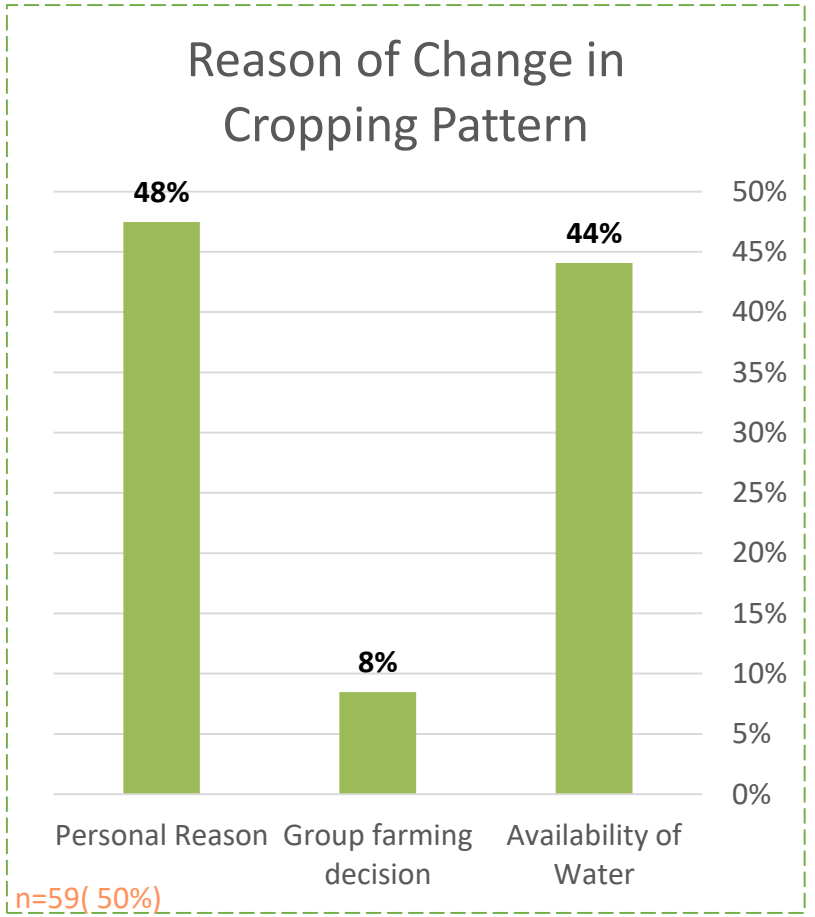
तालुकानिहाय कांदा लागवड (हेक्टर)

नगर	१७,९३४
पारनेर	३१,५२८
श्रीगोंदा	२६,२५४
कर्जत	१५,९६६
जामखेड	५,७४४
शेवगाव	७,२४५
पाथर्डी	९,५०८
नेवासा	११,७३२
राहुरी	१०,१२५
संगमनेर	९,३४९
अकोले	१,२९४
कोपरगाव	११,३०२

6th Feb 23, Ahmednagar: Farmers in the district, **prefer Onion cultivation without changing cropping patterns** because of hope for an adequate MSP in the future. Source: http://epaper.agrowon.com/

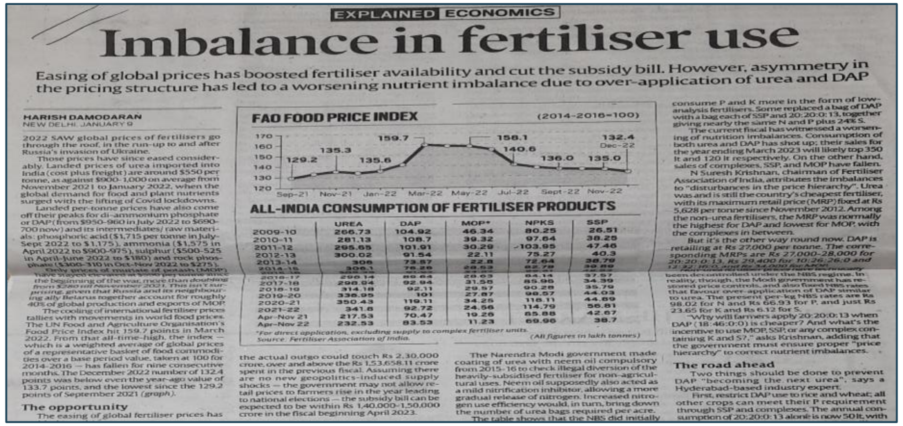
Indicator		Baseline	Endline
Land Ownership		89%	83%
Land Holding Size	**Less than equal to 4 acre**	59%	69%
Cultivable Land Size	**Less than equal to 4 acre**	80%	82%





- **Increased land holding size due to land purchased by some respondents however increase in cultivable land size** among marginal land owner farmers because of water availability.
- **Increased Onion, Jawar, Corn, and Wheat crop cultivation** in the village.
- **50% changed their cropping pattern** this year.
- Out of the above, 44% changed their **cropping pattern because of enough water availability** this year and 48% respondents cropping pattern was **changed because of the hope of MSP(Minimum Support Price)** for a certain crop, seed availability and local market demand.

Impact: Agricultural Practices


EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN

FAO FOOD PRICE INDEX

ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

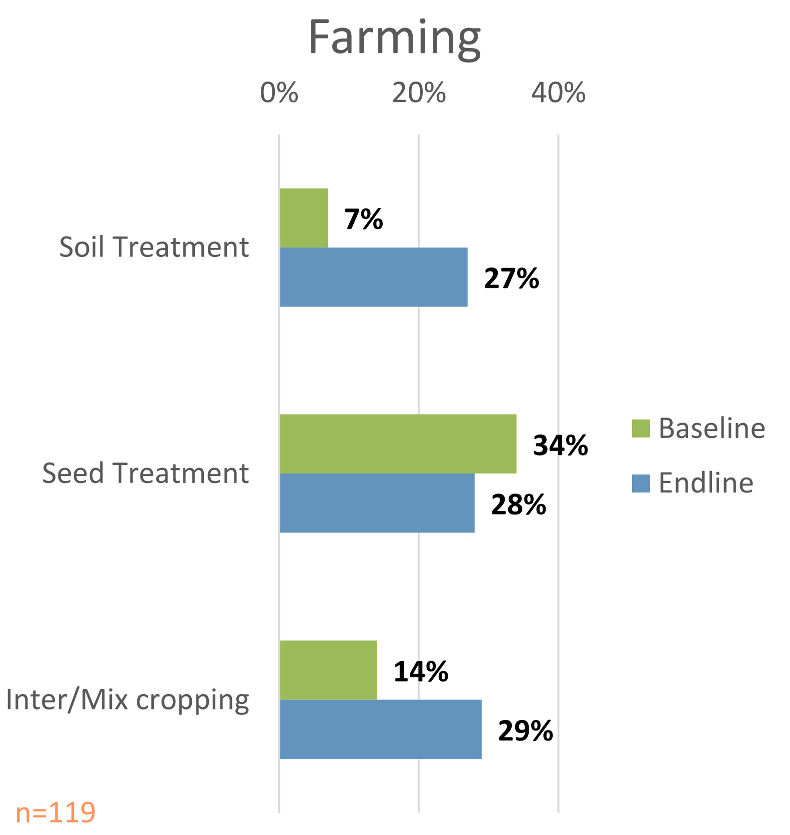
The road ahead

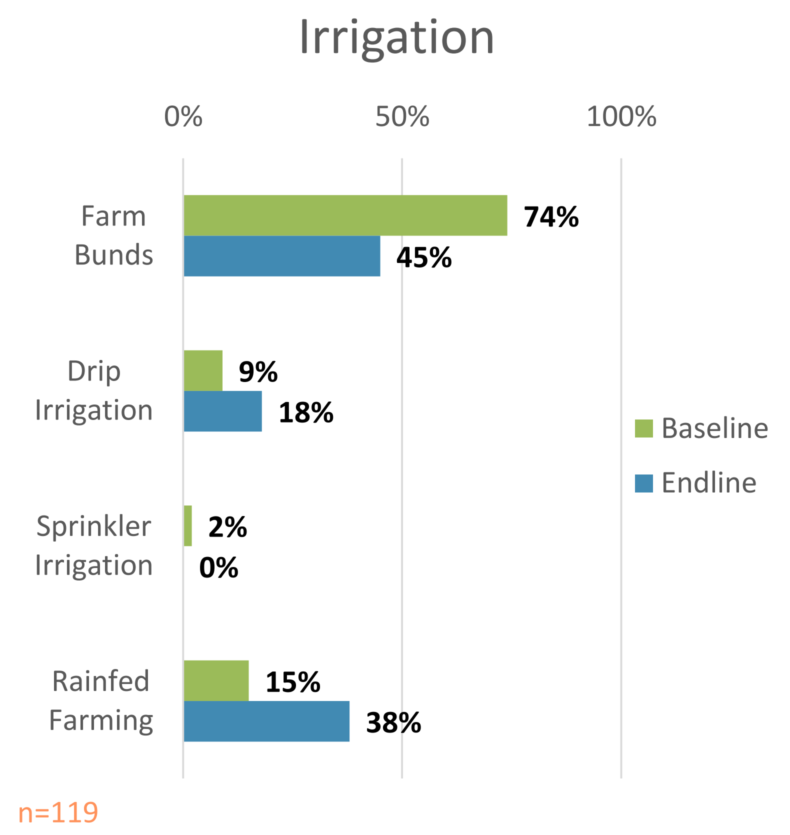
The opportunity

10th Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.

Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	**Less than ₹10,000**	30%	72%
Labor work Spending (Per Crop)	**Less than ₹5,000**	30%	73%



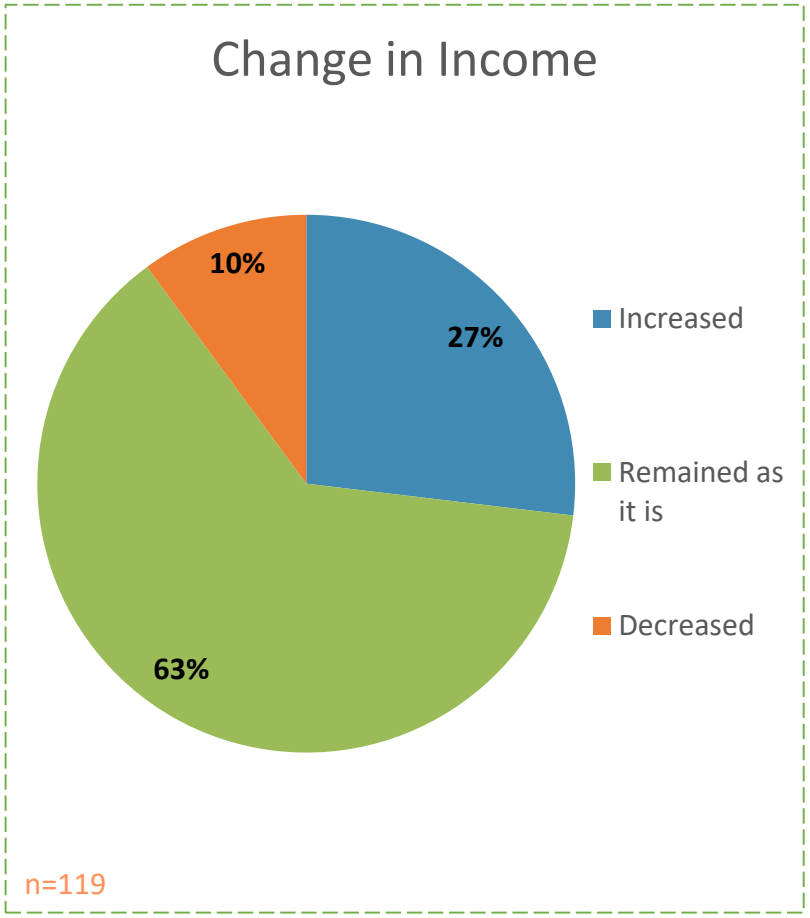


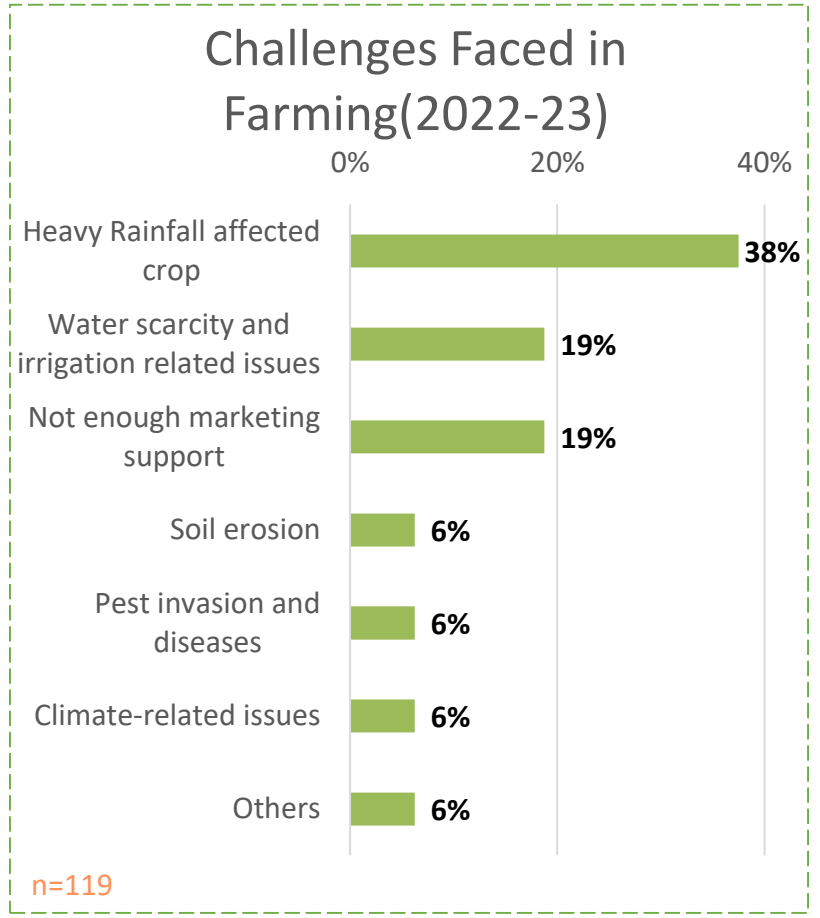
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 42% **increase among beneficiaries who are now spending less than ₹10,000 on fertilizer because of a decrease in the prices of Uria and DAP and** 73% **spending less than** ₹5,000 on labor work as they themselves involved in labor work **to reduce production cost and gain more profit**.
- Soil treatment practice and Inter/Mixed Cropping patterns are **adopted by farmers to some extent** because of **changes in cropping patterns due to the availability of water**.
- Considering the irrigation practices there is a **decline in farm bund practice** and a **some inclination toward drip irrigation systems** however due to **heavy rainfall rainfed farming is followed by some farmers.**

Impact: Income

Interaction with Farmers

Indicator		Baseline	Endline
Income(Annual)	Less than ₹30,000	33%	62%
Purpose of Yield	Sold in Market	41%	57%
	For own usage	51%	35%



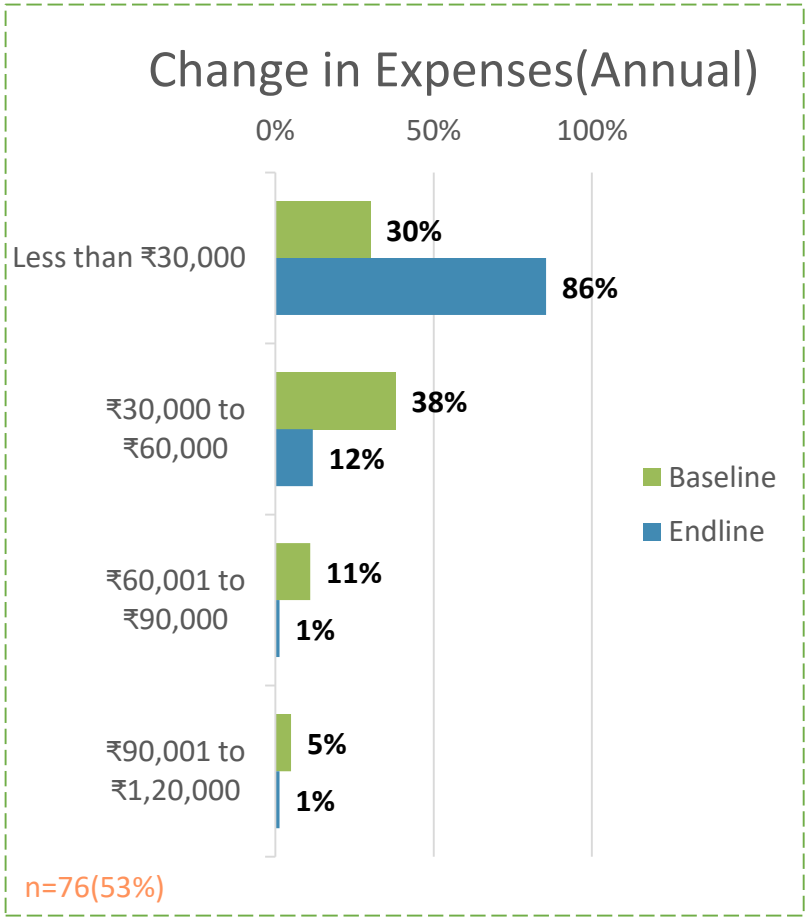


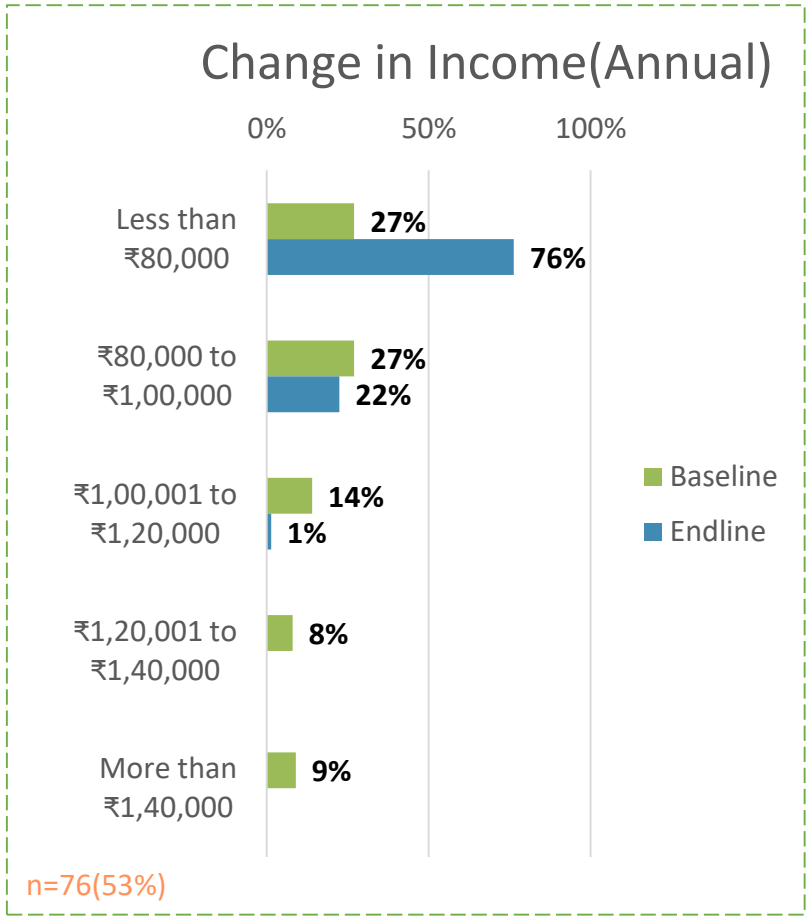
- **Slight change in output has been observed** because of heavy rainfall. 62% respondents **earned less than ₹30,000 per annum. However** out of the total land owners respondents, there is 16% **increase in the respondents who sold their goods in the market**. Before project implementation, most produce were used for household consumption as well as for fodder.
- 27% of respondents mentioned that their **income increased during the year due to the water availability** whereas 63% of respondents said that the **income remained the same as the previous year.**
- **Heavy rainfall(2022), lack of marketing support/low MSP and water scarcity(2022 summer)** are the primary reason behind the no change in income for the majority of the farmers.

Impact: Livestock Rearing

Livestock without Shelter as dairy farmers didn't have enough money to spend on it.

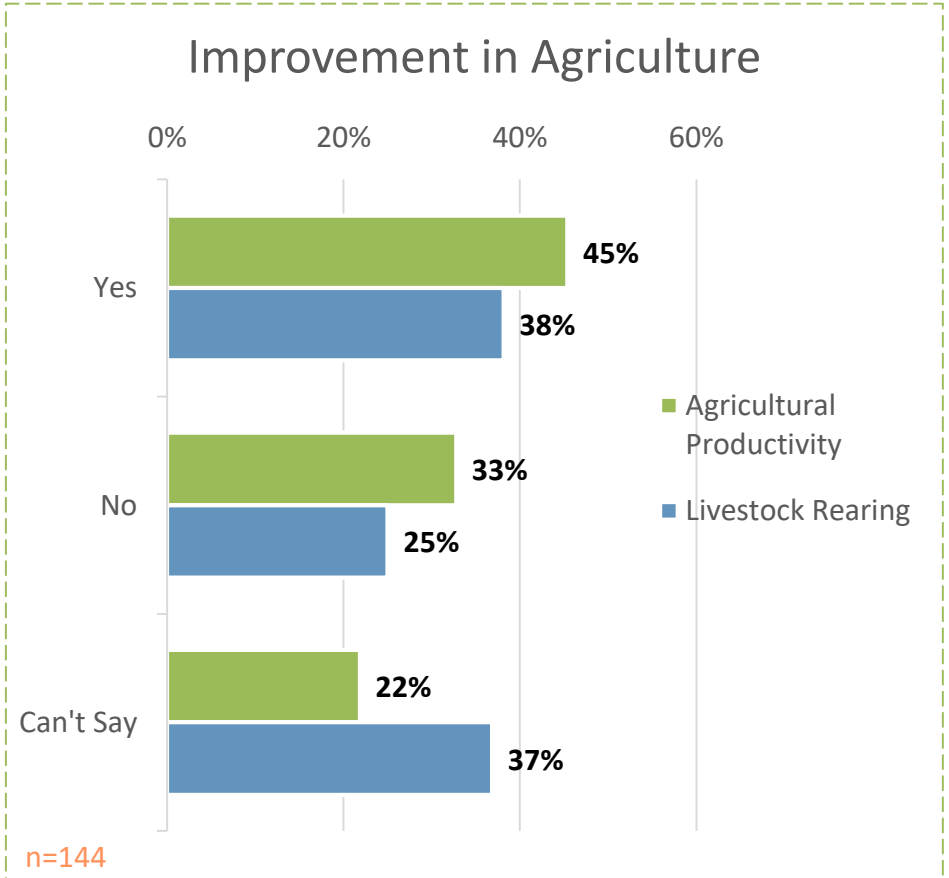
Indicator		Baseline	Endline
Ownership		66%	53%
Livestock Rearers (Number of Respondents)	Dairy Farmers	80	66
	Goat Rearers	29	29





- Out of the total respondents, 53% respondents are doing livestock rearing and there is a decrease of 13% in the number of livestock rearers because of lumpy virus affected heavily dairy farming in the village. Goat rearers number is the same compared to last year.
- Although the availability of green fodder on grazing land because of heavy rain and surface level water percolation because of rain harvesting structures reduced the fodder expenses, but expenses on medical consultation were increased because of the lumpy virus.
- As the lumpy virus & heavy rainfall affected the health of livestock, there is a decrease in livestock rearers who were earning more than ₹1,00,000 because low milk produce.

Impact: Holistic Change



According to 45% respondents, due to the water conservation project agricultural productivity of the village has increased this year. 33% also remarked that there is no change in agricultural productivity because heavy rainfall has damaged the Kharif crops. Significant number of respondents said they can't say about the change.

Baseline

- Farmers cultivate water-intensive crops like **Jawar, Bajra and Pulses** due to lack of water.
- Continuous failure in farming and heavy debt bondage forced some farmers towards consuming alcohol daily.
- Dairy farmers are significantly higher as there is 3 dairy collection center. Those who have a water pipeline connection from Canal to their farm own more than 9 cows and the remaining one has a limited number of livestock due to low water availability.
- Due to lack of water, some **poultry farmers don't prefer to take a poultry lot from March to June** and **use the poultry space as onion storage** till June. Poultry farmers stated that due to the excess heat and lack of water, the poultry business isn't profitable during summer as many chickens die due to the excess heat.

Endline

- **Adequate water supply** helped farmers in the cultivation of **Onion, Cotton, Corn and Wheat crops in the second crop cycle as well**.
- Although **enough dry fodder availability is there in the village** yet **dairy production is reduced because of the lumpy virus**.
- Poultry farmers are **expecting to take a production lot from March to June because of adequate water availability** but excess heat because of climate change is the biggest concern in front of them.

Goat Rearing

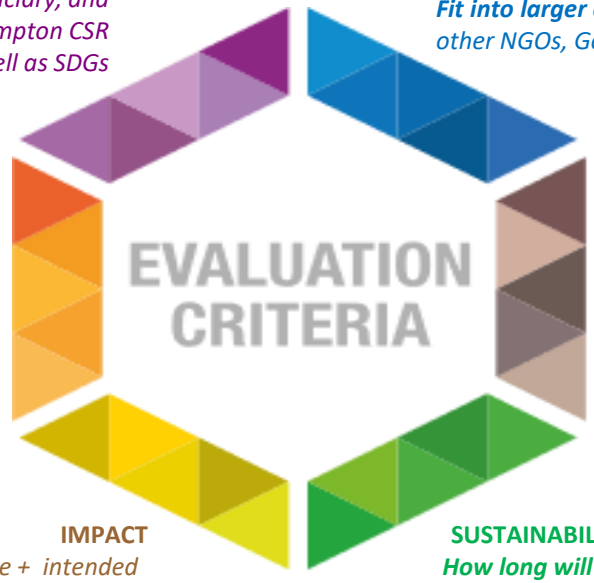
Dairy Farming

Analysis

Global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.

RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem – *aligning initiatives with other NGOs, Government initiatives in the region*



Effectiveness
Objective Achievement *-Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization – *Cost, Time and manpower*

IMPACT
Difference made against the baseline + intended / unintended impact

SUSTAINABILITY
How long will impact last *in form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✔ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✔ The intervention **addressed the foremost need of people**, **the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the end results**. Eg. Quantity of silt excavation from Mati Nala Disiltation.
Effectiveness	✔ Respondents appreciated the **durability and quality of structures.** ✔ **NOC was taken** from landowners whose land is used for building new structures. ✔ **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers about the project. 30% of respondents were not aware of the project and 28% were not aware of IP or CCF. Hence a disconnect is observed among a few villagers about the project and way of working of the implementation partner

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✔ Milestone-based mapping and monitoring of interventions. ✔ On-time structure completion. ✔ A well-planned team with the **involvement of subject matter experts(Hydrogeo experts)** deployed from the initial phase only. ✔ **On-field review of CCF staff** as well as monitoring agency staff	
Impact	✔ The project is achieving its intended impact of water availability. ✔ **Increase in agricultural production** through crop diversification. ✔ **Increase in farming practices** in the village as well as irrigation practices through **Drip irrigation techniques**. ✔ **Poultry farmers also expect income in March to June because of adequate water availability**.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation

Project Design

- **Challenge:** Local village-level politics affected project intent and it raised mistrust among villagers about the project because of negative word of mouth.

✔ **Intervention:** Stakeholder mapping at the initial phase can mitigate the risk & challenges of project implementation.

Community Survey

Implementation

- **Challenges:** There is confusion among some villagers regarding the Repairing of the percolation tank implemented by BBKGSS and the Percolation tank deepening work which has been implemented by MLA's initiative. Also under MLA's initiative, there are multiple watershed interventions took place in 2022 and villagers felt the work is going under CCF water conservation project and criticized the way of working in implementation as well as the quality & durability of structures.

✔ **Intervention**: A cost estimation board near every structure w can create visibility and trustworthiness in the community.

Respondent's handwritten letter about highlighting the issue

Sustainability

- **Challenges:** Some villagers are not well aware of the project, its purpose, and the contribution of CCF. They think this project was only made for a selective group of people whose land is being utilized for intervention. Few also stated that the silt excavated from the ground, a certain amount of money contractor demanded the distribution of that silt if farmers doesn't have their individual vehicles.

✔ **Intervention:** Awareness drive with village level committee by sharing the purpose and functioning of the Water Conservation Project can have a positive attitude towards the project and a higher possibility of sustaining the structures.

Structure evaluation study

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries and the project is completed as per plan.
- Gram panchayat implemented RO water purification Plant because of the availability of water.
- Agricultural activities and different farmer practices are being followed especially and there is a positive change in raising income generation opportunities.
- As an integrated activity, education on climate-resilient crops and agriculture practices will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving project stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community

Thank You.

Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Chande Khurd Village, Karjat Block, Ahmednagar District

Submitted By: NuSocia|06/03/2023

NuSocia
Impact. Evident.

Acknowledgement

The Endline Assessment along with the Outcome Study Report of the Water Conservation Project in Chande Khurd village of Karjat block of Ahmednagar district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration with Crompton CSR Foundation(CCF).

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Prakash Jagtap and the team of BBKGSS, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations

Fodder Crop

- In the report, the ‘Year’ referred to is calculated from Mid-Jan 2022 to Mid-Jan 2023; during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted.

Content

Cement Nala Bund

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

Digging of Percolation Tank

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Ahmednagar district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration, and suicide, especially among smallholder farmers.
- **Major parts of the district** (central, northern, and eastern) **are also showing trends of falling groundwater levels.**
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN, AHMEDNAGAR DISTRICT, MAHARASHTRA

Overview

Source: BBKGSS

CCF initiated Water Conservation Project in **Chande Khurd** with implementation partner BBKGSS with the following objectives:

1. To Increase the soil water level and stabilize the water table, to conserve soil and water through proper conservation techniques and structures.

2. To decrease soil erosion and revive the nonfunctional wells.

3. To Increase awareness about the importance of water and soil conservation.

4. To Increase income generation opportunities within agriculture and allied activities, increase and stabilize agriculture and horticulture, and animal husbandry income, and generate local employment opportunities for the marginal farmers through agri-allied and tech-savvy activities.

NuSocia, an impact advisory firm, has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

Repairing of Earthen Nala Bund 2

- Study Objectives & Phasing

Objective

To conduct an End line assessment along with the outcomes of the project.

Phasing

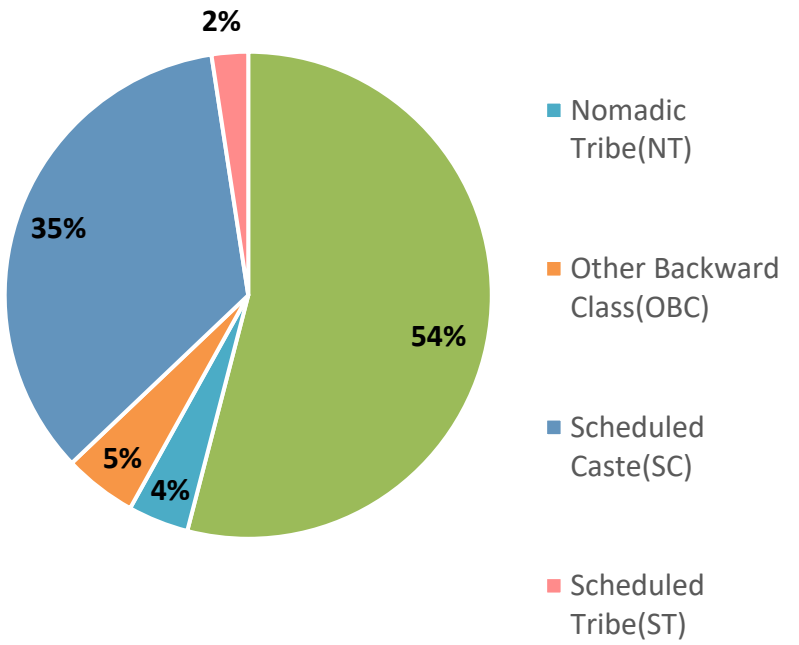
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study – **6 Key Informant Interviews** (Implementation Partner, Panchayat Member, Livestock Rearers, Farmers) • **2 Focus Group Discussions** Farmers, Women • **124 Community Surveys** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of Endline Assessment • Final report with observations, analysis, inferences, and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

Profile Of Respondents

Caste



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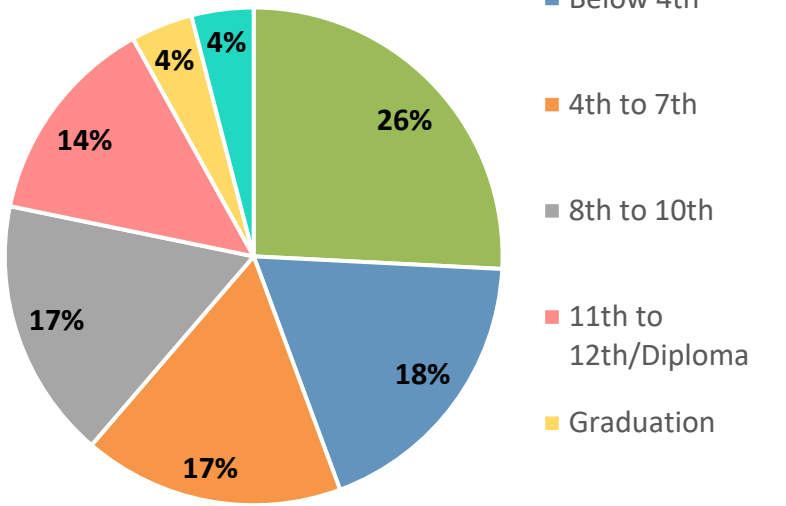
Education



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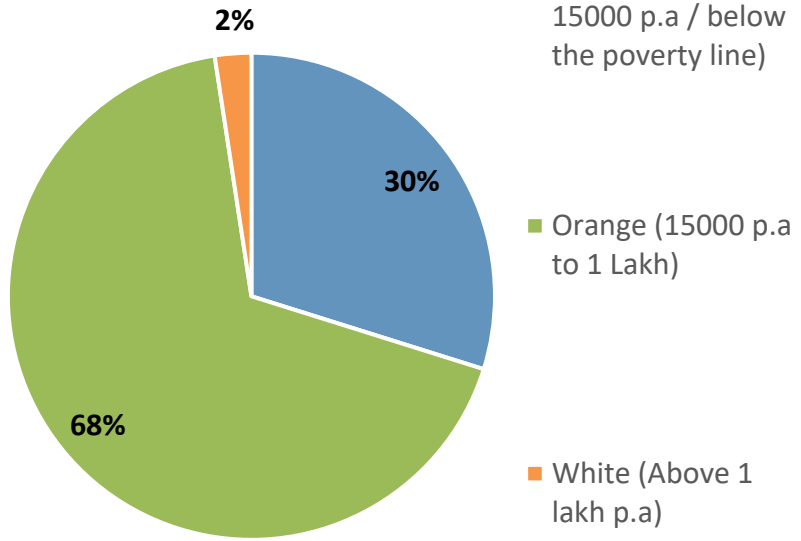
Ration Card Holder



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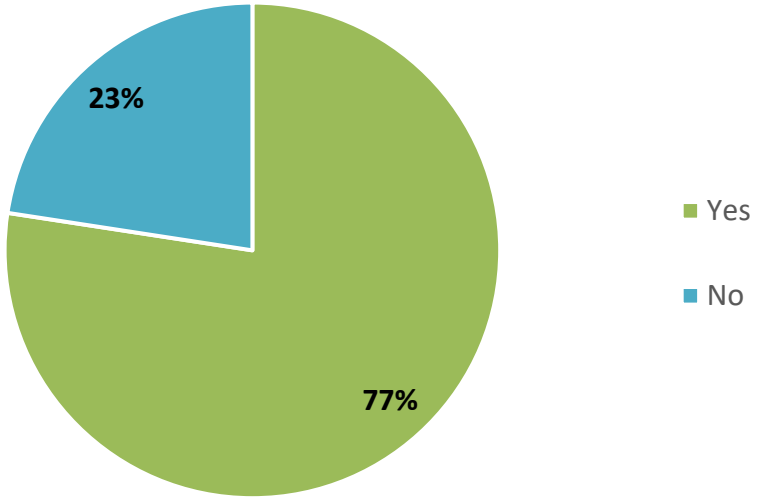
Participation of **51 to 70 years age group respondents was higher** and **male members majorly** participated in the survey.
96% of respondents belong to **Hindu,** 54% of the total belong to the **general category,** while 35% belong to Schedule Caste.
Out of the total respondents, **only 22% have completed their education above 10th class**.
30% of respondents belong to those **Below the Poverty Line.**

Beneficiary Mapping

Awareness of the Project



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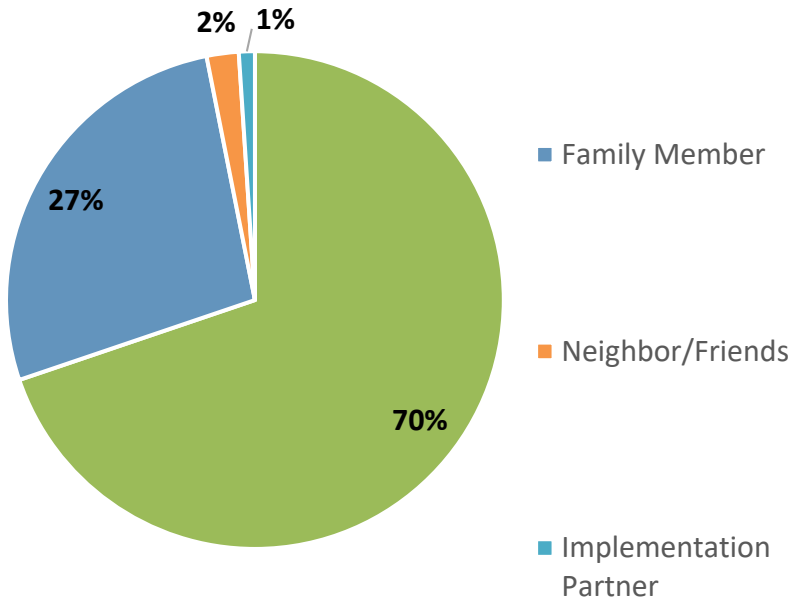
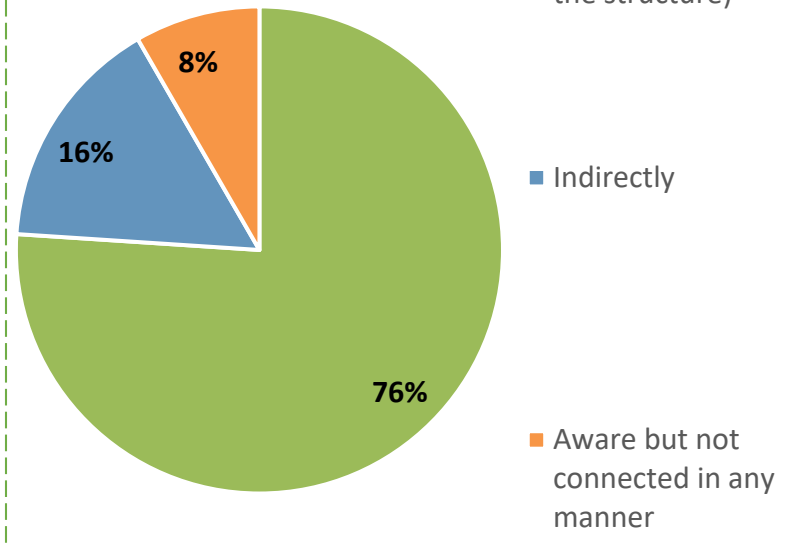
Source of Awareness



n=96(77%)

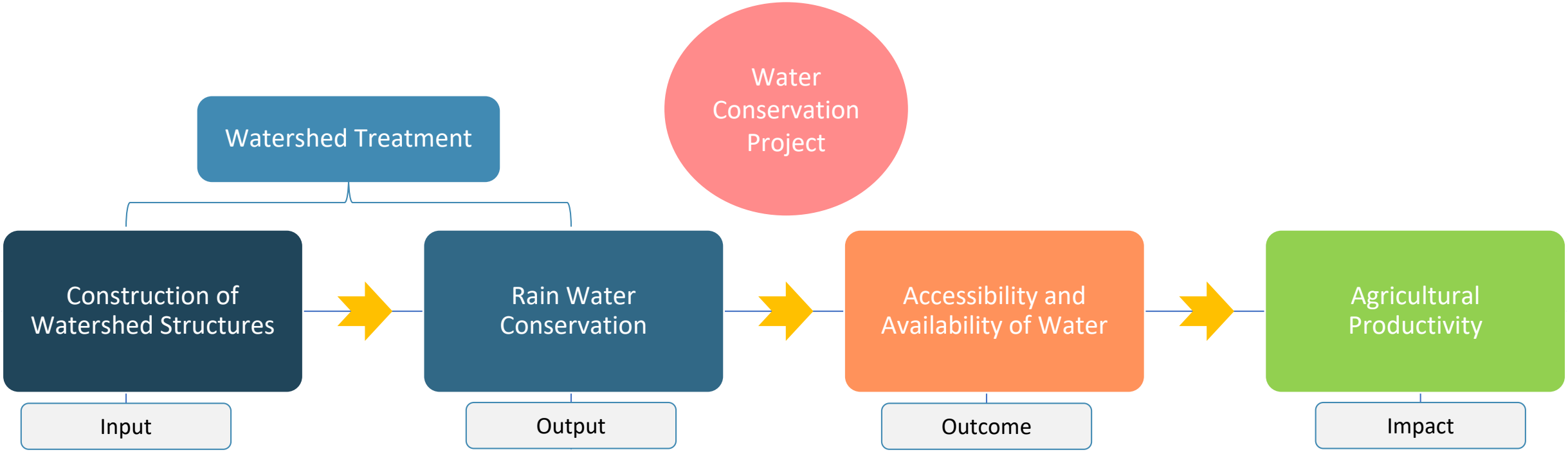
Benefited By



n=96(77%)

The **majority of the respondents are aware** of the project and 70% of them had heard about it through the Grampanchayat.
76% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it, and 16% of them benefited **indirectly.**

Impact Map

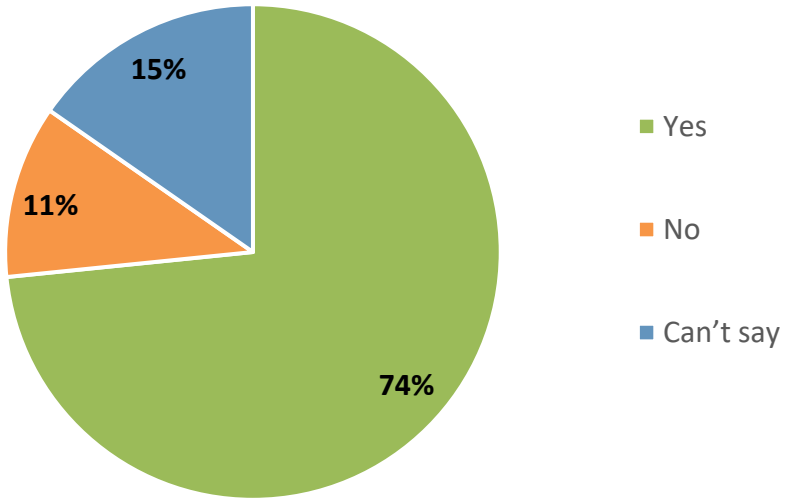

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

Output: Achievement

Intervention Helping In Rain Water Conservation



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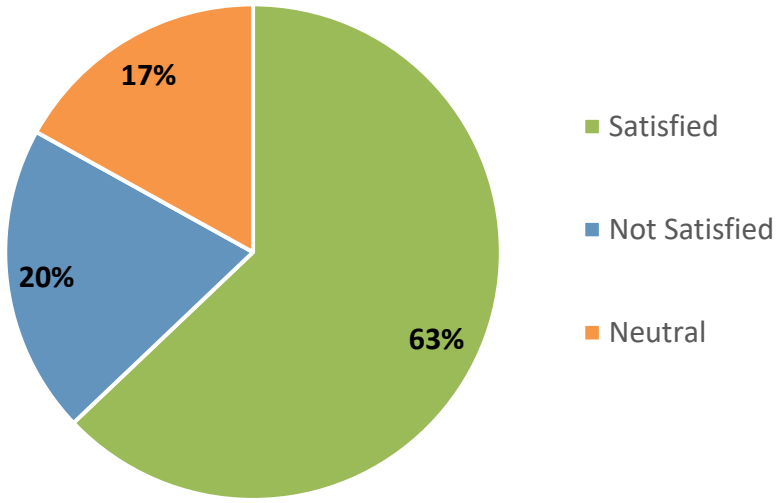
Level of Satisfaction Towards Project



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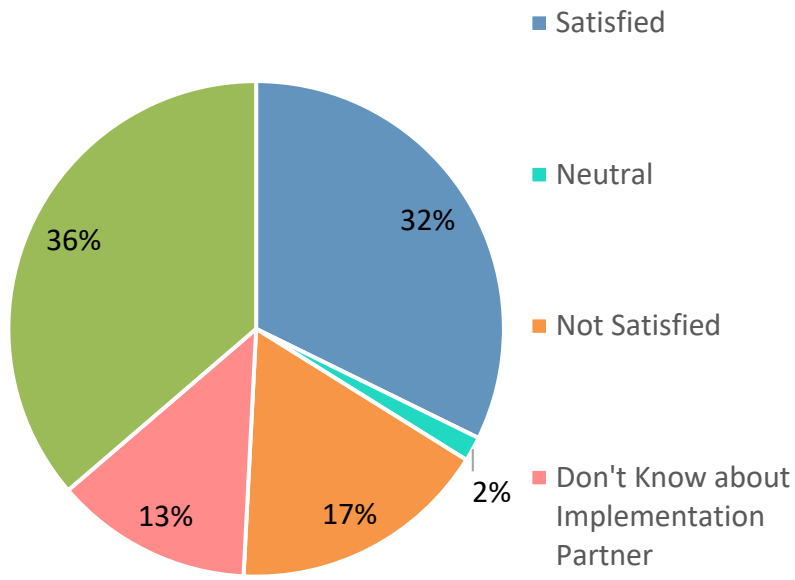
Level of Satisfaction Towards Implementation Partner



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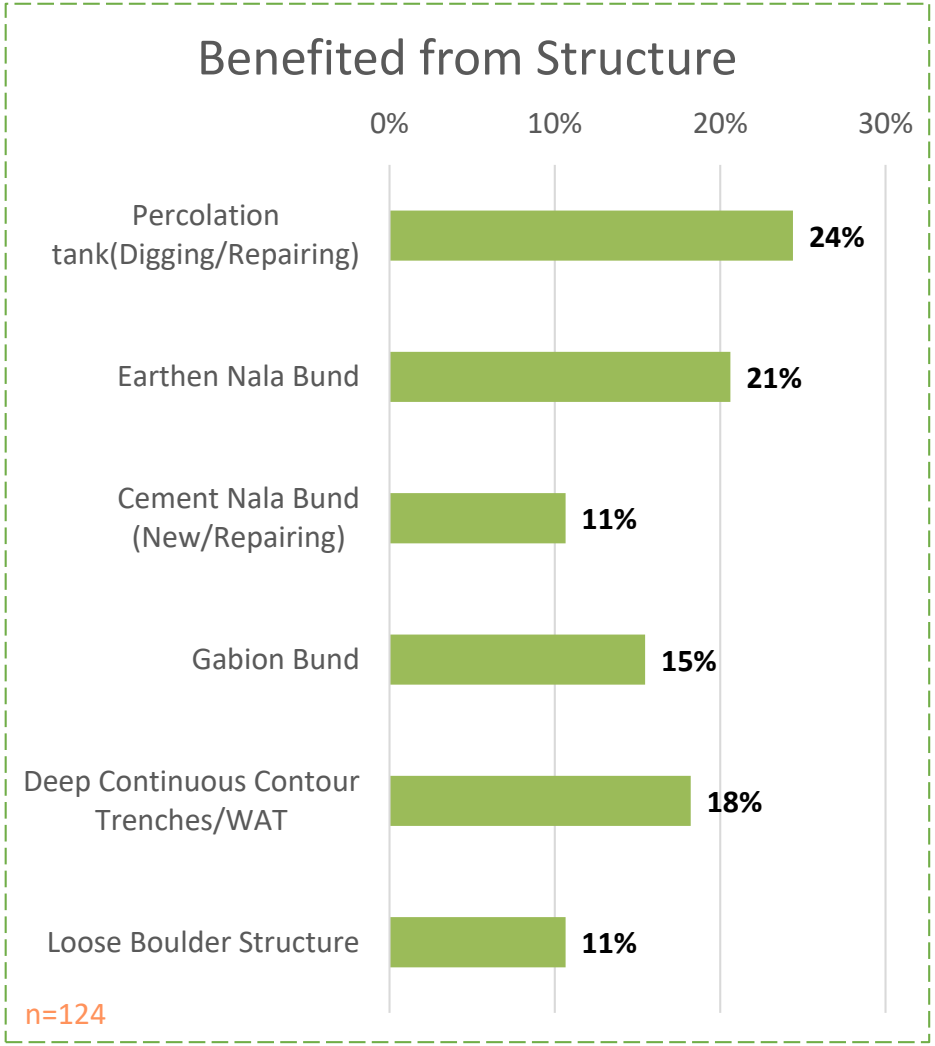
A total of 74% of respondents think that the **watershed interventions are helping in rainwater conservation**.
63% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working of the Implementation partner**, 49% (36+13) **aren't aware of the implementing agency,** whereas 32% are **satisfied** with their way of working.

Output: Intervention Performance



All the structures are playing in a significant role in rainwater conservation. Digging of the percolation tanks is highly appreciated by respondents as there is enough water available.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.** Hence, the water resources **started to dry up** after Diwali (Oct/Nov month).
- **CCF Phase I intervention helped in rainwater conservation** but **wasn't sufficient** as per the **village water requirement/needs.**

Endline

- Watershed intervention methodology based on the **'Matha te Payatha' (Top to bottom) approach** with various interventions such as LBS, CCT, Earthen Nala Bund, Gabion, and Cement Nala Bund. **Therefore the water catchment area has increased**.
- Because of multiple watershed structures, **the risk of land degradation has been reduced** as per the respondents as it **helped in reducing the runoff of rainwater**.
- **Percolation tank plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.

Water Availability at the end of January

Community Survey

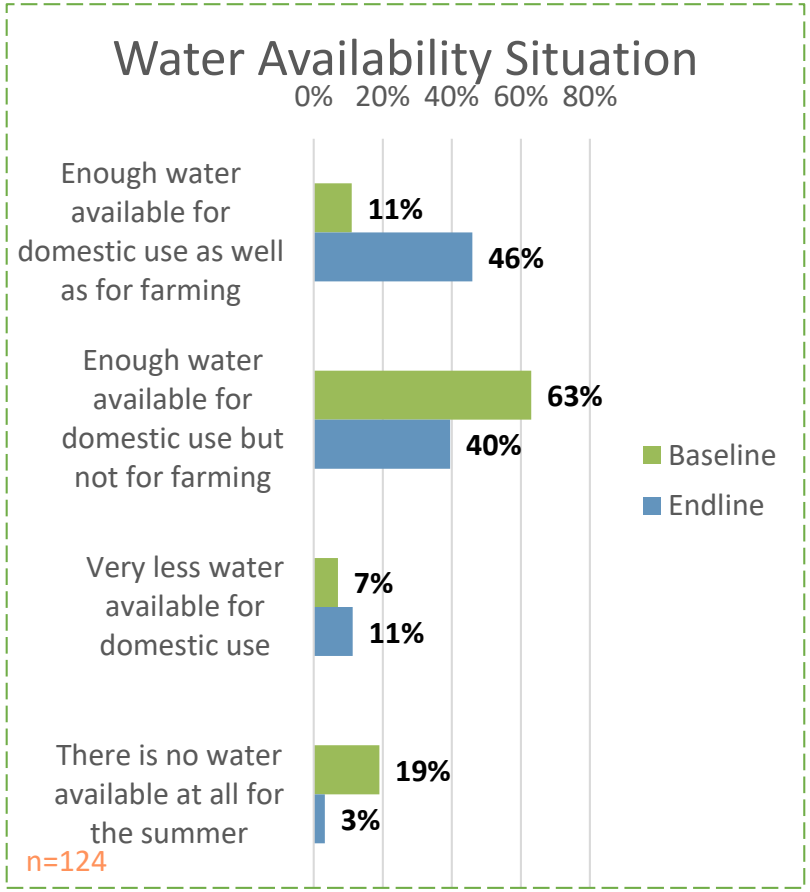
Outcomes

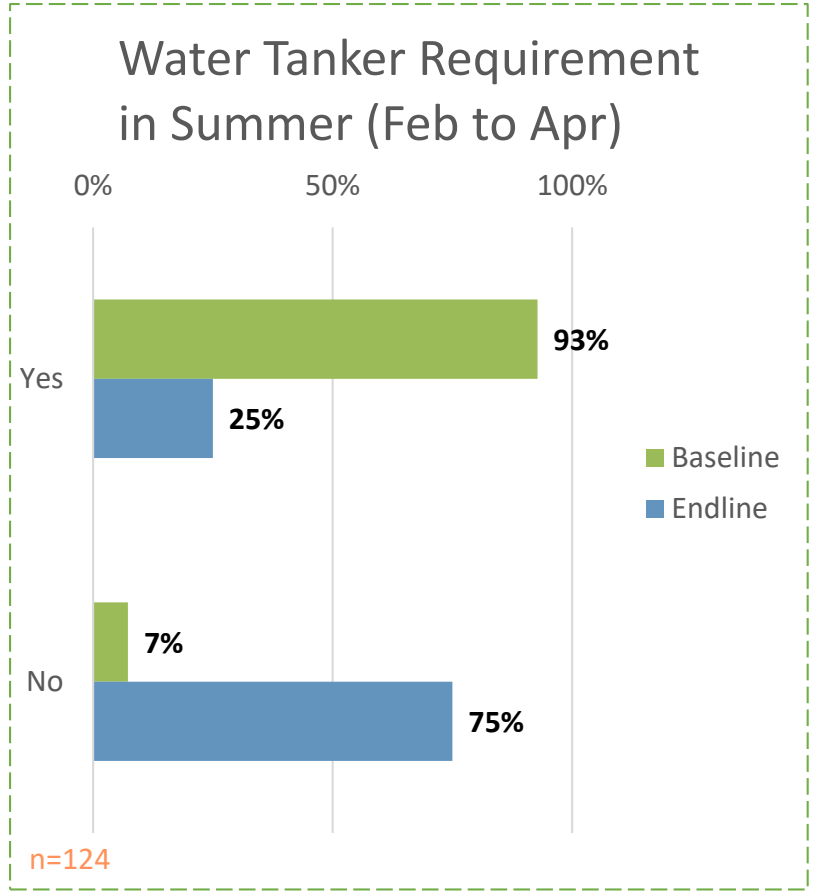
- Availability & Accessibility
  1. Water Source & Availability
  2. Accessibility

Outcome: Water Source & Availability

Gram Panchayat Water Storage Tank

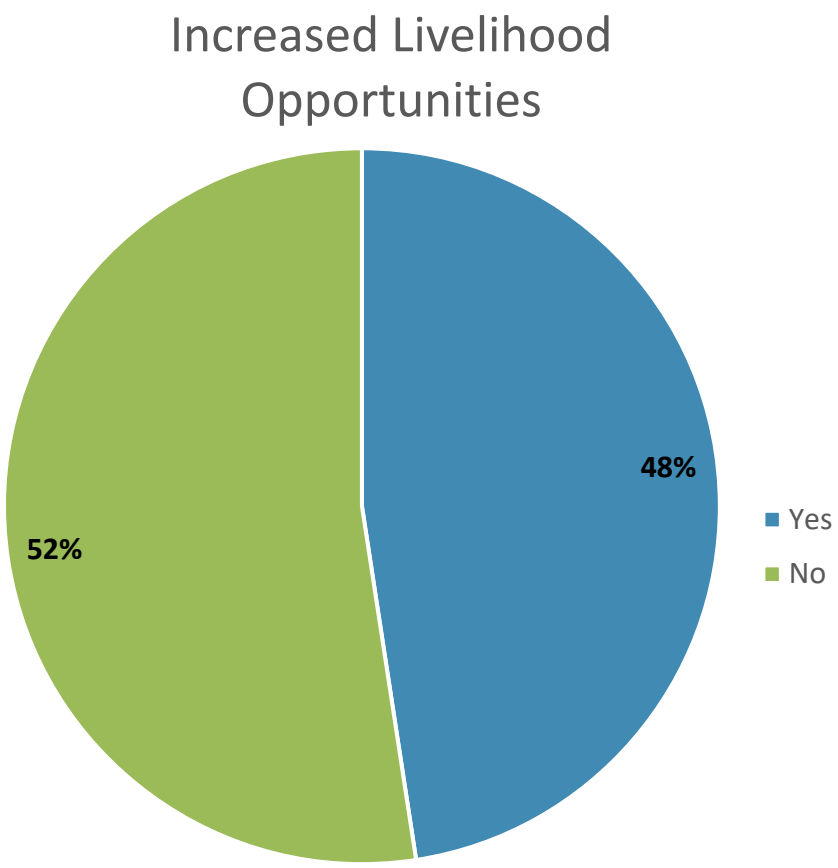
Indicator		Baseline	Endline
Water Source for Household	Individual Tap Water	16%	31%
Water Source For Farming	Common Well/ Borewell	29%	44%





- **Dependency on individual tap water** for drinking purposes and **common well/borewell dependency** for farming purposes **has increased** due to the availability of water. Earlier gram panchayat was unable to supply water hence dependency on individual wells/borewells was higher at the time of baseline.
- **35% increase** among those beneficiaries who said that **there was enough water available for both domestic use as well as for farming.**
- Compared to the baseline study, 23% fewer respondents **mentioned that there was not enough water available for farming.**
- Significant change in the requirement for water tankers as **75%** of respondents now feel that they **won't require water tankers** this summer season.

Outcomes: Accessibility & Availability of Water (2/2)



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48% of respondents opined that because of the water conservation project **livelihood opportunities this year have increased** & 49% of those, said livelihood opportunities have increased in **farming** whereas 30% said it increased in **livestock rearing.**

Baseline

- **Gram Panchayat was unable to ensure equitable water distribution** to each household.
- Mostly the **male family members traveled 5 Km to another village's RO plant** or purchase Jar water.
- During the summer season there was **a requirement for a water tanker but one water tanker for the whole village every day was not sufficient**.
- As **women carried 20 ltr-40 ltr water jars (utensils) on their heads** every day, many of them were facing neck pain and back pain-related problems.

Endline

- **Dependency on individual tap water connection** has **increased** because of the provision of **equitable water distribution ability of gram panchayat has increased because of Water Conservation Project.**
- Male members **can go to the farm on time** now (at the time electricity is available for irrigation) as they **don't have to spare their time and money for water collection**. The **saved time is utilized for income-generation activities**.
- Women during FGD stated that they are grateful for the intervention as **many of them are getting adequate drinking water either through individual tap water or common tap water closer to their house**.
- **The need for water tankers is reduced because of the project** and the majority responded and stated that there is no requirement in the upcoming summer season.

Women Focus Group Discussion

Household Survey

Impact

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

यंदाही शेतकऱ्यांचा कांदा लागवडीकडेच कल

नगरमधील स्थिती ; एक लाख ७२ हजार हेक्टरवर लागवड

सूर्यकांत नेटके : ॲग्रोवन वृत्तसेवा

नगर : मध्यंतरीच्या पंधरा दिवसांचा अपवाद वगळला तरी कांद्याला गेल्या वर्ष-दीड वर्षापासून जास्तीत जास्त पंधरा ते सतरा रुपयांपेक्षा अधिक दर नाही. साधारणपणे बहुतांश शेतकऱ्यांना आठ ते दहा रुपये किलोनेच कांदा विकावा लागला. त्यामुळे कांदा उत्पादकांचे आर्थिक गणित बिघडले, असे सांगितले जात असले तरी पुढील काळात दर येईल या आशेने नगर जिल्ह्यात रब्बीत यंदाही विक्रमी सुमारे १ लाख ७२ हजार १४२ हेक्टर क्षेत्रावर आतापर्यंत लागवड झाली आहे. यातही अजून वाढ होण्याचा अंदाज आहे.

राज्यातील बहुतांश भागात कांदा पिकाला आता प्राधान्य दिले जात आहे. नगर, नाशिक, पुणे भागात सर्वाधिक कांदा लागवड मिळून जवळपास दोन लाख हेक्टर क्षेत्राचा टप्पा पार केला होता. मात्र दिवाळीच्या काळातील एक पंधरा दिवसाचा अपवाद सोडला तर गेल्या दीड वर्षापासून कांद्याला १५ ते सतरा रुपयांपेक्षा अधिक दर नाही. बियाणे, मजुरी, व अन्य खर्चाचा विचार करता हा दर पडरवडणारा नाही.

यंदा कांदा उत्पादकांचे आर्थिक गणित बिघडले असल्याचे बोलले जात असले तरी यंदाही शेतकऱ्यांनी कांदा लागवडीला प्राधान्य दिले असल्याचे दिसत आहे. यंदा आतापर्यंत जिल्ह्यात १ लाख ७२ हजार १४५ हेक्टरवर कांदा लागवड झाली आहे. अजूनही अनेक भागात कांदा लागवड सुरू आहे. त्यामुळे यंदाही दोन लाख हेक्टरच्या जवळपास कांदा क्षेत्र होण्याचा अंदाज व्यक्त केला जात आहे. सध्या कांद्याला प्रती किलो १६ रुपयांपर्यंत जास्तीत जास्त दर मिळत

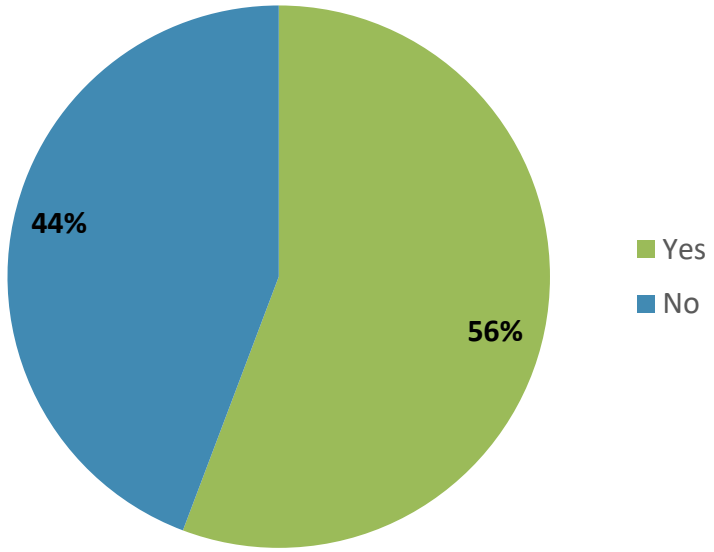
तालुकानिहाय कांदा लागवड (हेक्टर)

नगर	१७,९३४
पारनेर	३१,५२८
श्रीगोंदा	२६,२५४
कर्जत	१५,९६६
जामखेड	५,७४४
शेवगाव	७,२४५
पाथर्डी	९,५०८
नेवासा	११,७३२
राहुरी	१०,१२५
संगमनेर	९,३४९
अकोले	१,२९४
कोपरगाव	११,३०२

6th Feb 23, Ahmednagar: Farmers in the district **prefer Onion cultivation without changing cropping patterns** because of the hope for an adequate MSP in the future. Source: http://epaper.agrowon.com/

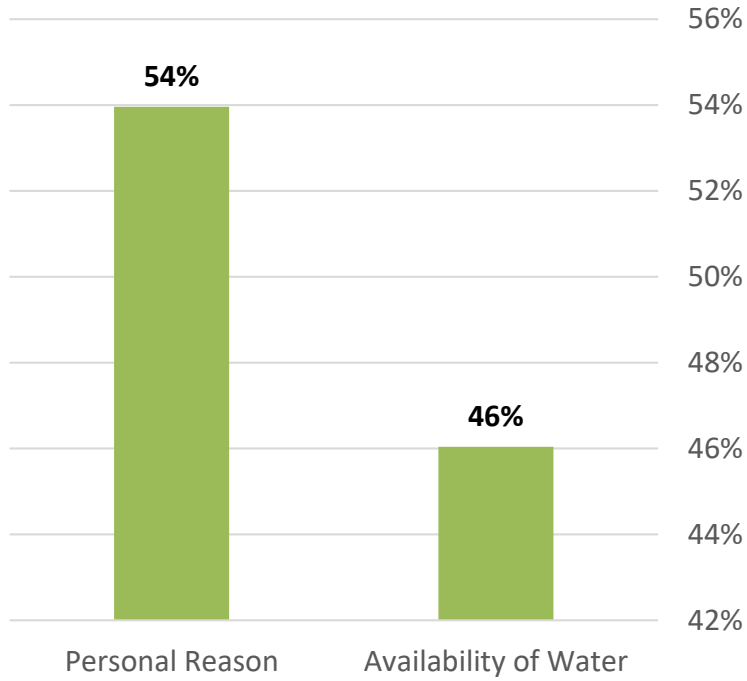
Indicator		Baseline	Endline
Land Ownership		94%	91%
Land Holding Size	**Less than equal to 4 acre**	44%	50%
Cultivable Land Size	**Less than equal to 4 acre**	59%	71%

Change in Cropping Pattern



n=113(91%)

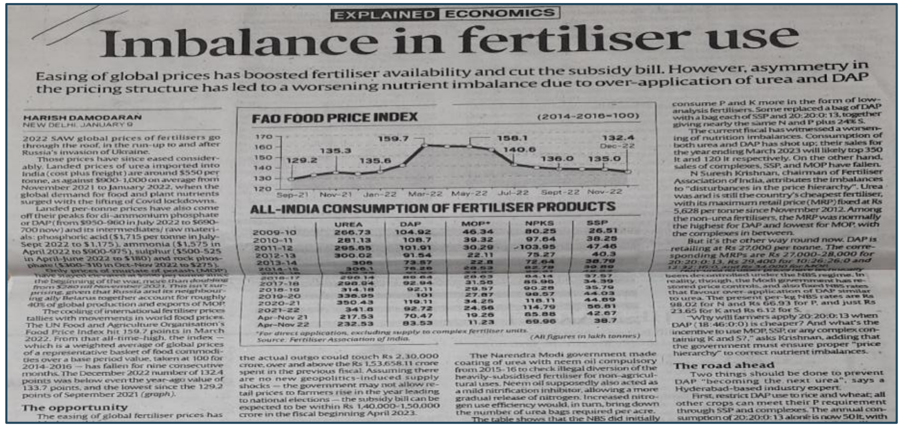
Reason of Change in Cropping Pattern



n=63(56%)

- **Increased land holding size due to land purchased by some respondents; however, increase in cultivable land size** among marginal land owner farmers because of water availability.
- **Increased Onion, Jawar, Corn, and Wheat crop cultivation** in the village.
- **56% changed their cropping pattern** this year.
- Out of the above, 46% changed their **cropping pattern because of enough water availability** this year, and 54% of respondents' cropping pattern was **changed because of the hope for MSP (Minimum Support Price)** for a certain crop, seed availability, and local market demand.

Impact: Agricultural Practices



EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN
NEW DELHI, JANUARY 9

FAO FOOD PRICE INDEX

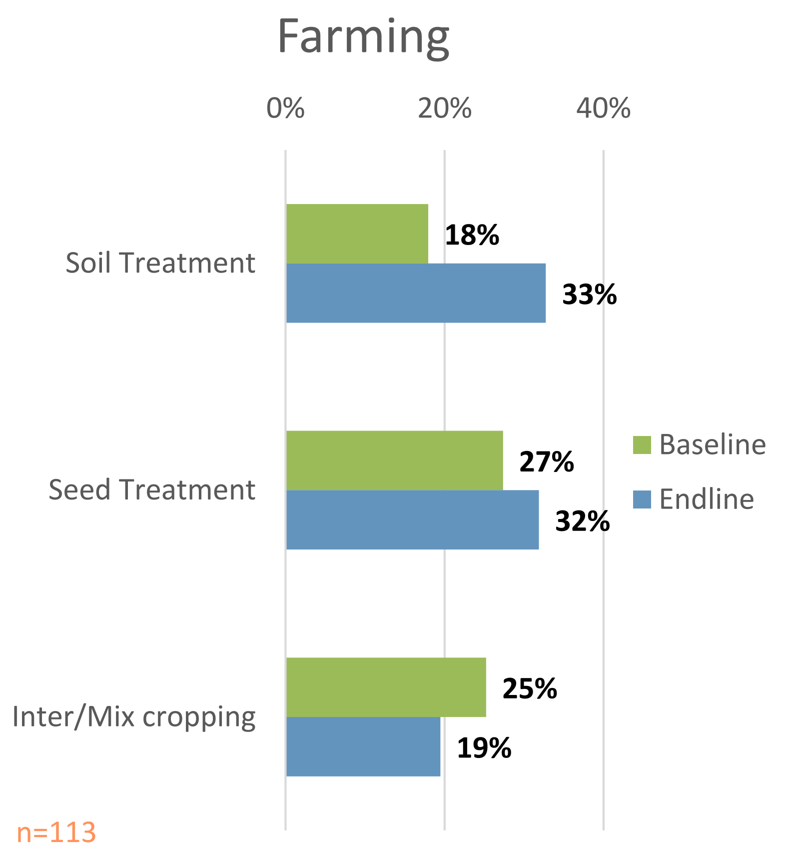
ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

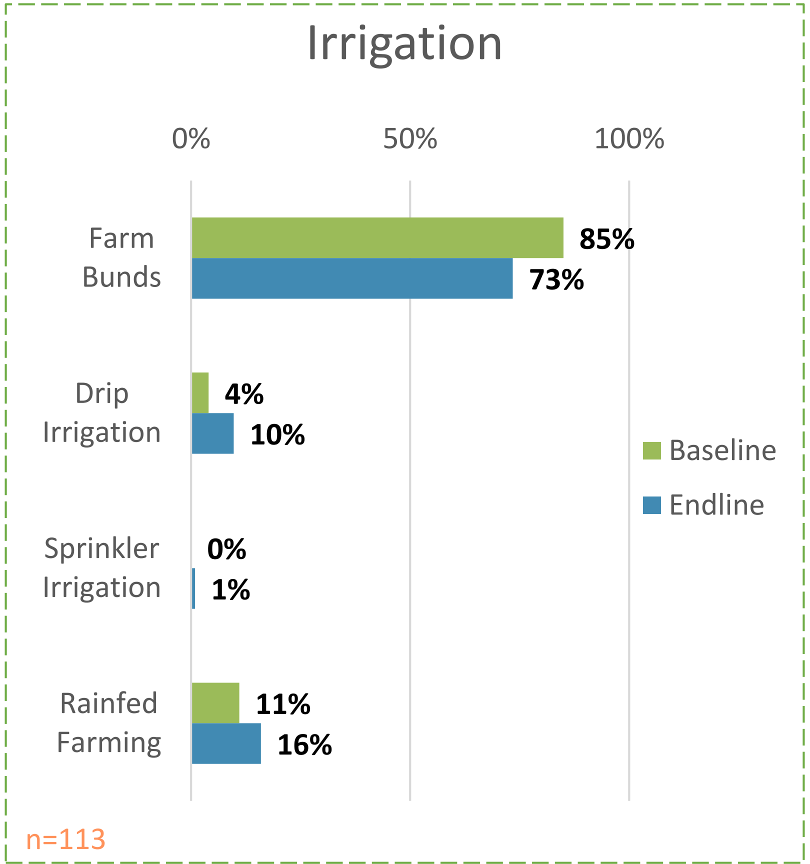
The opportunity

The road ahead

10th Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.
Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	**₹10,000 to ₹20,000**	14%	35%
Labor work Spending (Per Crop)	**Up to ₹10,000**	79%	96%



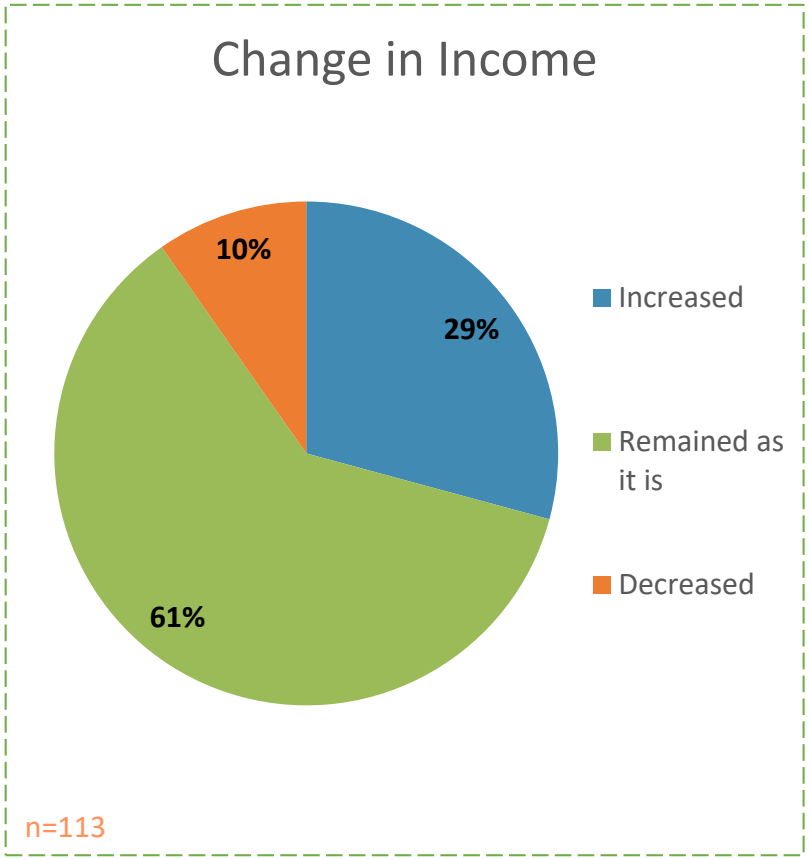


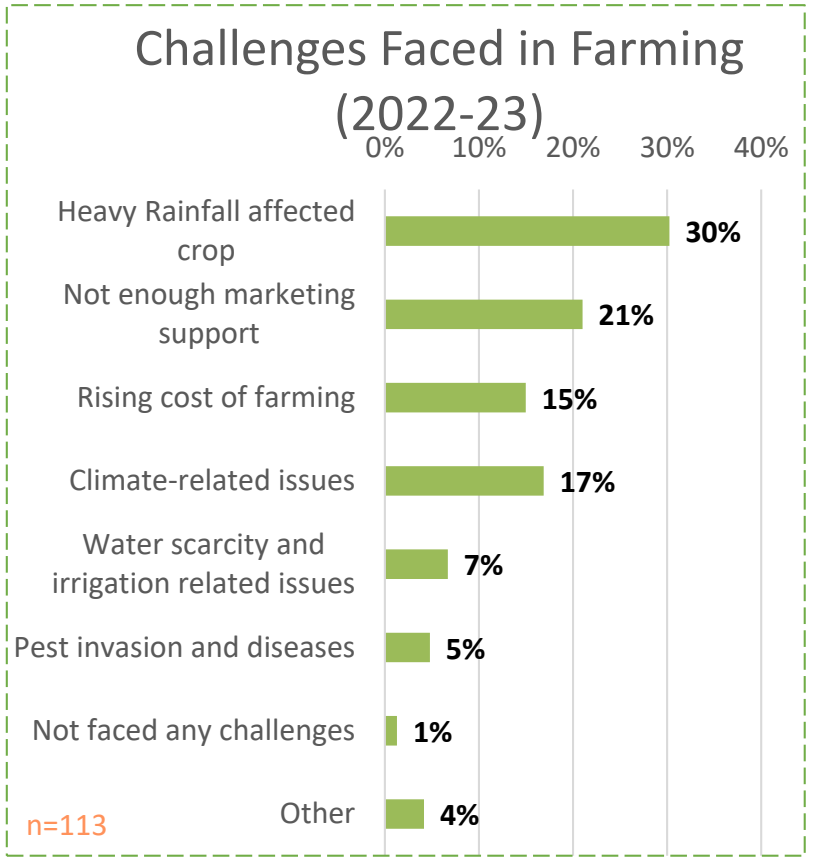
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 21% **increase among beneficiaries who are now spending ₹10,000 to ₹20,000 on fertilizer per crop** whereas 61% of total land owner respondents are spending up to ₹10,000 on labor work which is 17% **higher compared to the baseline.**
- Soil treatment practices and seed treatment practices are **adopted by farmers to some extent** because of the **changes in cropping patterns due to the availability of water**.
- Considering the irrigation practices, there is a **decline in farm bund practice** and **some inclination toward drip irrigation systems;** however, due to **heavy rainfall, rainfed farming is followed by some farmers.**

Impact: Income

Interaction with Farmer

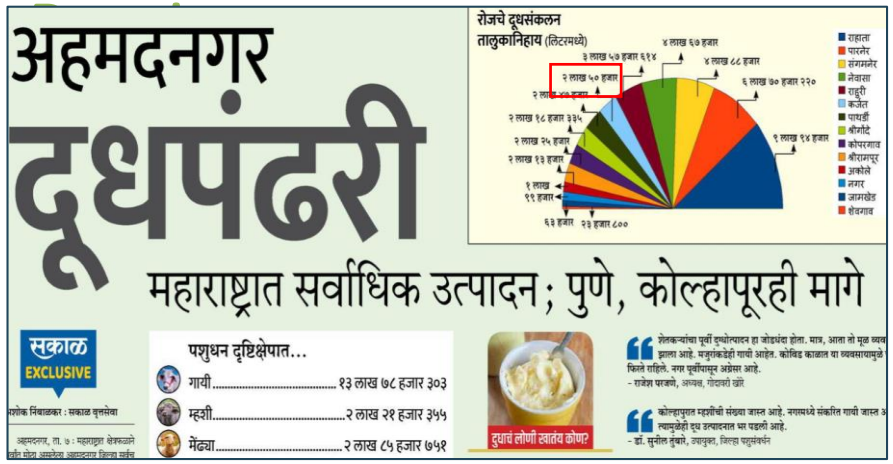
Indicator		Baseline	Endline
Income (Annual)	More than ₹30,000	54%	57%
Purpose of Yield	Sold in Market	64%	68%
	For own usage	35%	31%





- **Slight change in output has been observed** because of water availability. 57% of respondents **earned more than ₹30,000 per annum** and out of the total land owners respondents, there is a **4% increase in the respondents who sold their goods in the market**. Before project implementation, most produce was only used for household consumption.
- 29% of respondents mentioned that their **income increased during the year due to the water availability** whereas 61% of respondents said that the **income remained the same as the previous year.**
- **Heavy rainfall (2022), lack of marketing support/low MSP and marketing knowledge, and climate-related issues** are the primary reasons behind the no change in income for the majority of the farmers.

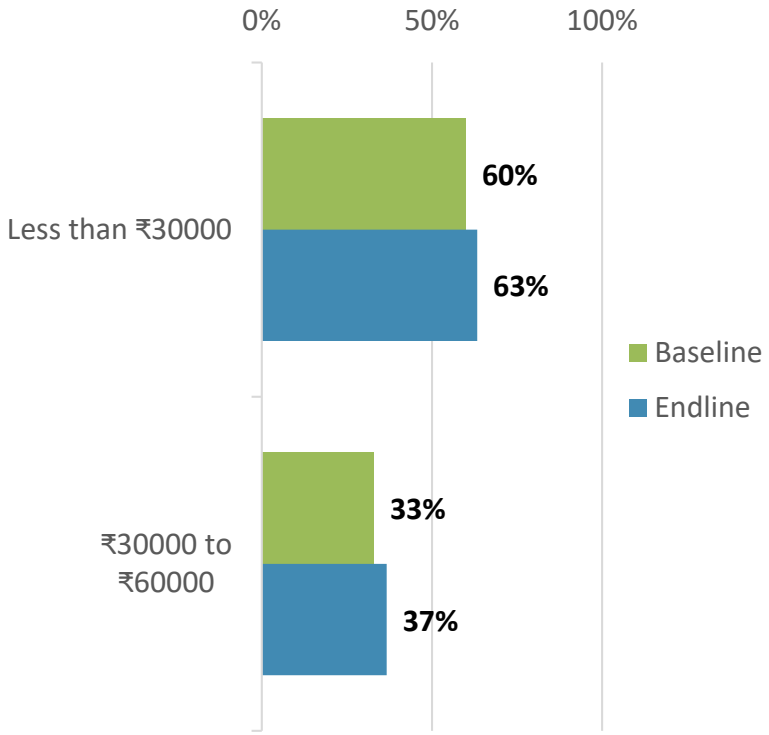
Impact: Livestock

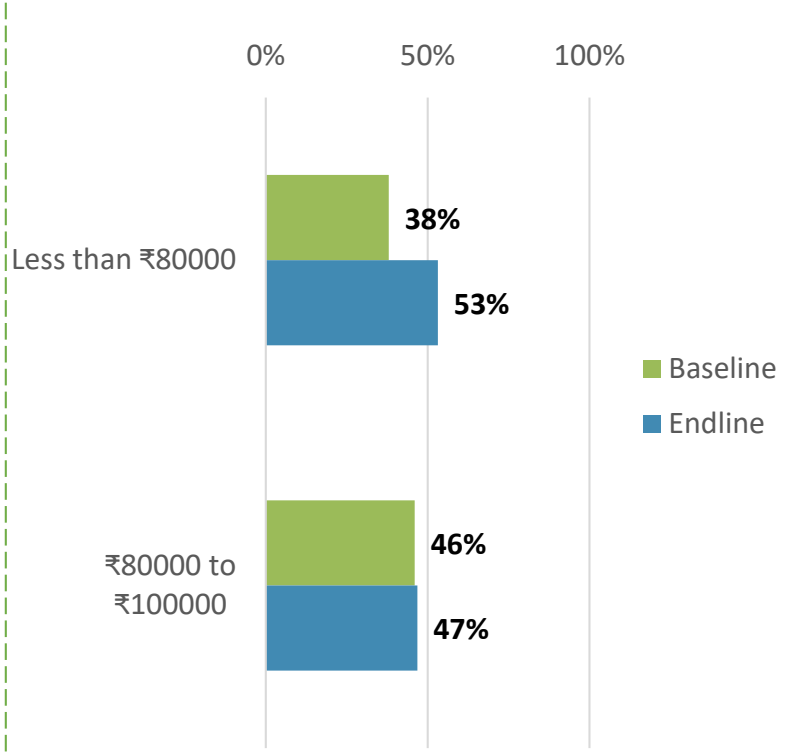


8th Dec 22: District tops among all districts in Maharashtra in the ranking of daily milk production. Increased milk collection units, milk products making units and Cooperative Societies helping in increasing daily milk collection. (Karjat Block Daily Milk Collection-2,50,000 ltr)

Source: https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=1

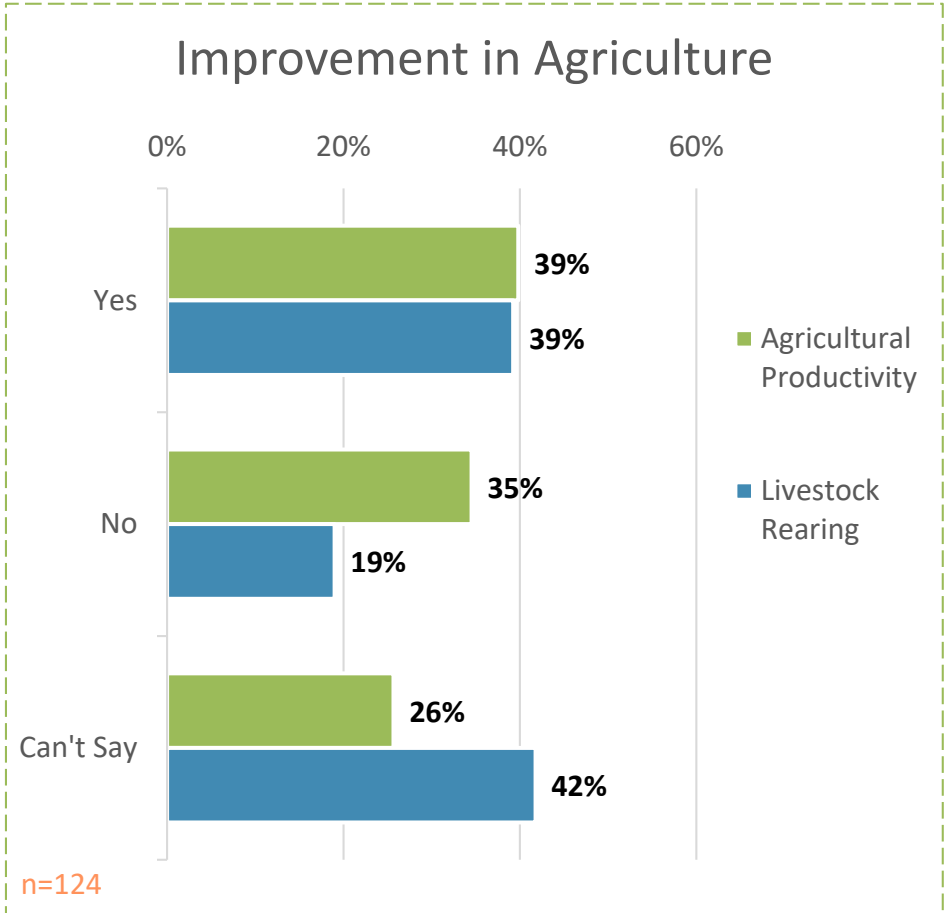
Indicator		Baseline	Endline
Ownership		47%	64%
Livestock Rearers (Number of Respondents)	Dairy Farmers	55	67
	Goat Rearers	14	41





- Out of the total respondents, 64% of respondents are doing livestock rearing and there is an increase of 17% in the number of livestock rearers. 12 respondents started dairy farming, while 27 respondents started goat rearing this year (Jan 2022-Dec 2022) because of the availability of water.
- Availability of green fodder on grazing land because of heavy rain, as well as surface level water percolation because of rain harvesting structures is the major contributor to increasing livestock rearing. Therefore only a 3% marginal increase has been observed in expenses despite the rising cost of fodder in the market.
- As the Lumpy virus & heavy rainfall affected the health of livestock, there is only a marginal increase in the annual income of the livestock rearers.

Impact: Holistic Change



According to 39% of respondents, the agricultural productivity & Livestock rearing of the village has increased this year due to the water conservation project. 35% also remarked that there is no change in agricultural productivity because heavy rainfall has damaged the Kharif crops.

Baseline

- **Water supply used to fall short** affecting the irrigation and therefore yield quality and quantity.
- Farmers did not get the Minimum Support Price (MSP) for their goods, but due to the increasing farming costs, they mostly incurred losses or **earned less than ₹30,000**. They preferred to cultivate those crops that have an MSP, such as Toor, Urad (Pulses)
- Chande Khurd **did not have any milk collection center.** The first dairy was opened this year (Jan 2022- Jan 23). Therefore, most dairy farmers sold milk at Chande Budruk Milk Processing Units (3 Km).

Endline

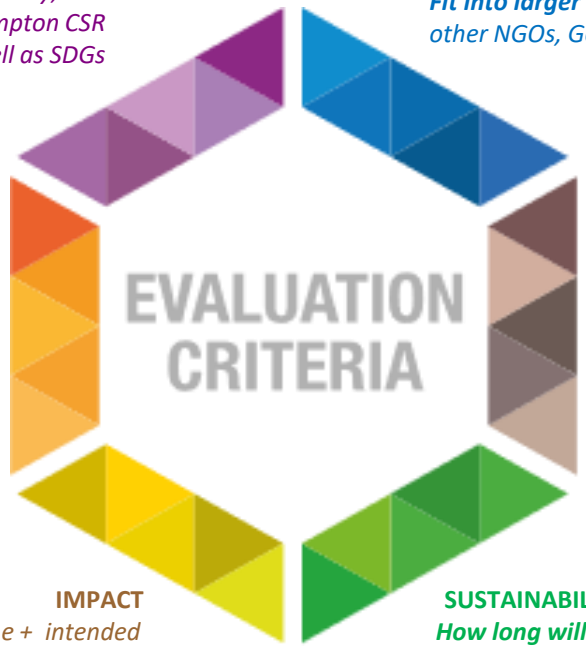
- **Adequate water supply** helped farmers to start cultivation of the **third crop,** whereas **onion farmers are expecting a good yield in April** and hope that enough water availability helps to **produce better quality yield and production.**
- Although the MSP struggle continued this year as well, but due to the **improvement in the quality of grain/yield. there is** an **increase in the number of respondents who are earning more than ₹30,000** is observed. There is a marginal increase of **4% in farmers who are taking in Cotton, Onion, and Wheat as secondary crop cultivation.**
- There **are two milk collection centers** in the village now and **daily milk collection has increased** by approximately **200-300 liters** because of water and fodder availability.

Onion crop with farm bund irrigation

New Milk Collection Center

Analysis

The global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.



RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem *– aligning initiatives with other NGOs, Government initiatives in the region*

Effectiveness
Objective Achievement *-Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization *– Cost, Time and manpower*

IMPACT
Difference made against the baseline + intended / unintended impact

SUSTAINABILITY
How long will impact last *in the form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✔ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✔ The intervention **addressed the foremost need of people**, **the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the results**. E.g. Quantity of silt excavation from Mati Nala Desiltation.
Effectiveness	✔ Respondents appreciated the **durability and quality of structures.** ✔ **NOC was taken** from landowners whose land is used for building new structures. ✔ **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers about the project. 23% of respondents were not aware of the project and 36% were not aware of IP or CCF. Hence a disconnect is observed among a few villagers about the project and the way of working of the implementation partner.

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✔ Milestone-based mapping and monitoring of interventions. ✔ On-time structure completion. ✔ A well-planned team with the **involvement of subject matter experts (Hydrogeo experts)** deployed from the initial phase. ✔ **On-field review of CCF staff** as well as monitoring agency staff	
Impact	✔ The project is achieving its intended impact of water availability. ✔ **Increase in agricultural production** through crop diversification. ✔ **Increase in horticulture plantations** in the village, as well as irrigation practices through **Drip irrigation techniques**. ✔ **Daily village-level milk collection has increased**.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation

Project Design

- **Challenge:** Local village-level politics affected some interventions' completion within the timeframe and it raised mistrust among villagers about the project because of negative word of mouth.

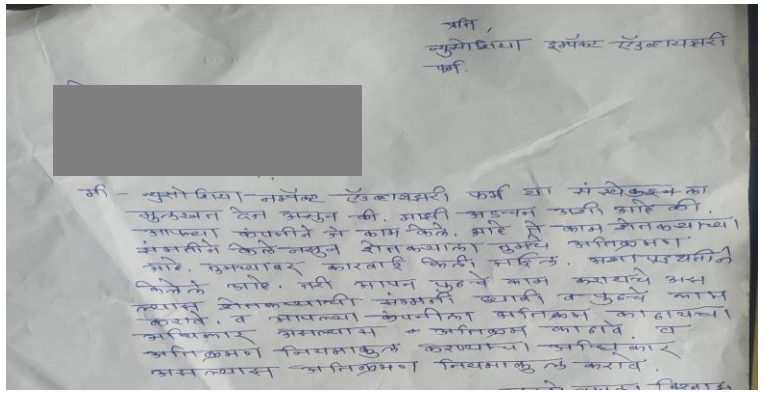
✔ **Intervention:** Stakeholder mapping can mitigate the risk & challenges of project implementation.

Community Survey

Implementation

- **Challenges:** Few respondents complained that local contractors pressured them for sharing part of the land for the project intervention. They also admitted that there is no involvement of the implementation partner as well as CCF in that matter, but they should be aware of such things.

✔ **Intervention**: Formation of a village-level committee with the involvement of 1 member from each pocket of the village, as well as an implementation partner and member of the monitoring agency. The committee should be completely independent of the Gram panchayat body & local-level political committees. This committee will collect NOCs from the beneficiaries. Project governance needs to be ensured.



Respondent's handwritten letter about highlighting the issue

Sustainability

- **Challenges:** Some villagers are not well aware of the project, its purpose, and the contribution of CCF. They think this project was only made for a selective group of people whose land is being utilized for intervention. Few also stated that the silt excavated from the ground, a certain amount of money contractor demanded for the distribution of that silt if farmers doesn't have their individual vehicles.

✔ **Intervention:** Awareness drive with village level committee by sharing the purpose and functioning of the Water Conservation Project can have a positive attitude towards the project and a higher possibility of sustaining the structures.

Structure evaluation study

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries, and it is completed as per plan.
- Agricultural activities, especially Livestock rearing, have increased, and there is a positive change in raising income generation opportunities.
- As an integrated activity, education on climate-resilient crops and agriculture practices will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving the project's stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community.

Thank You.

Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Nanduri Dumala Village, Sangamner Block, Ahmednagar District

Submitted By: NuSocia|09/03/2023

NuSocia
Impact. Evident.

Acknowledgement

The Outcome Assessment along with Endline Assessment Report of the Water Conservation Project in Nanduri Dhumala village of Sangamner block of Ahmednagar district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration between Crompton CSR Foundation(CCF) and NuSocia.

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Sagar Dhariya and the team of Vanarai, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations

Moringa/ Drumsticks Cultivation

- In the report, the ‘Year’ referred to is calculated from Mid Jan 2022 to Mid Jan 2023 during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted

Content

New Cement Nala Bund & Nala Deepening

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Ahmednagar district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration and suicide, especially among smallholder farmers.
- **Major parts of the district(** central, northern and eastern parts) **is also showing trends of falling groundwater level**
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN Ahmednagar DISTRICT MAHARASHTRA

Overview

Source: Vanarai

CCF initiated Water Conservation Project in Nanduri Dumala with implementation partner Vanarai with the planned objective of :

1. Increase community participation in sustainable watershed development and further management.

2. To prevent soil erosion, increase soil moisture, raise groundwater level, and conserve and increase the biomass cover of the area.

3. To reduce runoff velocities for control of soil erosion.

4. Increase in agricultural production of farmers.

NuSocia, an impact advisory firm has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

Loose Boulder Structures

- Study Objectives & Phasing

Objective

To conduct an End line assessment along with the outcomes of the project.

Phasing

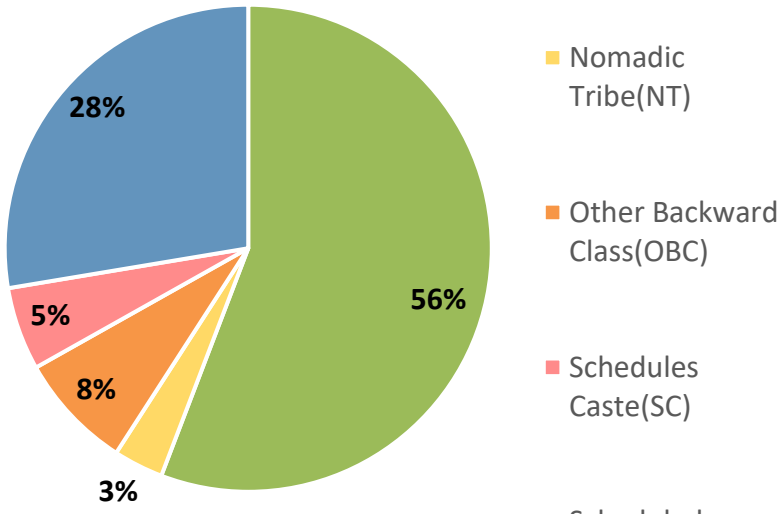
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study – **5 Key Informant Interviews** (Panchayat Member, Livestock Rearers, Farmers) • **2 Focus Group Discussion** Farmers, Women • **181 Community Survey** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of Outcome along with End line, • Final report with observations, analysis, inferences and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

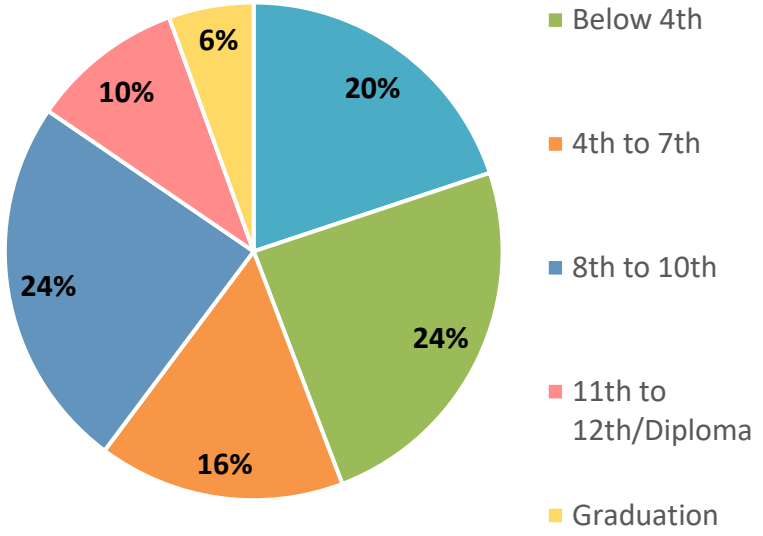
Profile Of Respondents

Caste



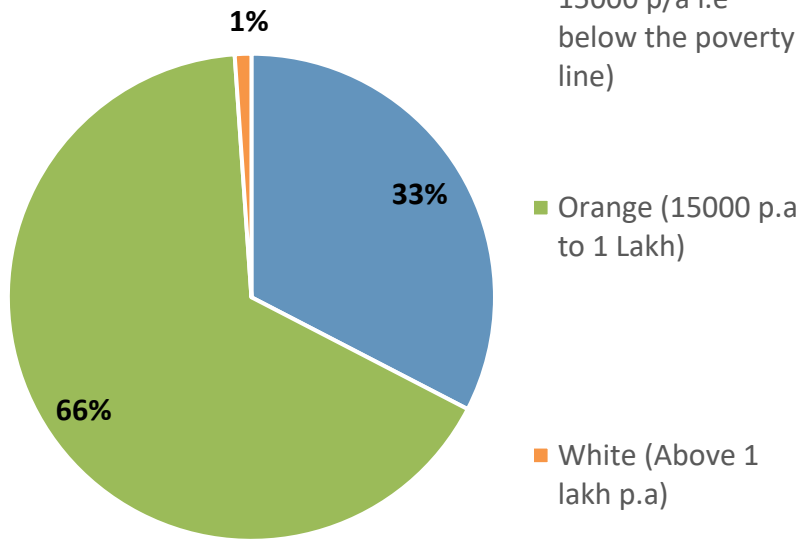
n=181

Education



n=181

Ration Card Holder

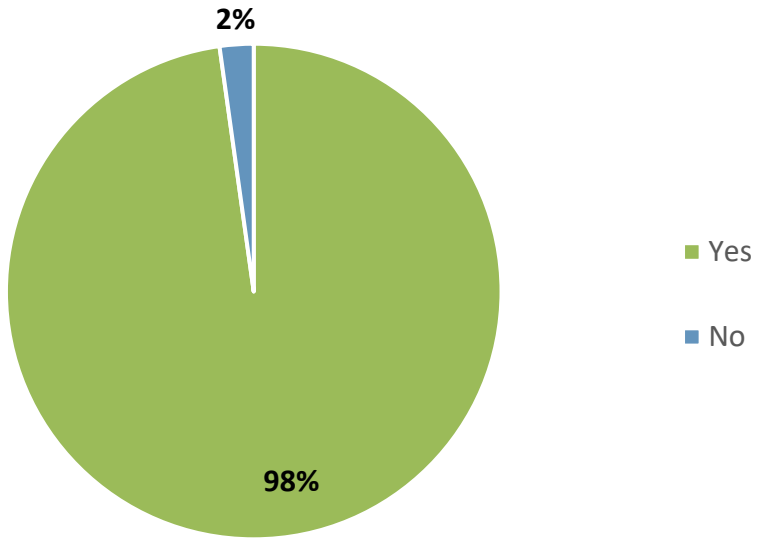


n=181

Participation of **31 to 50 years age group respondents was higher** and **male members majorly** participated in the survey.
All of the respondents were **Hindu** and 56% of the total belong to the General Category while 28% belong to Schedule Tribes.
Out of the total respondents, **only 16% have completed their education above 10th class**.
33% respondents belong to **Below Poverty Level.**

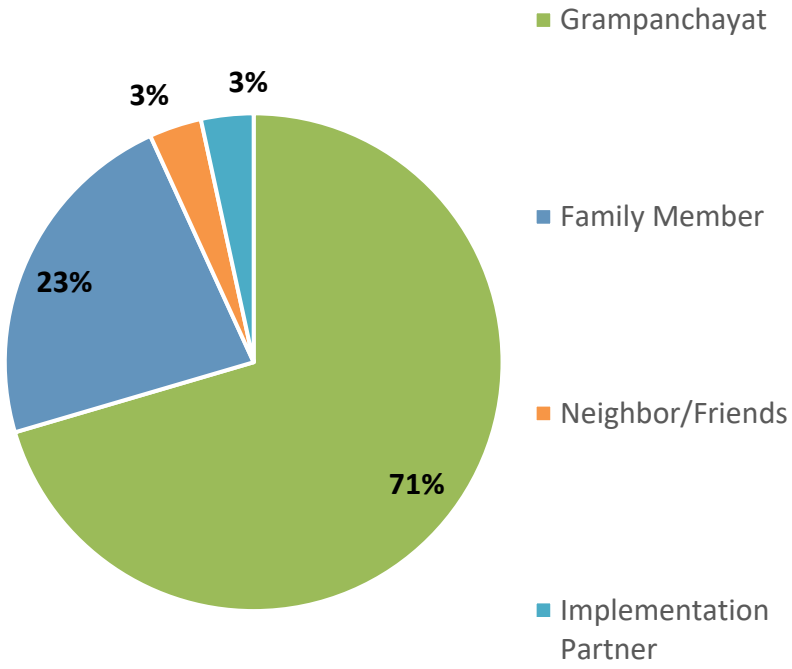
Beneficiary Mapping

Awareness of the Project



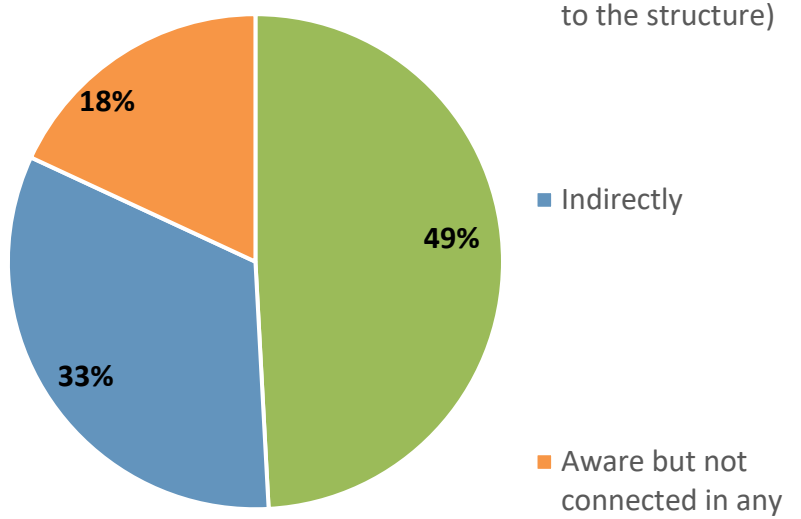
n=181

Source of Awareness



n=177 (98%)

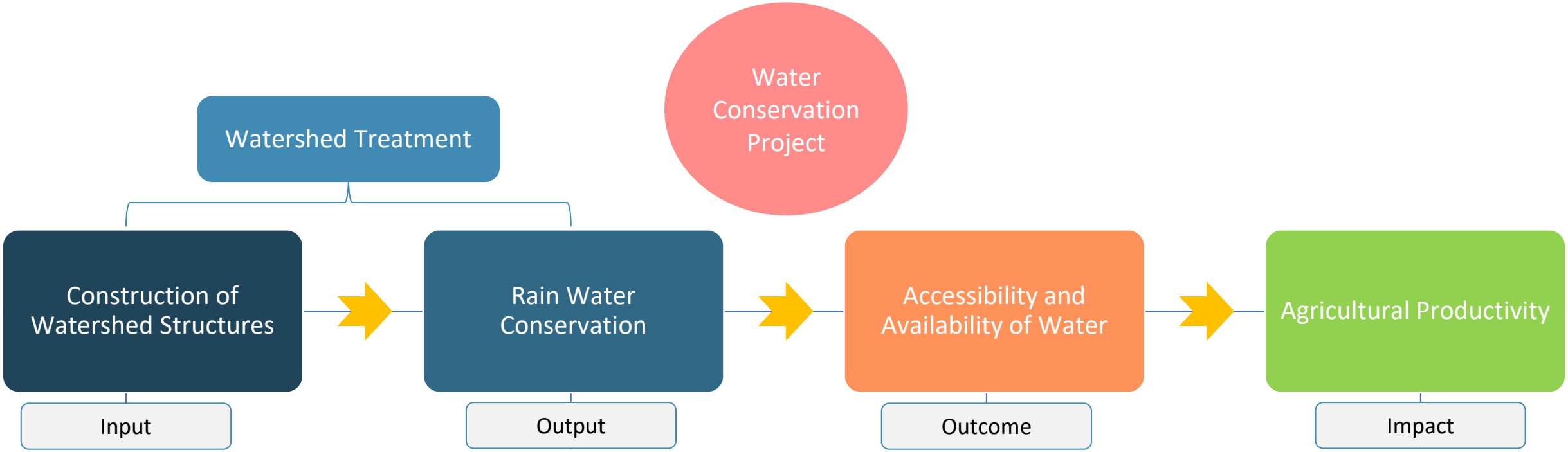
Benefited By



n=177(98%)

The **majority of the respondents are aware** of the project and 71% of them had heard about it through the Gram panchayat.
49% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it and 33% of them benefited **indirectly.**

Impact Map

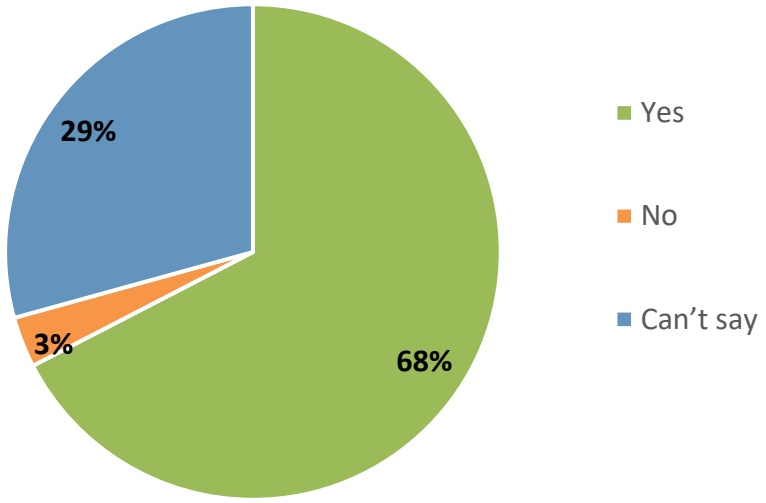

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

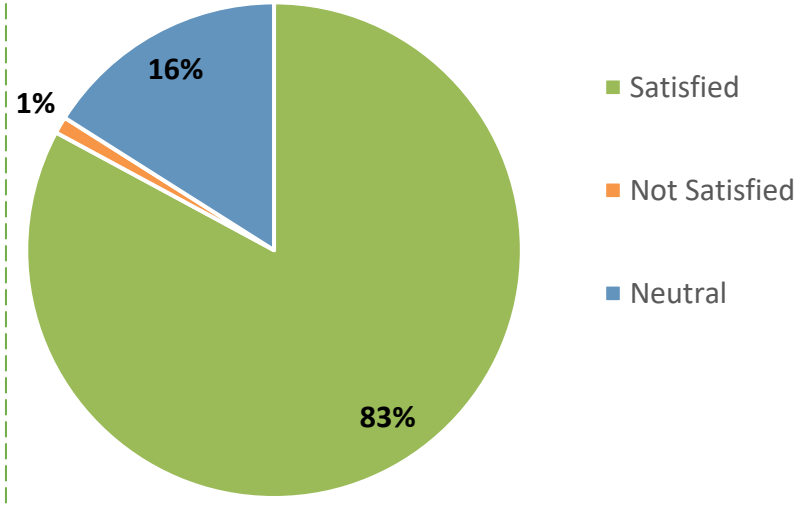
Output: Achievement

Intervention Helping In Rain Water Conservation



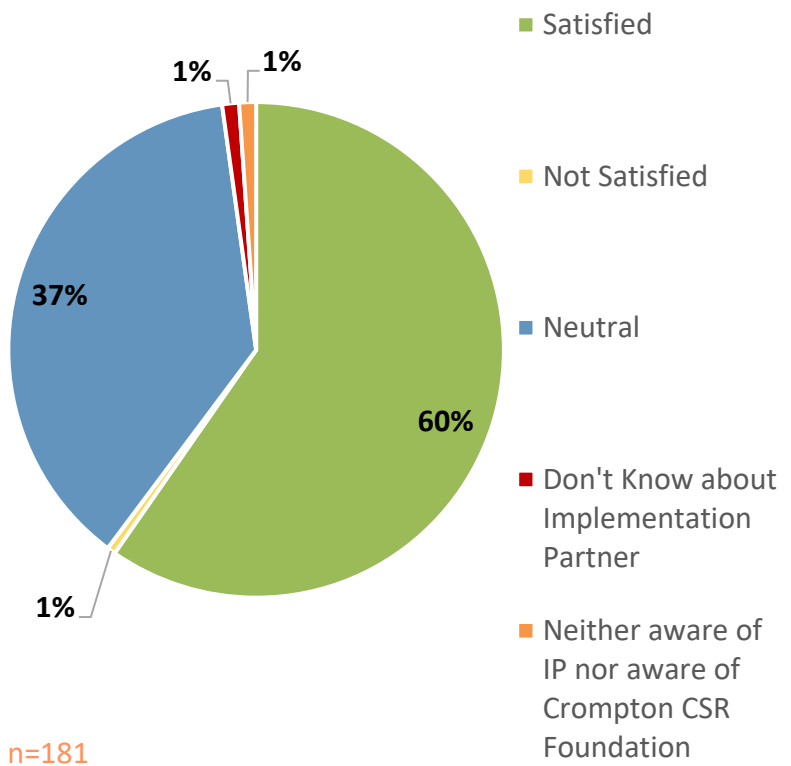
n=181

Level of Satisfaction Towards Project



n=181

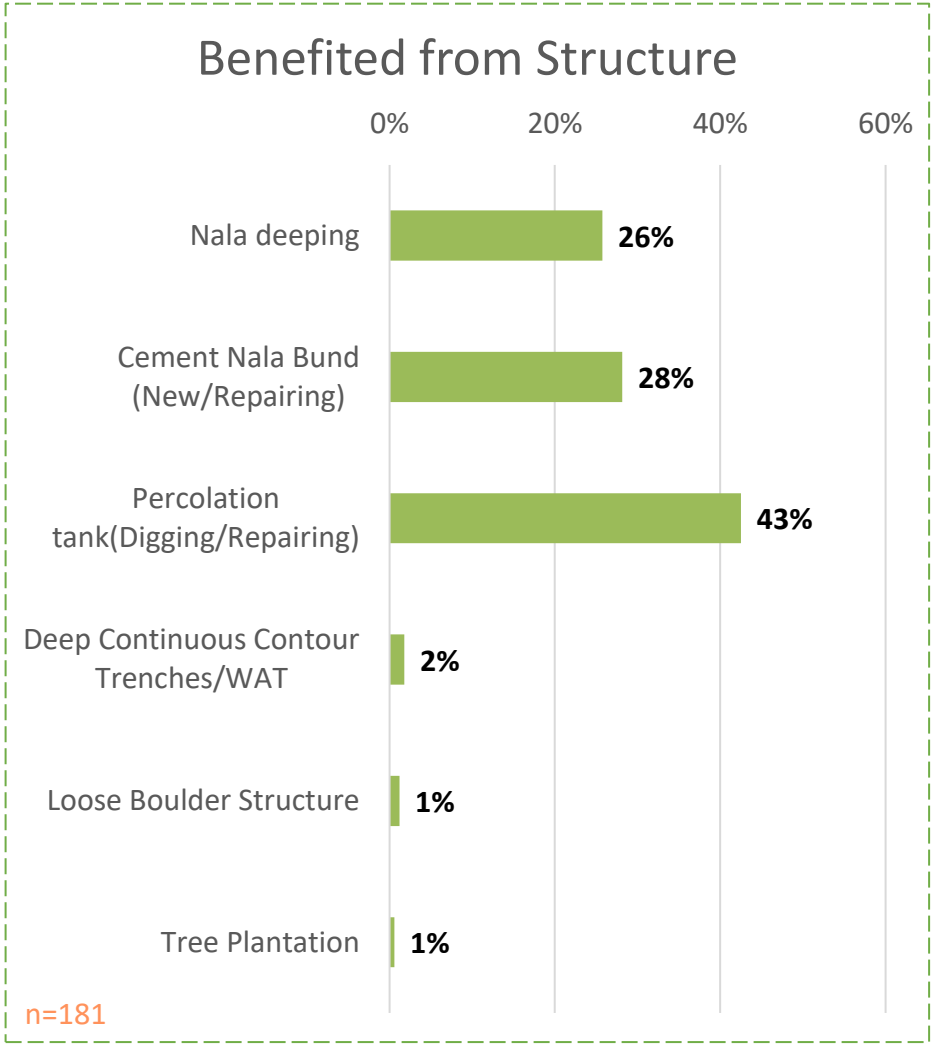
Level of Satisfaction Towards Implementation Partner



n=181

A total of 68% of respondents think that the **watershed interventions are helping in rainwater conservation**.
83% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working of the Implementation partner**, 60% are **satisfied** with their way of working whereas 37% are neutral about it.

Output: Intervention Performance



All the structures are playing in a significant role in rainwater conservation. Digging of the percolation tanks is highly appreciated by respondents as there is enough water available.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.** Hence the water resources **started to dry up** after Diwali.(Oct/Nov month).

Endline

- Watershed intervention methodology based on the **'Matha te Payatha'(Top to bottom) approach** with various interventions such as LBS, CCT, Percolation Tank, Nala Deepning, and Cement Nala Bund. **Therefore the water catchment area has increased**.
- Because of multiple watershed structures, **the risk of land degradation has been reduced** as per the respondents as it **helped in reducing the runoff of rainwater**.
- **Percolation tank plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.

Water Availability at well nearby CNB

Community Survey

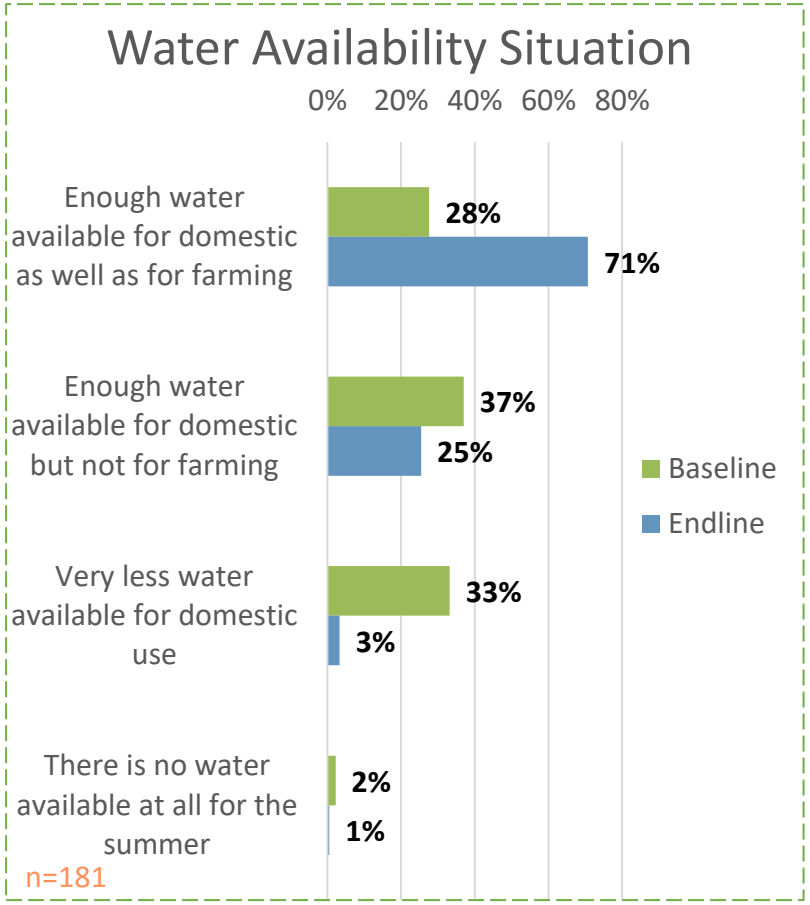
Outcomes

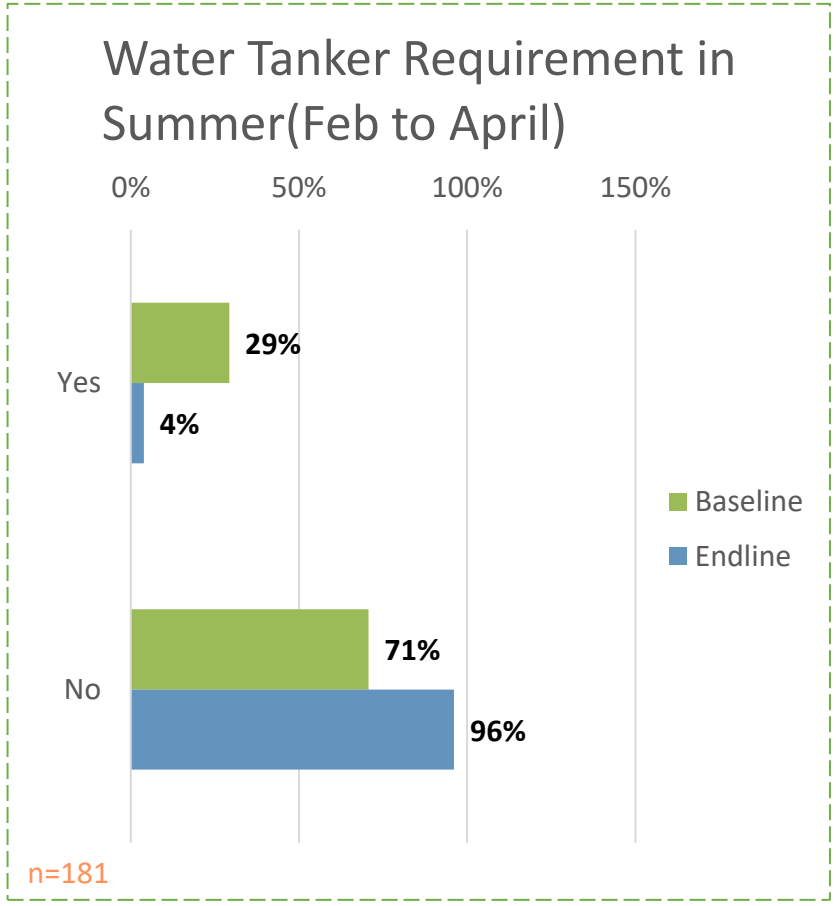
- Availability & Accessibility
    1. Water Source & Availability
    2. Accessibility

Outcome: Water Source & Availability

Gram Panchayat Water Storage Tank

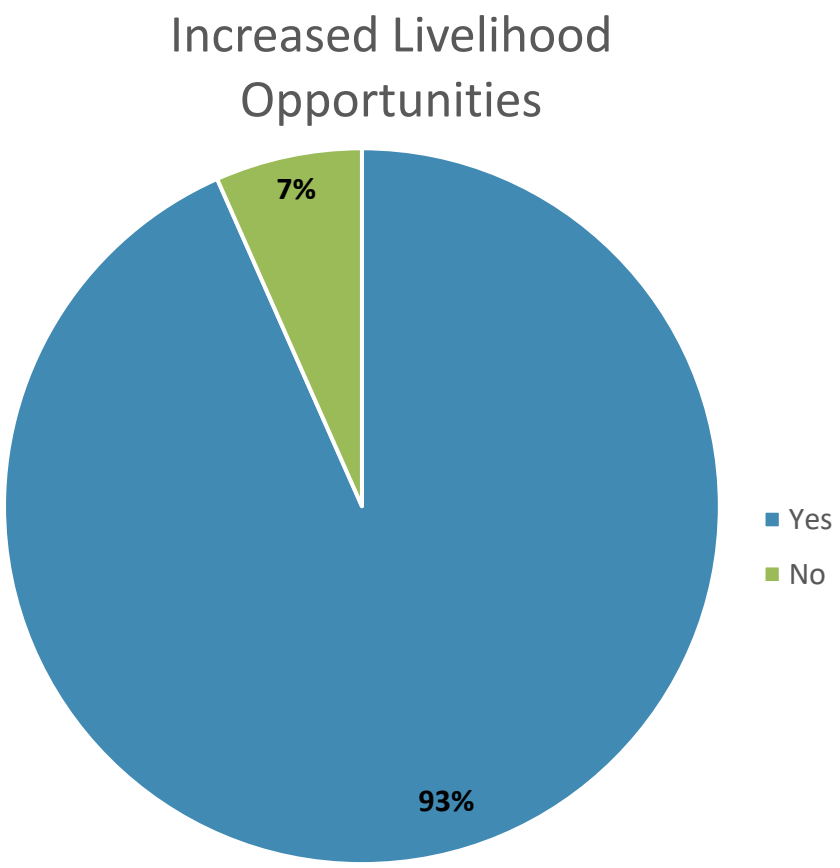
Indicator		Baseline	Endline
Water Source for Household	Individual Well/Borewell	26%	31%
Water Source For Farming	Individual Well/ Borewell	61%	62%





- **Dependency on individual well/borewell water** for drinking purposes as well as for farming purposes **has increased** due to the availability of water and water percolation because of rainwater conservation structures.
- **Significant 43% increase** among those beneficiaries who said that **there is enough water available for both domestic as well as for farming use.**
- Significant change in the requirement for water tankers as **96%** respondents now feel that there **won't be any requirement for water tankers** in this summer season.

Outcomes: Accessibility



n=181

93% respondents opine that because of the water conservation project **livelihood opportunities this year have increased** & 68% of those said livelihood opportunities have increased in **farming** whereas 18% said it increased in labor work**.**

Baseline

- Towards village southward, hilly region hence high scope of rainwater runoff and low scope of water percolation.
- Men and women in Gayghat Mala and Shelke Mala (hilly area) used to collect water from other villagers who had enough water available for their well or who connected pipelines from the river to their well.
- Sometimes villagers in that region also traveled almost 5 to 6 Km on their own vehicles to purchase drinking water from nearby villages RO plants or from the river which cost them ₹ 5 for 20 ltr water/one jar.
- According to the Sarpanch of the village, every summer from the month of February Gram Panchayat decided to supply the water through a water tanker which was cost ₹1000 per tanker and there was an everyday requirement from the month of April.

Endline

- **Implementation of LBS and CCTs on the village southward hilly region helped to slow down the speed of rainwater runoff and respondents from that region stated that well water level has increased. Dependency on individual tap water connection** has **increased** because of the **ability of gram panchayat to equitable water distribution.**
- Although panchayat well water is contaminated, villagers are using individual well waters for household needs.
- Water availability reduced the cost of wanter tanker and panchayat member said thatb they will utilize this cost for building new such water conservation structures.

Community Survey

Community Survey

Impact

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

यंदाही शेतकऱ्यांचा कांदा लागवडीकडेच कल

नगरमधील स्थिती ; एक लाख ७२ हजार हेक्टरवर लागवड

सूर्यकांत नेटके : ॲग्रोवन वृत्तसेवा

नगर : मध्यंतरीच्या पंधरा दिवसांचा अपवाद वगळला तरी कांद्याला गेल्या वर्ष-दीड वर्षापासून जास्तीत जास्त पंधरा ते सतरा रुपयांपेक्षा अधिक दर नाही. साधारणपणे बहुतांश शेतकऱ्यांना आठ ते दहा रुपये किलोनेच कांदा विकावा लागला. त्यामुळे कांदा उत्पादकांचे आर्थिक गणित बिघडले, असे सांगितले जात असले तरी पुढील काळात दर येईल या आशेने नगर जिल्ह्यात रब्बीत यंदाही विक्रमी सुमारे १ लाख ७२ हजार १४२ हेक्टर क्षेत्रावर आतापर्यंत लागवड झाली आहे. यातही अजून वाढ होण्याचा अंदाज आहे.

राज्यातील बहुतांश भागात कांदा पिकाला आता प्राधान्य दिले जात आहे. नगर, नाशिक, पुणे भागात सर्वाधिक कांदा लागवड मिळून जवळपास दोन लाख हेक्टर क्षेत्राचा टप्पा पार केला होता. मात्र दिवाळीच्या काळातील एक पंधरा दिवसाचा अपवाद सोडला तर गेल्या दीड वर्षापासून कांद्याला १५ ते सतरा रुपयांपेक्षा अधिक दर नाही. बियाणे, मजुरी, व अन्य खर्चाचा विचार करता हा दर पडरवडणारा नाही.

यंदा कांदा उत्पादकांचे आर्थिक गणित बिघडले असल्याचे बोलले जात असले तरी यंदाही शेतकऱ्यांनी कांदा लागवडीला प्राधान्य दिले असल्याचे दिसत आहे. यंदा आतापर्यंत जिल्ह्यात १ लाख ७२ हजार १४५ हेक्टरवर कांदा लागवड झाली आहे. अजूनही अनेक भागात कांदा लागवड सुरू आहे. त्यामुळे यंदाही दोन लाख हेक्टरच्या जवळपास कांदा क्षेत्र होण्याचा अंदाज व्यक्त केला जात आहे. सध्या कांद्याला प्रती किलो १६ रुपयांपर्यंत जास्तीत जास्त दर मिळत

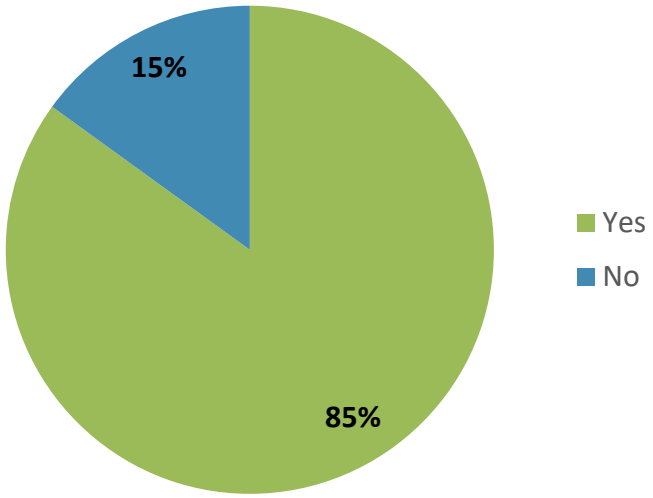
तालुकानिहाय कांदा लागवड (हेक्टर)

नगर	१७,९३४
पारनेर	३१,५२८
श्रीगोंदा	२६,२५४
कर्जत	१५,९६६
जामखेड	५,७४४
शेवगाव	७,२४५
पाथर्डी	९,५०८
नेवासा	११,७३२
राहुरी	१०,१२५
संगमनेर	९,३४९
अकोले	१,२९४
कोपरगाव	११,३०२

6th Feb 23, Ahmednagar : Farmers in the district, **prefer Onion cultivation without changing cropping patterns** because of hope for an adequate MSP in the future. Source: http://epaper.agrowon.com/

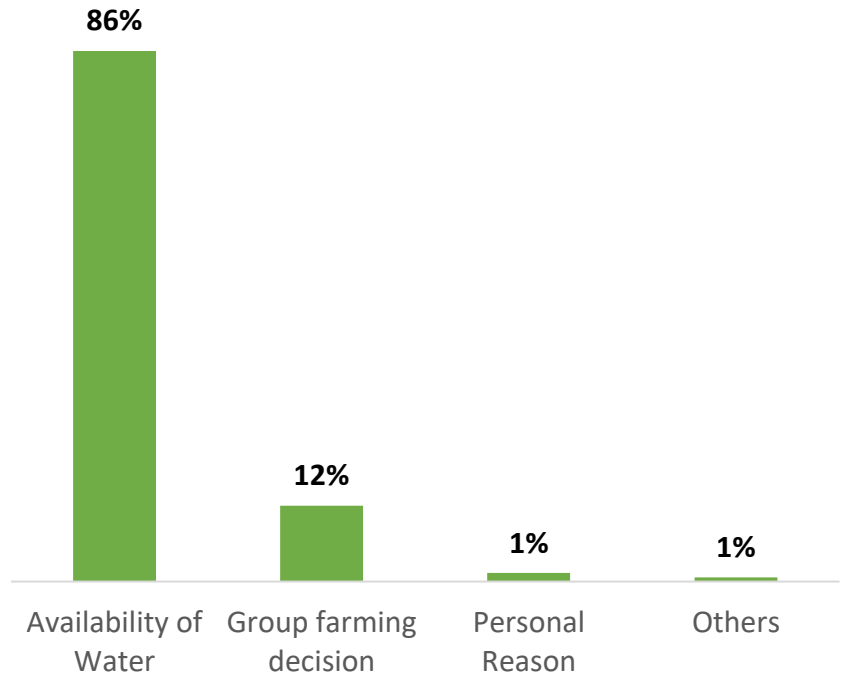
Indicator		Baseline	Endline
Land Ownership		92%	96%
Land Holding Size	**More than 4 acre**	15%	14%
Cultivable Land Size	**More than 4 acre**	10%	12%

Change in Cropping Pattern



n=173(96%)

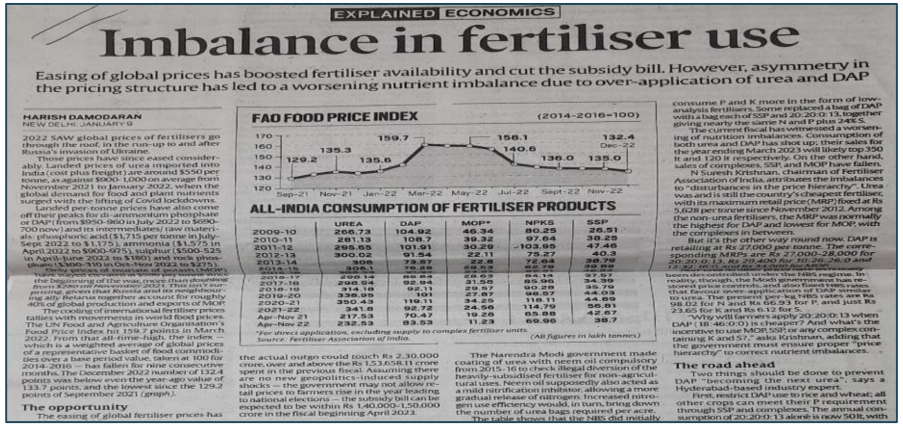
Reason of Change in Cropping Pattern



n=147 (85%)

- **Increased land holding size due to land purchased by some respondents however increase in cultivable land size** among marginal land owner farmers because of water availability.
- **Increased Wheat, Soybean, Pulses and Onion crop cultivation** in the village.
- **85% changed their cropping pattern** this year.
- Out of the above, 86% changed their **cropping pattern because of enough water availability** this year and 12% respondents cropping pattern was **changed because of the group of farmers decided to cultivate a certain crop.**

Impact: Agricultural Practices


EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN
NEW DELHI, JANUARY 9

FAO FOOD PRICE INDEX (2014-2016=100)

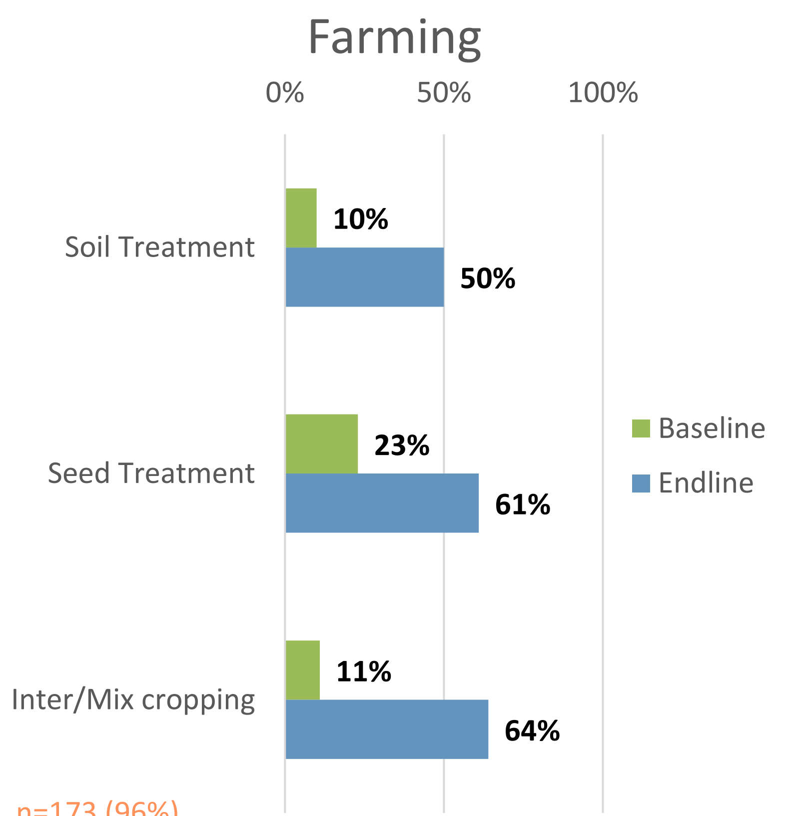
ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

The road ahead

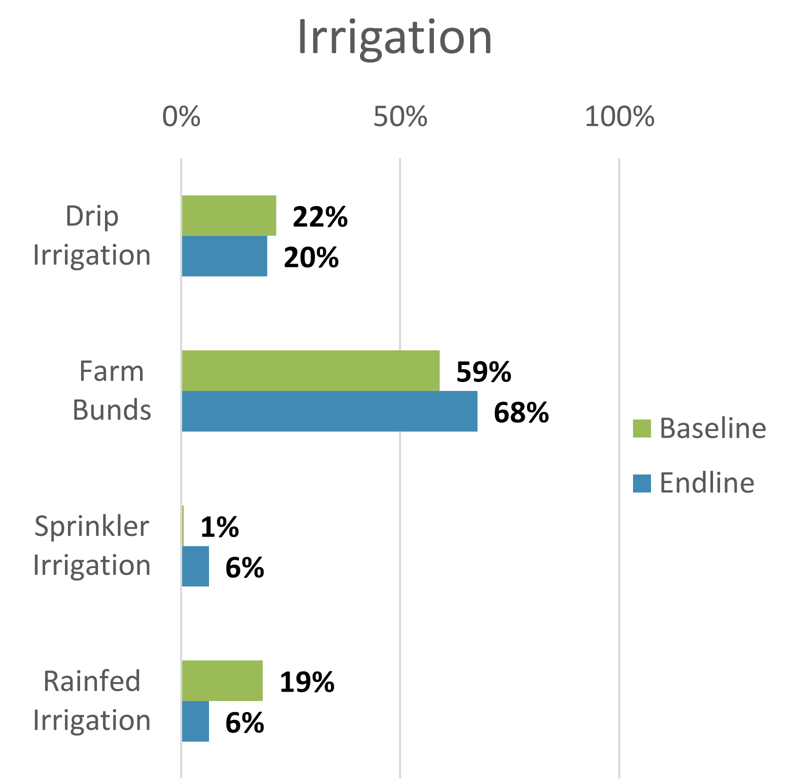
10[th] Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.

Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	**Up to ₹10,000**	44%	98%
Labor work Spending (Per Crop)	**Up to ₹10,000**	43%	91%



n=173 (96%)



n=173 (96%)

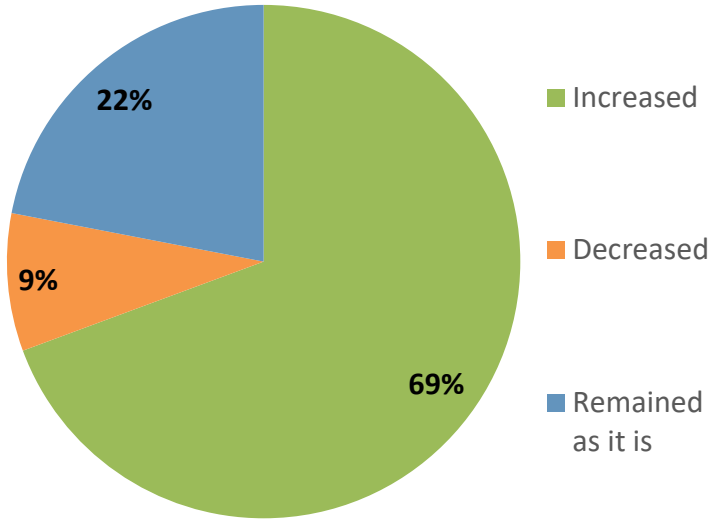
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 98% increase among beneficiaries who are now spending upto ₹10,000 on fertilizer per crop because of Urea & DAP fertilizer prices reduced. 91% of total land owner respondents are spending up to ₹10,000 on labor work as labor cost is high and they farmers prefer to work in their farms to gain more profit.
- All the farming practices widely adopted of the respondents as because of availability of water their cropping pattern has changed.
- Considering the irrigation practices there is a **decline in rainfed agriculture and increase in sprinkler and farm bund irrigation practices due to the availability of water.**

Impact: Income

Farmer's FGD

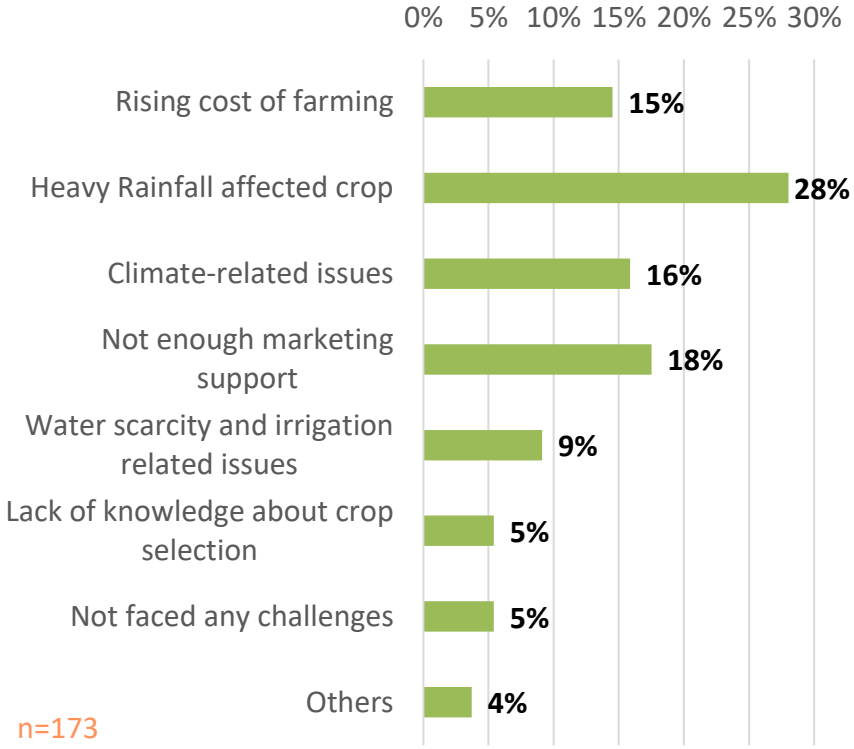
Indicator		Baseline	Endline
Income(Annual)	**More than ₹30,000**	48%	68%
Purpose of Yield	**Sold in Market**	71%	74%
	For own usage	18%	25%

Change in Income



n=173 (96%)

Challenges Faced in Farming(2022-23)



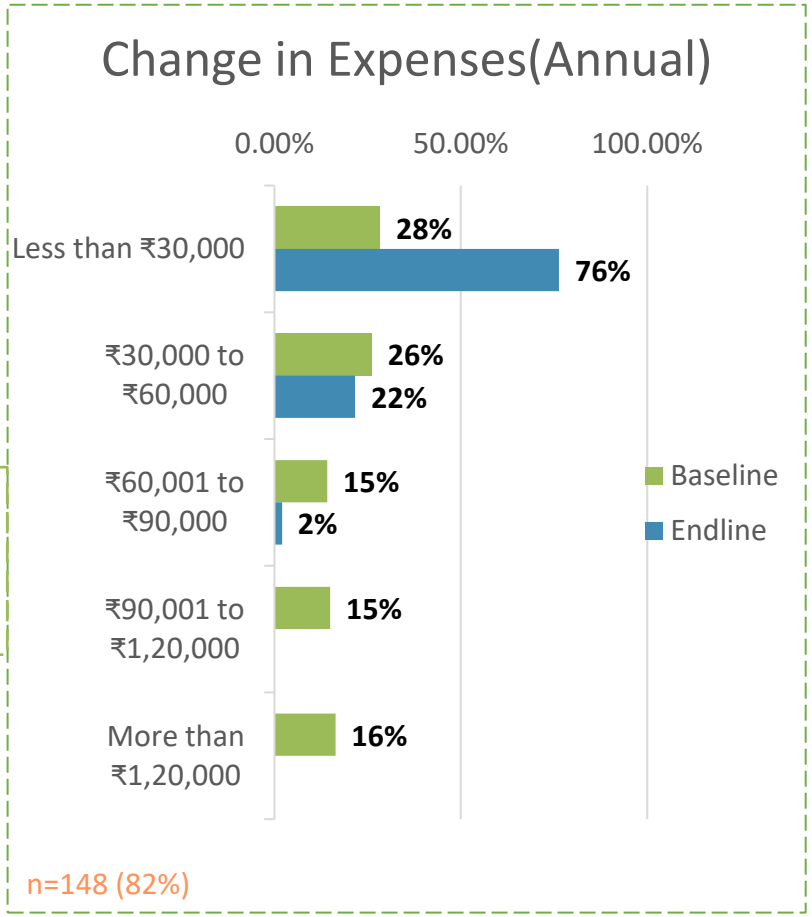
n=173

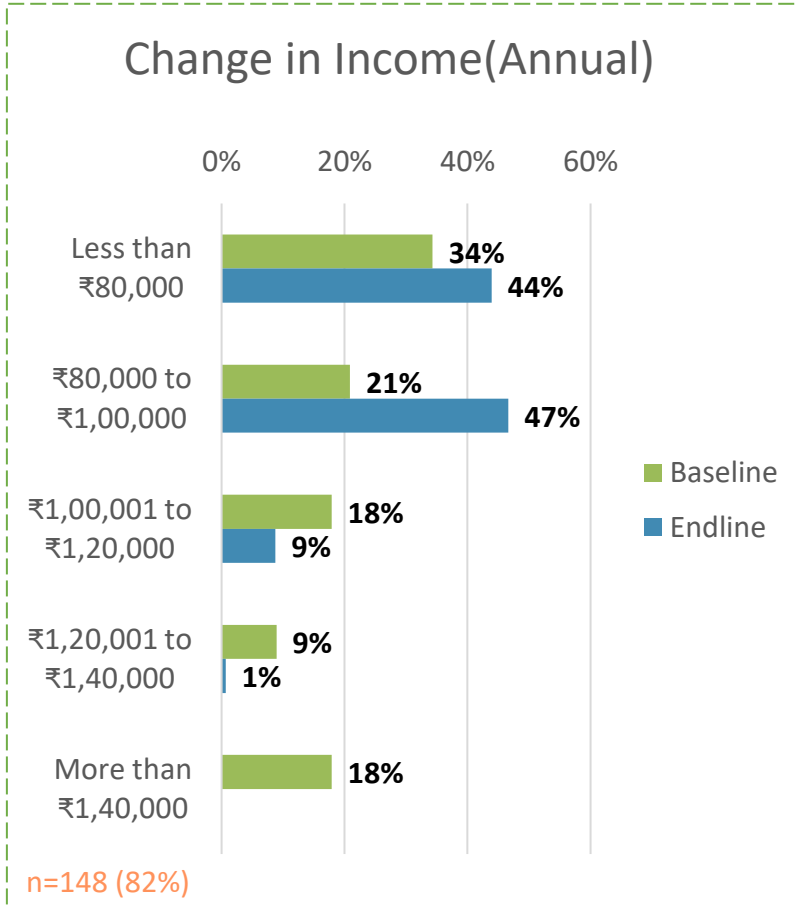
- Change in output has been observed because of water availability. 68% respondents earned more than ₹30,000 per annum and out of the total land owners respondents, there is 3% increase in the respondents who sold their goods in the market. Before project implementation, most produce were only used for household consumption.
- 69% of respondents mentioned that their income increased during the year due to the water availability. 22% of respondents said that the income remained same as previous year.
- Heavy rainfall (2022), lack of marketing support/low MSP and marketing knowledge and climate-related issues are the primary reason behind the no change in income for the majority of the farmers.

Impact: Livestock

8th Dec 22: District tops among all districts in Maharashtra in the ranking of daily milk production. Increased milk collection units, milk products making units and Cooperative Societies helping in increasing daily milk collection. (Sangamner Block Daily Milk Collection-4,88,000 ltr)
Source: https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=1

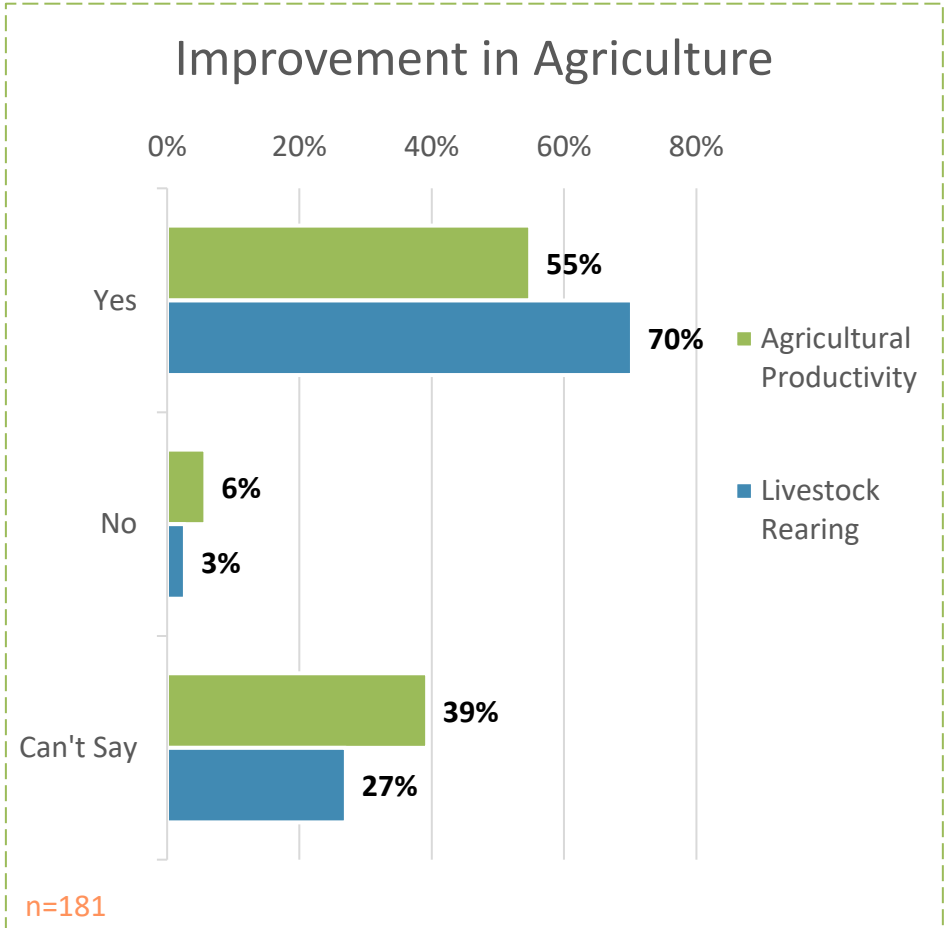
Indicator		Baseline	Endline
Ownership		74%	82%
Livestock Rearers (Number of Respondents)	Dairy Farmers	108	129
	Goat Rearers	32	44





- Out of the total respondents, 82% respondents are doing livestock rearing and there is a increase in of 8% in the number of livestock rearers. 11 respondents started doing dairy farming while 12 respondents started goat rearing this year (Jan 2022-Dec 2022) because of the availability of water.
- Availability of green fodder on grazing land because of heavy rain as well as surface level water percolation because of rain harvesting structures is the major contributor in increasing livestock rearing. Therefore majority of the increase has been observed in expenses under the **₹30,000 per annum** despite of the rising cost of fodder in the market.
- As the lumpy virus & heavy rainfall affected the health of livestock, there is increase in the annual income of the 91% livestock rearers who are earning less than **₹1,00,000.**

Impact: Holistic Change



n=181

According to 39% respondents due to the water conservation project agricultural productivity of the village has increased this year. 35% also remarked that that there is no change in agricultural productivity because heavy rainfall has damaged the Kharif crops.

Baseline

- Farmers in the Gayghat Mala and Shelke Mala(southward, hilly region) are mostly cultivated only one crop (cycle) and most of the farmers cultivate Bajra as it required less water.
- Many farmers feel insecure to experiment or cultivate different crops as they don't have enough capital to take a risk. Hence they cultivate low water-intensive crops which won't help to get them enough profit.
- Horticulture is another activity followed by some farmers who cultivate vegetables only because lack of water and sell them in the weekly village market or nearby village market as they couldn't afford the transportation expenses.

Endline

- Second crop cultivation with Onion, Wheat and Corn cultivation.
- Inclination towards agricultural practices because of availability of water which led to change in cropping patterns.
- In Horticulture cultivation, along with vegetables few farmers also started cultivating Pomegranate and admitted that because of adequate water availability they could sustain it in the upcoming summer as well.

Dairy Farming

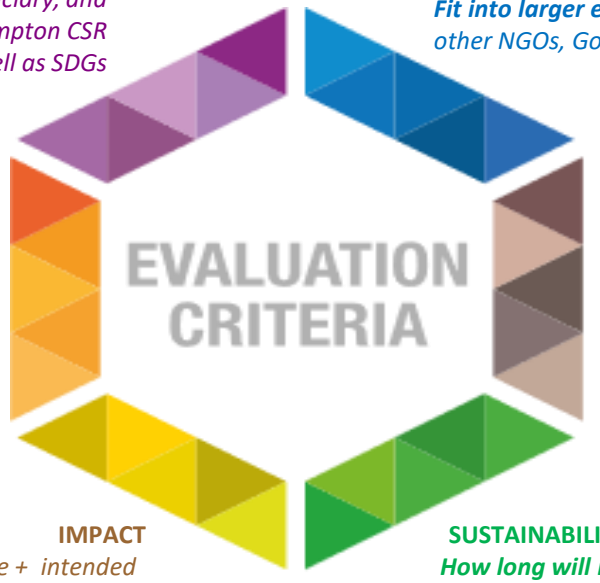
Horticulture

Analysis

Global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.

RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem – *aligning initiatives with other NGOs, Government initiatives in the region*



Effectiveness
Objective Achievement *-Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization – *Cost, Time and manpower*

IMPACT
Difference made against the baseline + intended / unintended impact

SUSTAINABILITY
How long will impact last *in form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✓ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✓ The intervention **addressed the foremost need of people, the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the end results**. Eg. Quantity of silt excavation from Mati Nala Disiltation.
Effectiveness	✓ Respondents appreciated the **durability and quality of structures.** ✓ **NOC was taken** from landowners whose land is used for building new structures. ✓ .	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers about the project. • **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✓ Milestone-based mapping and monitoring of interventions. ✓ On-time structure completion. ✓ A well-planned team with the **involvement of subject matter experts(Hydrogeo experts)** deployed from the initial phase only. ✓ **On-field review of CCF staff** as well as monitoring agency staff	
Impact	✓ The project is achieving its intended impact of water availability. ✓ **Increase in agricultural production** through crop diversification. ✓ **Increase in horticulture plantations** in the village as well as irrigation practices through **Drip irrigation techniques**. ✓ **Daily village-level milk collection has increased**.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation

Implementation

- **Challenges:** Lack of involvement of Government Officials. Lacking of Collaboration with the government or private initiatives.

✓**Intervention**: There are various opportunities for convergence with government or private initiatives which are happening on the ground during the project implementation year. Collaboration and leveraging the resources and manpower can help in effective implementation with achieving the highest possible impact.

सकाळ

दहा हजार बंधारे उभारणार

प्रत्येक कृषी सहायकाकडे दहा बंधाऱ्यांचे नियोजन

सकाळ वृत्तसेवा

संगमनेर, ता. ७ : कृषी सेवा केंद्र व लोकसहभागातून संगमनेर उपविभागात शून्य खर्चाचे दीड हजार वनराई बंधारे उभारण्याचे काम युद्धपातळीवर सुरू आहे. प्रत्येक कृषी सहायकाने १० बंधारे उभारण्याचे नियोजन केले आहे, अशी माहिती संगमनेरचे उपविभागीय कृषी अधिकारी सुधाकर बोराळे यांनी दिली.

दर वर्षी पावसाळ्याच्या शेवटी वाहत्या झालेल्या ओढ्या-नाल्यांचे पाणी अडवून त्यावर सोप्या तंत्राचा वापर करून बांधलेल्या वनराई बंधाऱ्यांमुळे पाणी साचून सिंचन, जमिनीचा ओलावा टिकवणे, तसेच उन्हाळ्यात उद्‌भवणाऱ्या पाणीटंचाईवरही मात करण्यासाठी संगमनेर उपविभागात ही मोहीम आखली आहे. जलसंधारणास मदतीसह रब्बी हंगामासाठी पिकांना व पशुपक्ष्यांसाठी पाणीसाठे उपलब्ध होऊन विहिरींची पाणीपातळी वाढण्यासाठी व उत्पन्नात भर घालणाऱ्या या उपक्रमाला शेतकरी वर्गाचा भरघोस प्रतिसाद मिळत आहे.

संगमनेर : वनराई बंधाऱ्याची पाहणी करताना सुधाकर बोराळे व कृषी विभागाचे अधिकारी.

लाभ पुढील हंगामात

सिमेंट अथवा तत्सम गोण्यांमध्ये वाळू भरून प्रवाही नाल्यात योग्य ठिकाणी आडव्या रंगित बांध घातला जातो. दोन गोण्यांमधील फटीत माती भरून बंदिस्ती केली जाते. यातून जवळपास शून्य खर्च व कमी श्रमात चांगला बंधारा तयार होतो. याचा लाभ लगेच पुढील हंगामासाठी होतो.

तालुका कृषी अधिकारी बापूसाहेब शिंदे, प्रवीण गोसावी, माधव हासे व मनोज सोनवणे यांच्या मार्गदर्शनाखाली संगमनेर

"लोकसहभागातून राबवलेल्या या योजनेमुळे शासनाची प्रतिमा उंचावण्यास मदत होते. १० नोव्हेंबर रोजी कामाला सुरवात झाली असून, उपविभागातील चार तालुक्यांतील प्रस्तावित दीड हजार बंधाऱ्यांपैकी ९५० बंधारे पूर्ण झाले आहेत.
– सुधाकर बोराळे, उपविभागीय कृषी अधिकारी, संगमनेर

उपविभागातील राहाता, कोपरगाव, संगमनेर व अकोले या तालुक्यांत स्थानिक शेतकरी, कृषी सेवा केंद्र संघटना, कृषी सेवक व कर्मचाऱ्यांच्या श्रमदानातून ही मोहीम यशस्वीरीत्या राबवली जात आहे.

या बंधाऱ्यांसाठी सिमेंटच्या अथवा इतर रिकाम्या गोण्यांसाठी माफदाचे उपाध्यक्ष विवेक कासार, संगमनेर तालुका असोसिएशनचे अध्यक्ष संतोष तक्ते, सचिव अमित कासार यांनी सकारात्मक प्रतिसाद दिला, तर संगमनेर तालुक्यातील इंजिनिअर असोसिएशनचे सहकार्य मिळवण्यासाठी सुदीप वाकळे यांनी परिश्रम घेतले.

Nagar, Nagar-Today
08/12/2022 Page No. 4

8th December 2022: With the help of people's participation, Krushi Sewa Kendra going to build 1,500 bunds in the Sangamner sub-division stated by Sangamner Subdivision Agriculture Officer Sudhakar Borale.

आठ गावांच्या पाणीपुरवठा योजनेसाठी ५९ कोटी मंजूर

संगमनेर, ता. १४ : तालुक्यातील निमगाव बुद्रुक व खुर्द, पेमगिरी, सावरचोळ, शिरसगाव धुपे, मेंगाळवाडी, नांदुरी दुमाला व मिर्झापूर या आठ गावांकरिता जलजीवन मिशन कार्यक्रमांतर्गत ५९ कोटी सहा लाख ७३ हजार रुपये मंजूर झाले आहेत. या योजनेसाठी महसूलमंत्री बाळासाहेब थोरात यांनी पाठपुरावा केल्याची माहिती माजी जिल्हा परिषद सदस्य मिलिंद कानवडे यांनी दिली.

कोविड महामारीच्या दोन वर्षांनंतर राज्य सरकारचा आर्थिक गाडा पूर्वपदावर येण्यास सुरवात झाली आहे. महसूलमंत्री थोरात यांनी निळवंडे कालव्यांच्या महत्त्वाकांक्षी प्रकल्पासाठी राज्याने निधी उपलब्ध करून दिला आहे. त्यामुळे दोन्ही कालव्यांची कामे युद्धपातळीवर सुरू आहे. लवकरच पूर्णत्वास जाणार आहेत. राज्य सरकारच्या जलजीवन मिशन कार्यक्रमाअंतर्गत मौजे निमगाव बुद्रुक, निमगाव खुर्द, पेमगिरी, नांदुरी दुमाला, मिर्झापूर, शिरसगाव धुपे, सावरचोळ, मेंगाळवाडी या आठ गावांना शाश्वत पिण्याचे पाणी मिळावे, यासाठी एकत्रित पाणीपुरवठा योजना मंजूर केली आहे. या योजनेसाठी ५९ कोटी सहा लाख ७३ हजार रुपयांचा निधी मंजूर झाला आहे. शिरसगाव धुपे या डोंगरावरील दुर्गम गावालाही नळाद्वारे पाणीपुरवठा होणार आहे.

15th May 2022: Under Jal Jeevan Mission Initiative, ₹59,06,73,000 fund has been sanctioned for Water Supply Scheme implementation in 8 villages in Sangamner Block including villages Pemgiri & Nanduri Dumala.

तलाव, बंधारे होणार गाळमुक्त

जिल्हा परिषदेची विशेष मोहीम; नाम फाउंडेशनसोबत करार

पुणे, ता. १९ : जिल्ह्यातील गावा-गावांतील तलाव गाळमुक्त करण्यासाठी जिल्हा परिषदेने विशेष मोहीम हाती घेतली आहे. या अंतर्गत पाझर तलाव, गाव तलाव, कोल्हापुरी बंधारे, वळण बंधारे आणि साठवण बंधारे गाळमुक्त केले जाणार आहेत. यासाठी नाम फाउंडेशनचे सहकार्य घेतले जाणार असून, याबाबतचा सामंजस्य करारही करण्यात आला आहे.

ही गाळमुक्त तलाव मोहीम एक एप्रिलपासून सुरू केली आहे. ती येत्या ३१ मेपर्यंत राबविली जाणार आहे. या मोहिमेत जिल्ह्यातील सर्व तलाव गाळमुक्त केल्याने पावसाचे पाणी अडविणे, भूपृष्ठीय पाणी साठवण क्षमता वाढविणे, भूजल पुनर्भरण होण्यास मदत होणार असल्याचे जिल्हा परिषदेचे मुख्य कार्यकारी अधिकारी आयुष प्रसाद यांनी सोमवारी सांगितले. भूगर्भातील पाण्याचे पुनर्भरण करणे, भूजल पातळीत वाढ करणे, पिण्याच्या पाण्याचे स्रोत बळकट करणे आदी या गाळमुक्त तलाव मोहिमेची मुख्य उद्दिष्टे असल्याचेही प्रसाद यांनी यावेळी स्पष्ट केले. जिल्हा परिषदेच्या स्थापनेपासून आजतागायत जिल्हा परिषदेतील छोटे पाटबंधारे विभागाच्यावतीने गाव सुमारे अडीच हजारांहून अधिक छोटे पाटबंधारे निर्माण करण्यात आलेले आहेत. यामध्ये गाव, पाझर तलावांसह कोल्हापुरी, वळण, साठवण बंधारे आदींचा समावेश आहे. हे सर्व लघु पाटबंधारे हे १०० हेक्टर क्षेत्राच्या आतील आहेत. दरवर्षी पावसाच्या पाण्याबरोबर मोठ्या प्रमाणात गाळ वाहून येतो आणि हा गाळ या तलावांमध्ये साठत असतो.

जिल्ह्यातील पाझर तलाव	६२१
गाव तलावांची संख्या	१०६
कोल्हापुरी बंधारे	३७८
साठवण बंधारे	७८१
वळण बंधारे	७४५
छोटे पाटबंधारे	२ हजार ६३१

परिणामी या तलावांची पाणी साठवण क्षमता कमी होते. पर्यायाने सिंचन क्षमता खालावली जाते. शिवाय नाल्याच्या पात्रात गाळ साचल्याने नाल्याची पाणी वाहून नेण्याची क्षमता कमी होते. त्यामुळे हे सर्व छोटे पाटबंधारे हे गाळमुक्त करणे गरजेचे आहे. त्यामुळे ही गाळमुक्त तलाव मोहीम हाती घेण्यात आली आहे.

20th April 2022: Zilha Parishad took initiative with an organization of the de-siltation of water bodies in the Pune district.

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

- Scope for Scalability and Replicability of the program

International Year Of Millet(IYoM)

Food and Agriculture Organization of the United Nations

INTERNATIONAL YEAR OF MILLETS 2023

Government of India had proposed to United Nations for declaring 2023 as the International Year of Millets (IYOM). The proposal of India was supported by 72 countries and United Nation's General Assembly (UNGA) declared 2023 as the International Year of Millets on 5 th March, 2021

Why did United Nations declare the year 2023 as the IYoM?

- **To empower small landholder farmers:** Low seed prices, enough yield production despite of marginal land size and declared Minimum Support Price.
- **Adopt climate change:** Can grow in challenging climate conditions as well.
- **Less water-intensive crop:** Requires 70% less water than rice; grows in half the time of wheat; and needs 40% less energy in processing and can withstand extreme heat conditions.
- **Solution to Global Food Crisis:** Grown in 131 countries, traditional food people in Asia & Africa. Highly nutritious and reduces the risk of cancer, diabetes and blood pressure.

Sorghum

Pearl Millet

Finger Millet

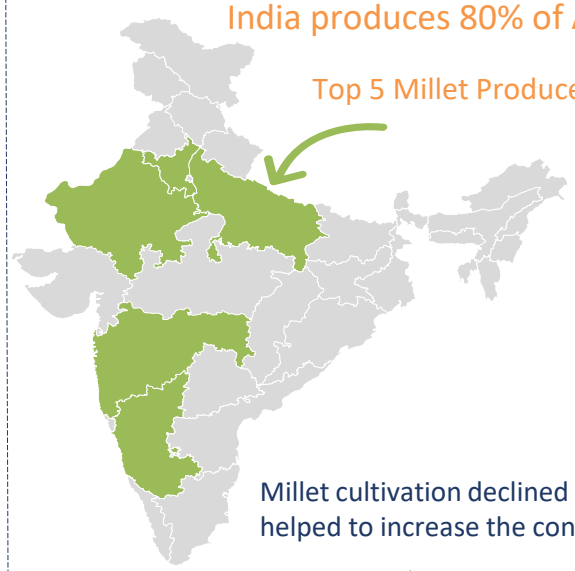
Little Millet

Image Source: Wikipedia

India's take on IYoM

India produces 80% of Asia's and 20% of global production of Millet

Top 5 Millet Producers in India in Bajra and Jowar cultivation



Area Under Millet Cultivation(Lakh Hector)		
Crop	**1960-61**	**2021-22**
Jowar	62.85	16.49
Bajra	16.35	5.26
Nachani/Nagali	2.30	0.73
Other Millets	1.77	0.60

Millet cultivation declined because of the Green Revolution started in 1965 which helped to increase the consumption of rice and wheat in India.

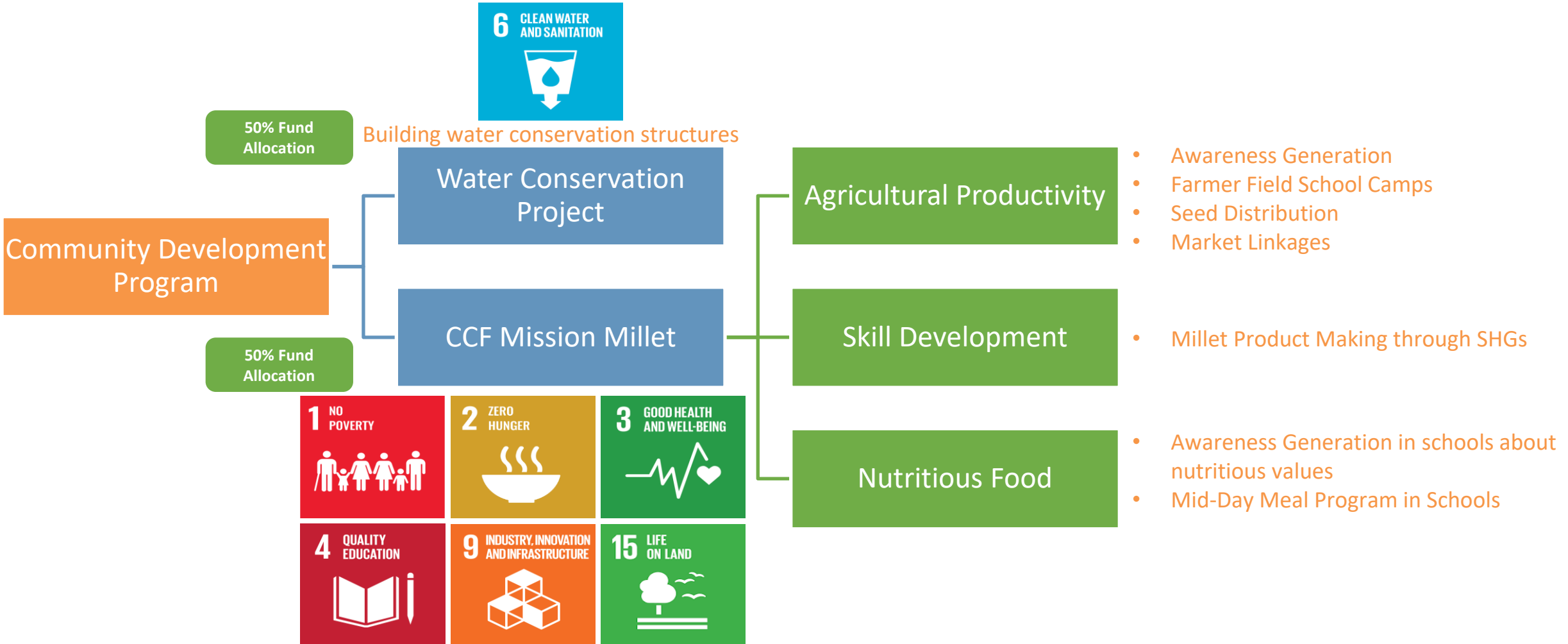
7 Themes of India for IYoM

1. Enhancement of Production/Productivity
2. Nutrition and health benefits
3. Value addition, Processing and Recipe Development
4. Entrepreneurship/Startup/ Collective Development
5. Awareness creation- Branding, Labelling & Promotion
6. International Outreach
7. Policy interventions for mainstreaming

Scope for CCF to Scale up the Water Conservation Project

CCF contributes socially for community development through 4 Thematic Areas : Water Conservation, Skill Development, Community Development, Promotion of Health and response to Covid-19.

With the set objectives of water conservation, water table increase , availability of drinking water and agricultural productivity, CCF through it's Community Development Program under the umbrella intervention of Water Conservation there can be multiple sub interventions can be developed around the IYoM.



Opportunities

Challenges in existing Project

- Despite of efforts of Watershed treatment, external challenges affecting the agricultural productivity.
- Lack of community participation during project design as well as project implementation led to lack of ownership among community towards structure.
- Less opportunities for Government linkages/leverages limited the scope of work.
- Lack of awareness about CCF, it's intent towards community development. Local level politics marginally impacted negatively on project.

Favorable Conditions For Community Development Program

- ✓Jawar & Bajra are the primary crops for the majority of the farmers in all the villages which were selected under the Water Conservation Project.
- ✓As millets can grow in challenging conditions, despite of having uncertain rainfall patterns in the geography, it may affect less compared to other crops.
- ✓Opportunity for community participation including women and children which helps in project sustainability.
- ✓Development of more localized income generation opportunities.
- ✓As the state government also implementing the IYoM on the grassroots level, leveraging government resources and manpower by collaborating with them can help in project cost reduction as well as help to achieve a larger reach.

'महाराष्ट्र मिलेट मिशन'साठी २०० कोटींची तरतूद

मुख्यमंत्री एकनाथ शिंदे : मंत्रालयात 'मिलेट मिशन'चे उद्घाटन

अ‍ॅग्रोवन वृत्तसेवा

मुंबई : राज्यातील पौष्टिक तृणधान्य उत्पादन क्षेत्रवाढीसाठी शेतकऱ्यांना प्रोत्साहन देणे आणि त्या उत्पादनांना योग्य दरामध्ये मिळेल, यासाठी राज्य शासन आग्रही आहे. त्यामुळे महाराष्ट्र मिलेट मिशनसाठी २०० कोटी रुपयांची तरतूद करण्यात आली आहे. हे मिशन शेतकऱ्यांच्या आर्थिक उन्नतीसाठी उपयुक्त ठरेल, असे प्रतिपादन मुख्यमंत्री एकनाथ शिंदे यांनी केले.

मंत्रालयातील विधानभवनाच्या प्रांगणात महाराष्ट्र मिलेट मिशनच्या उद्घाटन प्रसंगी ते बोलत होते. कृषिमंत्री अब्दुल सत्तार, उद्योगमंत्री उदय सामंत, शालेय शिक्षणमंत्री दीपक केसरकर, कृषी विभागाचे प्रधान सचिव एकनाथ डवले प्रमुख उपस्थित होते.

या वेळी मंत्रालयात शेतकरी उत्पादक कंपन्यांनी तयार केलेल्या भरडधान्यांच्या उत्पादनांची दालने उभारण्यात आली असून येथे विविध पदार्थांची विक्रीही केली जात आहे. आज (ता. १) या प्रदर्शनाचा समारोप होणार आहे. मुख्यमंत्री शिंदे यांच्या हस्ते तृणधान्य पूजन आणि तृणधान्य फलूद बनवलेल्या केक कपूस या मिलेट मिशनचा प्रारंभ करण्यात आला.

या वेळी मुख्यमंत्री शिंदे म्हणाले, "महाराष्ट्रात मोठ्या प्रमाणात ज्वारी, बाजरी, नाचणी, वरई, राजा, कुटकी ही पिके पेरली जातात. या पिकांचे आंतरराष्ट्रीय पातळीवरील मान्यता मिळवून देण्याचा यंदा संयुक्त राष्ट्रसंघाने सालो होणारे आंतरराष्ट्रीय पौष्टिक तृणधान्य वर्ष उपयुक्त ठरेल. महाराष्ट्र मिलेट मिशनमुळे नवी पिढी वंकडकडून पारंपरिक तृणधान्याकडे वळविली जाईल. शेतकऱ्यांच्या पदार्थांचे निर्यातीसाठी ब्रॅण्डिंग करण्यात येईल. शेतकऱ्यांच्या उत्पादनासाठी थांबला भाव मिळेल. स्मार्ट या प्रकल्पांतर्गत सोलापूर येथे इंडियन इन्स्टिट्यूट ऑफ मिलेट, हैदराबादच्या सहकार्याने 'मेटा ऑफ एक्सलन्स'ची स्थापनी करण्यात येणार आहे.

कृषिमंत्री सत्तार म्हणाले, "या वर्षी त्यापक आणी योजना यासाठी बनवली आहे. पौष्टिक तृणधान्य उत्पादन वाढवण्यासाठी प्रयत्न करण्यात येतील."

या वेळी मुख्यमंत्री शिंदे यांच्या हस्ते शेतकरी मासिक पौष्टिक तृणधान्य विशेषांक, महाराष्ट्र मिलेट मिशन पुस्तिका आणि महाराष्ट्र मिलेट मिशन पोस्टरचे प्रकाशन तसेच महाराष्ट्र मिलेट मिशन वेबसाइटचे अनावरण करण्यात आले.प्रास्ताविक प्रधान सचिव एकनाथ डवले यांनी केले. कृषी आयुक्त सुनील चव्हाण यांनी आभार मानले. या वेळी आमदार भरत गोगावले, आसिम जमसात, प्रकाश सूर्वे, अण्णा बनसोडे उपस्थित होते. आजच्या बनवलेल्या पदार्थांचे स्टॉल्स तात्काळात या कार्यक्रमा येथे प्रांगणात ज्वारी, बाजरी, नाचणी पासून विविध तृणधान्यापासून आले होते. मंत्रालयातील कर्मचारी, आलेले नागरिकांनी या पदार्थांची खरेदी केली.

मुंबई : 'महाराष्ट्र मिलेट मिशन'चे मंत्रालयात मंगळवारी (ता. ३१) उद्घाटन मुख्यमंत्री एकनाथ शिंदे यांच्या हस्ते करण्यात आले. या वेळी कृषी विभागाचे प्रधान सचिव एकनाथ डवले यांनी तृणधान्यांची माहिती दिली. या वेळी कृषी आयुक्त सुनील चव्हाण.

1st Feb 2023 | Agrowon

State Gove. Sanctioned 200 crores for Millet Mission

तृणधान्यांचा प्रसार झाल्यास शेतकऱ्यांना चांगला दर : दिवेकर

अ‍ॅग्रोवन वृत्तसेवा

मुंबई : "तृणधान्याला गरिबांचे धान्य म्हटल्याने याआधी या धान्यांचा प्रसार झाला नाही. मात्र, आंतरराष्ट्रीय तृणधान्य महोत्सवामुळे शेतकऱ्याला चांगला भाव आणि ग्राहकांना माफक दर हे उद्दिष्ट साध्य होईल," असा विश्वास आहारतज्ज्ञ ऋतुजा दिवेकर यांनी बुधवारी (ता.२२) व्यक्त केला.

पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाच्या उद्घाटनप्रसंगी त्या बोलत होत्या. खासदार सुप्रिया सुळे यांच्या हस्ते या प्रदर्शनाचे उद्घाटन करण्यात आले.

दिवेकर म्हणाल्या, "तृणधान्यांचा वापर दैनंदिन आहारात झाला तर त्यातील पौष्टिक

मुंबई पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाचे उद्घाटन करताना अनुप कुमार, आहारतज्ज्ञ ऋजुता दिवेकर आदी.

'तृणधान्यांना अन्नाचा पर्याय बनविणे गरजेचे'

"तृणधान्यांना भविष्यासाठी अन्नाचा पर्याय बनविणे ही काळाची गरज आहे. या पिकांच्या आरोग्य विषयक फायद्यांबाबत जनजागृती करणे गरजेचे आहे," असे सहकार व पणन विभागाचे अपर मुख्य सचिव अनुपकुमार यांनी सांगितले.

23rd Feb 2023 | Agrowon

Millet Fest @Nariman Point,Mumbai

तृणधान्यात नगर देशात अग्रेसर करणार

राधाकृष्ण विखे-पाटील : नगर महोत्सवाचे उद्घाटन, जिल्हा परिषदेकडून आयोजन

अ‍ॅग्रोवन वृत्तसेवा

नगर : देशात यावर्षी आंतरराष्ट्रीय तृणधान्य वर्ष साजरे केले जात आहे. त्याअनुषंगाने कृषी विभागाच्या मदतीने तृणधान्याचे वेगवेगळे कलस्टर तयार करून, नगर जिल्हा तृणधान्य उत्पादनात देशात पहिल्या क्रमांकावर येण्यासाठी प्रयत्न केले जातील, असे पालकमंत्री राधाकृष्ण विखे पाटील यांनी सांगितले.

नगर येथे कृषी विभाग, जिल्हा परिषदेच्या जिल्हा ग्रामीण विकास यंत्रणा व पशुसंवर्धन विभागाच्या एकत्रित 'नगर महोत्सवा'चा पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते शुक्रवारी (ता. १०) उद्घाटन झाले. पद्मश्री पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, आमदार बबनराव पाचपुते, राम शिंदे, माजीमंत्री शिवाजी कर्डीले, जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर, जिल्हा अधीक्षक कृषी अधिकारी शिवाजी जगताप, कृषी उपसंचालक रवींद्र माने, जिल्हा परिषदेचे अतिरिक्त मुख्य कार्यकारी अधिकारी संभाजी लोणीर, जिल्हा ग्रामीण विकास यंत्रणेचे प्रकल्प संचालक सुनील पठारे, महापालिकेचे आयुक्त पंकज जावळे, पशुसंवर्धन उपायुक्त डॉ. सुशील तुंबारे यांची प्रमुख उपस्थिती होती.

नगर : 'नगर महोत्सवा'चे पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते उद्घाटन झाले. पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, शिवाजी कर्डीले व इतर.

'साईज्योती ई-कॅटलॉग' ॲपचे उद्घाटन

पाच दिवस चालणाऱ्या 'नगर महोत्सवा'मध्ये २०० महिला बचत गटांचे स्टॉल, १०० खाद्य पदार्थ स्टॉल, २०० कृषी विषयक स्टॉल आहेत. नगर जिल्ह्यातील सहकार, शेती, इतिहास आदींची माहिती देणारा विशेष लोगो, महिला बचत गटांच्या उत्पादन विक्रीसाठी 'साईज्योती ई-कॅटलॉग' या ॲपचे उद्घाटन करण्यात आले.

विखे पाटील म्हणाले, नगर जिल्ह्यामध्ये महिला बचत गट चळवळीच्या माध्यमातून मोठ्या प्रमाणात महिला सक्षमीकरणासाठी काम केले जात आहे. महिला बचत गटांच्या साहित्याची ऑनलाइन विक्री करण्याची व्यवस्था केली जात असून त्यासाठी जिल्हा नियोजन समितीमधून दोन कोटी रुपयांचा निधी उपलब्ध करून दिला आहे. याशिवाय महिला सक्षमीकरणासाठी जेवढा निधी लागेल तेवढा निधी उपलब्ध करून देऊ, असे जिल्हाधिकाऱ्यांना आदेश दिले आहेत.

शेतकरी गट शेतकरी कंपन्या व महिला बचत गटांच्या माध्यमातून तृणधान्य उत्पादनात नगर जिल्हा देशात पहिला आणण्यासाठी प्रयत्न केले जात असून शेतकऱ्यांनी यात पुढाकार घ्यावा, असे राधाकृष्ण विखे पाटील यांनी स्पष्ट केले. प्रारंभी जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर यांनी प्रास्ताविक केले.

11th Feb 2023 | Agrowon

Millet Fest @ Ahmednagar District

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries and the project is completed as per plan.
- Agricultural activities especially Livestock rearing have increased and there is a positive change in raising income generation opportunities.
- As an integrated activity, Mission Millet will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving project stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community

Thank You.

Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Kauthadi Village, Daund Block, Pune District

Submitted By: NuSocia|06/03/2023

NuSocia
Impact. Evident.

Acknowledgement

The Endline Assessment along with outcome assessment Report of the Water Conservation Project in Kauthadi village of Daund block of Pune district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration between Crompton CSR Foundation(CCF) and NuSocia.

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Prakash Jagtap and the team of BBKGSS, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations

Nala Desiltation

- In the report, the ‘Year’ referred to is calculated from Mid Jan 2022 to Mid Jan 2023 during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted

Content

Cement Nala Bund

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

Digging of Percolation Tank

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Pune district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration and suicide, especially among smallholder farmers.
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN Pune DISTRICT MAHARASHTRA

Overview

CCF initiated Water Conservation Project in **Kauthadi** with implementation partner BBKGSS with the following objectives:

1. To Increase the soil water level and stabilize the water table, to conserve soil and water through proper conservation techniques and structures.

2. To decrease soil erosion and revive the nonfunctional wells.

3. To Increase awareness about the importance of water and soil conservation.

4. To Increase income generation opportunities within agriculture and allied activities, increase and stabilize agriculture and horticulture, and animal husbandry income, and generate local employment opportunities for the marginal farmers through agri-allied and tech-savvy activities.

NuSocia, an impact advisory firm, has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

Repairing of Earthen Nala Bund-2

- Study Objectives & Phasing

Objective

To conduct an End line assessment along with the outcomes of the project.

Phasing

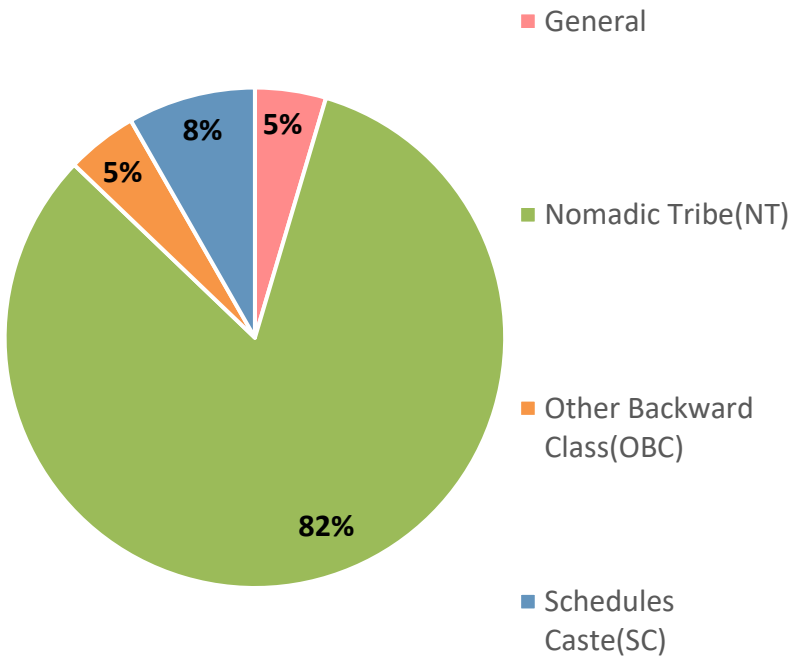
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study - **5 Key Informant Interviews** Panchayat Members, Livestock Rearers, and Farmers) • **2 Focus Group Discussion** Farmers, Women • **109 Community Survey** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of Endline assessment along with Outcome, • Final report with observations, analysis, inferences and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

Profile Of Respondents

Caste



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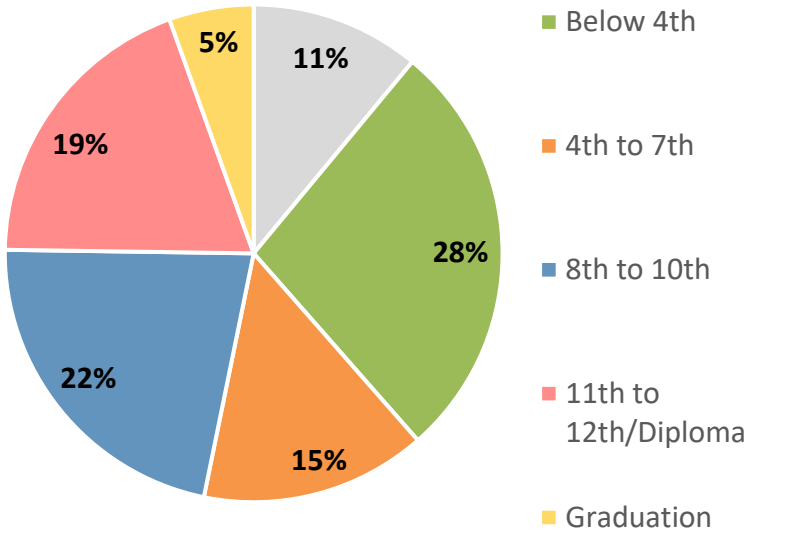
Education



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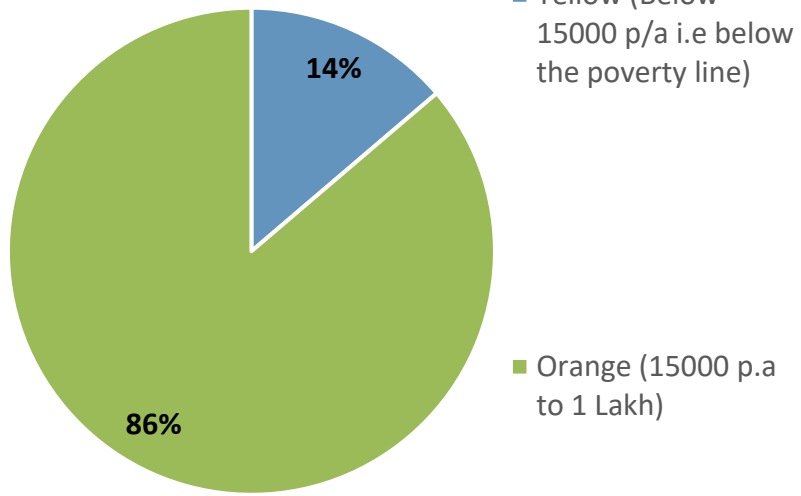
Ration Card Holder



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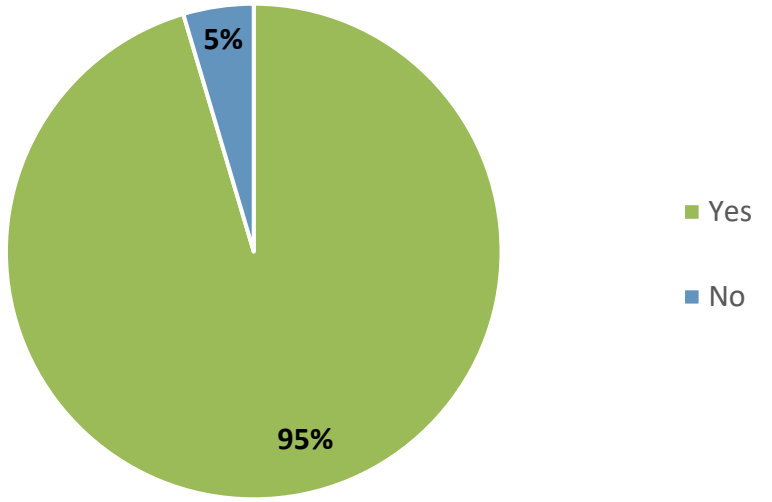
Participation of **31 to 50 years age group respondents was higher** and **male members majorly** participated in the survey.
92% respondents belong to **Hindu** and 82% of the total belong to the **Nomadic Tribe** while 8% belong to Schedule Caste.
Out of the total respondents, **only 24% have completed their education above 10th class**.
14% of respondents belong to **Below Poverty Level.**

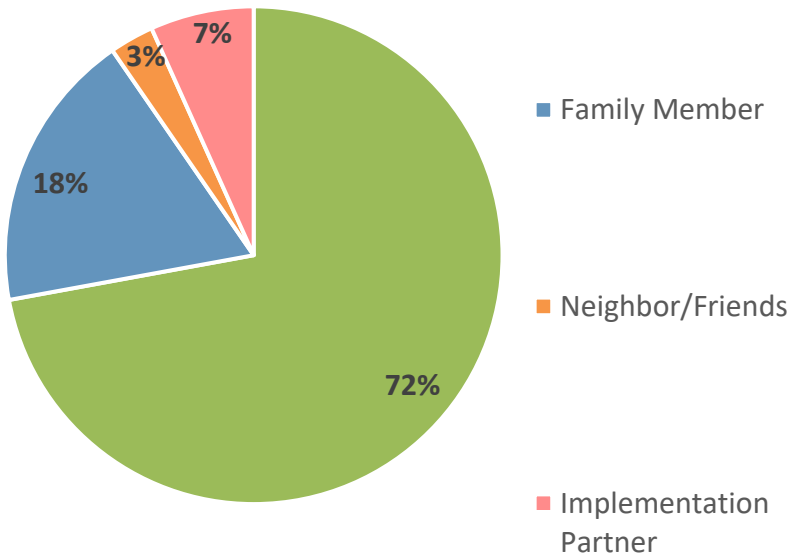
Beneficiary Mapping

Awareness of the Project



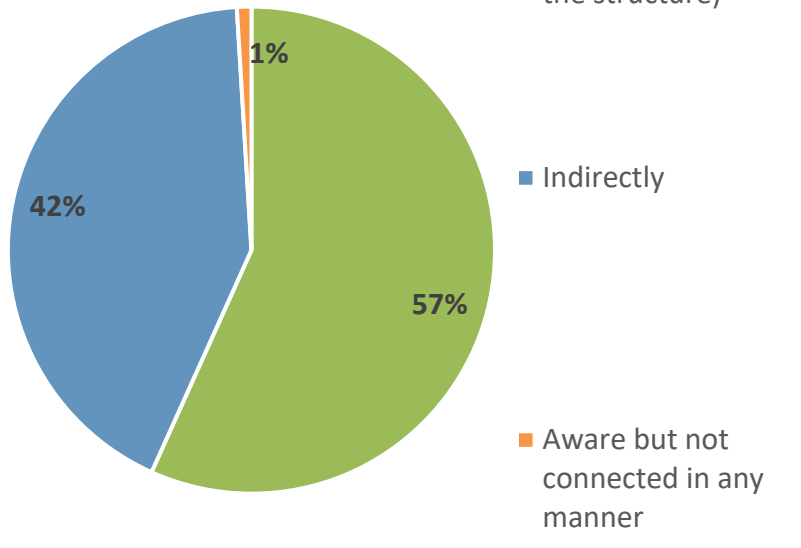
n=109

Source of Awareness



n=104 (95 %)

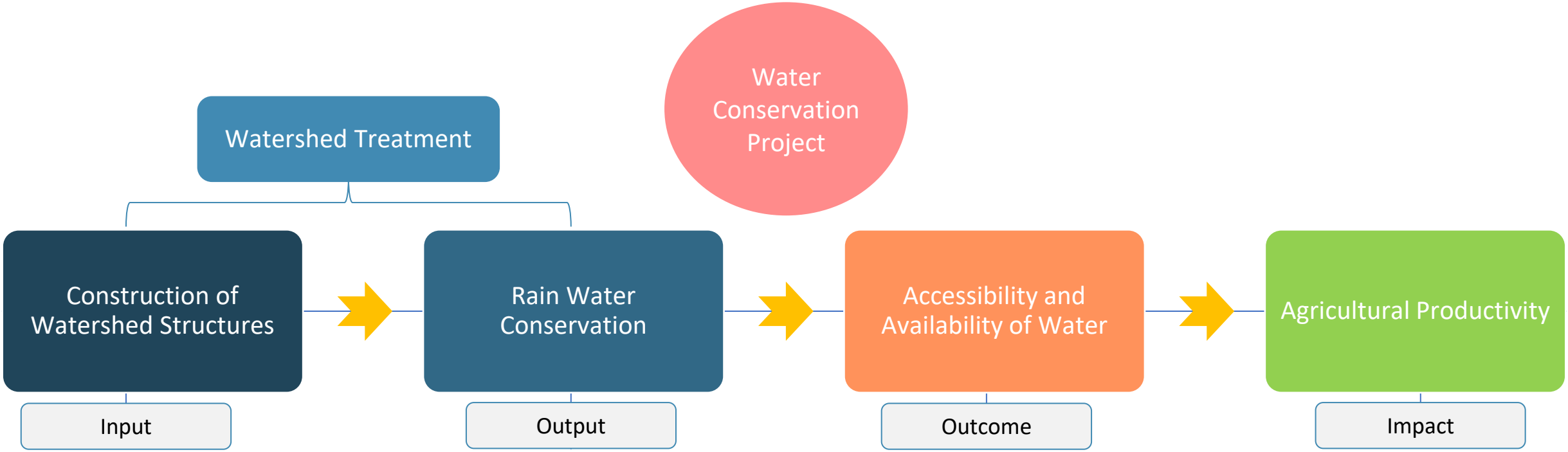
Benefited By



n=104 (95 %)

The **majority of the respondents are aware** of the project and 72% of them had heard about it through the Grampanchayat.
57% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it and 42% of them benefited **indirectly.**

Impact Map

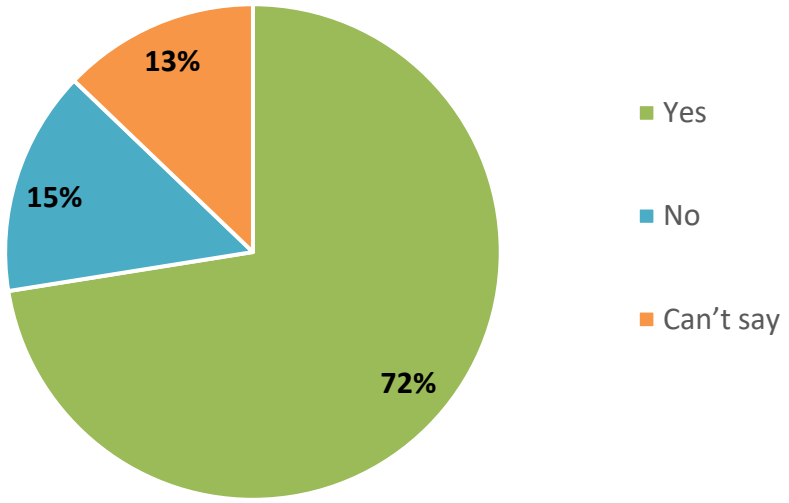

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

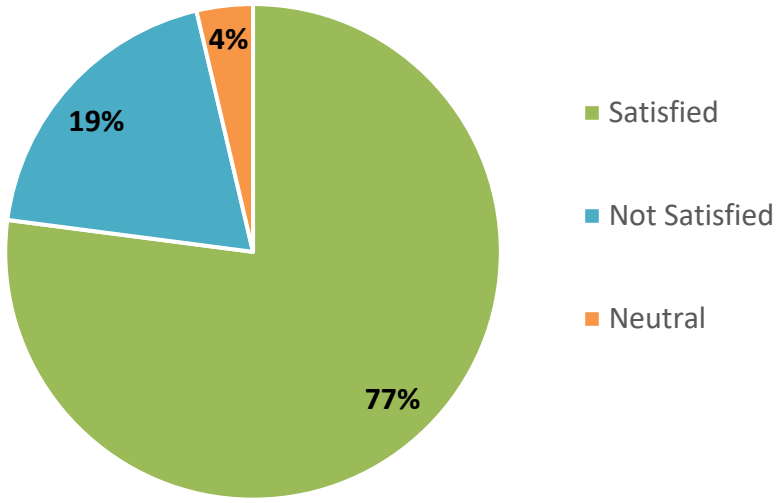
Output: Achievement

Intervention Helping In Rain Water Conservation



n=109

Level of Satisfaction Towards Project



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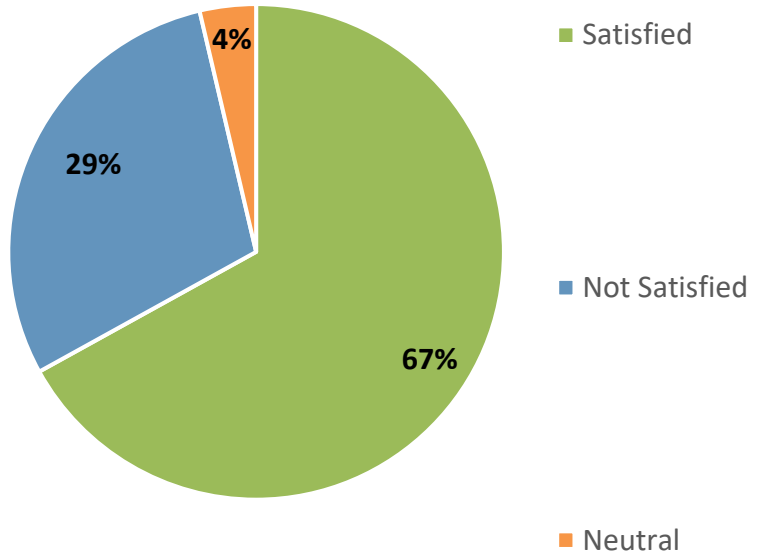
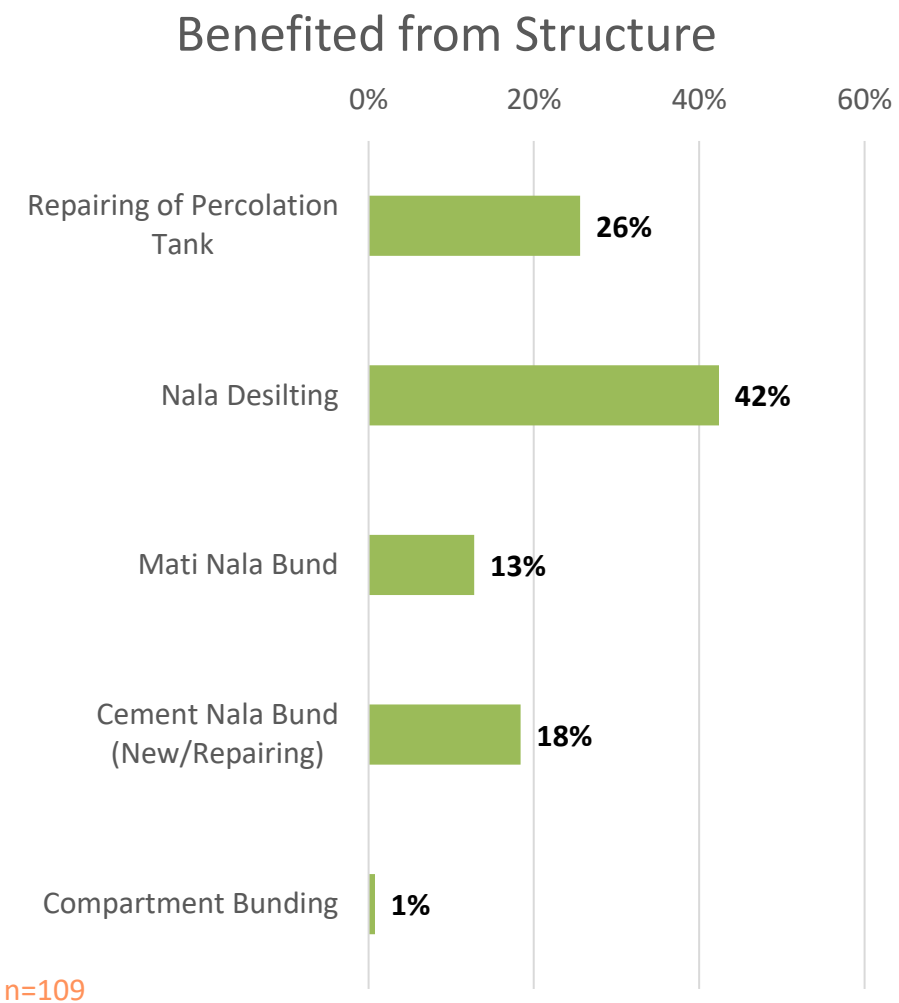
Level of Satisfaction Towards Implementation Partner



n=109

A total of 72% of respondents think that the **watershed interventions are helping in rainwater conservation**.
77% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working with the Implementation partner**, 67% **are satisfied** with the Implementation partner's way of working.

Output: Intervention Performance



All the structures are playing in a significant role in rainwater conservation. Nala Desiltation is highly appreciated by respondents as it is attached to farmers wells and helping in percolation.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.**
- **CCF Phase I intervention helped in rainwater conservation** but **wasn't sufficient** as per the **village water requirement/needs.**

Endline

- Watershed intervention methodology based on the **'Matha te Payatha'(Top to bottom) approach** with various interventions such as LBS, Compartment bunding, Earthen Nala Bund, and Cement Nala Bund. **Therefore the water catchment area has increased**.
- Because of multiple watershed structures, **the risk of land degradation has been reduced** as per the respondents as it **helped in reducing the runoff of rainwater**.
- **Percolation tank and Nala desilting plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.

Water Availability at the October End

Community Survey

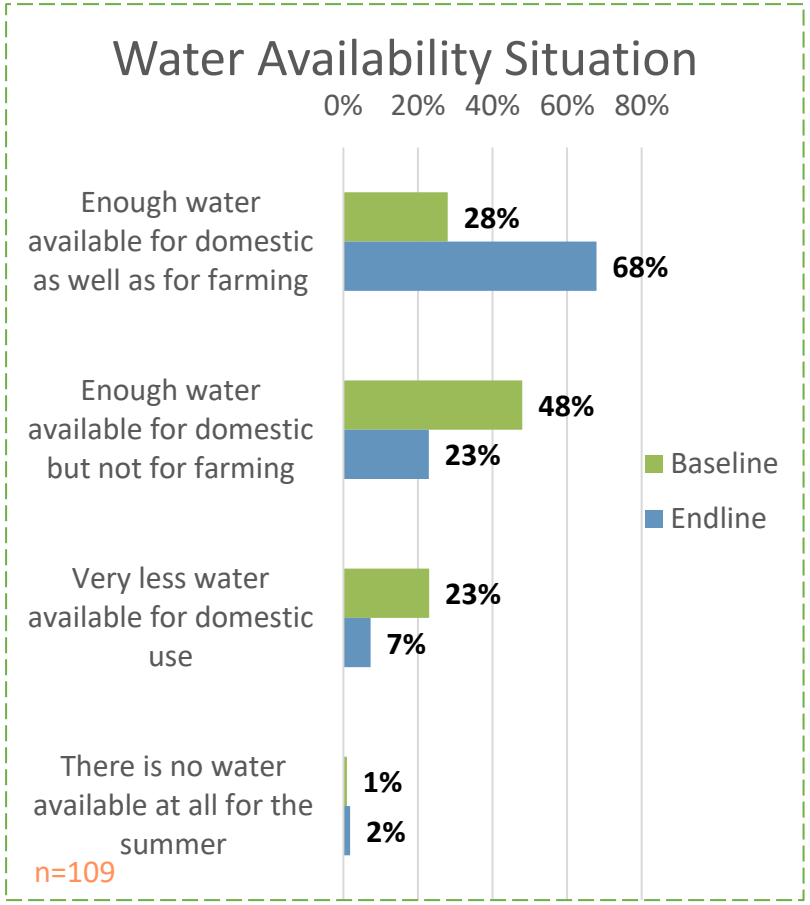
Outcomes

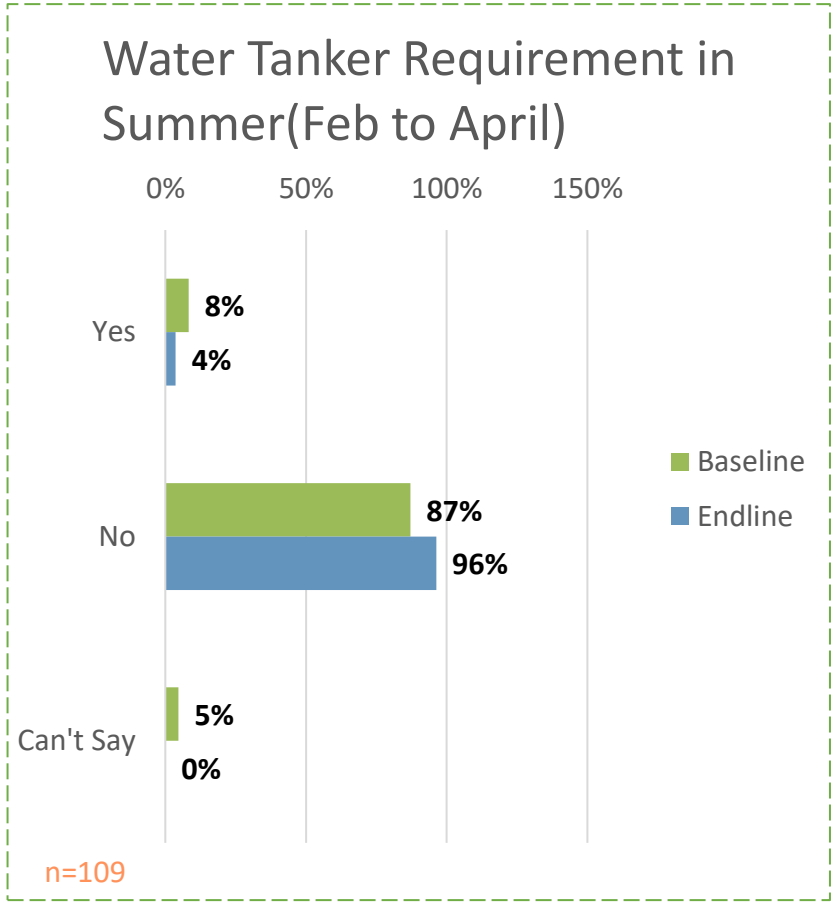
- Availability & Accessibility
  1. Water Source & Availability
  2. Accessibility

Outcome: Water Source & Availability

Gram Panchayat Water Storage Well

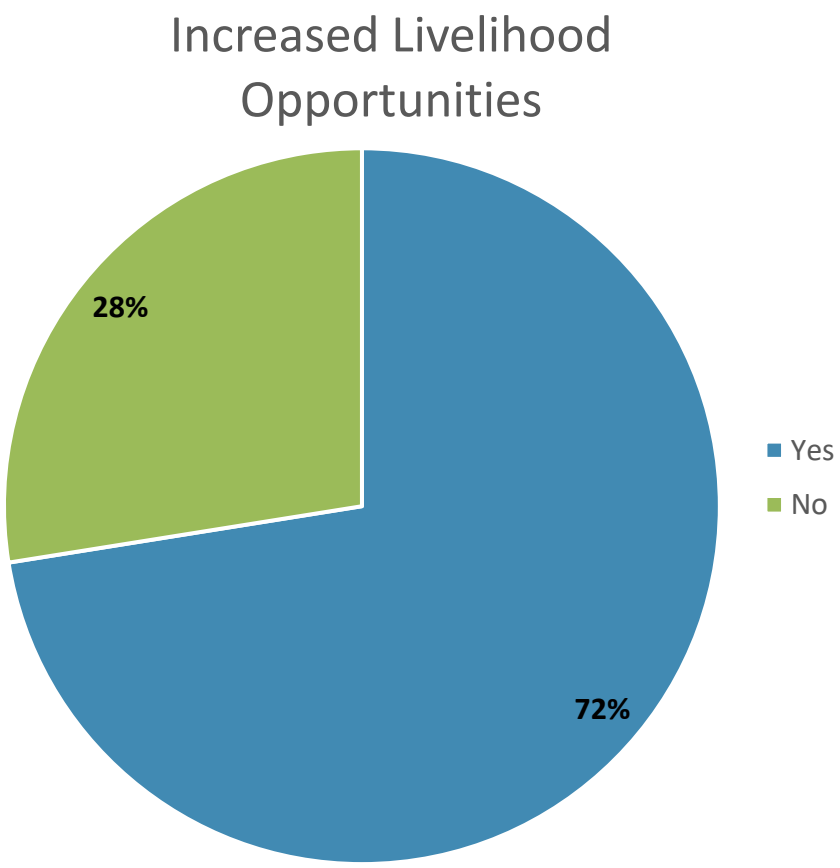
Indicator		Baseline	Endline
Water Source for Household	Individual Tap Water	4%	11%
Water Source For Farming	Common Well/ Borewell	38%	53%





- **Dependency on individual tap water** for drinking purposes and **common well/borewell dependency** for farming purposes **has increased** due to the availability of water. Earlier gram panchayat was unable to supply water hence dependency on individual well/borewell was higher at the time of baseline.
- **40% increase** among those beneficiaries who said that **there was enough water available for both domestic as well as for farming use.**
- Compared to the baseline study, **25% fewer** respondents **mentioned that there was not enough water available for farming.**
- Slighter change in the requirement for water tankers as **96%** respondents now feel that there **won't be any requirement for water tankers** in this summer season.

Outcomes: Accessibility



n=109

72% respondents opine that because of the water conservation project **livelihood opportunities this year have increased** & 58% of those said livelihood opportunities have increased in **farming** whereas 38% said it increased in **livestock rearing.**

Baseline

- Due to low rainfall (350 mm to 450 mm) and **high water runoff due to the village's hilly-slope area** and **high drainage density (stream length is bigger compared to drainage basin area),** the water availability used to gets low from December and villagers in Kauthadi required water tankers.
- For the past 3 Years instead of investing in water tanker requirements, Gram Panchayat with the contribution of villagers (₹7,000 to ₹8,000 per person) filled the village water ponds with the Janai Shirsai lift irrigation scheme. Hence there was enough water available in the village ponds.
- Open drainage pits, open defecation, and waste garbage near the village Nala caused water contamination of the wells near to those Nala. Hence, that water was not potable and only used for other household-related needs.

Endline

- Working on a total of **15 different interventions of water conservation covering appropriate catchment areas** which helped in water percolation as well as water storage in existing natural resources.
- Because all three water ponds have enough water available as well as a similar situation at Village Nala due to the Water Conservation Project and heavy rainfall, **farmers water expenses weren't there this year**.
- There is **no change has been observed** among villagers **about throwing garbage** near to Nala which causes water contamination of nearby wells.

Women Focus Group Discussion

Household Survey

Impact

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

जिल्ह्यात रब्बीतील
२१६ पिकांची नोंद
ई पीक पाहणी ॲपवर नोंदणी
११ हजार ९४३ हेक्टरवर कांदा

सकाळ वृत्तसेवा

पुणे, ता. १९ : पुणे जिल्ह्यात प्रथमच रब्बी हंगामातील २१६ पिकांची नोंद झाली आहे. जिल्ह्यात सर्वाधिक क्षेत्रावर कांदा या पिकाची लागवड करण्यात आली आहे. त्यानंतर ज्वारी आणि ऊस या पिकांची क्षेत्र आहे. महसूल खात्याने सुरू केलेल्या ई पीक पाहणी या मोबाईल ॲपवर शेतकऱ्यांनी पहिल्यांदाच रब्बी हंगामातील लागवडीखालील क्षेत्र, त्यामधील पिकांच्या केलेल्या नोंदणीवर ही माहिती समोर आली आहे.

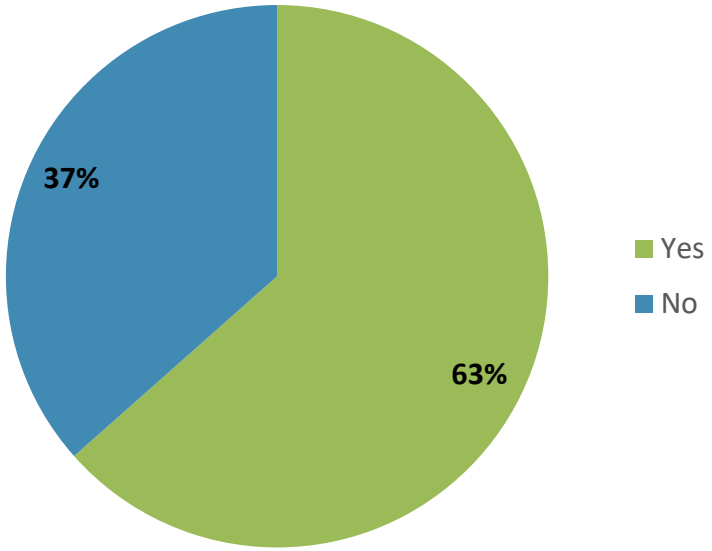
जिल्ह्यात कांदा हे पीक ११ हजार ९४३ हेक्टरवर, ज्वारी ४ हजार ७३ हेक्टरवर आणि ऊस पिकाची २ हजार १९९ हेक्टरवर लागवड करण्यात आली आहे. रब्बी हंगामात शेतकरी विविध प्रकारची पिके घेतात. मात्र, क्षेत्रावर पुलांची शेती करण्यात आली आहे, याची माहिती उपलब्ध झाली आहे.

ग्रामीण भागात गावपातळीवर जमिनीचे महसुली रेखे ठेवण्याकरिता विविध गाव नमुने व दुय्यम नोंदवह्या विहित करण्यात आलेल्या आहेत. यामधील गाव नमुना नं. ७ हा 'अधिकार अभिलेख' विषयक असून गाव नमुना नं. १२ हा 'पिकांची नोंदवही' ठेवण्यासंदर्भात आहे. गाव नमुना नंबर १२ मधील पिकांच्या नोंदी या संबंधित तलाठी यांनी त्यावरच्या असतात. पिकांच्या नोंदी या संबंधित तलाठी हे पीक पेरणी अहवालाच्या नोंदी घेत असे. मात्र, अनेक वर्षांपासून सातबारा उताऱ्यावर पिकांच्या नोंदी अद्ययावत झाल्या नव्हत्या. त्यामुळे आताच्या जिल्ह्यात जेमतेम चाळीस ते पन्नास पिकांची नोंद होत होती. यापार्श्वभूमीवर भूमि अभिलेख विभागाने हे ई

19th Oct 22, Pune: Farmers in the district, **prefer Onion, Jawar and Sugarcane as primary crops because of market availability.** Source: http://epaper.esakal.com

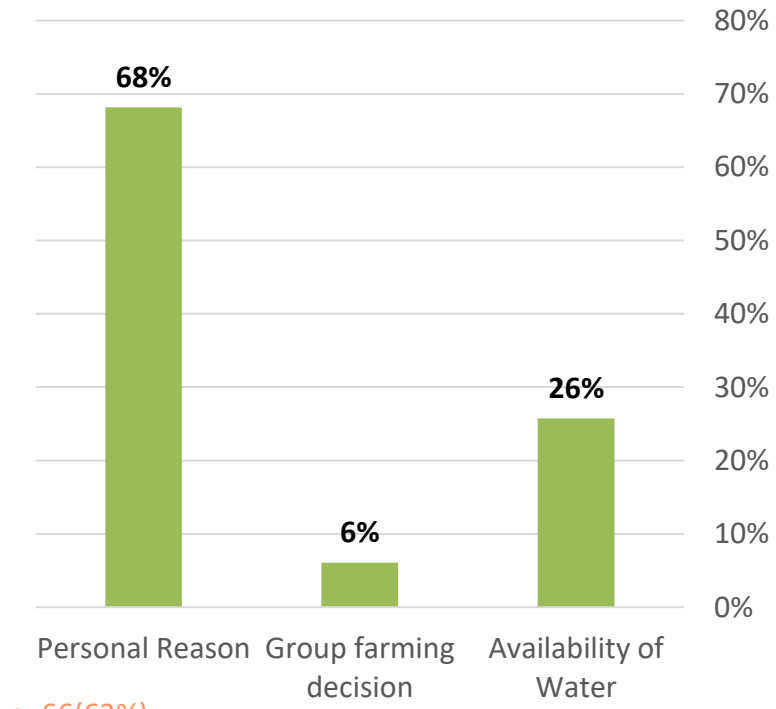
Indicator		Baseline	Endline
Land Ownership		94%	95%
Land Holding Size	**Less than equal to 4 acre**	44%	75%
Cultivable Land Size	**Less than equal to 4 acre**	80%	89%

Change in Cropping Pattern



n=104(95%)

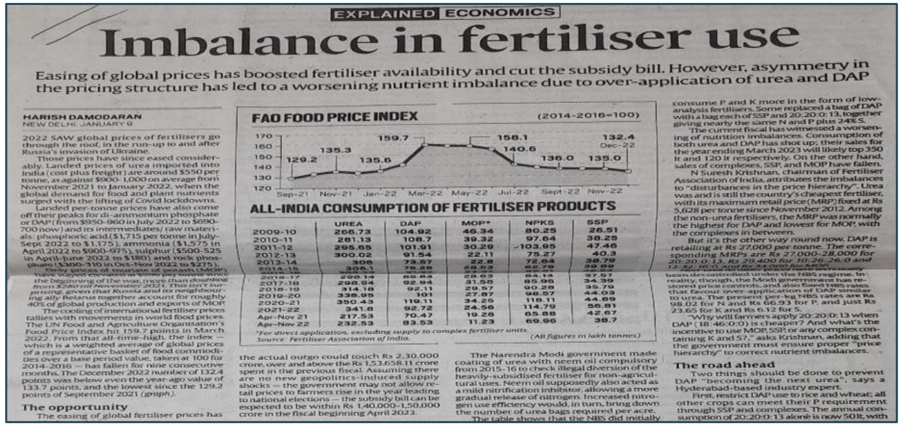
Reason of Change in Cropping Pattern



n=66(63%)

- **Increased land holding size due to land purchased by some respondents and in addition to this increase in cultivable land size** among medium land owner farmers because of water availability.
- **63% changed their cropping pattern** this year and **increased Jawar, Corn, and Onion crop cultivation was the major change in crop cultivation because heavy rainfall in the Kharif season affected the vegetable and fruit cultivation in the village and that's why 68% changed their cropping pattern and shifted to corn and jawar cultivation as these two are a staple food and also can be utilized as fodder for livestock. 26%** changed their **cropping pattern because of enough water availability.**

Impact: Agricultural Practices


EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN

FAO FOOD PRICE INDEX

ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

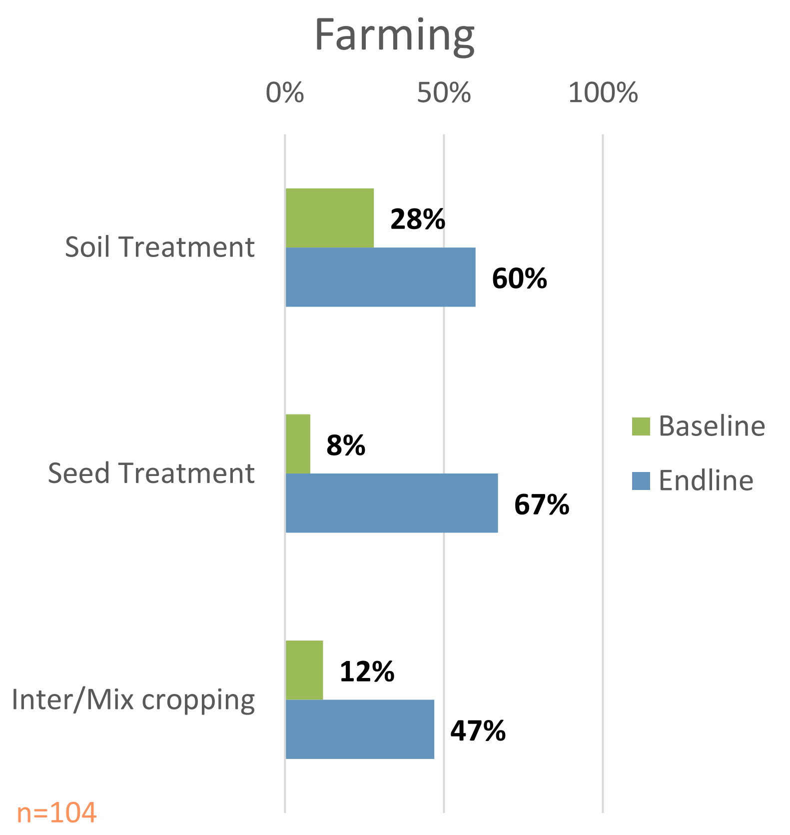
The road ahead

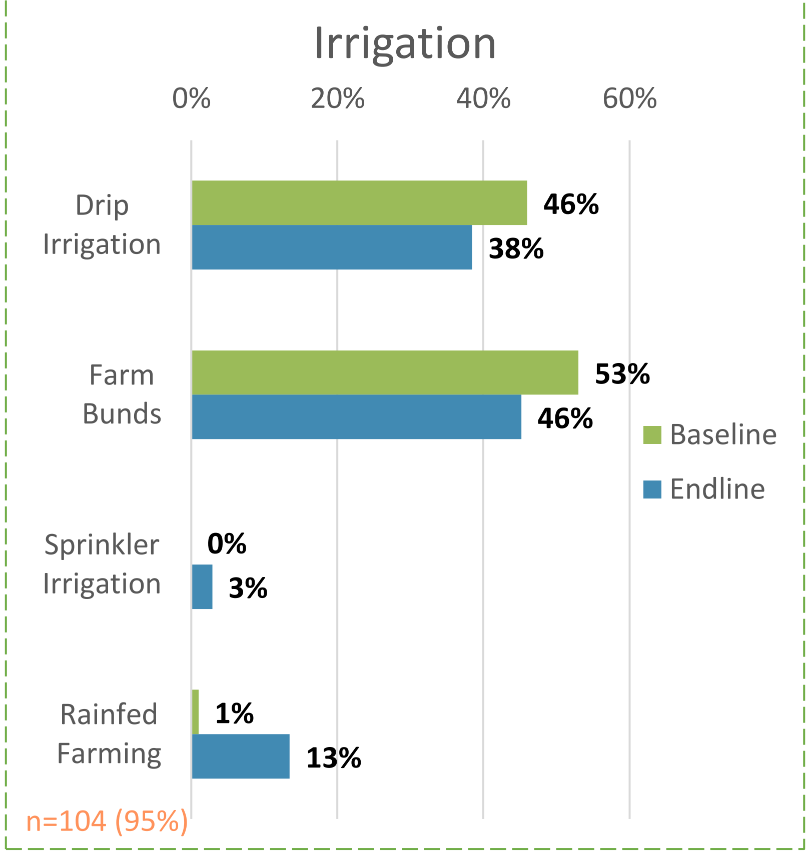
The opportunity

10th Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.

Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	Less than ₹10,000	37%	70%
Labor work Spending (Per Crop)	Less than ₹10,000	92%	93%



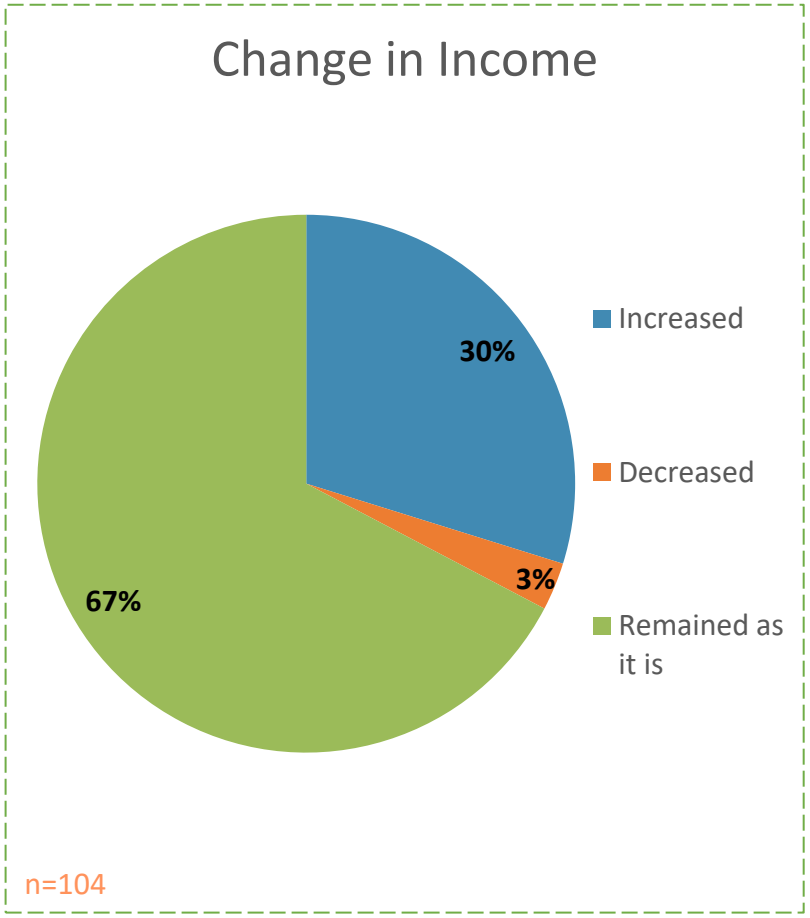


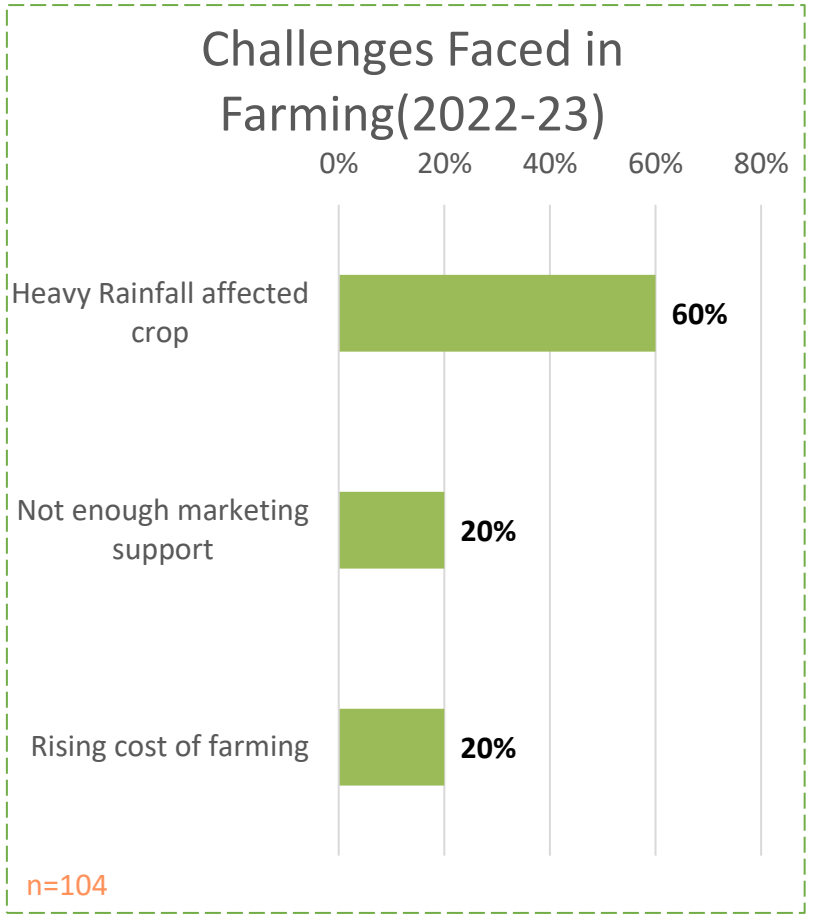
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 33% **increase among beneficiaries who are now spending less than ₹10,000 on fertilizer because of a decrease in the prices of Uria and DAP and total** 93% **spending less than** ₹10,000 on labor work as they themselves involved in labor work **to reduce production cost and gain more profit**.
- Soil treatment practice, Seed Treatment and Inter/Mixed Cropping patterns are **adopted by farmers on a larger scale** because of **changes in cropping patterns due to the availability of water because of water conservation structure.**
- Considering the irrigation practices there is a **decline in farm bund practices** and **drip irrigation systems.** However, due to **heavy rainfall, rainfed farming is followed by some farmers.**

Impact: Income

Farmer FGD

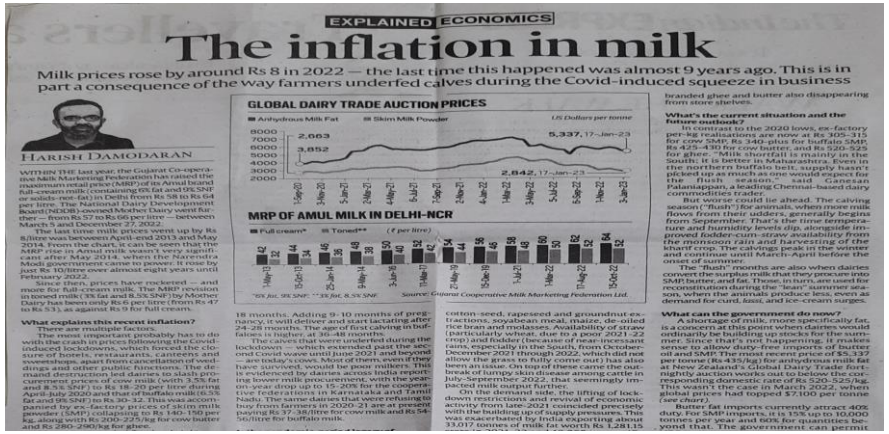
Indicator		Baseline	Endline
Income(Annual)	More than ₹30,000	47%	54%
Purpose of Yield	Sold in Market	70%	78%
	For own usage	29%	13%





- **Change in output has been observed** because of water availability. 54% respondents **earned more than ₹30,000 per annum now** and out of the total land owners respondents, there is **8% increase in the respondents who sold their goods in the market**. Before project implementation, they were only using that for household consumption.
- 30% of respondents mentioned that their **income increased during the year due to the water availability** whereas 67% of respondents said that the **income remained the same as the previous year.**
- **Heavy rainfall(2022), lack of marketing support/low MSP and the rising cost of farming** are the primary reason behind the no change in income for the majority of the farmers.

Impact: Livestock Rearing



EXPLAINED ECONOMICS

The inflation in milk

Milk prices rose by around Rs 8 in 2022 — the last time this happened was almost 9 years ago. This is in part a consequence of the way farmers underfed calves during the Covid-induced squeeze in business

HARISH DAMODARAN

GLOBAL DAIRY TRADE AUCTION PRICES

MRP OF AMUL MILK IN DELHI-NCR

What's the current situation and the future outlook?

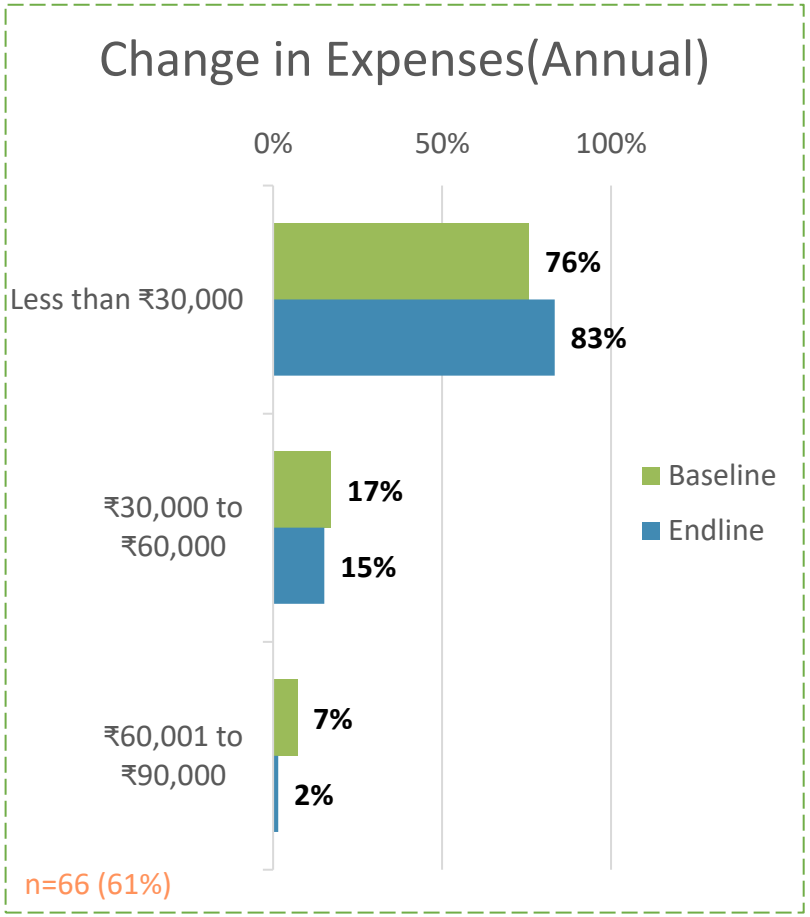
What explains this recent inflation?

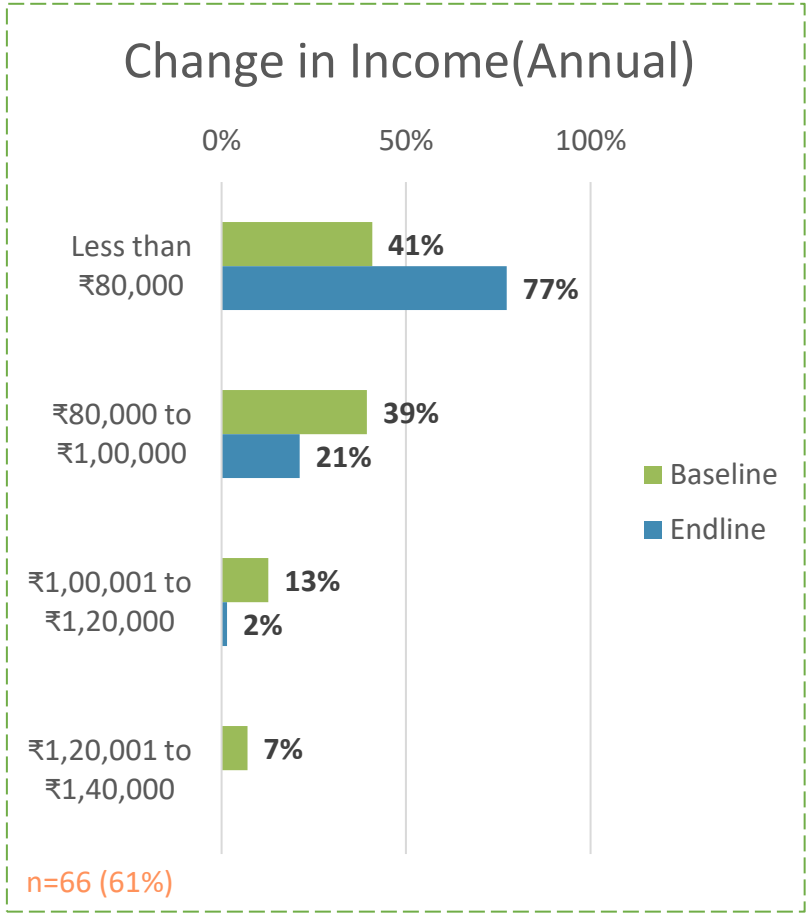
What can the government do now?

1st Feb 23: Increase in milk prices because of an increase in fodder prices (as uneven rainfall in 2022 affected the fodder availability) and low milk availability because of Lumpy. Impact on how dairy farmers are struggling with a rise in expenses.

Source: https://indianexpress.com/article/explained/explained-economics/why-are-milk-prices-so-high-and-what-can-be-done-about-it-8411685/

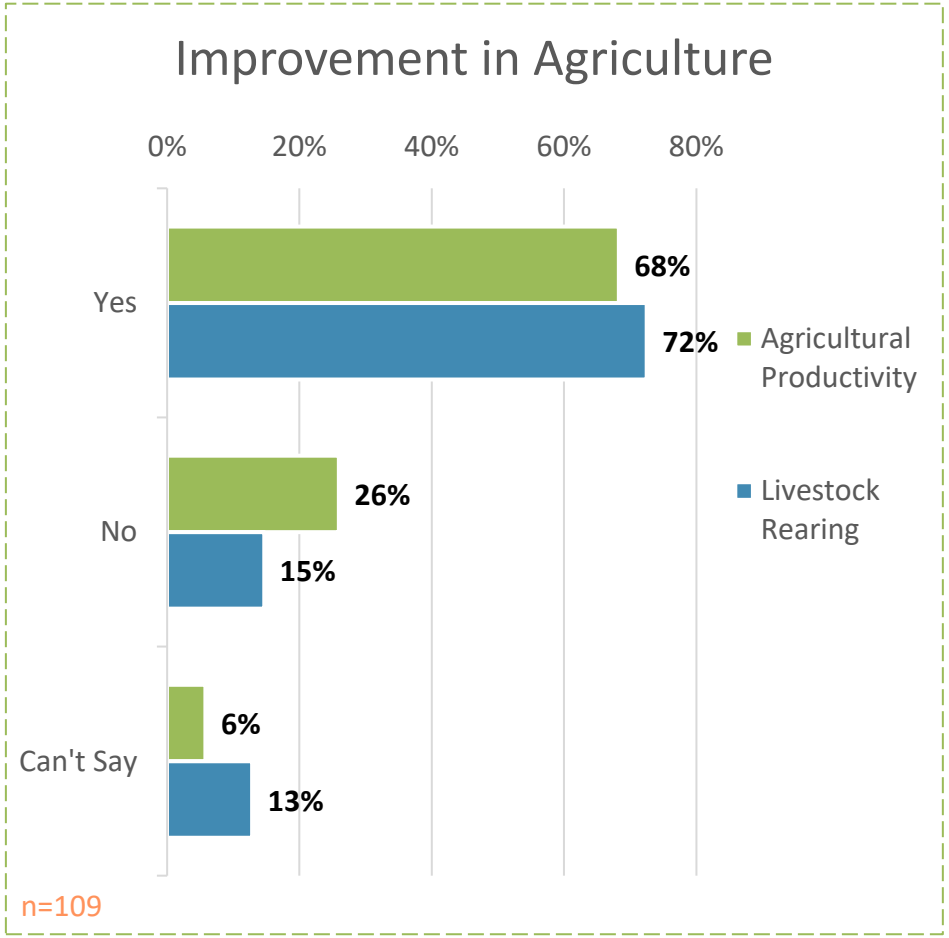
Indicator		Baseline	Endline
Ownership		64%	61%
Livestock Rearers (Number of Respondents)	Dairy Farmers	56	52
	Goat Rearers	53	35





- Out of the total respondents, 61% respondents are doing livestock rearing and there is a decrease of 3% in the number of livestock rearers. Reduce in the number of dairy farmers as well as goat rearers are observed as heavy rainfall and lumpy virus affected livestock rearing productivity.
- Availability of green fodder on grazing land because of heavy rain as well as surface level water percolation because of rain harvesting structures is the major contributor in increasing livestock rearing. Therefore only a 7% marginal increase has been observed in expenses despite of the rising cost of fodder in the market.
- As the lumpy virus & heavy rainfall affected the health of livestock, there is a decrease in livestock rearers who were earning more than ₹1,00,000 because of low milk production

Impact: Holistic Change



Despite having various external challenges, the majority of the respondents yet feel that because of the availability of water, the water conservation project's agricultural productivity, as well as livestock rearing in the village, has improved.

- **Baseline**
- The majority of the villagers have **more than 2 acres of land ownership**, but the **region is a hilly slope area** and due to less availability of water most of the **farmers use only 1 to 2 acres of land for farming**.
- Although farmers cultivate Bajra and Jawar as the primary crop, the majority of the farmers cultivate vegetables and fruits on a smaller scale and every day 3 pickup vehicle goes to Hadapsar market for vegetable selling.
- In the last 8 years, the poultry business has got a boost as many private poultry companies in Baramati collaborated with farmers to run a poultry business.

➢ **Endline**

- Because of the availability of water in the month of January also, farmers are developing non-cultivable land for fodder crops. Therefore there is **an increase in cultivable land** this year.
- As heavy rainfall in 2022 affected the horticulture activity, **farmers shifted to Onion, Jawar and Corn cultivation for staple food** and utilization as fodder for livestock.
- **Corn producers getting adequate market** for Poultry fodder and farmers are happy that due to the water availability **quality of yield is better and helping them to get market price as expected**.

Goat Rearing without Shelter

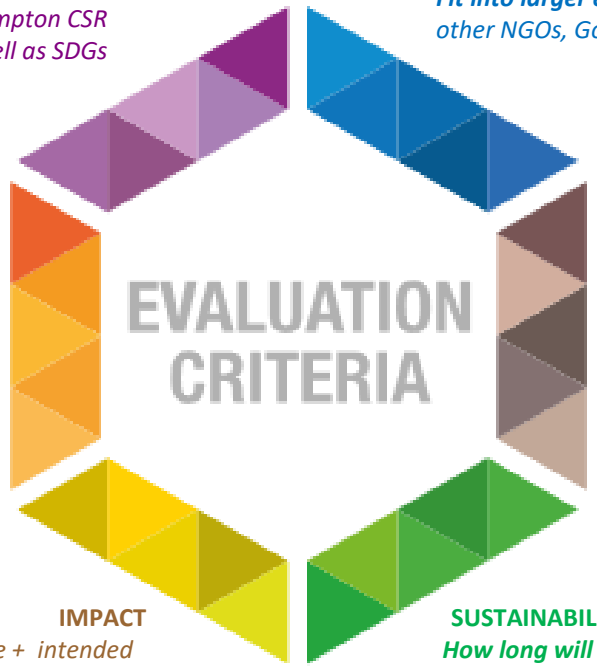
Fodder Crop

Analysis

Global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.

RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem – *aligning initiatives with other NGOs, Government initiatives in the region*



Effectiveness
Objective Achievement *-Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization – *Cost, Time and manpower*

IMPACT
Difference made against the baseline + intended / unintended impact

SUSTAINABILITY
How long will impact last *in form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✓ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✓ The intervention **addressed the foremost need of people**, **the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the end results**. Eg. Quantity of silt excavation from Mati Nala Disiltation.
Effectiveness	✓ Respondents appreciated the **durability and quality of structures.** ✓ **NOC was taken** from landowners whose land is used for building new structures. ✓ **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers.

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✓ Milestone-based mapping and monitoring of interventions. ✓ On-time structure completion. ✓ A well-planned team with the **involvement of subject matter experts(Hydrogeo experts)** deployed from the initial phase only. ✓ **On-field review of CCF staff** as well as monitoring agency staff	
Impact	✓ The project is achieving its intended impact on water availability. ✓ **Increase in** crop diversification with staple food crop consumption. ✓ **Increase in farming practices** in the village. ✓ All three village ponds & Village Nala have water in them which helps to satisfy the agricultural need of the village.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides the availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation

Sustainability

- **Challenges:** Some villagers are not well aware of the project, its purpose, and the contribution of CCF. They think this project was only made for a selective group of people whose land is being utilized for intervention.

✓**Intervention:** Awareness drive with village level committee by sharing the purpose and functioning of the Water Conservation Project can have a positive attitude towards the project and a higher possibility of sustaining the structures.

Maati Nala Bund

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries and the project is completed as per plan.
- Agricultural activities especially various practices are followed by farmers because of the availability of water and cropping patterns and there is a positive change in raising income generation opportunities.
- As an integrated activity, education on climate-resilient crops and agriculture practices will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving project stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community

Thank You.

Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Pemgiri Village, Sangamner Block, Ahmednagar District

Submitted By: NuSocia|09/03/2023

NuSocia
Impact. Evident.

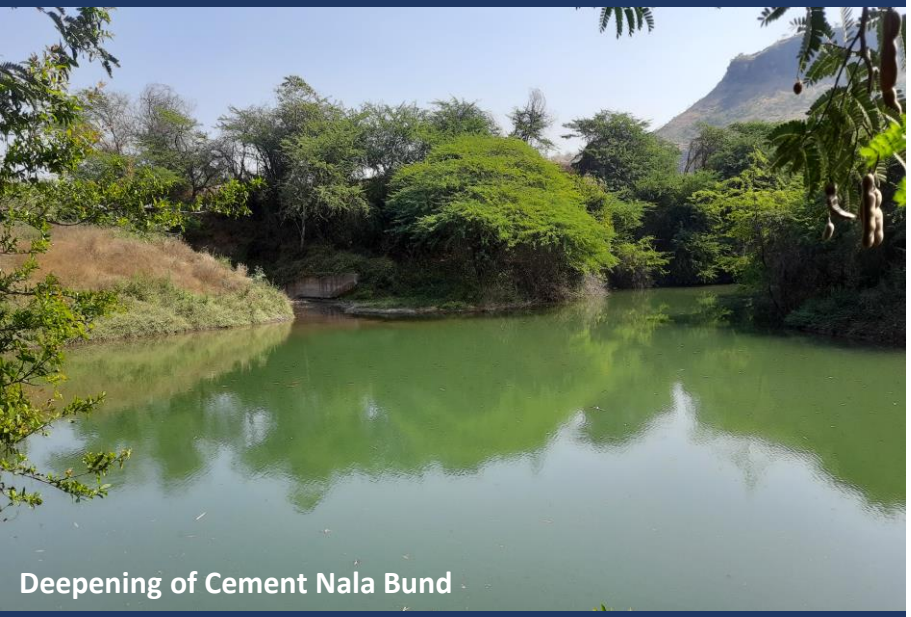
Acknowledgement

The Outcome Assessment along with Endline Assessment Report of the Water Conservation Project in Pemgiri village of Sangamner block of Ahmednagar district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration between Crompton CSR Foundation(CCF) and NuSocia.

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Sagar Dhariya and the team of Vanarai, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations



Deepening of Cement Nala Bund

- In the report, the ‘Year’ referred to is calculated from Mid Jan 2022 to Mid Jan 2023 during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted

Content

Wheat Crop in January

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

Deepening of CNB

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Ahmednagar district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration and suicide, especially among smallholder farmers.
- **Major parts of the district(** central, northern and eastern parts) **is also showing trends of falling groundwater level**
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN AHMEDNAGAR DISTRICT MAHARASHTRA

Overview

CCF initiated Water Conservation Project in Pemgiri with implementation partner Vanarai with the planned objective of :

1. Increase community participation in sustainable watershed development and further management.

2. To prevent soil erosion, increase soil moisture, raise groundwater level, and conserve and increase the biomass cover of the area.

3. To reduce runoff velocities for control of soil erosion.

4. Increase in agricultural production of farmers.

NuSocia, an impact advisory firm has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

- Study Objectives & Phasing

Objective

To conduct an End line assessment along with the outcomes of the project.

Phasing

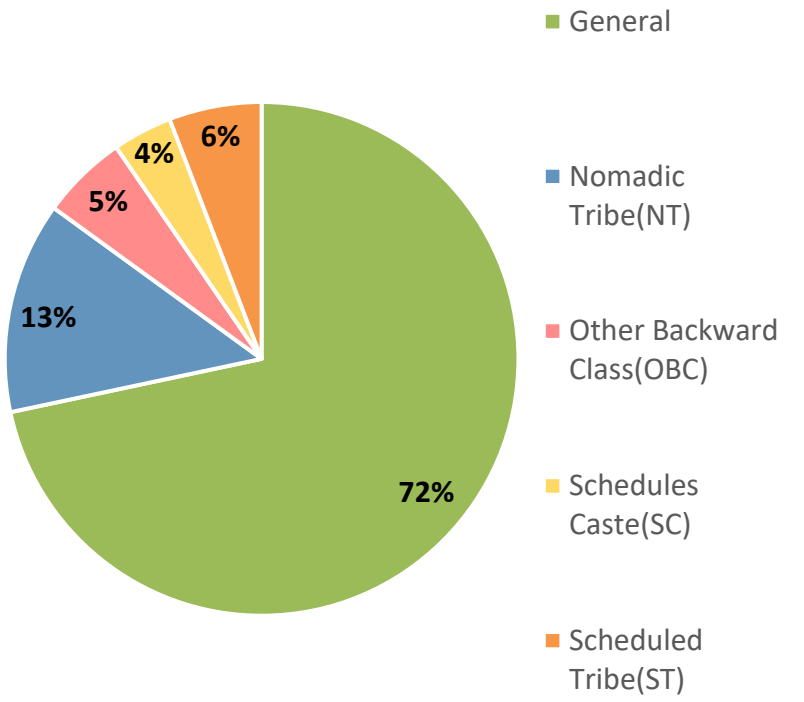
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study – **6 Key Informant Interviews** (Implementation Partner, Panchayat Member, Livestock Rearers, Farmers) • **2 Focus Group Discussion** Farmers, Youth • **240 Community Survey** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of Outcome along with End line, • Final report with observations, analysis, inferences and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

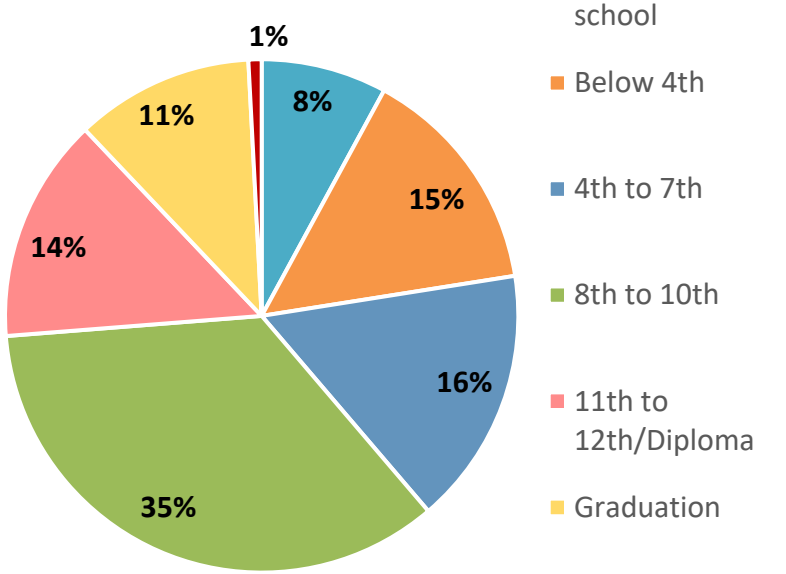
Profile Of Respondents

Caste



n=240

Education



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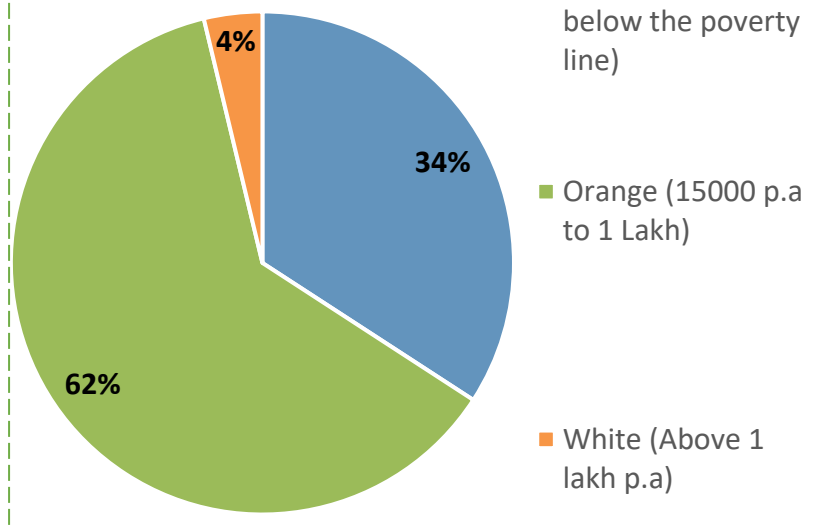
Ration Card Holder

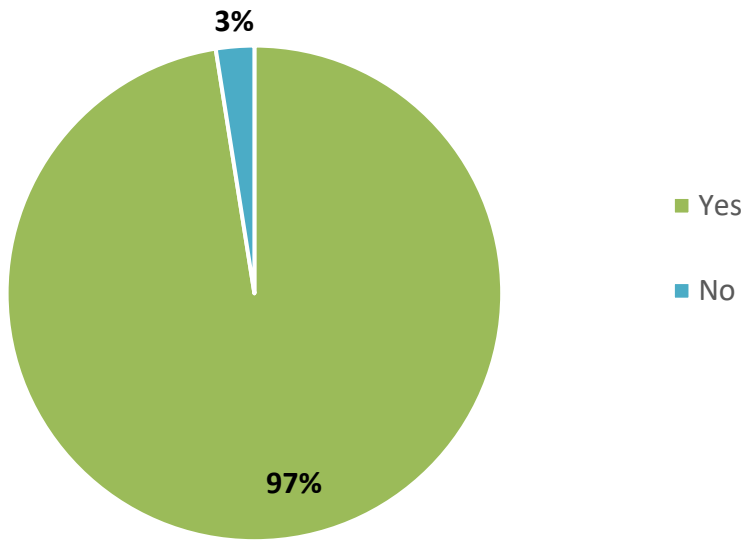


n=240

Participation of **30 to 50 years age group respondents was higher** and **male members majorly** participated in the survey.
99% respondents belong to **Hindu** and 72% of the total belong to the General class and 13% belong to NomadicTribe.
Out of the total respondents, **only 26% have completed their education above 10th class**.
34% respondents belong to **Below Poverty Level.**

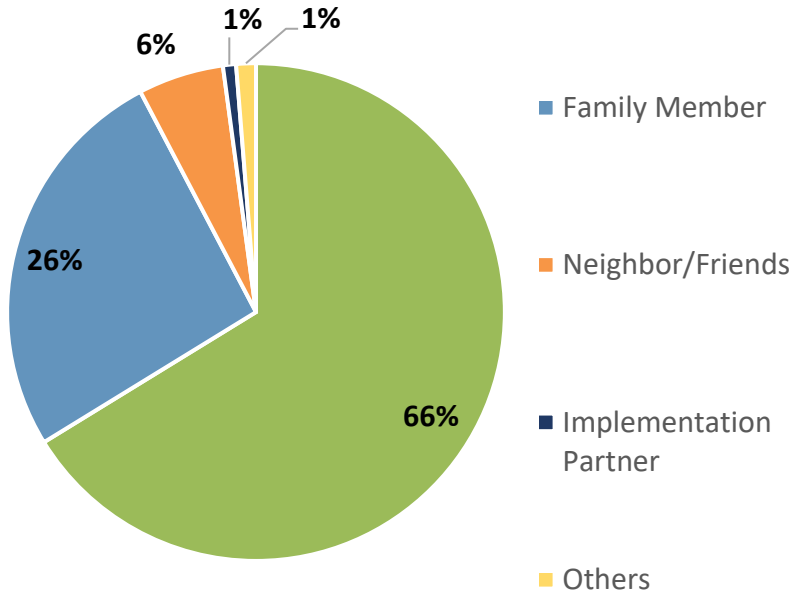
Beneficiary Mapping

Awareness of the Project



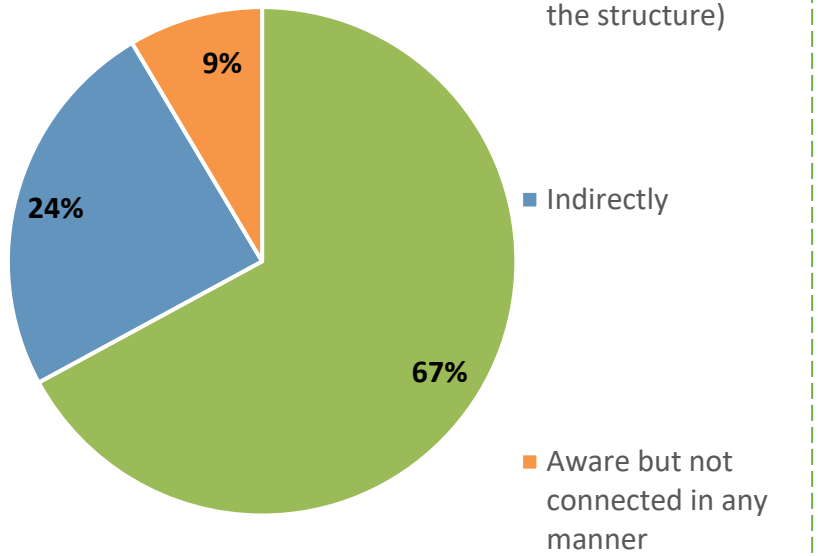
n=240

Source of Awareness



n=234(97%)

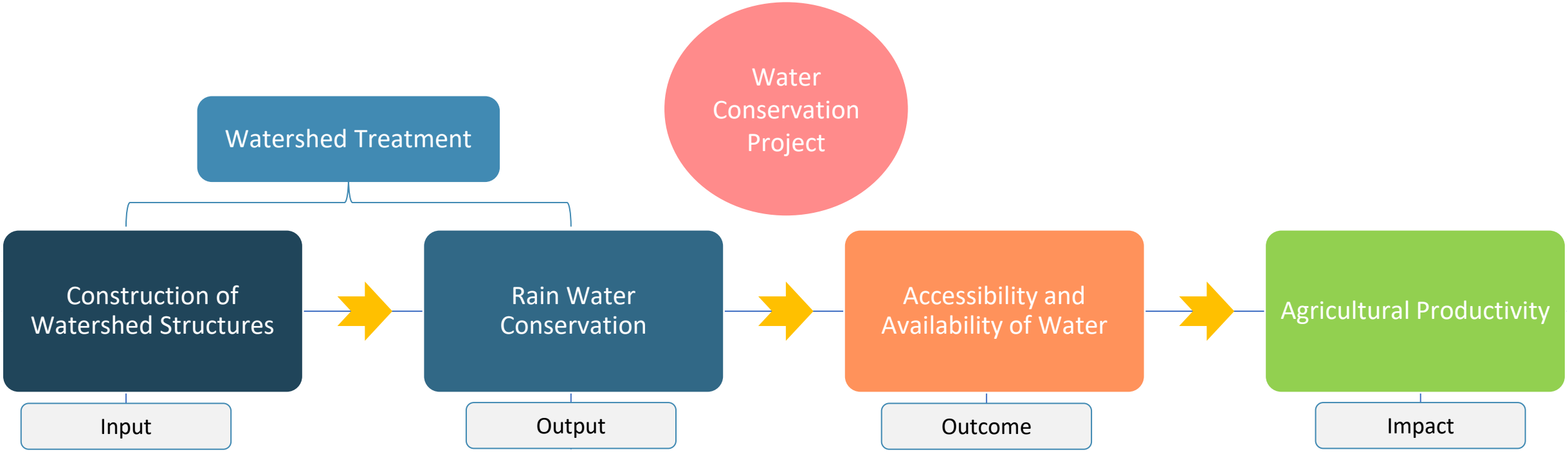
Benefited By



n=234(97%)

Visibility of the project is very high as 97% of **the total respondents are aware** of the project and 66% of them had heard about it through the Grampanchayat.
67% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it and 24% of them benefited **indirectly.**

Impact Map

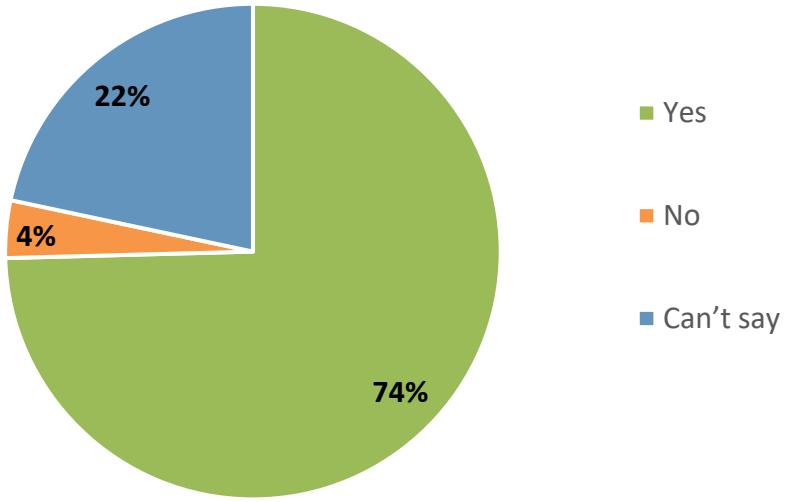

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

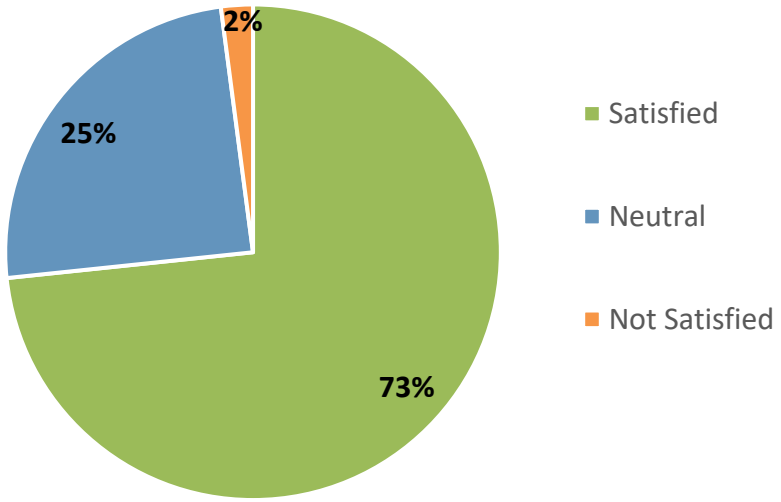
Output: Achievement

Intervention Helping In Rain Water Conservation



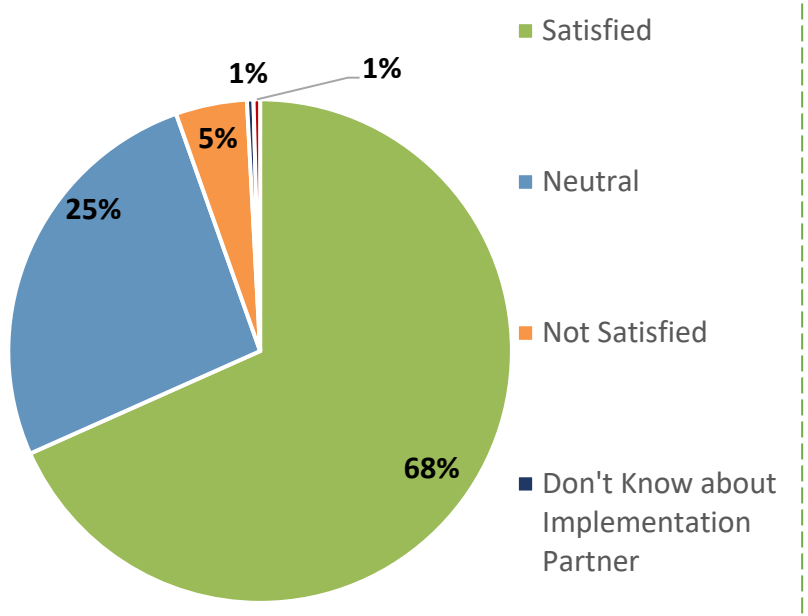
n=240

Level of Satisfaction Towards Project



n=240

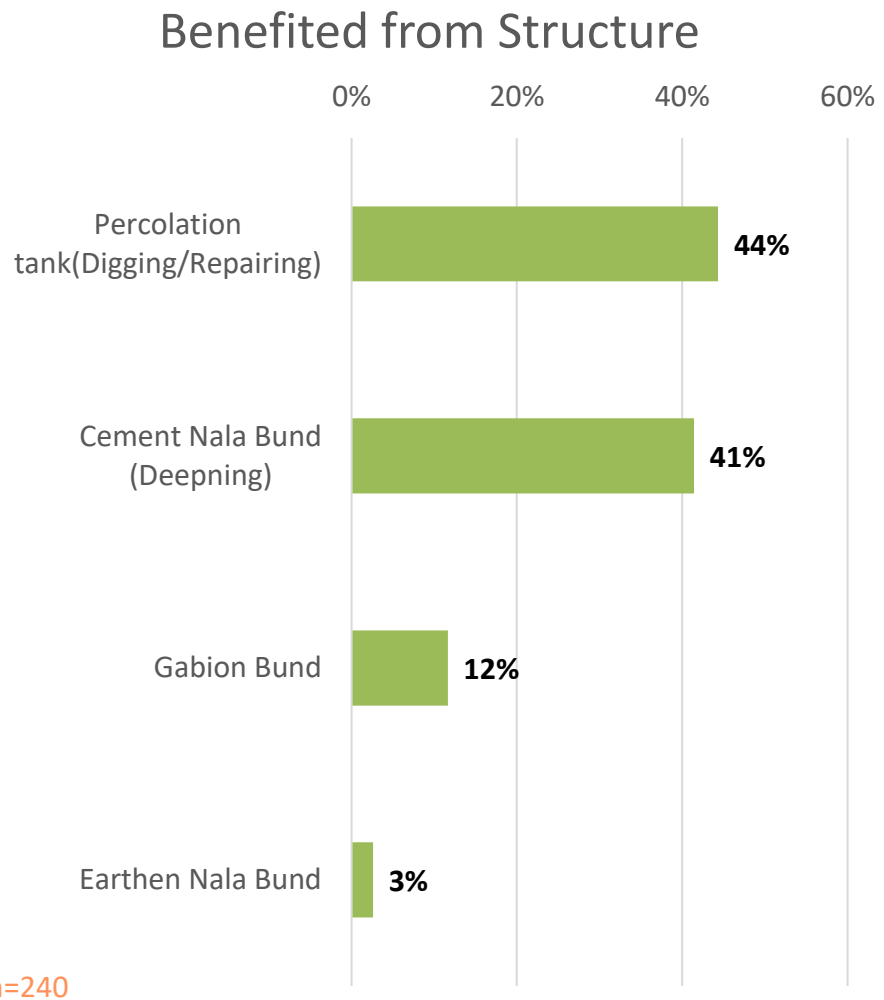
Level of Satisfaction Towards Implementation Partner



n=240

A total of 74% of respondents think that the **watershed interventions are helping in rainwater conservation**.
Significantly high 73% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working of the Implementation partner**, 68% are **satisfied** with their way of working.

Output: Intervention Performance



Digging of the percolation tanks and New Cement Nala Bund is highly appreciated by respondents as it is located in different parts of village pockets.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.** Hence the water resources **started to dry up** after Diwali.(Oct/Nov month).

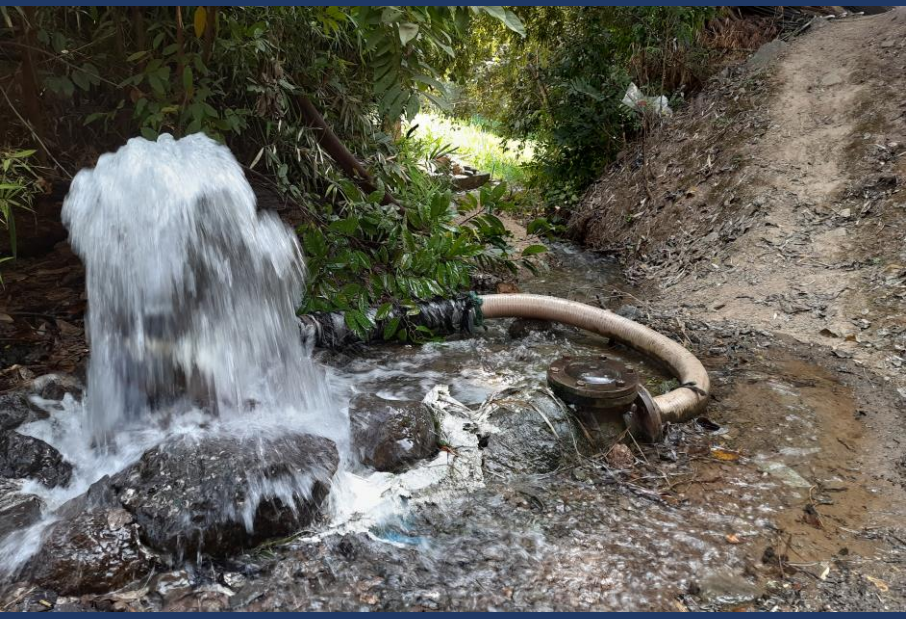
Endline

- Watershed intervention methodology based on the **'Matha te Payatha'(Top to bottom) approach** with various interventions such as Gabion Bund, Earthen Nala Bund, Percolation Tank, and Cement Nala Bund. **Therefore the water catchment area has increased**.
- Because of multiple watershed structures, **the risk of land degradation has been reduced** as per the respondents as it **helped in reducing the runoff of rainwater**.
- **Percolation tank plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.

Water near Cement Nala Bund

Community Survey

Outcomes

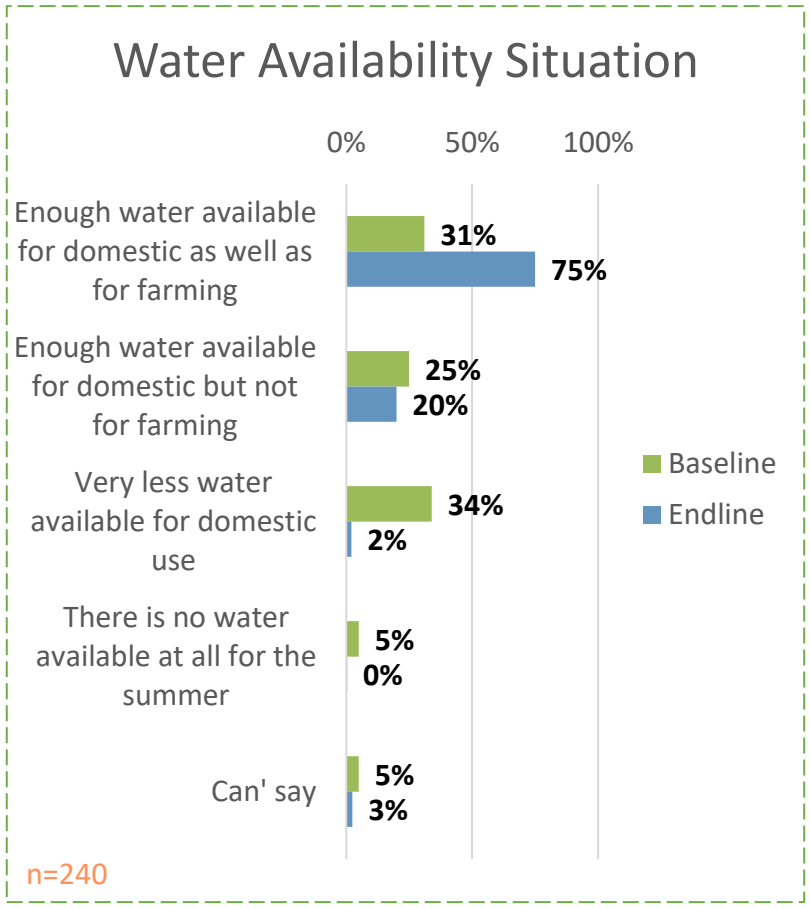


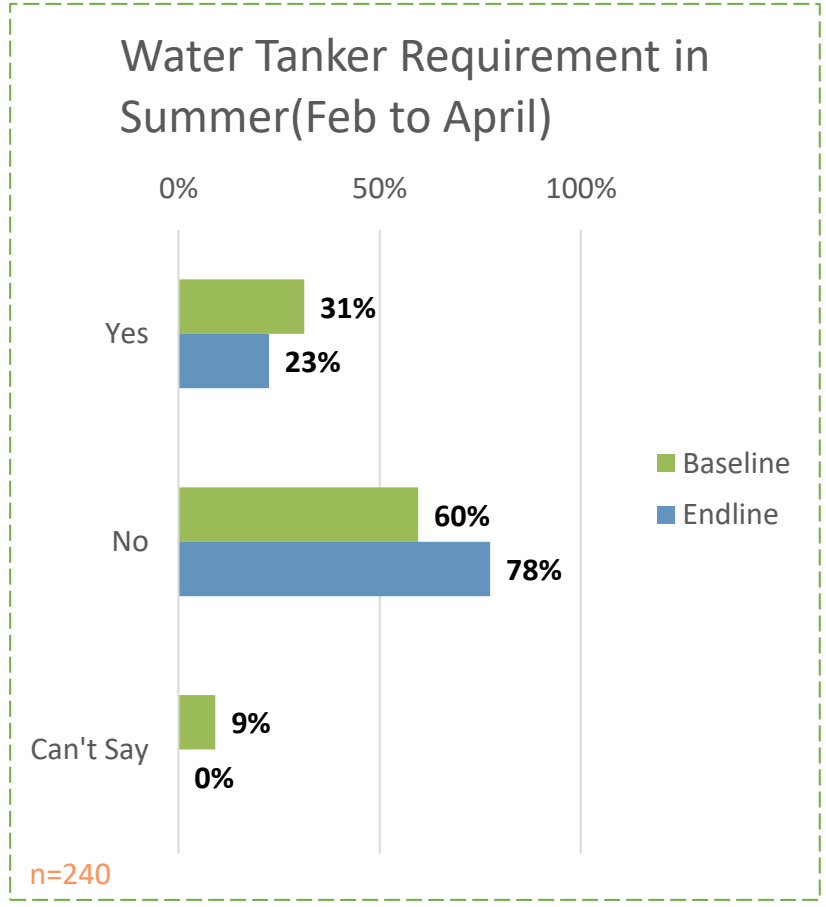
- Availability & Accessibility
  1. Water Source & Availability
  2. Accessibility

Outcome: Water Source & Availability

Water Storage Tank, Gaonthan

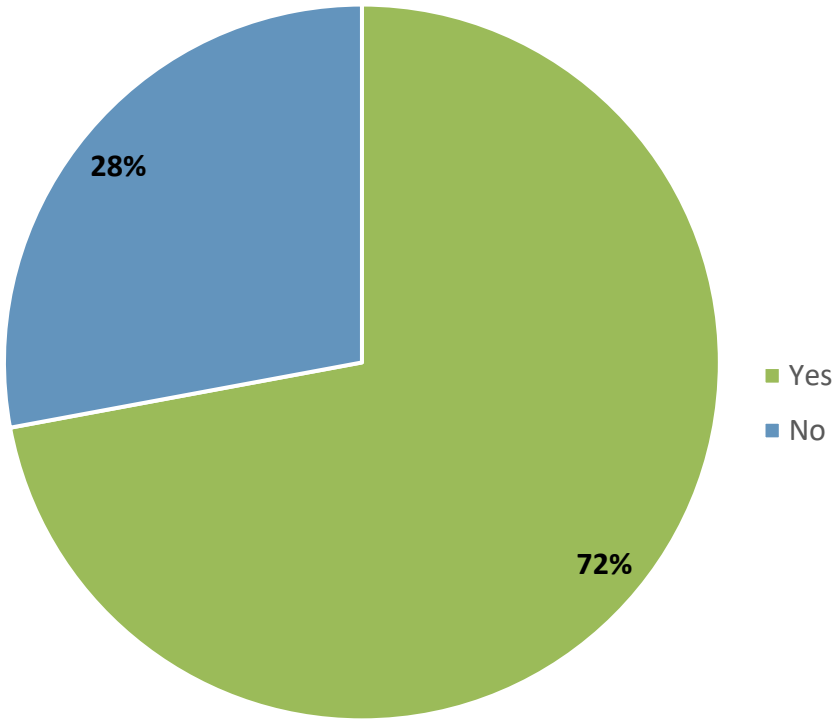
Indicator		Baseline	Endline
Water Source for Household	Individual Well/Borewell	25%	34%
Water Source For Farming	Individual Well/ Borewell	52%	70%





- **Dependency on individual well** for drinking purposes and farming purposes **has increased** due to the availability of water because of water conservation project.
- **44% increase** among those beneficiaries who said that **there was enough water available for both domestic as well as for farming use.**
- Compared to the baseline study, 32% fewer respondents **mentioned that there was very less water available for farming.**
- Significant change in the requirement for water tankers as **78%** respondents now feel that there **won't be any requirement for water tankers** in this summer season.

Outcomes: Accessibility



n=240

72% respondents opine that because of the water conservation project **livelihood opportunities this year have increased** & 61% of those said livelihood opportunities have increased in **farming** whereas 24% said it increased in **labor work.**

Baseline

- The Gram Panchayat banned the Borewell system 20 years ago and doesn't give permission to anyone in the village for it. They want to conserve underground aquifers for their wells on which the majority of the villagers are dependent for all the water-related needs.
- Due to the uneven water supply of Gram Panchayat, most of the villagers in Gaonthan use the common water tanks to meet their water needs.
- As Gram Panchayat water connection and common water tanks aren't accessible for villagers who live in different pockets than Gaonthan, they are solely dependent on their well water. But during the summer season due to low water availability, villagers require a water tanker.

Endline

- Although the borewell system is banned, the majority of the villagers are dependent on the common well of the village for water-related needs. Despite only being 50 to 200 feet deep individual/common wells yet dependency on well water has increased because of groundwater percolation due to the watershed structures.
- Villagers who reside at different wadi/wasti stated that they will not require a water tanker in the upcoming summer as their well has enough water level in it.

Common Water Tank

Household Survey

Impact


Vermicompost Plant

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

यंदाही शेतकऱ्यांचा कांदा लागवडीकडेच कल

नगरमधील स्थिती ; एक लाख ७२ हजार हेक्टरवर लागवड

सूर्यकांत नेटके : ॲग्रोवन वृत्तसेवा

नगर : मध्यंतरीच्या पंधरा दिवसांचा अपवाद वगळला तरी कांद्याला गेल्या वर्ष-दीड वर्षापासून जास्तीत जास्त पंधरा ते सतरा रुपयांपेक्षा अधिक दर नाही. साधारणपणे बहुतांश शेतकऱ्यांना आठ ते दहा रुपये किलोनेच कांदा विकावा लागला. त्यामुळे कांदा उत्पादकांचे आर्थिक गणित बिघडले, असे सांगितले जात असले तरी पुढील काळात दर येईल या आशेने नगर जिल्ह्यात रब्बीत यंदाही विक्रमी सुमारे १ लाख ७२ हजार १४२ हेक्टर क्षेत्रावर आतापर्यंत लागवड झाली आहे. यातही अजून वाढ होण्याचा अंदाज आहे.

राज्यातील बहुतांश भागात कांदा पिकाला आता प्राधान्य दिले जात आहे. नगर, नाशिक, पुणे भागात सर्वाधिक कांदा लागवड मिळून जवळपास दोन लाख हेक्टर क्षेत्राचा टप्पा पार केला होता. मात्र दिवाळीच्या काळातील एक पंधरा दिवसाचा अपवाद सोडला तर गेल्या दीड वर्षापासून कांद्याला १५ ते सतरा रुपयांपेक्षा अधिक दर नाही. बियाणे, मजुरी, व अन्य खर्चाचा विचार करता हा दर पडरवडणारा नाही.

यंदा कांदा उत्पादकांचे आर्थिक गणित बिघडले असल्याचे बोलले जात असले तरी यंदाही शेतकऱ्यांनी कांदा लागवडीला प्राधान्य दिले असल्याचे दिसत आहे. यंदा आतापर्यंत जिल्ह्यात १ लाख ७२ हजार १४५ हेक्टरवर कांदा लागवड झाली आहे. अजूनही अनेक भागात कांदा लागवड सुरू आहे. त्यामुळे यंदाही दोन लाख हेक्टरच्या जवळपास कांदा क्षेत्र होण्याचा अंदाज व्यक्त केला जात आहे. सध्या कांद्याला प्रती किलो १६ रुपयांपर्यंत जास्तीत जास्त दर मिळत

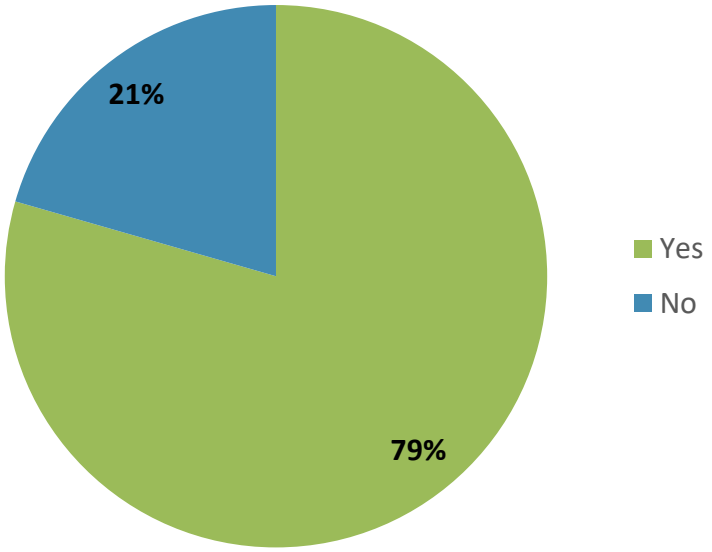
तालुकानिहाय कांदा लागवड (हेक्टर)

नगर	१७,९३४
पारनेर	३१,५२८
श्रीगोंदा	२६,२५४
कर्जत	१५,९६६
जामखेड	५,७४४
शेवगाव	७,२४५
पाथर्डी	९,५०८
नेवासा	११,७३२
राहुरी	१०,१२५
संगमनेर	९,३४९
अकोले	१,२९४
कोपरगाव	११,३०२

6th Feb 23, Ahmednagar: Farmers in the district, **prefer Onion cultivation without changing cropping patterns** because of hope for an adequate MSP in the future. Source: http://epaper.agrowon.com/

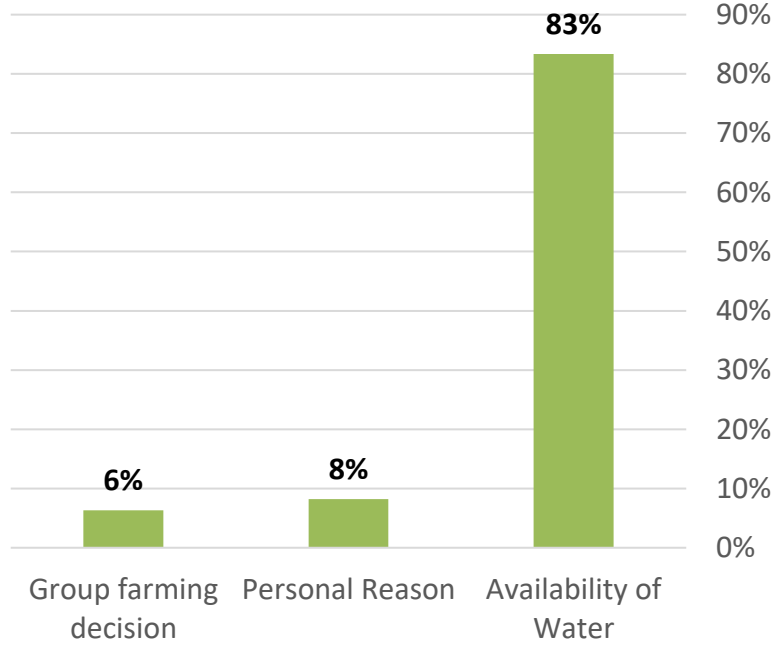
Indicator		Baseline	Endline
Land Ownership		87%	91%
Land Holding Size	**More than 2 to 4 acre**	27%	30%
Cultivable Land Size	**More than 2 to 4 acre**	25%	27%

Change in Cropping Pattern



n=219(91%)

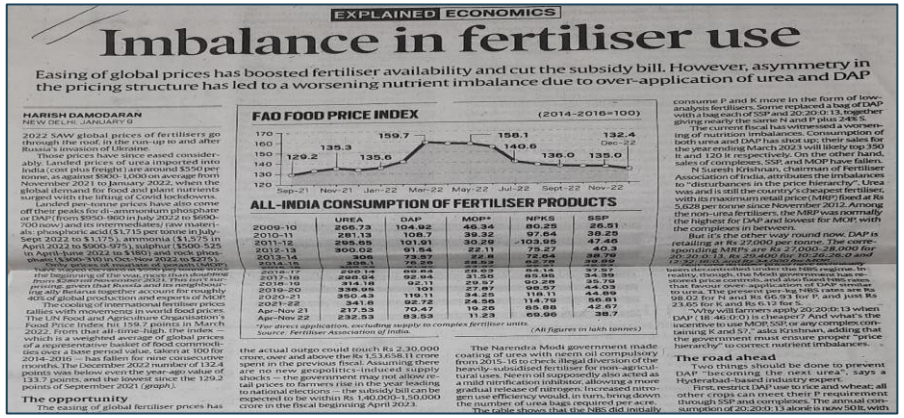
Reason of Change in Cropping Pattern



n=174(79%)

- **Increased land holding size due to land purchased by some respondents and increase in cultivable land size** among small land owner farmers because of water availability.
- **Increased Soybean, Onion, Sugarcane, Corn and Wheat crop cultivation** in the village.
- **79% changed their cropping pattern** this year.
- Out of the above, 83% changed their **cropping pattern because of enough water availability** this year due to the water conservation project.

Impact: Agricultural Practices



EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN
NEW DELHI, JANUARY 9

FAO FOOD PRICE INDEX (2014-2016=100)

ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

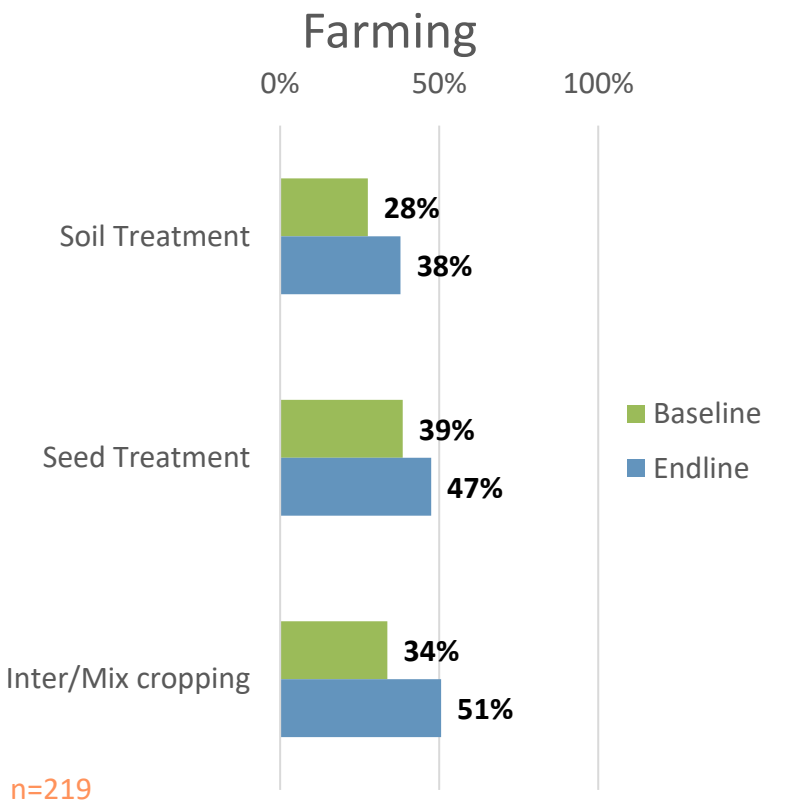
	UREA	DAP	MOP*	NPKS	SSP
2009-10	266.73	104.92	46.34	80.25	26.51
2010-11	281.13	108.7	39.32	97.64	39.28
2011-12	268.98	101.91	30.29	103.95	47.46
2012-13	300.02	91.84	22.11	75.27	40.3
2013-14	306	73.57	22.8	72.64	39.79
2014-15	305.1	75.25	25.53	62.28	39.97
2015-16	299.19	85.4	27.83	64.16	37.51
2016-17	298.04	92.94	31.56	85.98	35.79
2017-18	314.16	92.31	27.97	99.57	44.09
2018-19	338.95	119.1	34.25	114.79	44.89
2019-20	350.45	92.72	24.58	85.88	56.81
2020-21	341.9	70.47	19.25	69.98	42.67
2021-22 Apr-Nov 21	217.53	83.53	11.23		38.7
Apr-Nov 22	232.53				

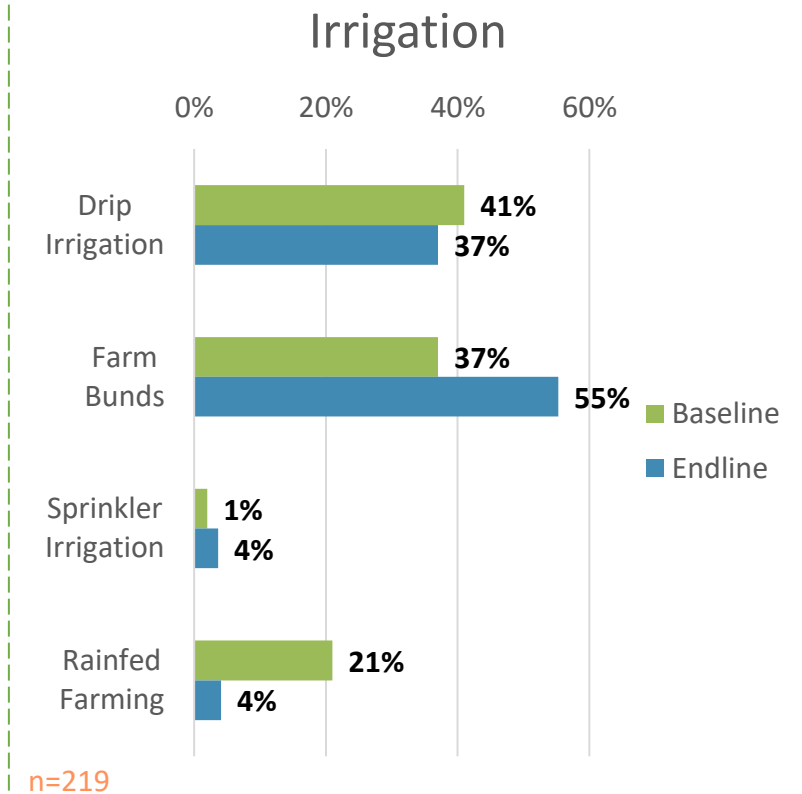
(All figures in lakh tonnes)

*for direct application; excluding supply to complex fertiliser units.
Source: Fertiliser Association of India.

10th Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.
Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	Less than **₹20,000**	34%	91%
Labor work Spending (Per Crop)	**Less than ₹10,000**	34%	84%



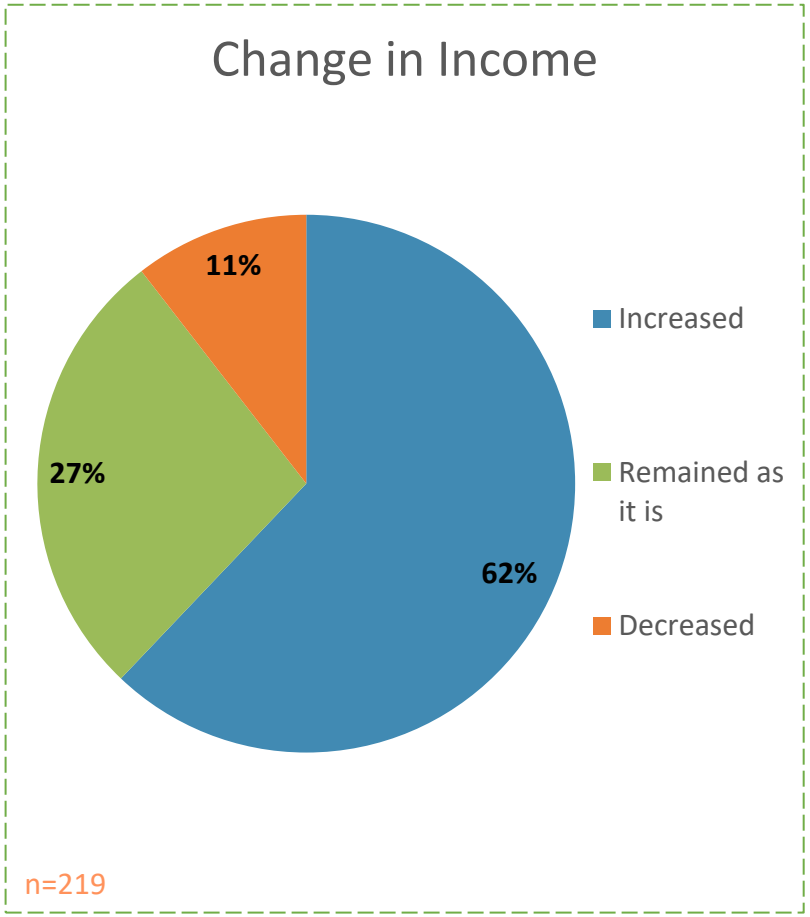


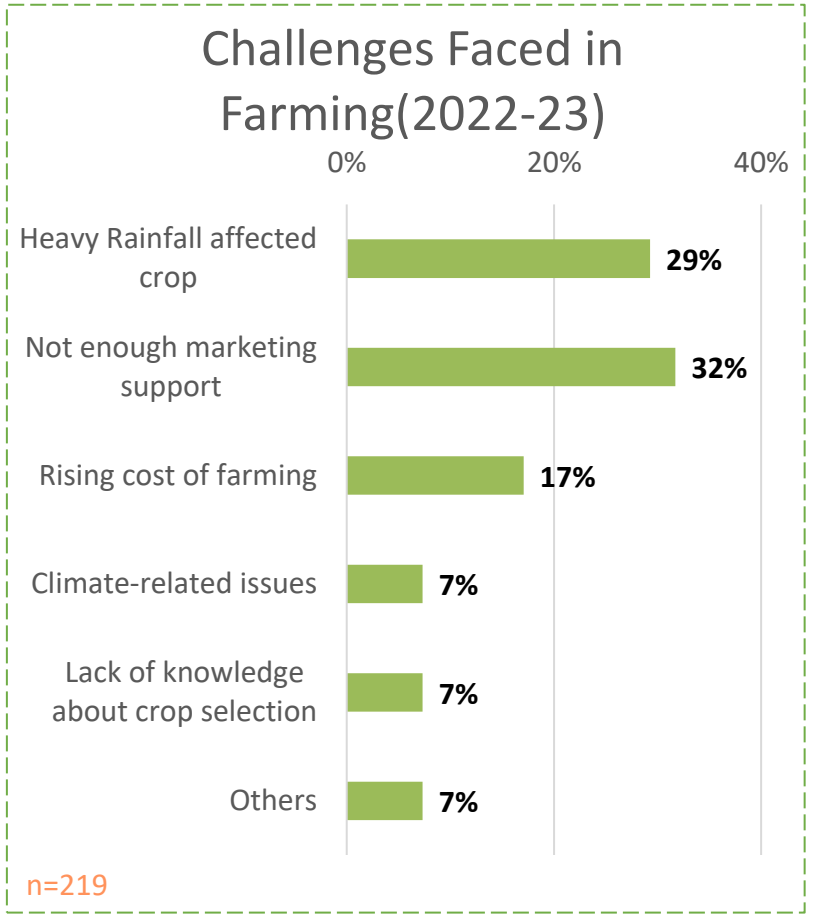
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 57% **increase among beneficiaries who are now spending less than ₹20,000 on fertilizer per crop because of the availability of Urea and DAP in the market** whereas 84% of total land owner respondents are spending Less than ₹10,000 on labor work as they themselves involved in labor work **to reduce production cost and gain more profit**.
- **All agricultural practices are adopted by more farmers compared to baseline** because of **changes in cropping patterns due to the availability of water due to water conservation projects.**
- Considering the irrigation practices there is a **decline of 17% in rainfed agriculture because of the availability of water which led to an increase in organized irrigation practices and also an increase in farm bund practices.**

Impact: Income

Farmers FGD

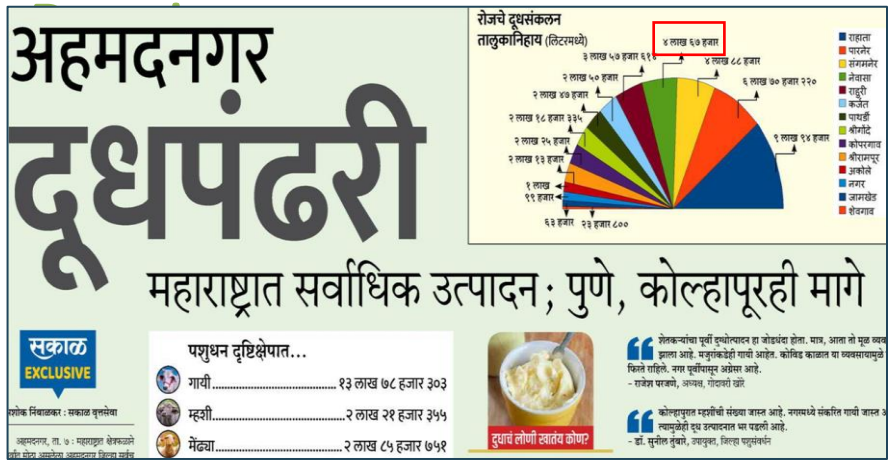
Indicator		Baseline	Endline
Income(Annual)	Less than **₹90,000**	63%	95%
Purpose of Yield	**Sold in Market**	77%	83%
	For own usage	15%	15%





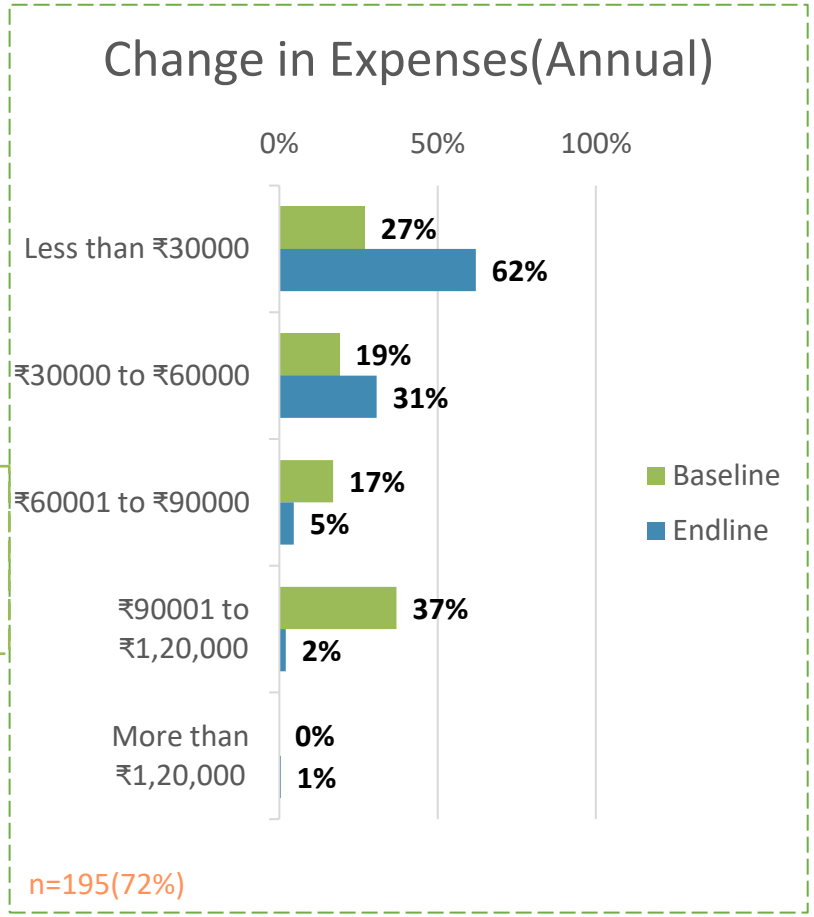
- **Major change in output has been observed** because of various factors such as water availability as well as heavy rainfall impact on crops therefore 32% increase in those respondents who are earning less than **₹90,000 per annum** and a slighter increase in the respondents who **sold their goods in the market.**
- Significant 62% of respondents mentioned that their **income increased during the year due to the water availability.**
- **Heavy rainfall(2022), lack of marketing support/low MSP and marketing knowledge and the rising cost of farming** are the primary reason behind the no change in income for the remaining farmers.

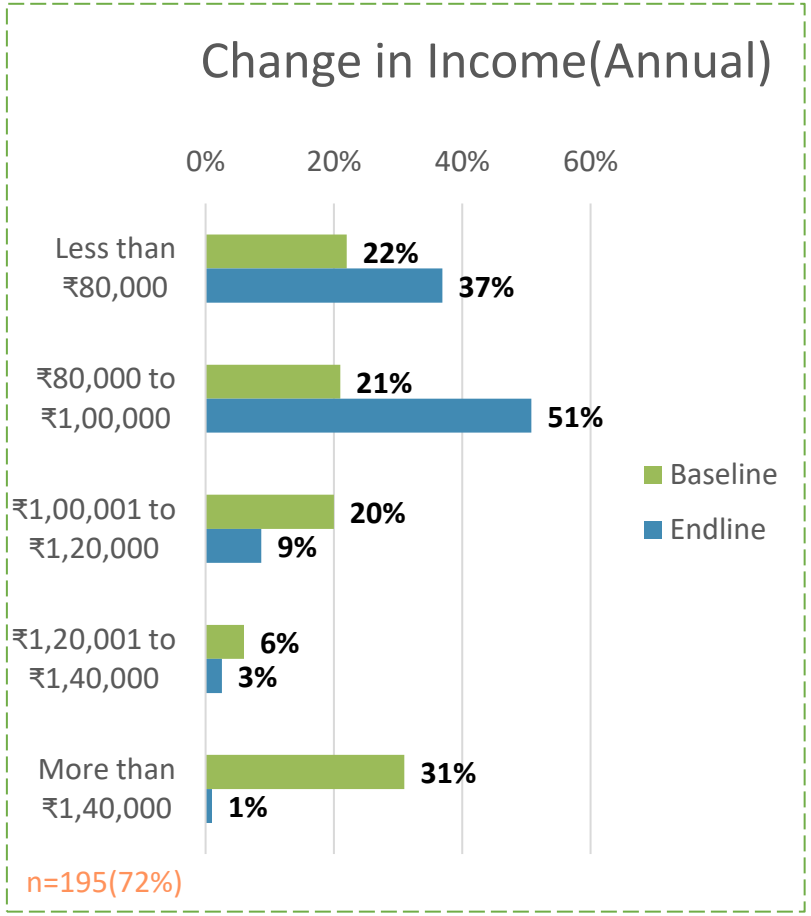
Impact: Livestock



8th Dec 22: District tops among all districts in Maharashtra in the ranking of daily milk production. Increased milk collection units, milk products making units and Cooperative Societies helping in increasing daily milk collection. (Sangamner Block Daily Milk Collection- 4,88,000 ltr)
Source: https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=1

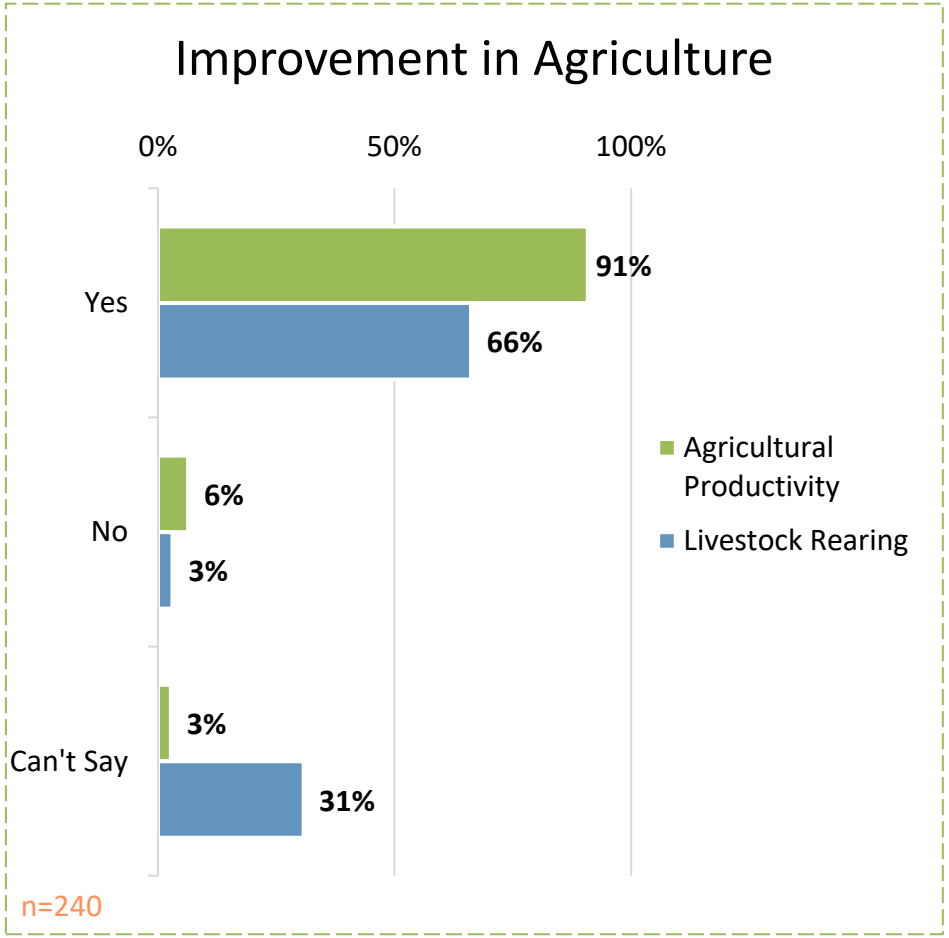
Indicator		Baseline	Endline
Ownership		73%	81%
Livestock Rearers (Number of Respondents)	Dairy Farmers	151	174
	Goat Rearers	42	55





- Out of the total respondents, 81% respondents are doing livestock rearing and there is an increase of 8% in the number of livestock rearers. 23 respondents started doing dairy farming while 13 respondents started goat rearing this year (Jan 2022-Dec 2022) because of the availability of water due to a water conservation project.
- Availability of green fodder on grazing land because of heavy rain as well as surface level water percolation because of rain harvesting structures is the major contributor in increasing livestock rearing. But because of the lumpy virus & heavy rainfall, affecting the health of livestock, hence there is an increase in expenses below ₹ 30,000.
- It also affected the income and 88% of respondents earn up to ₹1,00,000 per annum.

Impact: Holistic Change



According to 91% respondents due to the water conservation project agricultural productivity of the village has increased this year. 66% stated that they feel livestock rearing productivity increased in the village.

Baseline

- To do farming effectively with less water villagers are following the drip irrigation method on a larger scale and hence during the summer also they are cultivating less water-intensive crops and fodder crops.
- As Pemgiri is a tourist place in Sangamner block and many visitors visit the village, sugarcane farmers also sell sugarcane juice and some farmers also have mango trees so they sell raw mango to the *bhel* center. During interaction with farmers, they stated that they are more hopeful about increasing such agricultural allied businesses due to water availability because of the CCF water conservation project.
- In the many parts of Sandas Mala, Moredara wadi and Chandangarh(Close to the hill area) there is mixed of limestone soil in the existing black soil hence the land in that region is unproductive for farming and farmers in that region are spending more on purchasing black soil and cow manure.

Endline

- Availability of water helped farmers to cultivate different crops throughout the year with the utilization of different irrigation practices as per the requirement of water for each crop.
- Respondents stated that the availability of water helped to explore the different agriculture-led income generation opportunities and there is new milk collection center has started in the village as well as a new agro shop. Earlier alternative income source was labor work for the majority of the respondents.

Wheat crop nearby CNB Deepning

Agro Shop

Analysis

Global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.

RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem – *aligning initiatives with other NGOs, Government initiatives in the region*

Effectiveness
Objective Achievement *-Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization – *Cost, Time and manpower*

IMPACT
Difference made against the baseline + intended / unintended impact

SUSTAINABILITY
How long will impact last *in form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✓ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✓ The intervention **addressed the foremost need of people**, **the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the end results**. Eg. Quantity of silt excavation from Mati Nala Disiltation.
Effectiveness	✓ Respondents appreciated the **durability and quality of structures.** ✓ **NOC was taken** from landowners whose land is used for building new structures. ✓ **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers about the project.

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✓ Milestone-based mapping and monitoring of interventions. ✓ On-time structure completion. ✓ A well-planned team with the **involvement of subject matter experts(Hydrogeo experts)** deployed from the initial phase only. ✓ **On-field review of CCF staff** as well as monitoring agency staff	
Impact	✓ The project is achieving its intended impact of water availability. ✓ **Increase in agricultural production** through crop diversification. ✓ **Increase in horticulture plantations** in the village as well as irrigation practices through **Farm Bund irrigation techniques**. ✓ Despite of lumpy virus affecting dairy farming, daily milk collection in January month was around 2000-2500 ltr because of the availability of water and fodder.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation(1/2)

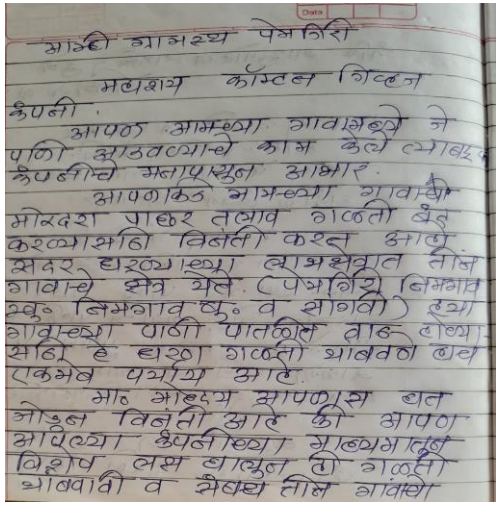
Implementation

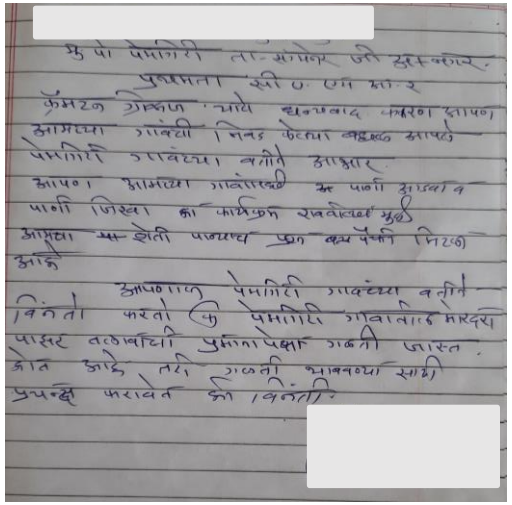
- **Challenges:**

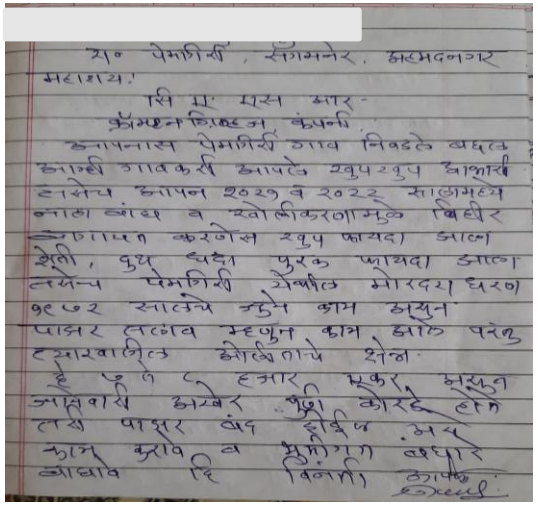
1. The majority of respondents stated that instead of working on other watershed interventions, the Mordara Percolation Tank leakage repair should be undertaken as they believe that, this particular intervention can solve the water conservation problem permanently.

2. Group of villagers admitted that they are not satisfied with the way of implementation and said that the local contractor did corruption in the machinery fuel cost and sold that fuel to farmers. They also added that as they are well aware of CCF, IP and their positive intent toward water conservation hence should aware of such a situation and should utilize the human resource effectively to avoid such incidence.

✓**Intervention**: Formation of a village-level committee with the involvement of 1 member from each pocket of the village as well as an implementation partner and member of the monitoring agency. The committee should be completely independent from the Gram panchayat body & local-level political committees. This committee can decide the site locations as per need while considering the drainage density. The committee will also make ensure the monitoring of the work. This can help in trust building and can also help to achieve larger impact.







Villagers appreciated CCF Water Conservation Project and stated that they are grateful to CCF because of the increase in water level as well as agricultural productivity. Also requested the Mordara Percolation tank repair and they said the complete village will support the CCF in implementation as this intervention can not only solve the Pemgiri water crisis problem but can also solve the nearby villages' water requirement.

Mordara Percolation Site

Recommendation(2/2)

Implementation

- **Challenges:** Lack of involvement of Government Officials. Lacking of Collaboration with the government or private initiatives.

✓**Intervention**: There are various opportunities for convergence with government or private initiatives which are happening on the ground during the project implementation year. Collaboration and leveraging the resources and manpower can help in effective implementation with achieving the highest possible impact.

सकाळ

दहा हजार बंधारे उभारणार

प्रत्येक कृषी सहायकाकडे दहा बंधाऱ्यांचे नियोजन

सकाळ वृत्तसेवा

संगमनेर, ता. ७ : कृषी सेवा केंद्र व लोकसहभागातून संगमनेर उपविभागात शून्य खर्चाचे दीड हजार वनराई बंधारे उभारण्याचे काम युद्धपातळीवर सुरू आहे. प्रत्येक कृषी सहायकाने १० बंधारे उभारण्याचे नियोजन केले आहे, अशी माहिती संगमनेरचे उपविभागीय कृषी अधिकारी सुधाकर बोराळे यांनी दिली.

दर वर्षी पावसाळ्याच्या शेवटी वाहत्या झालेल्या ओढ्या-नाल्यांचे पाणी अडवून त्यावर सोप्या तंत्राचा वापर करून बांधलेल्या वनराई बंधाऱ्यांमुळे पाणी साचून सिंचन, जमिनीचा ओलावा टिकवणे, तसेच उन्हाळ्यात उद्‌भवणाऱ्या पाणीटंचाईवरही मात करण्यासाठी संगमनेर उपविभागात ही मोहीम आखली आहे. जलसंधारणास मदतीसह रब्बी हंगामासाठी पिकांना व पशुपक्ष्यांसाठी पाणीसाठे उपलब्ध होऊन विहिरींची पाणीपातळी वाढण्यासाठी व उत्पन्नात भर घालणाऱ्या या उपक्रमाला शेतकरी वर्गाचा भरघोस प्रतिसाद मिळत आहे.

संगमनेर : वनराई बंधाऱ्याची पाहणी करताना सुधाकर बोराळे व कृषी विभागाचे अधिकारी.

लाभ पुढील हंगामात

सिमेंट अथवा तत्सम गोण्यांमध्ये वाळू भरून प्रवाही नाल्यात योग्य ठिकाणी आडव्या रंगित बांध घातला जातो. दोन गोण्यांमधील फटीत माती भरून बंदिस्ती केली जाते. यातून जवळपास शून्य खर्च व कमी श्रमात चांगला बंधारा तयार होतो. याचा लाभ लगेच पुढील हंगामासाठी होतो.

तालुका कृषी अधिकारी बापूसाहेब शिंदे, प्रवीण गोसावी, माधव हासे व मनोज सोनवणे यांच्या मार्गदर्शनाखाली संगमनेर

"लोकसहभागातून राबवलेल्या या योजनेमुळे शासनाची प्रतिमा उंचावण्यास मदत होते. १० नोव्हेंबर रोजी कामाला सुरवात झाली असून, उपविभागातील चार तालुक्यांतील प्रस्तावित दीड हजार बंधाऱ्यांपैकी ९५० बंधारे पूर्ण झाले आहेत.
– सुधाकर बोराळे, उपविभागीय कृषी अधिकारी, संगमनेर

उपविभागातील राहाता, कोपरगाव, संगमनेर व अकोले या तालुक्यांत स्थानिक शेतकरी, कृषी सेवा केंद्र संघटना, कृषी सेवक व कर्मचाऱ्यांच्या श्रमदानातून ही मोहीम यशस्वीरीत्या राबवली जात आहे.

या बंधाऱ्यांसाठी सिमेंटच्या अथवा इतर रिकाम्या गोण्यांसाठी माफदाचे उपाध्यक्ष विवेक कासार, संगमनेर तालुका असोसिएशनचे अध्यक्ष संतोष तक्ते, सचिव अमित कासार यांनी सकारात्मक प्रतिसाद दिला, तर संगमनेर तालुक्यातील इंजिनिअर असोसिएशनचे सहकार्य मिळवण्यासाठी सुदीप वाकळे यांनी परिश्रम घेतले.

Nagar, Nagar-Today
08/12/2022 Page No. 4

8th December 2022: With the help of people's participation, Krushi Sewa Kendra going to build 1,500 bunds in the Sangamner sub-division stated by Sangamner Subdivision Agriculture Officer Sudhakar Borale.

आठ गावांच्या पाणीपुरवठा योजनेसाठी ५९ कोटी मंजूर

संगमनेर, ता. १४ : तालुक्यातील निमगाव बुद्रुक व खुर्द, पेमगिरी, सावरचोळ, शिरसगाव धुपे, मेंगाळवाडी, नांदुरी दुमाला व मिर्झापूर या आठ गावांकरिता जलजीवन मिशन कार्यक्रमांतर्गत ५९ कोटी सहा लाख ७३ हजार रुपये मंजूर झाले आहेत. या योजनेसाठी महसूलमंत्री बाळासाहेब थोरात यांनी पाठपुरावा केल्याची माहिती माजी जिल्हा परिषद सदस्य मिलिंद कानवडे यांनी दिली.

कोविड महामारीच्या दोन वर्षांनंतर राज्य सरकारचा आर्थिक गाडा पूर्वपदावर येण्यास सुरवात झाली आहे. महसूलमंत्री थोरात यांनी निळवंडे कालव्यांच्या महत्त्वाकांक्षी प्रकल्पासाठी राज्याने निधी उपलब्ध करून दिला आहे. त्यामुळे दोन्ही कालव्यांची कामे युद्धपातळीवर सुरू आहे. लवकरच पूर्णत्वास जाणार आहेत. राज्य सरकारच्या जलजीवन मिशन कार्यक्रमाअंतर्गत मौजे निमगाव बुद्रुक, निमगाव खुर्द, पेमगिरी, नांदुरी दुमाला, मिर्झापूर, शिरसगाव धुपे, सावरचोळ, मेंगाळवाडी या आठ गावांना शाश्वत पिण्याचे पाणी मिळावे, यासाठी एकत्रित पाणीपुरवठा योजना मंजूर केली आहे. या योजनेसाठी ५९ कोटी सहा लाख ७३ हजार रुपयांचा निधी मंजूर झाला आहे. शिरसगाव धुपे या डोंगरावरील दुर्गम गावालाही नळाद्वारे पाणीपुरवठा होणार आहे.

15th May 2022: Under Jal Jeevan Mission Initiative, ₹59,06,73,000 fund has been sanctioned for Water Supply Scheme implementation in 8 villages in Sangamner Block including villages Pemgiri & Nanduri Dumala.

तलाव, बंधारे होणार गाळमुक्त

जिल्हा परिषदेची विशेष मोहीम; नाम फाउंडेशनसोबत करार

पुणे, ता. १९ : जिल्ह्यातील गावा-गावांतील तलाव गाळमुक्त करण्यासाठी जिल्हा परिषदेने विशेष मोहीम हाती घेतली आहे. या अंतर्गत पाझर तलाव, गाव तलाव, कोल्हापुरी बंधारे, वळण बंधारे आणि साठवण बंधारे गाळमुक्त केले जाणार आहेत. यासाठी नाम फाउंडेशनचे सहकार्य घेतले जाणार असून, याबाबतचा सामंजस्य करारही करण्यात आला आहे.

ही गाळमुक्त तलाव मोहीम एक एप्रिलपासून सुरू केली आहे. ती येत्या ३१ मेपर्यंत राबविली जाणार आहे. या मोहिमेत जिल्ह्यातील सर्व तलाव गाळमुक्त केल्याने पावसाचे पाणी अडविणे, भूपृष्ठीय पाणी साठवण क्षमता वाढविणे, भूजल पुनर्भरण होण्यास मदत होणार असल्याचे जिल्हा परिषदेचे मुख्य कार्यकारी अधिकारी आयुष प्रसाद यांनी सोमवारी सांगितले. भूगर्भातील पाण्याचे पुनर्भरण करणे, भूजल पातळीत वाढ करणे, पिण्याच्या पाण्याचे स्रोत बळकट करणे आदी या गाळमुक्त तलाव मोहिमेची मुख्य उद्दिष्टे असल्याचेही प्रसाद यांनी यावेळी स्पष्ट केले. जिल्हा परिषदेच्या स्थापनेपासून आजतागायत जिल्हा परिषदेतील छोटे पाटबंधारे विभागाच्यावतीने गाव सुमारे अडीच हजारांहून अधिक छोटे पाटबंधारे निर्माण करण्यात आलेले आहेत. यामध्ये गाव, पाझर तलावांसह कोल्हापुरी, वळण, साठवण बंधारे आदींचा समावेश आहे. हे सर्व लघु पाटबंधारे हे १०० हेक्टर क्षेत्राच्या आतील आहेत. दरवर्षी पावसाच्या पाण्याबरोबर मोठ्या प्रमाणात गाळ वाहून येतो आणि हा गाळ या तलावांमध्ये साठत असतो.

जिल्ह्यातील पाझर तलाव	६२१
गाव तलावांची संख्या	१०६
कोल्हापुरी बंधारे	३७८
साठवण बंधारे	७८१
वळण बंधारे	७४५
छोटे पाटबंधारे	२ हजार ६३१

परिणामी या तलावांची पाणी साठवण क्षमता कमी होते. पर्यायाने सिंचन क्षमता खालावली जाते. शिवाय नाल्याच्या पात्रात गाळ साचल्याने नाल्याची पाणी वाहून नेण्याची क्षमता कमी होते. त्यामुळे हे सर्व छोटे पाटबंधारे हे गाळमुक्त करणे गरजेचे आहे. त्यामुळे ही गाळमुक्त तलाव मोहीम हाती घेण्यात आली आहे.

20th April 2022: Zilha Parishad took initiative with an organization of the de-siltation of water bodies in the Pune district.

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

- Scope for Scalability and Replicability of the program

International Year Of Millet(IYoM)

Food and Agriculture Organization of the United Nations

INTERNATIONAL YEAR OF MILLETS 2023

Government of India had proposed to United Nations for declaring 2023 as the International Year of Millets (IYOM). The proposal of India was supported by 72 countries and United Nation's General Assembly (UNGA) declared 2023 as the International Year of Millets on 5 th March, 2021

Why did United Nations declare the year 2023 as the IYoM?

- **To empower small landholder farmers:** Low seed prices, enough yield production despite of marginal land size and declared Minimum Support Price.
- **Adopt climate change:** Can grow in challenging climate conditions as well.
- **Less water-intensive crop:** Requires 70% less water than rice; grows in half the time of wheat; and needs 40% less energy in processing and can withstand extreme heat conditions.
- **Solution to Global Food Crisis:** Grown in 131 countries, traditional food people in Asia & Africa. Highly nutritious and reduces the risk of cancer, diabetes and blood pressure.

Sorghum

Pearl Millet

Finger Millet

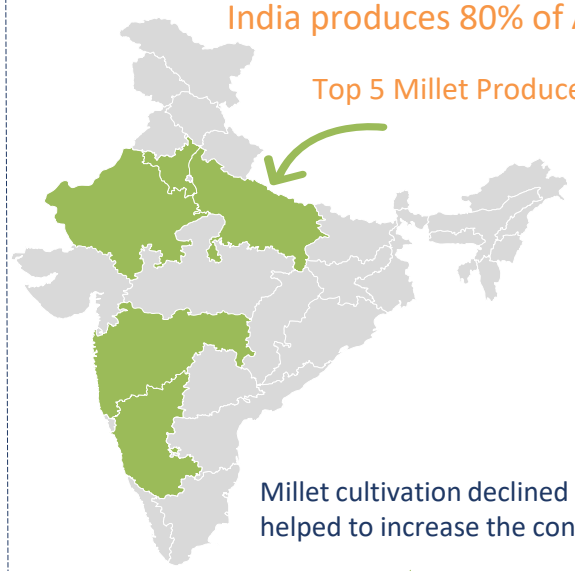
Little Millet

Image Source: Wikipedia

India's take on IYoM

India produces 80% of Asia's and 20% of global production of Millet

Top 5 Millet Producers in India in Bajra and Jowar cultivation



Area Under Millet Cultivation(Lakh Hector)		
Crop	**1960-61**	**2021-22**
Jowar	62.85	16.49
Bajra	16.35	5.26
Nachani/Nagali	2.30	0.73
Other Millets	1.77	0.60

Millet cultivation declined because of the Green Revolution started in 1965 which helped to increase the consumption of rice and wheat in India.

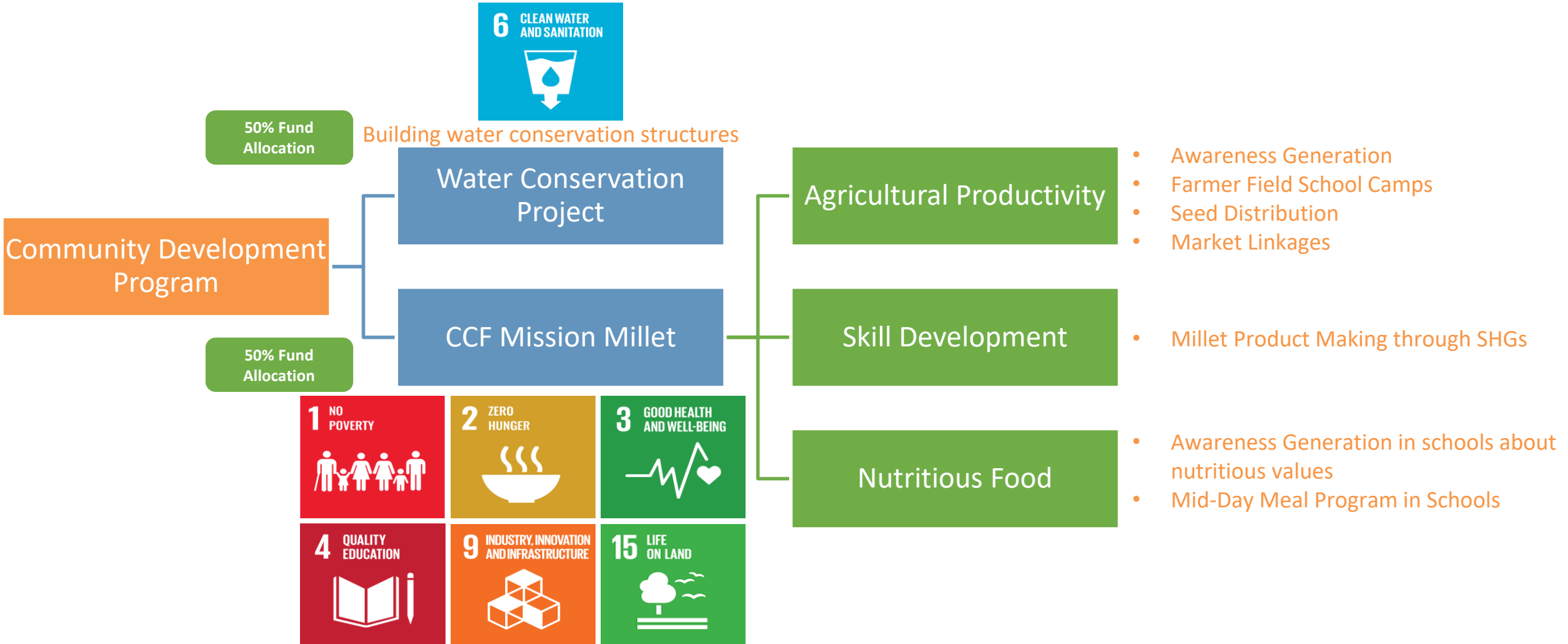
7 Themes of India for IYoM

1. Enhancement of Production/Productivity
2. Nutrition and health benefits
3. Value addition, Processing and Recipe Development
4. Entrepreneurship/Startup/ Collective Development
5. Awareness creation- Branding, Labelling & Promotion
6. International Outreach
7. Policy interventions for mainstreaming

Scope for CCF to Scale up the Water Conservation Project

CCF contributes socially for community development through 4 Thematic Areas : Water Conservation, Skill Development, Community Development, Promotion of Health and response to Covid-19.

With the set objectives of water conservation, water table increase , availability of drinking water and agricultural productivity, CCF through it's Community Development Program under the umbrella intervention of Water Conservation there can be multiple sub interventions can be developed around the IYoM.



Opportunities

Challenges in existing Project

- Despite of efforts of Watershed treatment, external challenges affecting the agricultural productivity.
- Lack of community participation during project design as well as project implementation led to lack of ownership among community towards structure.
- Less opportunities for Government linkages/leverages limited the scope of work.
- Lack of awareness about CCF, it's intent towards community development. Local level politics marginally impacted negatively on project.

Favorable Conditions For Community Development Program

- ✓Jawar & Bajra are the primary crops for the majority of the farmers in all the villages which were selected under the Water Conservation Project.
- ✓As millets can grow in challenging conditions, despite of having uncertain rainfall patterns in the geography, it may affect less compared to other crops.
- ✓Opportunity for community participation including women and children which helps in project sustainability.
- ✓Development of more localized income generation opportunities.
- ✓As the state government also implementing the IYoM on the grassroots level, leveraging government resources and manpower by collaborating with them can help in project cost reduction as well as help to achieve a larger reach.

'महाराष्ट्र मिलेट मिशन'साठी २०० कोटींची तरतूद

मुख्यमंत्री एकनाथ शिंदे : मंत्रालयात 'मिलेट मिशन'चे उद्घाटन

अॅग्रोवन वृत्तसेवा

मुंबई : राज्यातील पौष्टिक तृणधान्य उत्पादन क्षेत्रवाढीसाठी शेतकऱ्यांना प्रोत्साहन देणे आणि त्या उत्पादनांना योग्य दरामध्ये मिळेल, यासाठी राज्य शासन आग्रही आहे. त्यामुळे महाराष्ट्र मिलेट मिशनसाठी २०० कोटी रुपयांची तरतूद करण्यात आली आहे. हे मिशन शेतकऱ्यांच्या आर्थिक उन्नतीसाठी उपयुक्त ठरेल, असे प्रतिपादन मुख्यमंत्री एकनाथ शिंदे यांनी केले.

मंत्रालयातील विधानभवनाच्या प्रांगणात महाराष्ट्र मिलेट मिशनच्या उद्घाटन प्रसंगी ते बोलत होते. कृषिमंत्री अब्दुल सत्तार, उद्योगमंत्री उदय सामंत, शालेय शिक्षणमंत्री दीपक केसरकर, कृषी विभागाचे प्रधान सचिव एकनाथ डवले प्रमुख उपस्थित होते.

या वेळी मंत्रालयात शेतकरी उत्पादक कंपन्यांनी तयार केलेल्या भरडधान्यांच्या उत्पादनांची दालने उभारण्यात आली असून येथे विविध पदार्थांची विक्रीही केली जात आहे. आज (ता. १) या प्रदर्शनाचा समारोप होणार आहे. मुख्यमंत्री शिंदे यांच्या हस्ते तृणधान्य पूजन आणि तृणधान्य फलूद बनवलेल्या केक कपूस या मिलेट मिशनचा प्रारंभ करण्यात आला.

या वेळी मुख्यमंत्री शिंदे म्हणाले, "महाराष्ट्रात मोठ्या प्रमाणात ज्वारी, बाजरी, नाचणी, वरई, राजा, कुटकी ही पिके पेरली जातात. या पिकांचे आंतरराष्ट्रीय पातळीवरील मान्यता मिळवून देण्याचा यंदा संयुक्त राष्ट्रसंघाने सालो होणारे आंतरराष्ट्रीय पौष्टिक तृणधान्य वर्ष उपयुक्त ठरेल. महाराष्ट्र मिलेट मिशनमुळे नवी पिढी वंकडकडून परंपरिक तृणधान्याकडे वळविण्यास पदार्थांकडे निश्चितपणे वळेल. शेतकऱ्यांच्या उत्पादनाही चांगला भाव मिळेल. स्मार्ट या प्रकल्पांतील सोलापूर येथे इंडियन इन्स्टिट्यूट ऑफ मिलेट, हैदराबादच्या सहकार्याने 'मेटा ऑफ एक्सलन्स'ची स्थापनही करण्यात येणार आहे.

कृषिमंत्री सत्तार म्हणाले, "या वर्षी त्यापक आणी योजना यासाठी बनवली आहे. पौष्टिक तृणधान्य उत्पादन वाढवण्यासाठी प्रयत्न करण्यात येतील."

या वेळी मुख्यमंत्री शिंदे यांच्या हस्ते शेतकरी मासिक 'पौष्टिक तृणधान्य विशेषांक, महाराष्ट्र मिलेट मिशन पुस्तिका आणि महाराष्ट्र मिलेट मिशन पोस्टरचे प्रकाशन तसेच महाराष्ट्र मिलेट मिशन वेबसाइटचे अनावरण करण्यात आले.प्रास्ताविक प्रधान सचिव एकनाथ डवले यांनी केले. कृषी आयुक्त सुनील चव्हाण यांनी आभार मानले. या वेळी आमदार भरत गोगावले, आदिती तटकरे, प्रकाश सुर्वे, अण्णा बनसोडे उपस्थित होते. आजच्या या कार्यक्रमा वेळी प्रांगणात ज्वारी, बाजरी, नाचणी यासह विविध तृणधान्यांपासून बनवलेल्या पदार्थांचे स्टॉल्स लावण्यात आले होते. मंत्रालयातील कर्मचारी, आलेले नागरिकांनी या पदार्थांची खरेदी केली.

मुंबई : 'महाराष्ट्र मिलेट मिशन'चे मंत्रालयात मंगळवारी (ता. ३१) उद्घाटन मुख्यमंत्री एकनाथ शिंदे यांच्या हस्ते करण्यात आले. या वेळी कृषी विभागाचे प्रधान सचिव एकनाथ डवले यांनी तृणधान्यांची माहिती दिली. या वेळी कृषी आयुक्त सुनील चव्हाण.

1st Feb 2023 | Agrowon

State Gove. Sanctioned 200 crores for Millet Mission

तृणधान्यांचा प्रसार झाल्यास शेतकऱ्यांना चांगला दर : दिवेकर

अॅग्रोवन वृत्तसेवा

मुंबई : "तृणधान्याला गरिबांचे धान्य म्हटल्याने याआधी या धान्यांचा प्रसार झाला नाही. मात्र, आंतरराष्ट्रीय तृणधान्य महोत्सवामुळे शेतकऱ्याला चांगला भाव आणि ग्राहकांना माफक दर हे उद्दिष्ट साध्य होईल," असा विश्वास आहारतज्ज्ञ ऋतुजा दिवेकर यांनी बुधवारी (ता.२२) व्यक्त केला.

पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाच्या उद्घाटनप्रसंगी त्या बोलत होत्या. खासदार सुप्रिया सुळे यांच्या हस्ते या प्रदर्शनाचे उद्घाटन करण्यात आले.

दिवेकर म्हणाल्या, "तृणधान्यांचा वापर दैनंदिन आहारात झाला तर त्यातील पौष्टिक

मुंबई पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाचे उद्घाटन करताना अनुप कुमार, आहारतज्ज्ञ ऋजुता दिवेकर आदी.

'तृणधान्यांना अन्नाचा पर्याय बनविणे गरजेचे'

"तृणधान्यांना भविष्यासाठी अन्नाचा पर्याय बनविणे ही काळाची गरज आहे. या पिकांच्या आरोग्य विषयक फायद्यांबाबत जनजागृती करणे गरजेचे आहे," असे सहकार व पणन विभागाचे अपर मुख्य सचिव अनुपकुमार यांनी सांगितले.

23rd Feb 2023 | Agrowon

Millet Fest @Nariman Point,Mumbai

तृणधान्यात नगर देशात अग्रेसर करणार

राधाकृष्ण विखे-पाटील : नगर महोत्सवाचे उद्घाटन, जिल्हा परिषदेकडून आयोजन

अॅग्रोवन वृत्तसेवा

नगर : देशात यावर्षी आंतरराष्ट्रीय तृणधान्य वर्ष साजरे केले जात आहे. त्याअनुषंगाने कृषी विभागाच्या मदतीने तृणधान्याचे वेगवेगळे कलस्टर तयार करून, नगर जिल्हा तृणधान्य उत्पादनात देशात पहिल्या क्रमांकावर येण्यासाठी प्रयत्न केले जातील, असे पालकमंत्री राधाकृष्ण विखे पाटील यांनी सांगितले.

नगर येथे कृषी विभाग, जिल्हा परिषदेच्या जिल्हा ग्रामीण विकास यंत्रणा व पशुसंवर्धन विभागाच्या एकत्रित 'नगर महोत्सवा'चा पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते शुक्रवारी (ता. १०) उद्घाटन झाले. पद्मश्री पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, आमदार बबनराव पाचपुते, राम शिंदे, माजीमंत्री शिवाजी कर्डीले, जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर, जिल्हा अधीक्षक कृषी अधिकारी शिवाजी जगताप, कृषी उपसंचालक रवींद्र माने, जिल्हा परिषदेचे अतिरिक्त मुख्य कार्यकारी अधिकारी संभाजी लोणीर, जिल्हा ग्रामीण विकास यंत्रणेचे प्रकल्प संचालक सुनील पठारे, महापालिकेचे आयुक्त पंकज जावळे, पशुसंवर्धन उपायुक्त डॉ. सुशील तुंबारे यांची प्रमुख उपस्थिती होती.

नगर : 'नगर महोत्सवा'चे पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते उद्घाटन झाले. पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, शिवाजी कर्डीले व इतर.

'साईज्योती ई-कॅटलॉग' ॲपचे उद्घाटन

पाच दिवस चालणाऱ्या 'नगर महोत्सवा'मध्ये २०० महिला बचत गटांचे स्टॉल, १०० खाद्य पदार्थ स्टॉल, २०० कृषी विषयक स्टॉल आहेत. नगर जिल्ह्यातील सहकार, शेती, इतिहास आदींची माहिती देणारा विशेष लोगो, महिला बचत गटांच्या उत्पादन विक्रीसाठी 'साईज्योती ई-कॅटलॉग' या ॲपचे उद्घाटन करण्यात आले.

विखे पाटील म्हणाले, नगर जिल्ह्यामध्ये महिला बचत गट चळवळीच्या माध्यमातून मोठ्या प्रमाणात महिला सक्षमीकरणासाठी काम केले जात आहे. महिला बचत गटांच्या साहित्याची ऑनलाइन विक्री करण्याची व्यवस्था केली जात असून त्यासाठी जिल्हा नियोजन समितीमधून दोन कोटी रुपयांचा निधी उपलब्ध करून दिला आहे. याशिवाय महिला सक्षमीकरणासाठी जेवढा निधी लागेल तेवढा निधी उपलब्ध करून देऊ, असे जिल्हाधिकाऱ्यांना आदेश दिले आहेत.

शेतकरी गट शेतकरी कंपन्या व महिला बचत गटांच्या माध्यमातून तृणधान्य उत्पादनात नगर जिल्हा देशात पहिला आणण्यासाठी प्रयत्न केले जात असून शेतकऱ्यांनी यात पुढाकार घ्यावा, असे राधाकृष्ण विखे पाटील यांनी स्पष्ट केले. प्रारंभी जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर यांनी प्रास्ताविक केले.

11th Feb 2023 | Agrowon

Millet Fest @ Ahmednagar District

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries and the project is completed as per plan.
- Agricultural activities especially allied businesses have increased and there is a positive change in the exploration of income generation opportunities.
- As an integrated activity, Mission Millet will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving project stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community

Thank You.

Crompton

Crompton CSR Foundation

Water Conservation Project

Endline Assessment along with Outcome Study

At

Pimpalgaon Matha Village, Sangamner Block, Ahmednagar District

Submitted By: NuSocia|09/03/2023

NuSocia
Impact. Evident.

Acknowledgement

The Outcome Assessment along with Endline Assessment Report of the Water Conservation Project in Pimpalgaon Matha village of Sangamner block of Ahmednagar district, Maharashtra has been undertaken by NuSocia as a part of a work order collaboration between Crompton CSR Foundation(CCF) and NuSocia.

At the outset, we would like to thank CCF for granting this opportunity to NuSocia. We express our heartfelt gratitude to CCF CSR Head Seema Pawaskar for her invaluable guidance. We extend our gratitude to the entire CSR committee and also the team of Collective Good Foundation for their continuous support and assistance to the research team of NuSocia.

We also extend our gratefulness to the ground-level implementers and stakeholders of this project, Mr. Sagar Dhariya and the team of Vanarai, for being extremely efficient with their coordination and support throughout the study period. We are sincerely thankful to all the participating respondents for their support and input.

Limitations

Village Pond

- In the report, the ‘Year’ referred to is calculated from Mid Jan 2022 to Mid Jan 2023 during which two cropping cycles were completed and the data related to agriculture were captured for that time frame.
- Data related to Land cover and water runoff indicators are included in the hydrogeo report submitted

Content

Wheat Crop in January

- Context
- Methodology
- Findings
- Analysis
- Recommendation
- Conclusion

Context

Loose Boulder Structure

- Background
- Project Overview

Background

- Villages in developing countries like India still do not have access to clean water for drinking and sanitation. Due to changing climate conditions, an increase in average temperature is associated with greater occurrence of heatwaves, longer and more frequent droughts, and heavy erratic rainfall leading to a water crisis in India.
- Approximately 80 % of the state of Maharashtra is classified as semi-arid and the state suffered 79 droughts from 2010-2020. This number is significantly higher than the 11 droughts faced during 1970-1980, according to the nonprofit Council on Energy, Environment and Water (CEEW).
- In the Ahmednagar district, the majority of the rural population **depends directly or indirectly on agriculture for their livelihoods; of which, 80 % are small and marginal farmers**. In the last two decades, episodes of droughts and unseasonal rainfall have become more frequent resulting in massive crop failures, rising debt, distress migration and suicide, especially among smallholder farmers.
- **Major parts of the district(** central, northern and eastern parts) **is also showing trends of falling groundwater level**
- Water conservation efforts are necessary to solve the existing water crisis challenges in the district.

Source: AQUIFER MAPS AND GROUNDWATER MANAGEMENT PLAN AHMEDNAGAR DISTRICT MAHARASHTRA

Overview

Source: Vanarai

CCF initiated Water Conservation Project in Pimpalgaon Matha with implementation partner Vanarai with the planned objective of :

1. Increase community participation in sustainable watershed development and further management.

2. To prevent soil erosion, increase soil moisture, raise groundwater level, and conserve and increase the biomass cover of the area.

3. To reduce runoff velocities for control of soil erosion.

4. Increase in agricultural production of farmers.

NuSocia, an impact advisory firm has been appointed to undertake the **Endline assessment along with the Outcome Study of the Water Conservation Project** to understand the outcomes achieved against the baseline situation.

Methodology

- Study Objectives & Phasing

Objective

To conduct an End line assessment along with the outcomes of the project.

Phasing

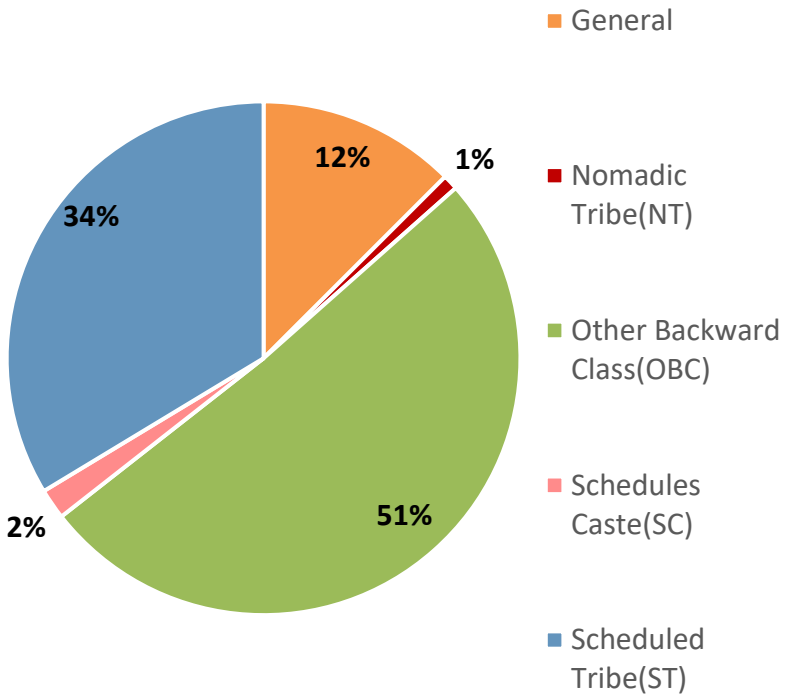
Context Setting	Research Design	Primary Research	Findings & Analysis	Report Submission
Dec 01 to Dec 02	Dec 03 To Dec 10	Dec 12 To Feb 02	Feb 03 To March 10	March 11 To March 20
• Building a common understanding of the universe of the project • Obtain project MIS & other relevant documents for secondary research	• Development of **research tools** for primary interaction in the field • Sign off on the tools	• Primary field assessment study – **6 Key Informant Interviews** (Implementation Partner, Panchayat Member, Livestock Rearers, Farmers) • **2 Focus Group Discussion** Farmers, Women • **104 Community Survey** • Observation recording	• Triangulation of Qualitative research against Quantitative research • Analysis of Qualitative research	• Presentation of Findings of Outcome along with End line, • Final report with observations, analysis, inferences and recommendations

Findings

- Social Profile Of Respondents
- Beneficiary Mapping
- Impact Map
- Output
- Outcome
- Impact

Profile Of Respondents

Caste



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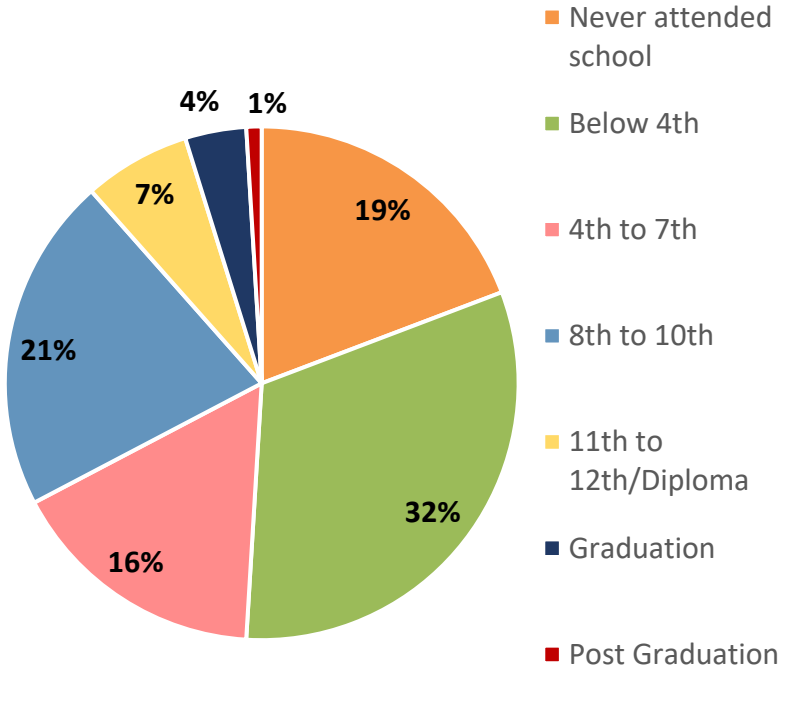
Education



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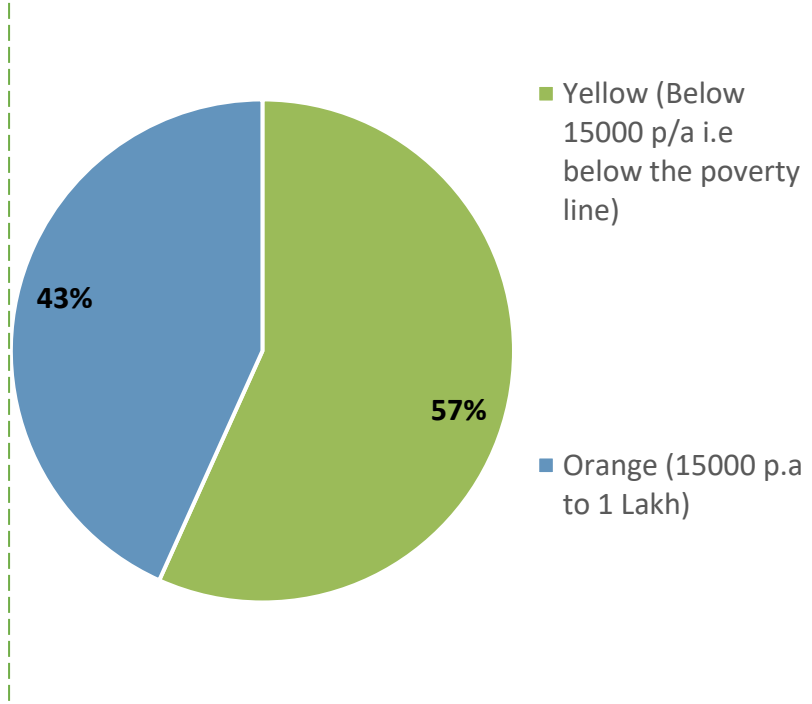
Ration Card Holder



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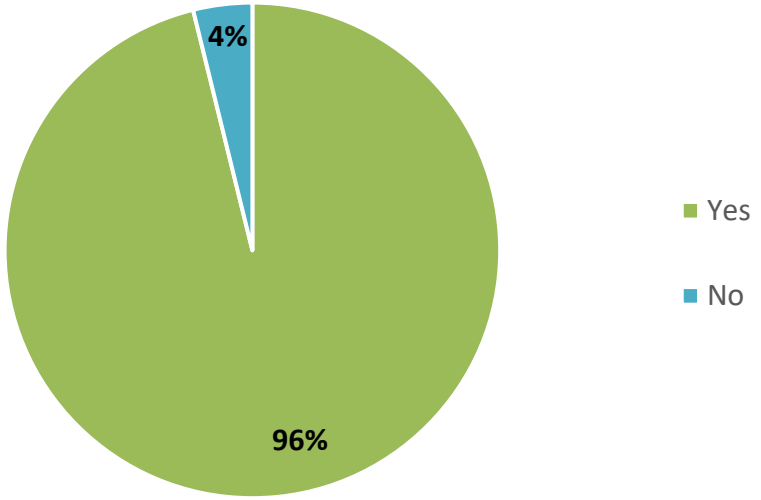
Participation of **30 to 50 years age group respondents was higher** and **male members majorly** participated in the survey.
100% respondents belong to **Hindu** and 51% of the total belong to the **Other Backward Class** and 34% belong to Schedule Tribe.
Out of the total respondents, **only 12% have completed their education above 10th class**.
57% respondents belong to **Below Poverty Level.**

Beneficiary Mapping

Awareness of the Project



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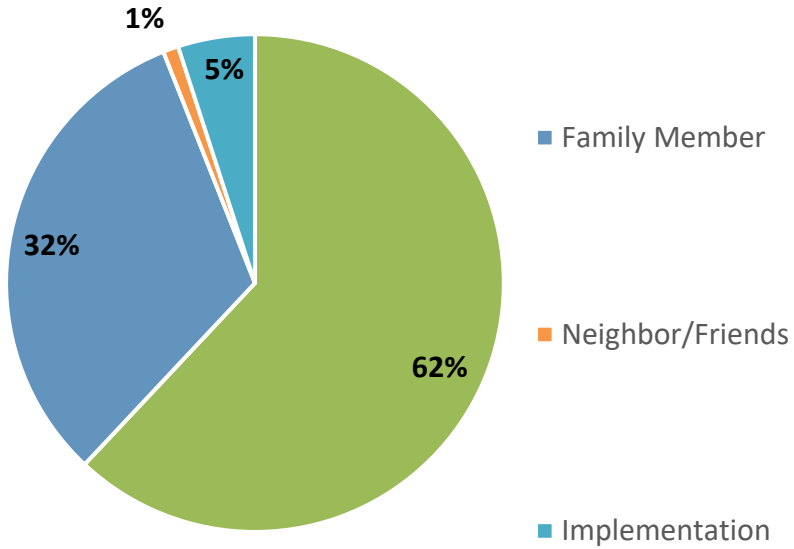
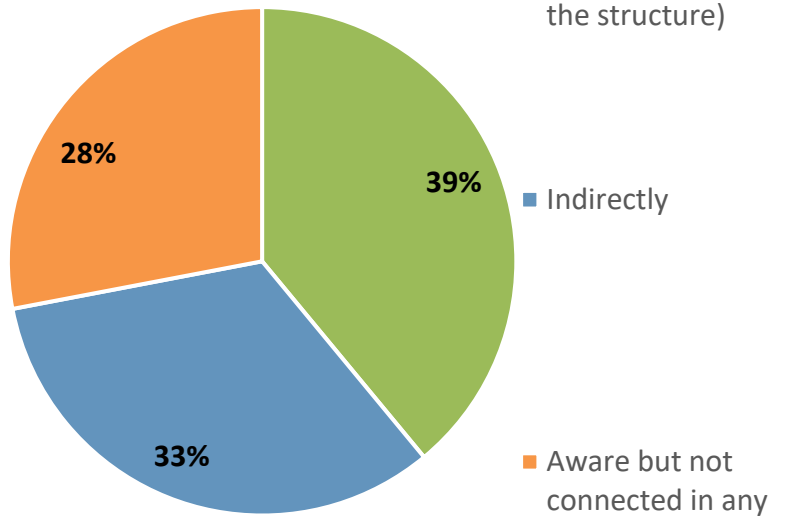
Source of Awareness



n=100(96%)

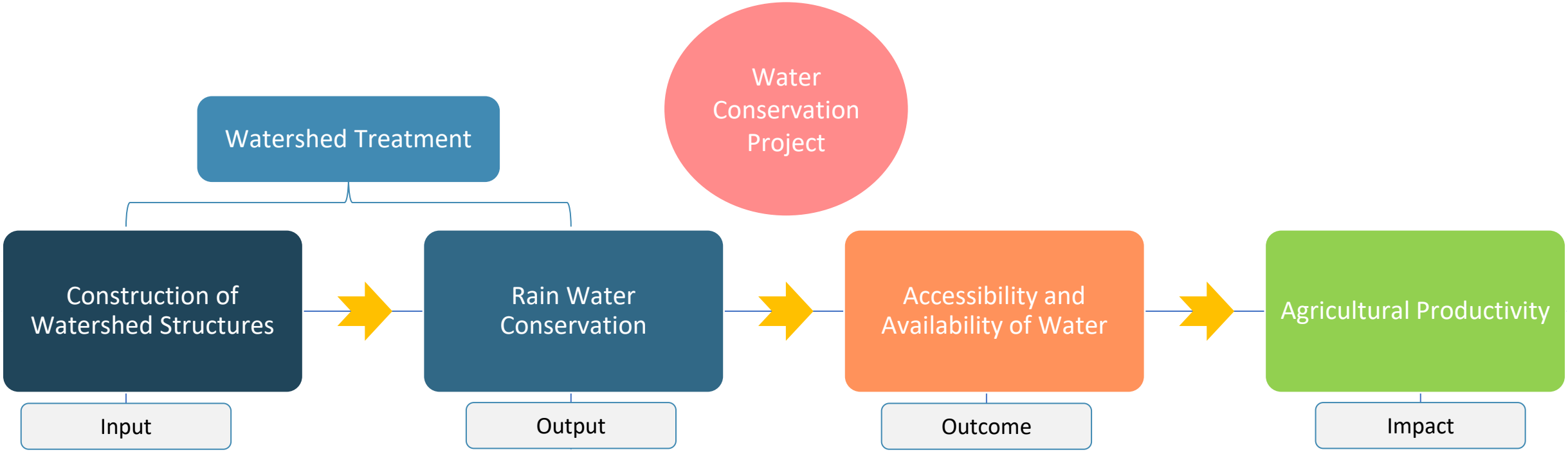
Benefited By



n=100(96%)

Visibility of the project is very high as 96% of **the total respondents are aware** of the project and 62% of them had heard about it through the Grampanchayat.
39% of respondents stated that they **benefited** from the project **directly** as the structures are close to their farmland/well and **through water percolation**, they are benefitting from it and 33% of them benefited **indirectly.**

Impact Map

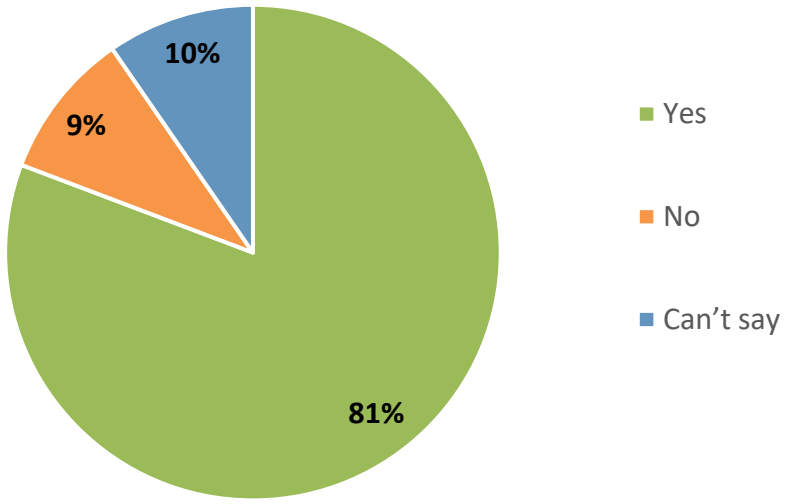

Water Conservation Project
Watershed Treatment
Construction of Watershed Structures
Rain Water Conservation
Accessibility and Availability of Water
Agricultural Productivity
Input
Output
Outcome
Impact

Output

- Rainwater Harvesting
  1. Achievement
  2. Intervention Performance

Output: Achievement

Intervention Helping In Rain Water Conservation



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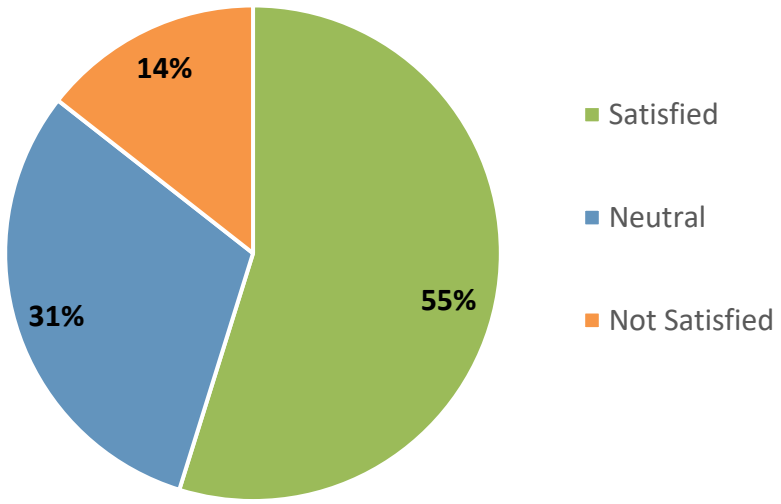
Level of Satisfaction Towards Project



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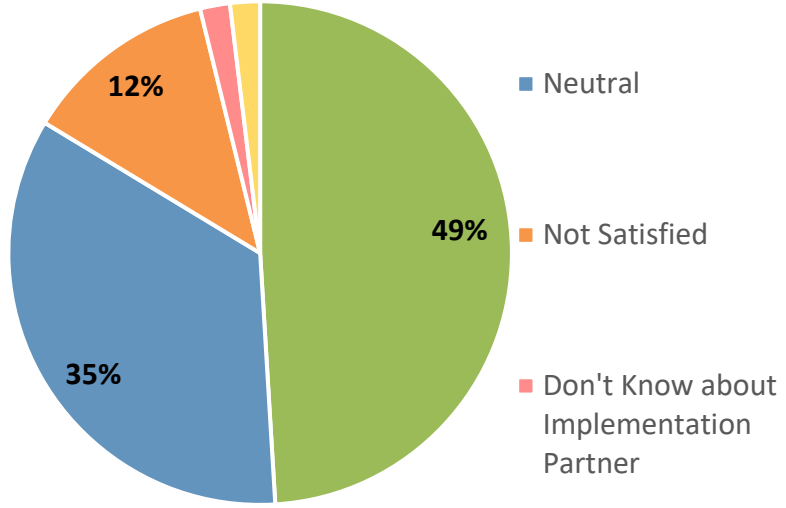
Level of Satisfaction Towards Implementation Partner



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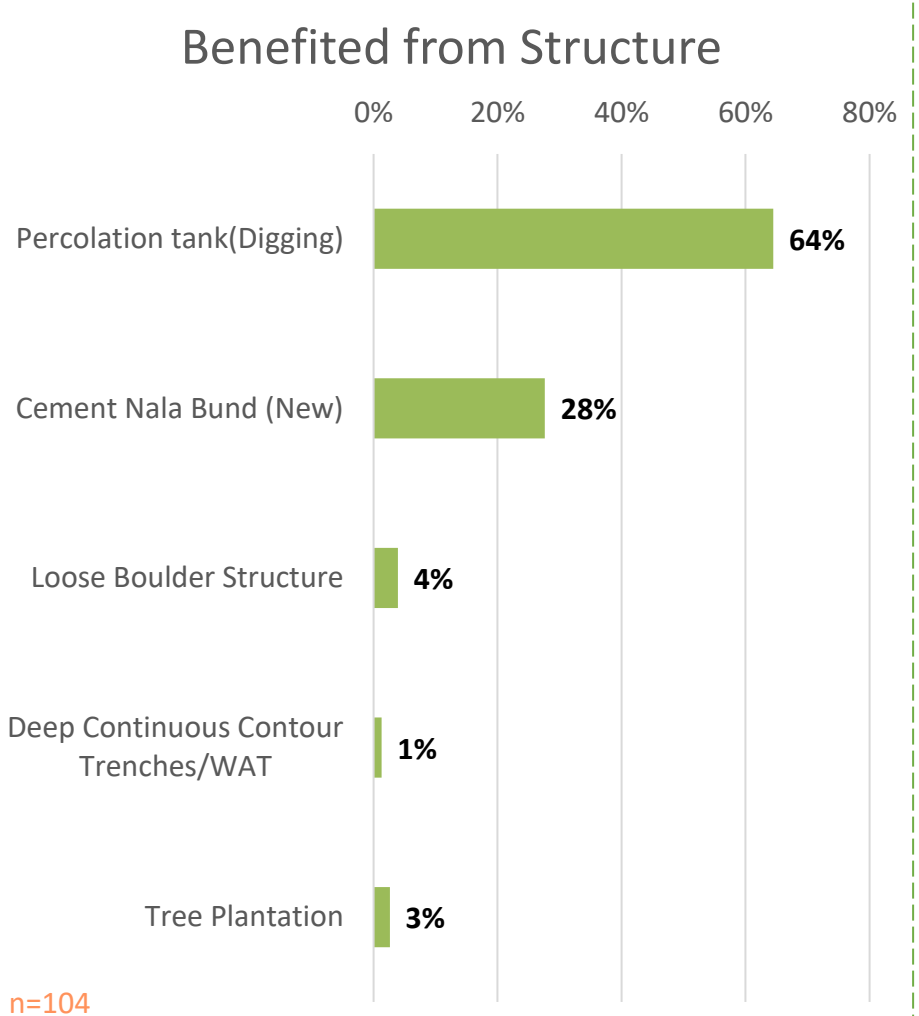
A total of 81% of respondents think that the **watershed interventions are helping in rainwater conservation**.
55% of the total respondents are **satisfied when asked about the feedback on the overall project**.
However, when it comes to **the way of working of the Implementation partner**, 49% are **satisfied** with their way of working.

Output: Intervention Performance



Digging of the percolation tanks and New Cement Nala Bund is highly appreciated by respondents as it is located in different parts of village pockets.

Baseline

- Existing rainwater conservation structures implemented by other entities were **damaged and unable to capture and percolate the rainwater.** Hence the water resources **started to dry up** after Diwali.(Oct/Nov month).

Endline

- Watershed intervention methodology based on the **'Matha te Payatha'(Top to bottom) approach** with various interventions such as LBS, CCT, Percolation Tank, and Cement Nala Bund. **Therefore the water catchment area has increased**.
- Because of multiple watershed structures, **the risk of land degradation has been reduced** as per the respondents and it **helped in reducing the runoff of rainwater**.
- **Percolation tank plays an expected role** in **water percolation** in the land and hence **nearby wells have enough water for daily farming activities**.
- Villagers yet feel **there is a requirement for a water tanker** as due to the hilly area **water runoff is high** and existing water conservation structures are **not enough to capture the water**.

Water near Cement Nala Bund

Community Survey

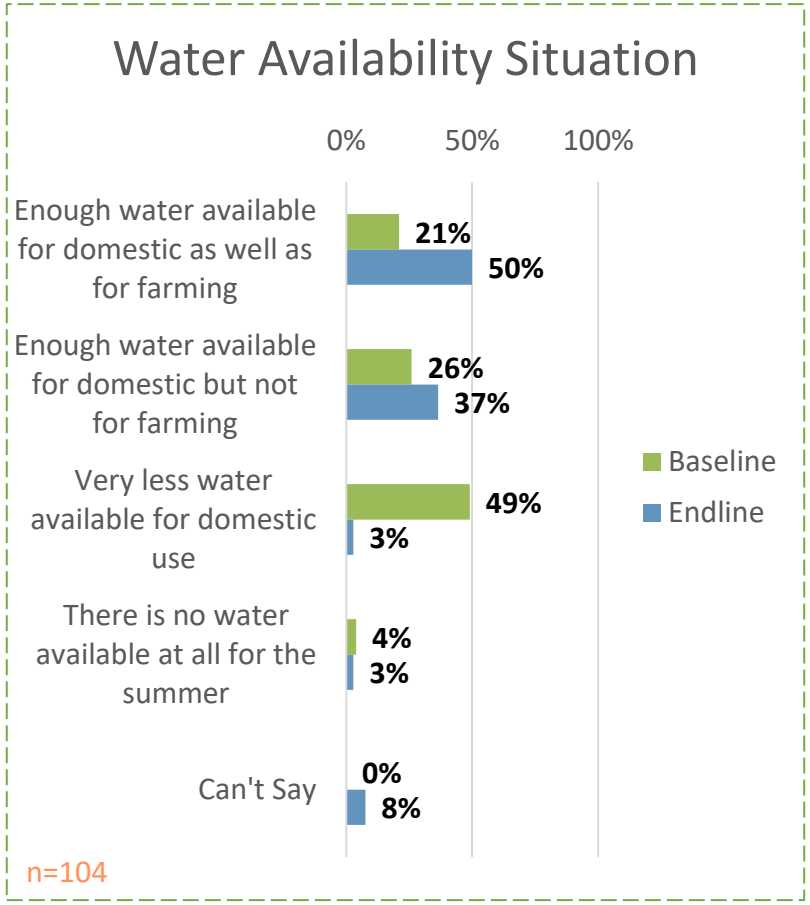
Outcomes

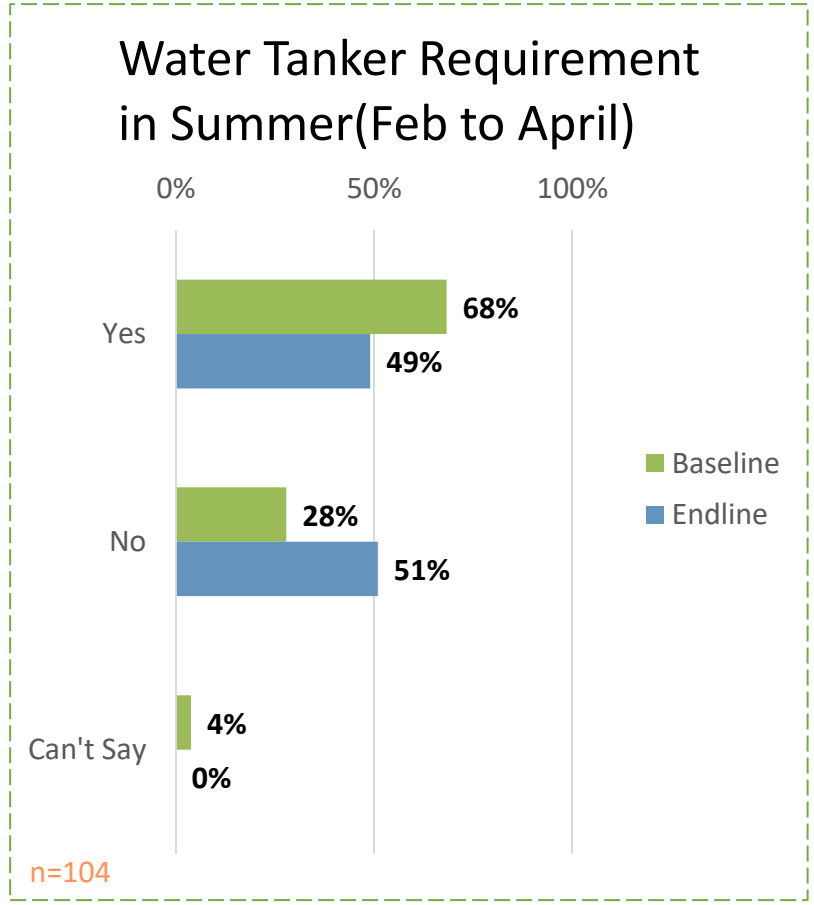
- Availability & Accessibility
  1. Water Source & Availability
  2. Accessibility

Outcome: Water Source & Availability

Thakarwadi Common Water Storage Tank

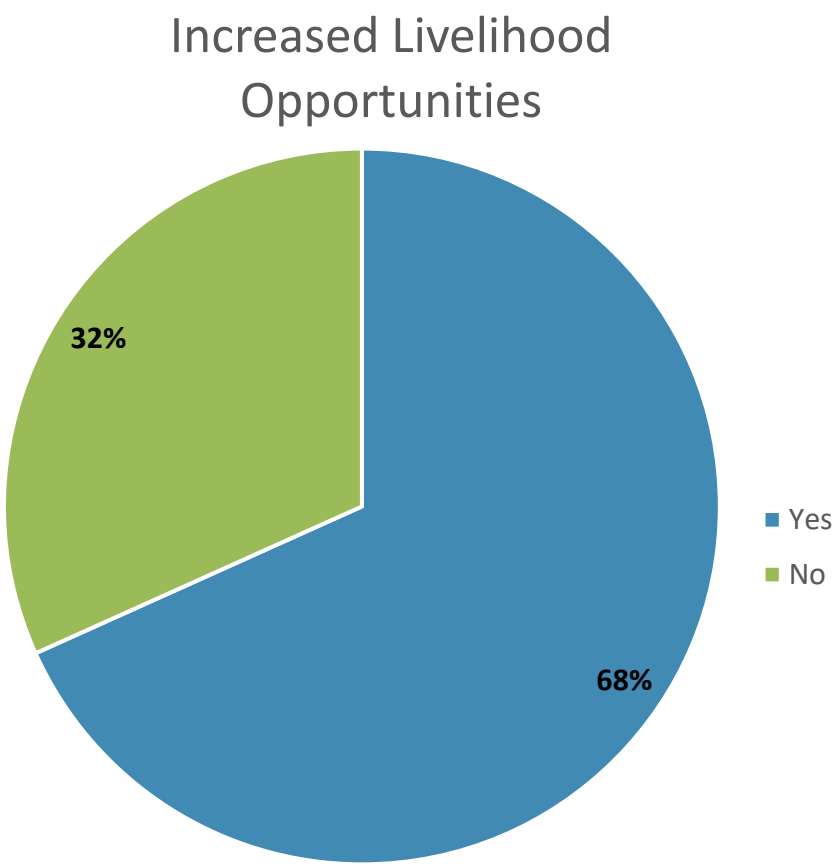
Indicator		Baseline	Endline
Water Source for Household	Common Tap Water	25%	35%
Water Source For Farming	Individual Well/ Borewell	36%	45%





- **Dependency on Common tap water** for drinking purposes and **individual well/borewell dependency** for farming purposes **has increased** due to the availability of water.
- **29% increase** among those beneficiaries who said that **there was enough water available for both domestic as well as for farming use** and a significant 46% decrease in respondents who said that very less water was available for domestic use. This indicated the drinking water's adequate availability.
- Water tanker requirement is reduced marginally and 51% now feel there is no requirement for a water tanker in the upcoming summer.

Outcomes: Accessibility



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68% respondents opine that because of the water conservation project **livelihood opportunities this year have increased** & 57% of those said livelihood opportunities have increased in **farming** whereas 26% said it increased in **labor work.**

Baseline

- Gram panchayat cut off the water supply in March to restrict unnecessary water usage. Panchayat members stated that if they supply water from the common well to the tap connection then the well will get dried up in one day only. Hence instead of distribution, they cut off the water supply.
- Villagers used common panchayat well water for everyday water needs. The village common well is nearly 500 to 600 mtr away from Gaonthan. Women used to travel daily in the scorching summer by walking and men used a vehicle or bullock cart while carrying big containers of water.

Endline

- Gram Panchayat is able to supply water to common water tanks of Karewadi, Shindewadi, Thakarwadi and Takewadi every two days, therefore villagers dependency on borewells for individual drinking water is reduced.
- Women don't have to walk in challenging conditions as on common water tap sources they get enough water required for household needs.
- In the group discussion, women said they get enough time in the morning for doing household responsibilities and can pay attention to their children whereas earlier they used to spend more than half an hour time for fetching water from various resources.

Women Focus Group Discussion

Household Survey

Impact

Mango Trees given by CCF

- Agricultural Productivity
  1. Cropping Pattern
  2. Agricultural Practices
  3. Income
  4. Allied Businesses
  5. Holistic Change

Impact: Cropping Pattern

यंदाही शेतकऱ्यांचा कांदा लागवडीकडेच कल

नगरमधील स्थिती ; एक लाख ७२ हजार हेक्टरवर लागवड

सूर्यकांत नेटके : ॲग्रोवन वृत्तसेवा

नगर : मध्यंतरीच्या पंधरा दिवसांचा अपवाद वगळला तरी कांद्याला गेल्या वर्ष-दीड वर्षापासून जास्तीत जास्त पंधरा ते सतरा रुपयांपेक्षा अधिक दर नाही. साधारणपणे बहुतांश शेतकऱ्यांना आठ ते दहा रुपये किलोनेच कांदा विकावा लागला. त्यामुळे कांदा उत्पादकांचे आर्थिक गणित बिघडले, असे सांगितले जात असले तरी पुढील काळात दर येईल या आशेने नगर जिल्ह्यात रब्बीत यंदाही विक्रमी सुमारे १ लाख ७२ हजार १४२ हेक्टर क्षेत्रावर आतापर्यंत लागवड झाली आहे. यातही अजून वाढ होण्याचा अंदाज आहे.

राज्यातील बहुतांश भागात कांदा पिकाला आता प्राधान्य दिले जात आहे. नगर, नाशिक, पुणे भागात सर्वाधिक कांदा लागवड मिळून जवळपास दोन लाख हेक्टर क्षेत्राचा टप्पा पार केला होता. मात्र दिवाळीच्या काळातील एक पंधरा दिवसाचा अपवाद सोडला तर गेल्या दीड वर्षापासून कांद्याला १५ ते सतरा रुपयांपेक्षा अधिक दर नाही. बियाणे, मजुरी, व अन्य खर्चाचा विचार करता हा दर पडरवडणारा नाही.

यंदा कांदा उत्पादकांचे आर्थिक गणित बिघडले असल्याचे बोलले जात असले तरी यंदाही शेतकऱ्यांनी कांदा लागवडीला प्राधान्य दिले असल्याचे दिसत आहे. यंदा आतापर्यंत जिल्ह्यात १ लाख ७२ हजार १४५ हेक्टरवर कांदा लागवड झाली आहे. अजूनही अनेक भागात कांदा लागवड सुरू आहे. त्यामुळे यंदाही दोन लाख हेक्टरच्या जवळपास कांदा क्षेत्र होण्याचा अंदाज व्यक्त केला जात आहे. सध्या कांद्याला प्रती किलो १६ रुपयांपर्यंत जास्तीत जास्त दर मिळत

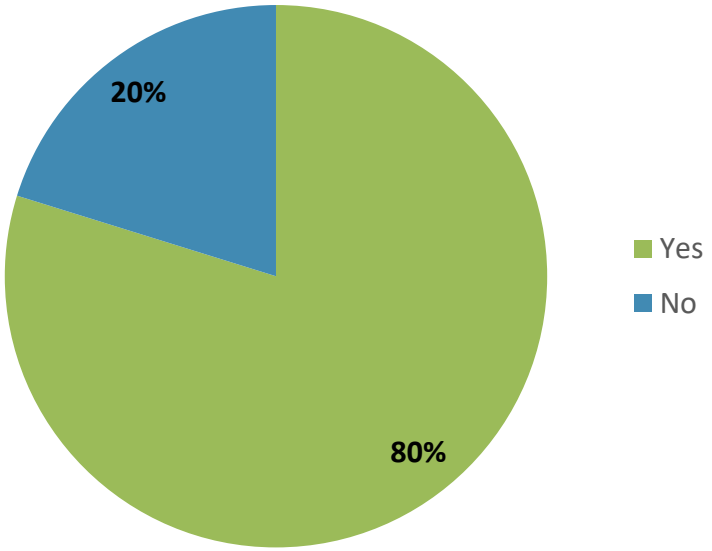
तालुकानिहाय कांदा लागवड (हेक्टर)

नगर	१७,९३४
पारनेर	३१,५२८
श्रीगोंदा	२६,२५४
कर्जत	१५,९६६
जामखेड	५,७४४
शेवगाव	७,२४५
पाथर्डी	९,५०८
नेवासा	११,७३२
राहुरी	१०,१२५
संगमनेर	९,३४९
अकोले	१,२९४
कोपरगाव	११,३०२

6th Feb 23, Ahmednagar: Farmers in the district, **prefer Onion cultivation without changing cropping patterns** because of hope for an adequate MSP in the future. Source: http://epaper.agrowon.com/

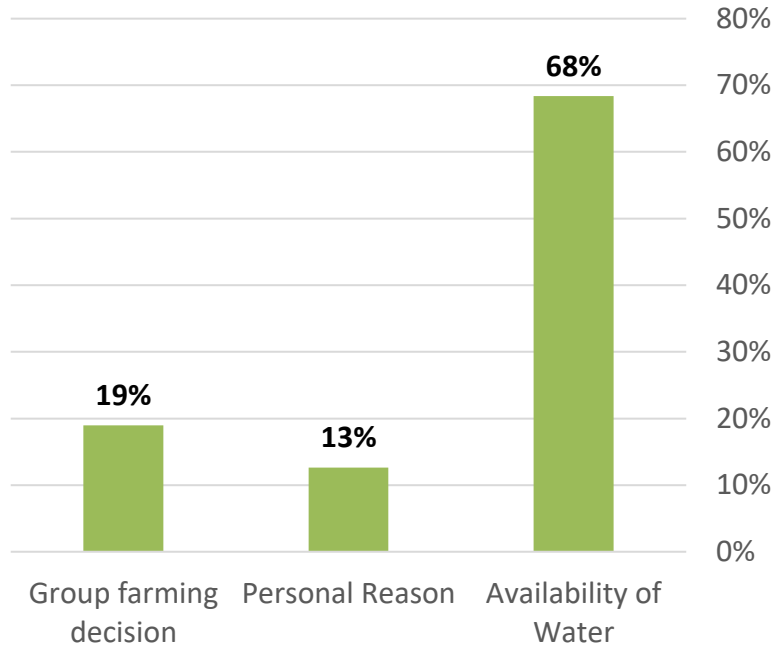
Indicator		Baseline	Endline
Land Ownership		92%	95%
Land Holding Size	**More than 2 to 4 acre**	30%	42%
Cultivable Land Size	**More than 2 to 4 acre**	26%	38%

Change in Cropping Pattern



n=99(95%)

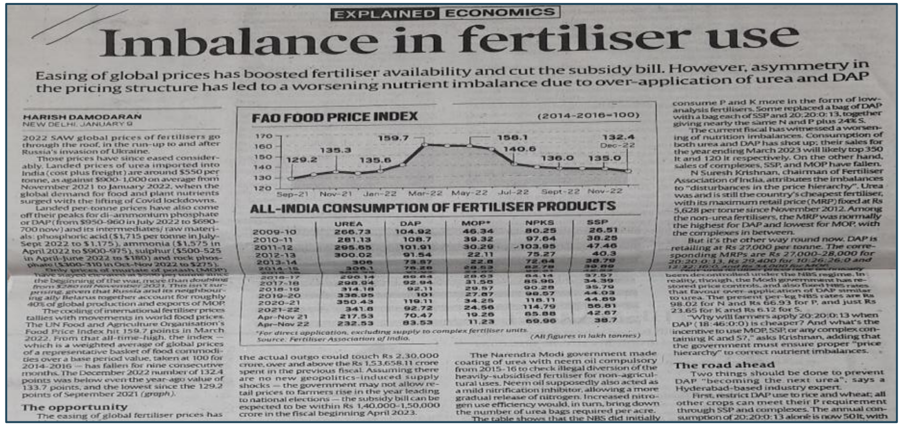
Reason of Change in Cropping Pattern



n=79(80%)

- **Increased land holding size due to land purchased by some respondents and increase in cultivable land size** among small land owner farmers because of water availability.
- **Increased Soybean, Onion, Sugarcane, and Wheat crop cultivation** in the village.
- **80% changed their cropping pattern** this year.
- Out of the above, 68% changed their **cropping pattern because of enough water availability** this year and 13% respondents cropping pattern was **changed because of the hope of MSP(Minimum Support Price)** for a certain crop, seed availability and local market demand.

Impact: Agricultural Practices


EXPLAINED ECONOMICS

Imbalance in fertiliser use

Easing of global prices has boosted fertiliser availability and cut the subsidy bill. However, asymmetry in the pricing structure has led to a worsening nutrient imbalance due to over-application of urea and DAP

HARISH DAMODARAN
NEW DELHI, JANUARY 9

FAO FOOD PRICE INDEX (2014-2016=100)

ALL-INDIA CONSUMPTION OF FERTILISER PRODUCTS

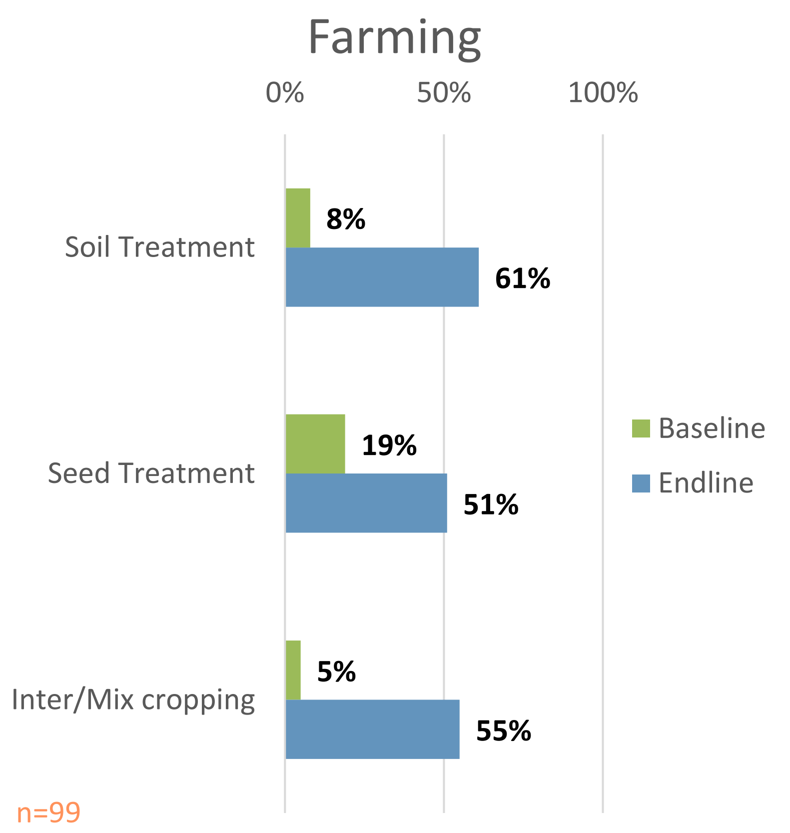
The road ahead

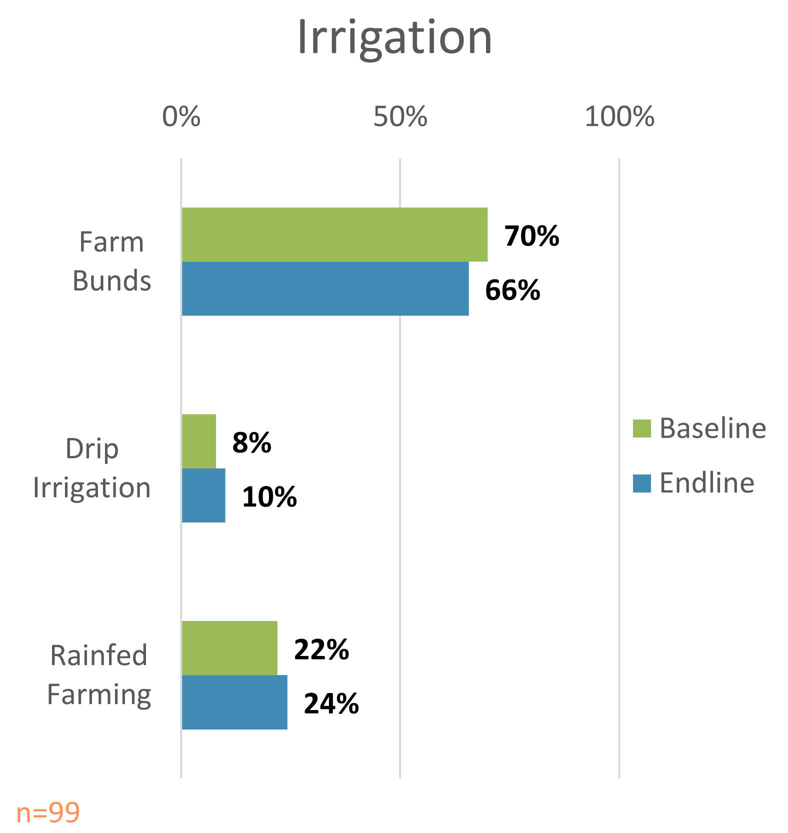
The opportunity

10[th] Jan 23: Russia invasion Ukraine, Urea imported into India and subsidy cut bill, **eased the prices of fertilizers** which **impacted high usage of fertilizer** by Indian Farmers in the year 2022-23.

Source: https://indianexpress.com/article/explained/explained-economics/imbalance-in-fertiliser-use-8369208/

Indicator		Baseline	Endline
Fertilizer Spending (Per Crop)	Less than **₹10,000**	48%	68%
Labor work Spending (Per Crop)	**Less than ₹10,000**	55%	94%



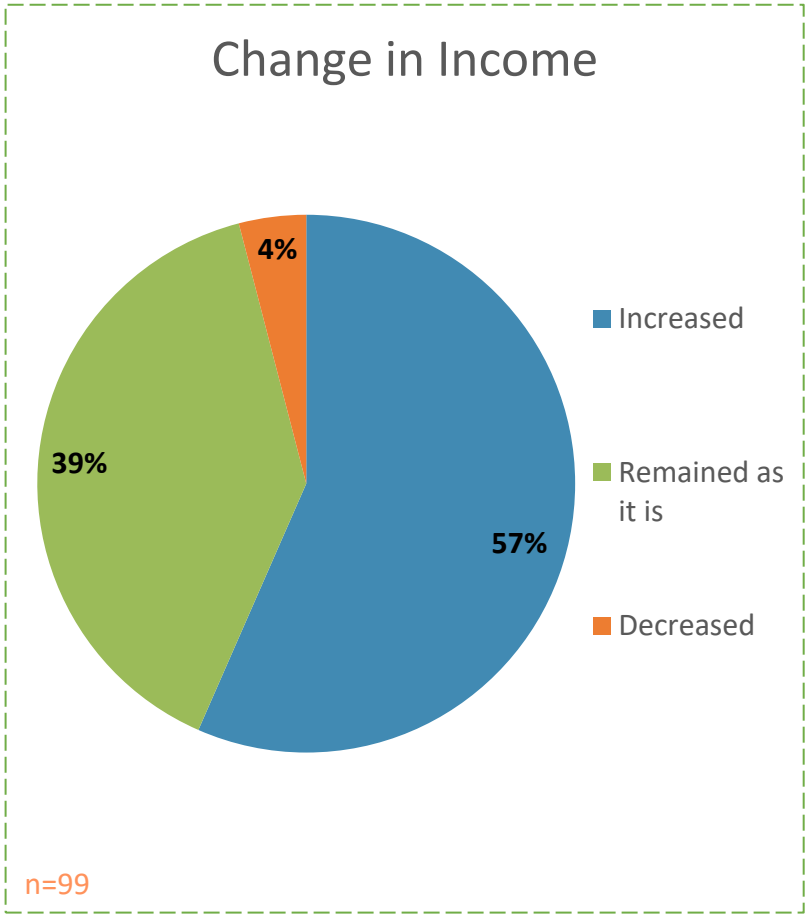


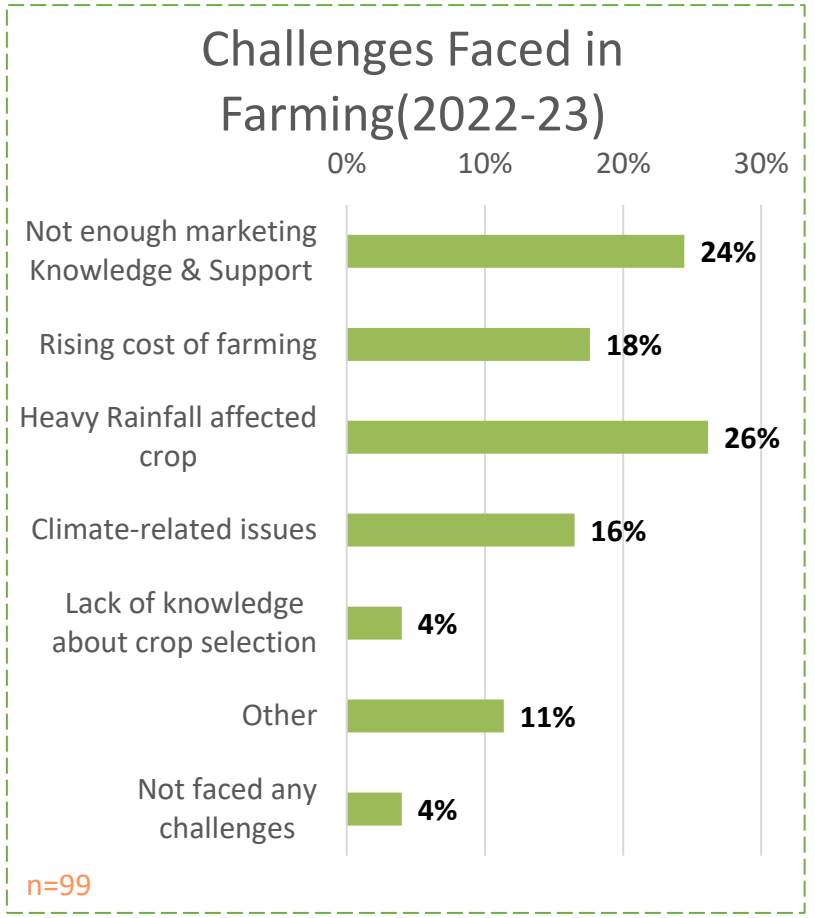
- Availability of water **encouraged the farmers to spend more on agricultural practices** as they are hoping for an adequate MSP because of the quality of the crop/grain.
- 20% **increase among beneficiaries who are now spending less than ₹10,000 on fertilizer per crop because of the availability of Urea and DAP in the market** whereas 94% of total land owner respondents are spending Less than ₹10,000 on labor work as they themselves involved in labor work **to reduce production cost and gain more profit**.
- **All agricultural practices are largely adopted by farmers** because of **changes in cropping patterns due to the availability of water**.
- Considering the irrigation practices there is a **decline in farm bund practice** and **some inclination toward drip irrigation systems** however due to **heavy rainfall rainfed farming is yet followed by some farmers.**

Impact: Income

Farmers FGD

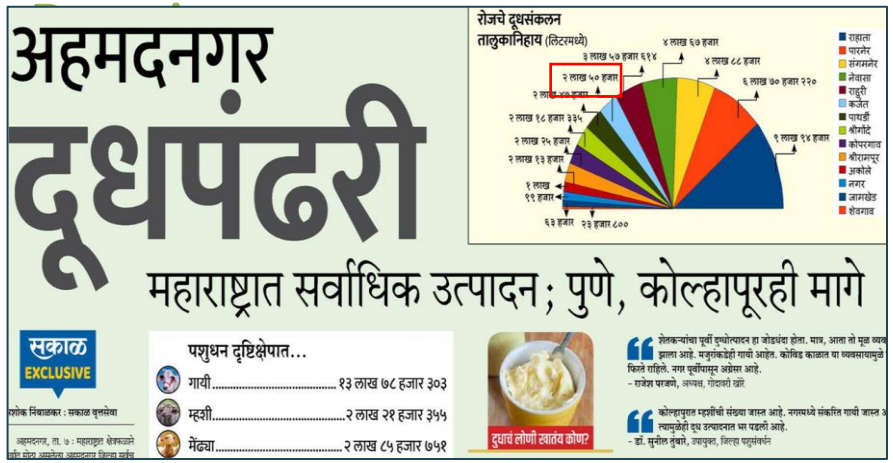
Indicator		Baseline	Endline
Income(Annual)	**₹30,000 to ₹60,000**	15%	43%
Purpose of Yield	**Sold in Market**	60%	60%
	For own usage	21%	40%





- **Slight change in output has been observed** because of water availability as there is an increase in 28% respondents who earned **₹30,000 to ₹60,000 per annum** and out of the total land owners respondents, there is no **increase in the respondents who sold their goods in the market but an increase in respondents who** used the **yield for household consumption**.
- Significant 57% of respondents mentioned that their **income increased during the year due to the water availability.**
- **Heavy rainfall(2022), lack of marketing support/low MSP and marketing knowledge and the rising cost of farming** are the primary reason behind the no change in income for the majority of the farmers.

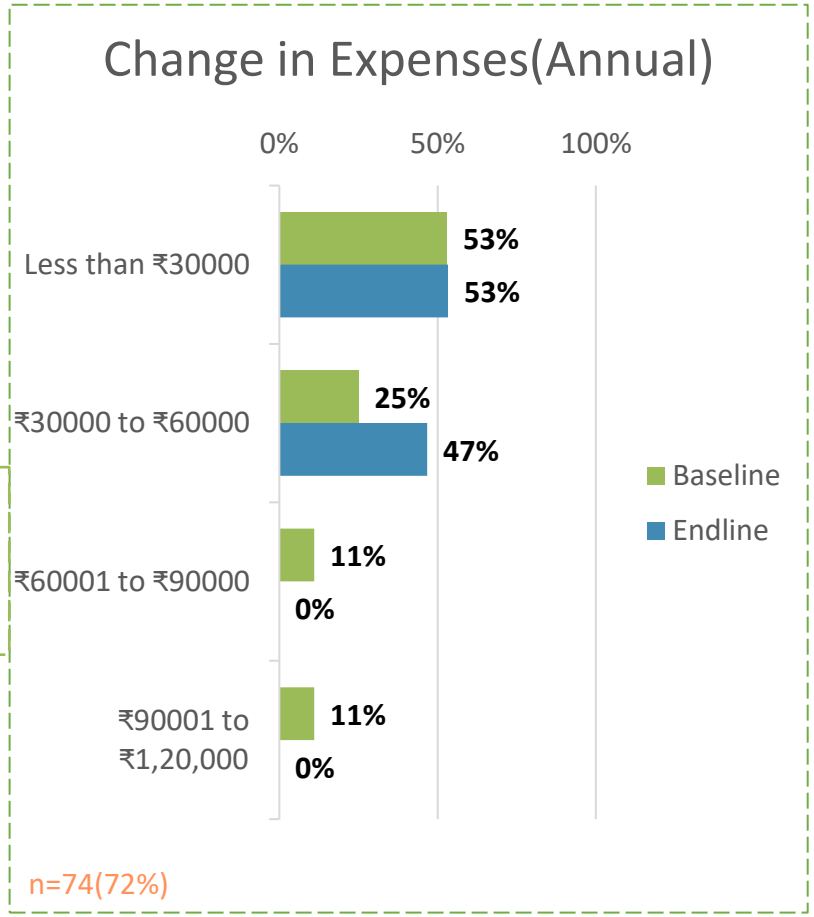
Impact: Livestock

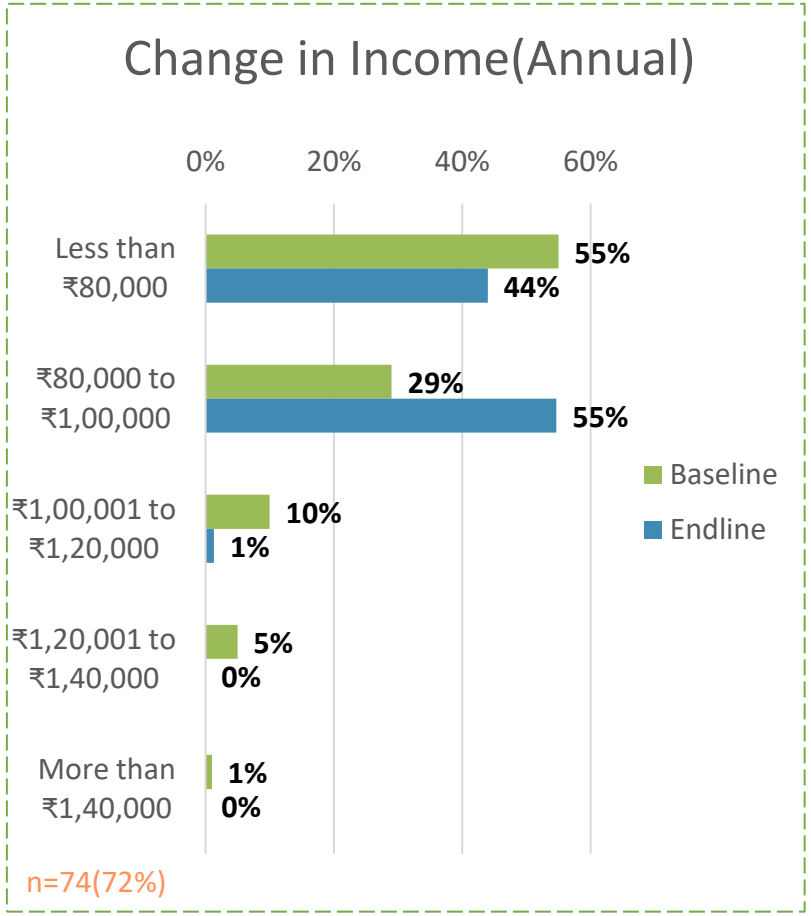


8th Dec 22: District tops among all districts in Maharashtra in the ranking of daily milk production. Increased milk collection units, milk products making units and Cooperative Societies helping in increasing daily milk collection. (Sangamner Block Daily Milk Collection-4,88,000 ltr)

Source: https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=1

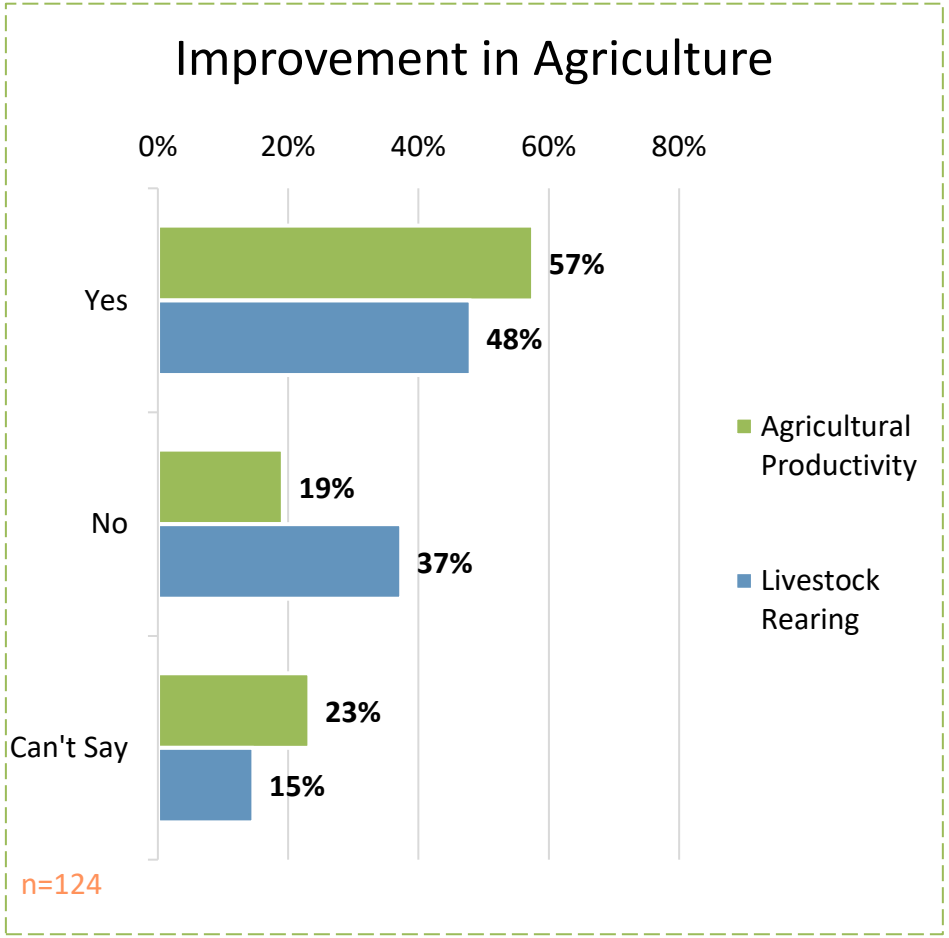
Indicator		Baseline	Endline
Ownership		74%	72%
Livestock Rearers (Number of Respondents)	Dairy Farmers	63	65
	Goat Rearers	19	23





- Out of the total respondents, 72% respondents are doing livestock rearing and there is a marginal decrease of 2% in the number of livestock rearers and the majority of them are from poultry farming. However there **a marginal increase among dairy farmers and goat rearers** has been observed because of **water availability which leads to fodder availability**.
- Availability of green fodder on grazing land because of heavy rain as well as surface level water percolation because of rain harvesting structures is the **major contributor in decreasing the expenses on fodder and all livestock rearer respondents spend up to** ₹60,000 per annum.
- 11% increase in those respondents who are **earning now more than ₹80,000 per annum** from livestock rearing because of quality fodder and adequate water availability.

Impact: Holistic Change



According to 57% respondents due to the water conservation project agricultural productivity of the village has increased this year. 48% respondents admitted that they feel livestock rearing has increased in the village because of water conservation.

Baseline

- Most of the farmers only cultivate Bajra as it is a less water-intensive crop. Every year farming activities are pursued by farmers till December and then they daily migrate to nearby villages for labor and other work to earn money.
- Majority of the livestock rearer has kaccha shelter for their livestock as the owners don't have enough money to build the pucca shelter.
- To the lack of water availability there is a very low scope for other agricultural businesses. Daily milk collection of the village is only 300 to 400 ltr.

Endline

- Respondents admitted that they are grateful that Water Conservation Project helped in raising the well water level but as the village is located on the hill, there is yet some portion of land they couldn't utilize for farming because of the uneven level of farmland.
- Dependency on labor work reduced by 7% compared to baseline and shifted to livestock rearing as arranging fodder and water is manageable for farmers because of the water availability due to the water conservation Project.
- As per the milk collection center, daily cattle milk collection of the village reached 400-450 ltr in January.

Uneven farmland level

Goat Rearing

Analysis

Global standard framework of RCEEIS based on OECD-DAC was used for the analysis, for Outcome evaluation of the program.

RELEVANCE
Doing the Right Things *for location, Beneficiary, and environment and in alignment with Crompton CSR Foundation policy as well as SDGs*

COHERENCE
Fit into larger ecosystem – *aligning initiatives with other NGOs, Government initiatives in the region*

Effectiveness
Objective Achievement -*Target vs Achievement for the project; Appropriateness of implementation partner*

EFFICIENCY
Resource Utilization – *Cost, Time and manpower*

IMPACT
Difference made against the baseline
+ intended / unintended impact

SUSTAINABILITY
How long will impact last *in form of Outcomes; Scalability of the program*

Analysis(1/3)

Theme	What Worked Well	Area of Improvement
Relevance	✓ As a drought-prone area, water conservation interventions were a **primary necessity** for the village. ✓ The intervention **addressed the foremost need of people, the availability of water in winter and summer seasons**.	• **Measurable outcomes need to be defined** at the project initiation **to map the end results**. Eg. Quantity of silt excavation from Mati Nala Disiltation.
Effectiveness	✓ Respondents appreciated the **durability and quality of structures.** ✓ **NOC was taken** from landowners whose land is used for building new structures.	• **Formation of the Village Water Committee** would prove effective for awareness & trust among villagers about the project. • **Collection of water level data** before the project implementation is **helpful to measure scientific measures of impact** post-implementation.

Analysis(2/3)

Theme	What Worked Well	Area of Improvement
Efficiency	✓ Milestone-based mapping and monitoring of interventions. ✓ On-time structure completion. ✓ A well-planned team with the **involvement of subject matter experts(Hydrogeo experts)** deployed from the initial phase only. ✓ **On-field review of CCF staff** as well as monitoring agency staff	• On field visits during the rainy season to understand the functioning of structures as well as it's impact on surroundings.
Impact	✓ The project is achieving its intended impact of water availability. ✓ **Increase in agricultural production** through crop diversification and agricultural practices. ✓ **Reduced the dependency on labor work and increased livestock rearing as a secondary income source.** ✓ **Daily village-level milk collection has increased**.	• While aiming for agricultural productivity, **suitable interventions such as Climate resilient practices can be helpful** as there are multiple factors besides availability of water that impacts agricultural productivity.

Analysis(3/3)

Theme	What Worked Well	Area of Improvement
Coherence		• Focus on **convergence with government schemes** and other organizations can be looked into. • Consultation with **Irrigation Department** can be well integrated into the project.
Sustainability		• Need to **establish clear responsibilities for structures** with various stakeholders. • **Documentation for the handover of structures** will help in creating accountability.

Recommendation

Implementation & Sustainability

• **Challenges:**

1. Although villagers are well aware of the project but think this project was only made for a selective group of people whose land is being utilized for intervention. As many villagers primary and secondary income source was labor work they also said that they could help out to building a Loose Boulder Structures and other pitching work require. But instead of giving preference to them, IP outsourced labor from Satara & Sangali and that's why local villagers missed out on income generation opportunities in the village only.
2. Village level site selection should be done considering the all villagers need stated by respondents as majority of the respondents from Thakarwadi and Kare Wadi feels that there was more scope of conserving water from the local drainages.
3. Hilly area with uneven land level affecting the crop cultivation therefore availability of water can only utilized for livestock rearing and drinking water purposes.

✓**Intervention:**

1. Awareness drive with village level committee by sharing the purpose and functioning of the Water Conservation Project can have a positive attitude towards the project and a higher possibility of sustaining the structures.
2. Committee can also help CCF and IP in effective way of implementation by utilizing village level resources as well as manpower. This can help to underprivileged marginalized farmers to earn from labor work.
3. With machineries and local resource utilization, leveling of farm land can be an another intervention and for that monetary contribution of beneficiary can be utilized.

Large Drainage Line through which rainwater passed away to nearby village

Uneven level of Land

Water Matrix

Identifying Water Productivity is really important for understanding how much income a farmer can get if he/she use one cubic meter of water for particular crop.

$$\text{Water Productivity (₹ Per Cubic Meter)} = \frac{(\text{Average Production(Per Acre)} \times \text{Average Market Price(Per Quintal)})}{\text{Water Requirement in Lakh Liter}}$$

1 Quintal = 100 Kg
1 Cubic Meter = 1000 Ltr

Following crops majority of the farmers cultivate in the region.

Crop	Water Requirement(Per Acre, Lakh Liter with Drip Irrigation)	Average Production(Per Acre)	Average Market Price(₹)	Water Productivity(₹/ Cubic Meter)
Onion	20 Lakh Liter	150 Quintal	₹1,400/Quintal	₹105 Per Cubic Meter
Wheat	24.5 Lakh Liter	13 Quintal	₹2,300/Quintal	₹12.20 Per Cubic Meter
Sugarcane	90 Lakh Liter	550 Quintal	₹25,000/Quintal	₹1528 Per Cubic Meter
Ground Nut	27 Lakh Liter	30 Quintal	₹3,500/Quintal	₹38.89 Per Cubic Meter
Soyabean	25.5 Lakh Liter	13 Quintal	₹5,500/Quintal	₹28 Per Cubic Meter
Cotton	44.5 Lakh Liter	20 Quintal	₹8,500/Quintal	₹38 Per Cubic Meter

Depending on water availability farmers should select the cropping pattern but lack of awareness about crop selection and climate resilient agriculture are proving inefficiency of leveraging more benefits/ impact of water conservation project on agricultural productivity.

Source: Satish Khade, Experties on Water management and writer of 'Abhinav Jalnayak'.

- Scope for Scalability and Replicability of the program

International Year Of Millet(IYoM)

Food and Agriculture Organization of the United Nations

INTERNATIONAL YEAR OF MILLETS 2023

Government of India had proposed to United Nations for declaring 2023 as the International Year of Millets (IYOM). The proposal of India was supported by 72 countries and United Nation's General Assembly (UNGA) declared 2023 as the International Year of Millets on 5 th March, 2021

Why did United Nations declare the year 2023 as the IYoM?

- **To empower small landholder farmers:** Low seed prices, enough yield production despite of marginal land size and declared Minimum Support Price.
- **Adopt climate change:** Can grow in challenging climate conditions as well.
- **Less water-intensive crop:** Requires 70% less water than rice; grows in half the time of wheat; and needs 40% less energy in processing and can withstand extreme heat conditions.
- **Solution to Global Food Crisis:** Grown in 131 countries, traditional food people in Asia & Africa. Highly nutritious and reduces the risk of cancer, diabetes and blood pressure.

Sorghum

Pearl Millet

Finger Millet

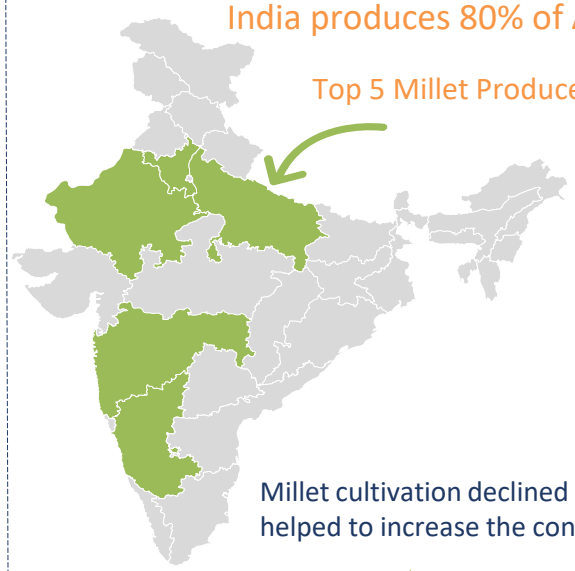
Little Millet

Image Source: Wikipedia

India's take on IYoM

India produces 80% of Asia's and 20% of global production of Millet

Top 5 Millet Producers in India in Bajra and Jowar cultivation



Area Under Millet Cultivation(Lakh Hector)		
Crop	**1960-61**	**2021-22**
Jowar	62.85	16.49
Bajra	16.35	5.26
Nachani/Nagali	2.30	0.73
Other Millets	1.77	0.60

Millet cultivation declined because of the Green Revolution started in 1965 which helped to increase the consumption of rice and wheat in India.

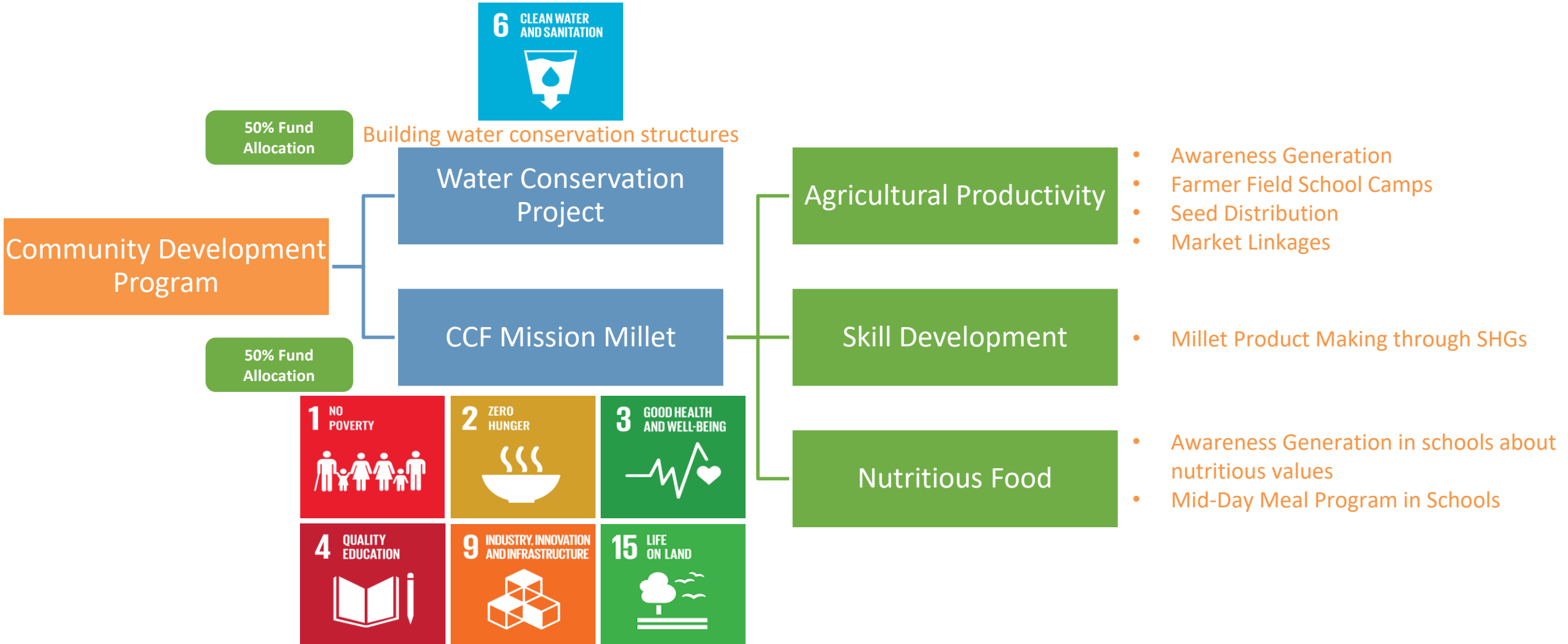
7 Themes of India for IYoM

1. Enhancement of Production/Productivity
2. Nutrition and health benefits
3. Value addition, Processing and Recipe Development
4. Entrepreneurship/Startup/ Collective Development
5. Awareness creation- Branding, Labelling & Promotion
6. International Outreach
7. Policy interventions for mainstreaming

Scope for CCF to Scale up the Water Conservation Project

CCF contributes socially for community development through 4 Thematic Areas : Water Conservation, Skill Development, Community Development, Promotion of Health and response to Covid-19.

With the set objectives of water conservation, water table increase , availability of drinking water and agricultural productivity, CCF through it's Community Development Program under the umbrella intervention of Water Conservation there can be multiple sub interventions can be developed around the IYoM.



Opportunities

Challenges in existing Project

- Despite of efforts of Watershed treatment, external challenges affecting the agricultural productivity.
- Lack of community participation during project design as well as project implementation led to lack of ownership among community towards structure.
- Less opportunities for Government linkages/leverages limited the scope of work.
- Lack of awareness about CCF, it's intent towards community development. Local level politics marginally impacted negatively on project.

Favorable Conditions For Community Development Program

- ✓Jawar & Bajra are the primary crops for the majority of the farmers in all the villages which were selected under the Water Conservation Project.
- ✓As millets can grow in challenging conditions, despite of having uncertain rainfall patterns in the geography, it may affect less compared to other crops.
- ✓Opportunity for community participation including women and children which helps in project sustainability.
- ✓Development of more localized income generation opportunities.
- ✓As the state government also implementing the IYoM on the grassroots level, leveraging government resources and manpower by collaborating with them can help in project cost reduction as well as help to achieve a larger reach.

'महाराष्ट्र मिलेट मिशन'साठी २०० कोटींची तरतूद

मुख्यमंत्री एकनाथ शिंदे : मंत्रालयात 'मिलेट मिशन'चे उद्घाटन

अ‍ॅग्रोवन वृत्तसेवा

मुंबई : राज्यातील पौष्टिक तृणधान्य उत्पादन क्षेत्रवाढीसाठी शेतकऱ्यांना प्रोत्साहन देणे आणि त्या उत्पादनांना योग्य दरामध्ये मिळेल, यासाठी राज्य शासन आग्रही आहे. त्यामुळे महाराष्ट्र मिलेट मिशनसाठी २०० कोटी रुपयांची तरतूद करण्यात आली आहे. हे मिशन शेतकऱ्यांच्या आर्थिक उन्नतीसाठी उपयुक्त ठरेल, असे प्रतिपादन मुख्यमंत्री एकनाथ शिंदे यांनी केले.

मंत्रालयातील विधानभवनाच्या प्रांगणात महाराष्ट्र मिलेट मिशनच्या उद्घाटन प्रसंगी ते बोलत होते. कृषिमंत्री अब्दुल सत्तार, उद्योगमंत्री उदय सामंत, शालेय शिक्षणमंत्री दीपक केसरकर, कृषी विभागाचे प्रधान सचिव एकनाथ डवले प्रमुख उपस्थित होते.

या वेळी मंत्रालयात शेतकरी उत्पादक कंपन्यांनी तयार केलेल्या भरडधान्यांच्या उत्पादनांची दालने उभारण्यात आली असून येथे विविध पदार्थांची विक्रीही केली जात आहे. आज (ता. १) या प्रदर्शनाचा समारोप होणार आहे. मुख्यमंत्री शिंदे यांच्या हस्ते तृणधान्य पूजन आणि तृणधान्य फलूद बनवलेल्या केक कपूस या मिलेट मिशनचा प्रारंभ करण्यात आला.

या वेळी मुख्यमंत्री शिंदे म्हणाले, "महाराष्ट्रात मोठ्या प्रमाणात ज्वारी, बाजरी, नाचणी, वरई, राजा, कुटकी ही पिके पेरली जातात. या पिकांचे आंतरराष्ट्रीय पातळीवरील मान्यता मिळवून देण्याचा यंदा संयुक्त राष्ट्रसंघाने सालो होणारे आंतरराष्ट्रीय पौष्टिक तृणधान्य वर्ष उपयुक्त ठरेल. महाराष्ट्र मिलेट मिशनमुळे नवी पिढी वंकडकडून पारंपरिक तृणधान्याकडे वळविली जाईल. शेतकऱ्यांच्या पदार्थांचे निर्यातीसाठी ब्रॅण्डिंग करण्यात येईल. शेतकऱ्यांच्या उत्पादनासाठी थांबला भाव मिळेल. स्मार्ट या प्रकल्पांतर्गत सोलापूर येथे इंडियन इन्स्टिट्यूट ऑफ मिलेट, हैदराबादच्या सहकार्याने 'मेटा ऑफ एक्सलन्स'ची स्थापनी करण्यात येणार आहे.

कृषिमंत्री सत्तार म्हणाले, "या वर्षी त्यापक आणी योजना यासाठी बनवली आहे. पौष्टिक तृणधान्य उत्पादन वाढवण्यासाठी प्रयत्न करण्यात येतील."

या वेळी मुख्यमंत्री शिंदे यांच्या हस्ते शेतकरी मासिक पौष्टिक तृणधान्य विशेषांक, महाराष्ट्र मिलेट मिशन पुस्तिका आणि महाराष्ट्र मिलेट मिशन पोस्टरचे प्रकाशन तसेच महाराष्ट्र मिलेट मिशन वेबसाइटचे अनावरण करण्यात आले.प्रास्ताविक प्रधान सचिव एकनाथ डवले यांनी केले. कृषी आयुक्त सुनील चव्हाण यांनी आभार मानले. या वेळी आमदार भरत गोगावले, आसिम जमसात, प्रकाश सूर्वे, अण्णा बनसोडे उपस्थित होते. आजच्या बनवलेल्या पदार्थांचे स्टॉल्स तात्काळात या कार्यक्रमा येथे प्रांगणात ज्वारी, बाजरी, नाचणी पासून विविध तृणधान्यापासून आले होते. मंत्रालयातील कर्मचारी, आलेले नागरिकांनी या पदार्थांची खरेदी केली.

मुंबई : 'महाराष्ट्र मिलेट मिशन'चे मंत्रालयात मंगळवारी (ता. ३१) उद्घाटन मुख्यमंत्री एकनाथ शिंदे यांच्या हस्ते करण्यात आले. या वेळी कृषी विभागाचे प्रधान सचिव एकनाथ डवले यांनी तृणधान्यांची माहिती दिली. या वेळी कृषी आयुक्त सुनील चव्हाण.

1st Feb 2023 | Agrowon

State Gove. Sanctioned 200 crores for Millet Mission

तृणधान्यांचा प्रसार झाल्यास शेतकऱ्यांना चांगला दर : दिवेकर

अ‍ॅग्रोवन वृत्तसेवा

मुंबई : "तृणधान्याला गरिबांचे धान्य म्हटल्याने याआधी या धान्यांचा प्रसार झाला नाही. मात्र, आंतरराष्ट्रीय तृणधान्य महोत्सवामुळे शेतकऱ्याला चांगला भाव आणि ग्राहकांना माफक दर हे उद्दिष्ट साध्य होईल," असा विश्वास आहारतज्ज्ञ ऋतुजा दिवेकर यांनी बुधवारी (ता.२२) व्यक्त केला.

पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाच्या उद्घाटनप्रसंगी त्या बोलत होत्या. खासदार सुप्रिया सुळे यांच्या हस्ते या प्रदर्शनाचे उद्घाटन करण्यात आले.

दिवेकर म्हणाल्या, "तृणधान्यांचा वापर दैनंदिन आहारात झाला तर त्यातील पौष्टिक

मुंबई पणन विभागाच्या वतीने यशवंतराव चव्हाण प्रतिष्ठान येथे आयोजित तृणधान्य महोत्सवाचे उद्घाटन करताना अनुप कुमार, आहारतज्ज्ञ ऋजुता दिवेकर आदी.

'तृणधान्यांना अन्नाचा पर्याय बनविणे गरजेचे'

"तृणधान्यांना भविष्यासाठी अन्नाचा पर्याय बनविणे ही काळाची गरज आहे. या पिकांच्या आरोग्य विषयक फायद्यांबाबत जनजागृती करणे गरजेचे आहे," असे सहकार व पणन विभागाचे अपर मुख्य सचिव अनुपकुमार यांनी सांगितले.

23rd Feb 2023 | Agrowon

Millet Fest @Nariman Point,Mumbai

तृणधान्यात नगर देशात अग्रेसर करणार

राधाकृष्ण विखे-पाटील : नगर महोत्सवाचे उद्घाटन, जिल्हा परिषदेकडून आयोजन

अ‍ॅग्रोवन वृत्तसेवा

नगर : देशात यावर्षी आंतरराष्ट्रीय तृणधान्य वर्ष साजरे केले जात आहे. त्याअनुषंगाने कृषी विभागाच्या मदतीने तृणधान्याचे वेगवेगळे कलस्टर तयार करून, नगर जिल्हा तृणधान्य उत्पादनात देशात पहिल्या क्रमांकावर येण्यासाठी प्रयत्न केले जातील, असे पालकमंत्री राधाकृष्ण विखे पाटील यांनी सांगितले.

नगर येथे कृषी विभाग, जिल्हा परिषदेच्या जिल्हा ग्रामीण विकास यंत्रणा व पशुसंवर्धन विभागाच्या एकत्रित 'नगर महोत्सवा'चा पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते शुक्रवारी (ता. १०) उद्घाटन झाले. पद्मश्री पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, आमदार बबनराव पाचपुते, राम शिंदे, माजीमंत्री शिवाजी कर्डीले, जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर, जिल्हा अधीक्षक कृषी अधिकारी शिवाजी जगताप, कृषी उपसंचालक रवींद्र माने, जिल्हा परिषदेचे अतिरिक्त मुख्य कार्यकारी अधिकारी संभाजी लोणीर, जिल्हा ग्रामीण विकास यंत्रणेचे प्रकल्प संचालक सुनील पठारे, महापालिकेचे आयुक्त पंकज जावळे, पशुसंवर्धन उपायुक्त डॉ. सुशील तुंबारे यांची प्रमुख उपस्थिती होती.

नगर : 'नगर महोत्सवा'चे पालकमंत्री राधाकृष्ण विखे-पाटील यांच्या हस्ते उद्घाटन झाले. पोपटराव पवार, खासदार डॉ. सुजय विखे-पाटील, शिवाजी कर्डीले व इतर.

'साईज्योती ई-कॅटलॉग' ॲपचे उद्घाटन

पाच दिवस चालणाऱ्या 'नगर महोत्सवा'मध्ये २०० महिला बचत गटांचे स्टॉल, १०० खाद्य पदार्थ स्टॉल, २०० कृषी विषयक स्टॉल आहेत. नगर जिल्ह्यातील सहकार, शेती, इतिहास आदींची माहिती देणारा विशेष लोगो, महिला बचत गटांच्या उत्पादन विक्रीसाठी 'साईज्योती ई-कॅटलॉग' या ॲपचे उद्घाटन करण्यात आले.

विखे पाटील म्हणाले, नगर जिल्ह्यामध्ये महिला बचत गट चळवळीच्या माध्यमातून मोठ्या प्रमाणात महिला सक्षमीकरणासाठी काम केले जात आहे. महिला बचत गटांच्या साहित्याची ऑनलाइन विक्री करण्याची व्यवस्था केली जात असून त्यासाठी जिल्हा नियोजन समितीमधून दोन कोटी रुपयांचा निधी उपलब्ध करून दिला आहे. याशिवाय महिला सक्षमीकरणासाठी जेवढा निधी लागेल तेवढा निधी उपलब्ध करून देऊ, असे जिल्हाधिकाऱ्यांना आदेश दिले आहेत.

शेतकरी गट शेतकरी कंपन्या व महिला बचत गटांच्या माध्यमातून तृणधान्य उत्पादनात नगर जिल्हा देशात पहिला आणण्यासाठी प्रयत्न केले जात असून शेतकऱ्यांनी यात पुढाकार घ्यावा, असे राधाकृष्ण विखे पाटील यांनी स्पष्ट केले. प्रारंभी जिल्हा परिषदेचे मुख्य कार्यकारी आशिष येरेकर यांनी प्रास्ताविक केले.

11th Feb 2023 | Agrowon

Millet Fest @ Ahmednagar District

Conclusion

- The study shows that the Water Conservation Project is making the desired difference in the lives of its beneficiaries and the project is completed as per plan.
- Agricultural activities especially Livestock rearing have increased and there is a positive change in raising income generation opportunities.
- As an integrated activity, Mission Millet will be relevant to ensure long-term impact.
- There is a scope for improving project governance measures by involving project stakeholders, especially the end beneficiaries. This will also ensure better awareness and the creation of goodwill in the community

Thank You.