NSE Foundation

PROJECT CLOSURE REPORT

Name of the Project:
"Sustainable Environment and Livelihoods through Soil & Water Conservation and Improving Soil Health"

SEPTEMBER 17, 2022

SELF-RELIANT INITIATIVES THROUGH JOINT ACTION (SRIJAN)

1. Project Introduction (Briefly introduce the project with its rationale)

Karauli is one of the aspirational districts of India ranked by Niti Ayog. It is categorized under hilly terrain with no lofty peaks and rugged ravines. SRIJAN proposed 17 Gram Panchayats (GPs) covering 76 villages of two development block, Sapotra and Mandrayal. Total households in the project villages is 13,320 with total population of 66,776. The selected villages have a significant proportion of ST and SC population, measuring 28.5% and 20.9% respectively (Census 2011).

Out of total geographical area 72,587.2 ha, around 44,777 ha area is under forest, which is almost 61.7% of the total geographical area. Total net sown area under agriculture of 10,566.5 ha, of which only 13.1% is irrigated while 86.9% net sown area is unirrigated. About 12.4% of the total area falls under current fallow, culturable waste, and Barren land thus, justifying the rationality of working on land treatment through Soil and Water Conservation. 5 % of the land falls under pastureland only (Census 2011).

The hilly and rugged terrain of Sapotra and Mandrail Blocks have rendered land degradation in the absence of proper management of soil and water conservation activities. This region also falls in rainfall zone of 500-700 mm with erratic behavior having little scope for improvising livelihood in Kharif season and water availability. A good rainfall is lost due to high runoff resulting in soil erosion, losses of topsoil and overall degradation of land. The problem of land degradation and weathering is further compounded by the fact of mono-cropping, high use of chemical fertilizers resulting in change in soil texture.

The overall effect of land degradation in agriculture is reflected with 118% cropping intensity in the project villages compared to 153% of Karauli district. The overall land productivity is 1287.36 Kg per ha with estimated income of Rs 26,091 per ha per annum.

Considering the overall state, the proposed project area of Sapotra and Mandrail have become highly vulnerable to environmental degradation in absence of community govern and management action. As a result, water is lost and not conserved, thus putting high pressure on ground water usages for production and consumption, resulting in over exploitation and deterring quality. Siltation of surface water harvesting structure adversely affect the storage capacity of the WHS. Unbalanced usage of nitrogenous based fertilizer is affecting the ground water quality with enhanced nitrate content but also posing threat of depleting important mineral and organic content from the soil which will affect the livelihoods of the community in coming years. All these factors combined is constantly increasing the vulnerability of rural community to their livelihood from agriculture, labour and livestock.

2. Project Objective (Mention the objective in bullet points)

i. To improve the land quality and augment water through demonstration of community driven soil and water conservation methods.
ii. To demonstrate methods of regenerative and climate smart agriculture practices having potential to improve land quality and improve land productivity.
iii. To demonstrate water conservation technology and improve water productivity.
iv. To demonstrate methods of de-risking agriculture through diversification of production system.
v. To enhance community capacity for effective management and conservation of resources for sustainable environment and livelihoods.

3. Budget (Mention both year wise and total budget)

Sr. No.	Year	Budget
1	Year 1	Rs.1,28,07,236
2	Year 2	Rs.2,49,74,264
3	Year 3	Rs.1,53,57,200
Total		**Rs.5,31,38,700**

4. Beneficiaries (For Example)

Sr. No.	Type	Description	No. targeted	No. achieved	Year Wise Direct Interventions (With Overlap)
1	Direct	VDC Members	1130	1746	1746
2	Direct	VDC Members	1350	857	2485
3	Direct	VDC Members	1435	816	2460
			3915	**3419**	

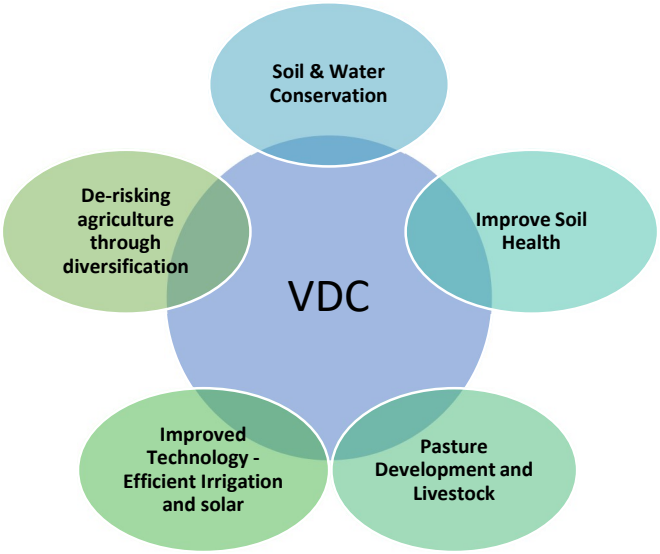
3419 beneficiaries are unique beneficiaries with whom at-least one intervention is done, and they are members of Village Development Committees or direct intervened beneficiaries. While in 74 VDCs formed, total membership in VDCs is 4028 who are enrolled directly in VDCs as member. For CAVACH program initiated under the guidance of NSE Foundation, SRIJAN reached out to 8235 direct beneficiaries as well. Thus, total indirect beneficiaries for the project are 17466 who are family members of the direct beneficiaries.

5. Methodology (Briefly mention about methodology deployed for achieving the objective)

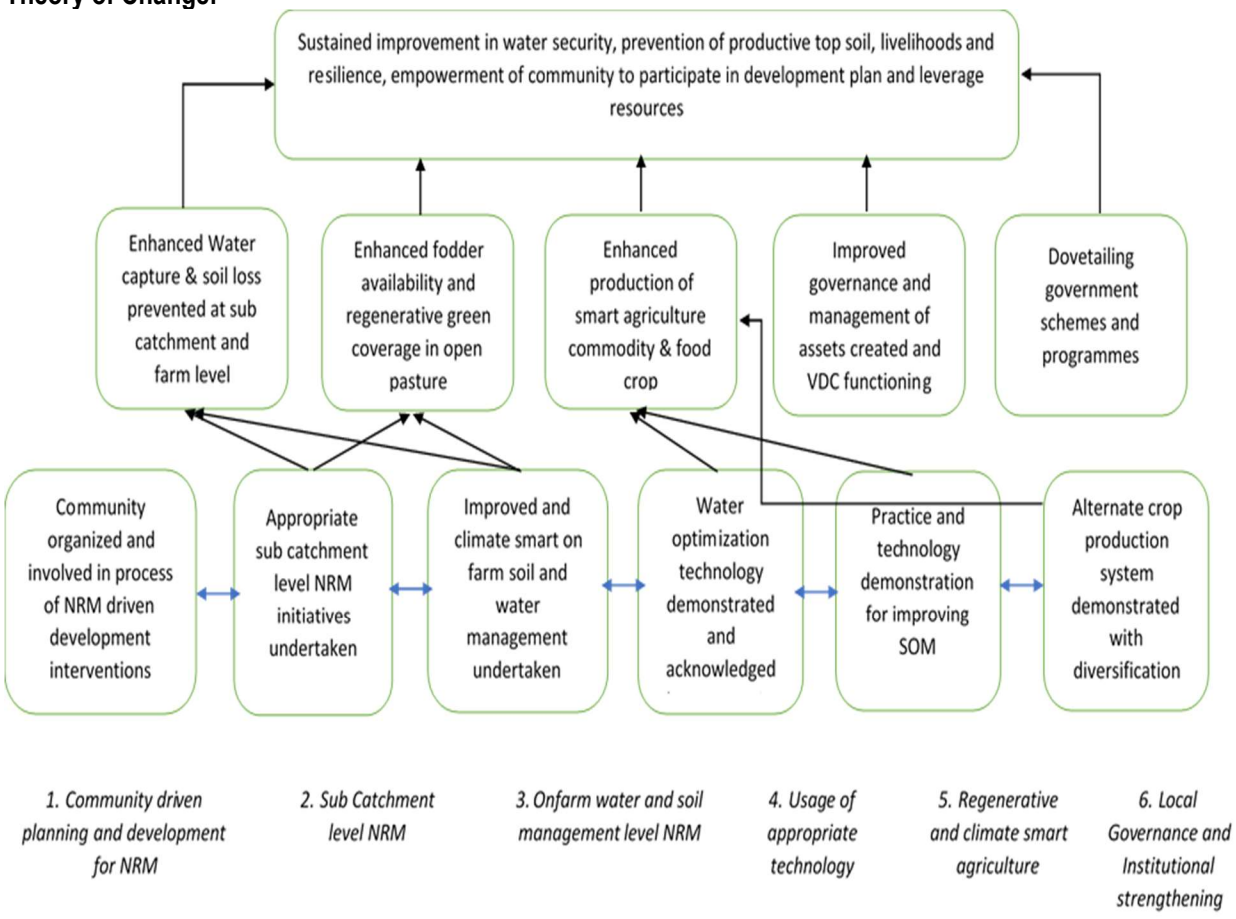
Project Strategy:

Given the challenges, a well-developed management plan capable to cater both supply and demand side was needed. The supply side management has been addressed through conservation and recharge by capturing surplus run off available within the river sub-basin and micro- watershed, reducing the losses of water and soil. While the demand side management interventions did on technological front on to improve water productivity, land productivity and de-risking the present farm-based livelihoods and most importantly, changing the behavior of community to effective water governance and management. Hence, soil and water conservation and management become imperative to address environmental sustainability and welfare of people. Efforts have been made to develop an effective partnership between different stakeholders like government has been imperative to ensure long term strategic development of the region sustainability. Village development committee (VDC) has been strengthened in area of soil, water, and environment related issues, raising their awareness on government scheme, training them to submit their demand application to line department directly or through gram panchayat as deemed fit.

SRIJAN's Project Layout:



Theory of Change:



Target Beneficiaries:

The project envisages to bring improvement in environmental outcomes along with integrated livelihood models using interventions in soil, water harvesting and conservation, improved agriculture practices for mitigating climate change risk. The project interventions though will benefit the entire community directly and indirectly, the intervention primarily will address the challenges of farming community. The project catchment area is inhabited. The proportion of target population expected to be benefited from the project intervention would be in ratio of 50:50 belonging to SC/ST and other categories.

Key Stakeholders:

Rural community, PRIs, village institution, district, PRIs, CSO partner, local and district line department, research and extension agency.

Detailed Intervention Supported:

Community Institution Building

Central to program implementation was institutionalizing the process of development and environmental amelioration by involving community in the form of Village Development Committee as a Village Level Organization. In Total 74 VDCs organized for 76 villages i.e., one in each project village except 2 villages which are habituated with a smaller number of 30 HHs. The cumulative details of VDC, their distribution based on caste, gender and total revenue generated at VDC level are tabulated below as of 31st July 2022 is:

Sr No	Particulars	Year 01	Year 02	Year 03	Total
1	Village Development Committee (No)	51	22	01	74
2	VDC Member	2187	1016	825	4028
3	Male (No/ Percentage)	1962	866	560	3388/84%
4	Female (No/ Percentage)	225	150	265	640/16%
5	SC	429	114	122	665/17%
6	ST	718	454	378	1550/38%
7	OBC	788	340	205	1333/33%
8	General	243	108	112	463/11%
9	Minority	9	0	8	17/1%
10	Membership fees collected	250550	105550	97800	453900
11	Village development fund	348944	690315	309401	1348660

12	Total Revenue generated at VDC	599494	795875	407191	1802560
13	VDC account open	0	0	17	17
14	Cash deposited in Bank	0	0	82821	82821
15	Cash spent in Village development work	0	0	869484	869484

Several types of capacity building events have been organized in the project including training, exposures, field visits, demonstrations etc. Training on land and water management (2), on sustainable agriculture practices (72), external exposure visits (11), training on VDPs (15) and field days (18) have been done to engage farmers to learn more about new technology, practices etc.

Area Treatment under Soil Moisture Conservation work

The intervention under Soil and Water Conservation includes Soil and Moisture Conservation for prevention of soil erosion, augmenting water for improving water status and water quality. Total 5400 Ha. of land has been planned to be brought under land treatment activity thereby, preventing soil loss through erosion and enhancing moisture content. In total**, 5106 Ha of land** has been brought under treatment activity out of which 1909.94 Ha of land treated in year 3. The various types of SWC measures included field bunds, earthen pals in drainage lines and pond silt application. Total unique beneficiaries covered under the initiative is **1645 in three years** of duration of project. And indirectly, it supported **3181 families** whose lands were in adjacent to intervened farm lands.

Particulars	Year -1	Year-2	Year-3	Total
Soil & Water Conservation through Land Treatment (In Hectare)	1127	2069	1910	5106
Unique Direct Beneficiaries (Without Overlap)	581	608	456	1645

Demand generation has been done through VDC meeting based on regular discussions within meetings and thereafter, form fillings, site identification, estimation and work completion have been done. Although during implementation of work, lockdown imposed which restricted our movements on ground and work execution has been done under supervision of individual beneficiaries and VDC members and followed up by team members with either restricted movements or digitally through video calls wherever applicable. In case of SWC, we also had a narrow window after opening of lockdown where team members directly engaged with community with proper precautions or COVID protocols during year 01 and year 02.

Augmenting Water Resource to improve Water Status and Quality

The intervention created additional water recharge potential in the project villages that would help ameliorate the water status and water quality. By the end of third year of the project, **total 16.49 lakhs cubic meter of Water Recharge Potential** has been created through construction and renovation of **115 Water Harvesting Structures**. Indirectly, it covers whole villages as their livestock consumes water from these ponds constructed and farmers also share water for irrigation.

The summary based on types of structures are tabulated below:

Particulars	Year -1	Year-2	Year-3	Total
Water Recharge Potential Created (In Cubic Meters)	200694	792200	656403	1649297
Water Recharge Structures Created	36	56	23	115
Unique Direct Beneficiaries (Without Overlap)	203	129	137	469

Soil Health Improvement

Four-fold measures, a) Increasing Soil Carbon Content, b) Soil Microbial Population and c) Reduced usage of Agri Chemicals and d) crop diversification have been incorporated to ameliorate the overall soil physio chemical properties. The direct interventions included promotion of Composting, FYM, green manuring and pond silt application. This has facilitated improving Soil Organic Matter (SOM), improve porosity and infiltration rate. The activities, such as Jivamrit GHAN JEEVAMRIT, application of waste decomposer has increased the microbial population in soil and improved the fertility by converting the available nutrient in soluble form to plant. In total, **6155 cumulative demonstrations** have been done by the end of the project. Total **2921 unique beneficiaries** are covered under the demonstrations.

Year-wise intervention details are as follows:

Particulars	Year -1		Year-2		Year-3		Total	
	Rabi	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi	Kharif
Number of Demonstrations (With Overlap)	47	1512	1512	1108	1570	406	3129	3026
Unique Farmers Covered (Without Overlap)	47	1473	0	609	579	213	2921	

The major crops covered under demonstration included Pearl Millet (Bajra) during Kharif and Wheat & Mustard in Rabi Season. Apart from that, several initiatives taken with respect to green manuring, intercropping etc. apart from promotion of bio-inputs and bio-extracts.

Demonstration of Improved and efficient Irrigation Technology

As a part of strategic intervention to address the demand side challenges of water conservation and improving water productivity, it was imperative to introduce technology which were more environment friendly and efficient with respect to energy consumption and production. The overall concept is to introduce community with technology by demonstration, bringing line departments for convergences and optimize the production and energy usage. Improved technology demonstration such as Drip Irrigation/ Sprinklers in collaboration with Agriculture Department and Horticulture Department has been taken with selected farmers primarily grower of organic vegetable, orchard farmer and high value crop grown farmers. And thus, in three years, **154 units of sprinklers** have been leveraged from project, Horticulture Department and NSEF Partner PriMove. **14 Solar Powered irrigation pumps** have been installed with 14 unique farmers through project and in collaboration with the district horticulture department.

Particulars	Year -1	Year-2	Year-3	Total
Sprinkler Units	0	104	50	154
Solar Irrigation Pumps	0	2	12	14
Unique Direct Beneficiaries (Without Overlap)	0	101	54	155

De-risking Agriculture through Diversification

Overall Karauli district has 1.98% of the net sown area is under high value crop. To bring more area under high value crop with objectives to address livelihoods, climate change risk and increase green coverage, fruit Orchards have been planned under the project. **73.95 Ha. of area** have been brought under the orchard by the end of third year out of which, 11.65 Ha of orchard has been installed in year 3. The various horticulture crops promoted are guava, ber and papaya. Also, in **total 121.28 Ha have** been brought under organic vegetable cultivation by the end of third year. Overall, at the end of the project, the survival percentage **is 80.09%.** Apart from this, farmers are monitored for inter-cultural practices like staking, pruning etc. on regular basis throughout the project duration.

Particulars	Year -1	Year-2	Year-3	Total
Orchard Established (In Hectares)	14.5	47.8	11.65	73.95
Organic Vegetable Cultivation (In Hectares)	0	45.6	75.68	121.28
Unique Direct Beneficiaries (Without Overlap)	40	186	131	357

6. Output Indicators (To be filled for all the indicators mentioned in MoU)

Sr. no.	Expected Output (As per MoU)	Target (As per MoU)	Achieved Output (By 31st July 2022)	Comments (This section needs to be filled if there is a variance between expected and achieved)
1	No. of VDCs formed	76	74	Total 74 VDCs are formed in 76 villages as two villages are small with respect to number of households and therefore, combined to form a single VDC. Thus, total membership is 4028 members in the VDC.
2	Exposure of VDCs	8	11	As per need
3	Training of VDCs on VDPs	12	15	As per need
4	Training of VDCs on land & water resources and CPR	4	2	As this was targeted in last quarter of the project cycle and there was issue related to cash flow. Therefore, it has not been completed.
5	Environment Day	3	3	All targets completed
6	Soil and Water Conservation through land treatment (Area in Ha.)	5400	5106	94.5% of the target completed.
7	Creating Water Harvesting Potential	425000	1649297	As per need
8	Pasture Development (Area in Ha.)	300	12.5	Issues of encroachment of the common pastureland was an issue which was highlighted by team in first years of the project itself and therefore, we have proposed plantation in gher (common encroached land by individuals). But due to issue of cash flow, it could not be planned as proposed.

9	Demonstration of Regenerative Agriculture Practices (No. of Farmers)	3000	2921	97.36% target completed.
10	Training on Sustainable Agriculture	70	72	As per need
11	Field Days Organized	18	18	All target completed
12	Establishment of Fruit Orchards (Area in Ha.)	50	73.95	As per demand
13	Organic Vegetables (Area in Ha.)	100	121.28	As per demand
14	Mini Sprinkler/ Drip Sprinkler (Area in Ha.)	100	154	As per demand and possibilities of convergence emerged.
15	Demonstration of Solar Irrigation Pump (No. of Units)	15	14	93.33% target completed

7. Outcome Indicators (To be filled for all the indicators mentioned in MoU)

Sr. no.	Expected Outcome (As per MoU)	Achieved Outcome	Comments (This section needs to be filled, if there is a variance between expected and achieved)
1	60% of VDCs falling under Grade A	22% of VDCs are under Grade A based on grading done in the month of July 2022.	Total VDCs formed is 74 by the end of the project. In the month of July 2022, grading of VDCs were done in which out of total 74 VDCs graded, 16 VDCs are under Grade A, 43 are in B and 15 are in C grade. The grading is done based on several norms that a VDC should ideally follow and work on that. We are under-achieved in the dimension which is due to following reasons – a) Issues with the banks related to opening of accounts due to informal institution types even after several attempts during project cycle b) Male dominancy in terms of interventions related to natural resources as women participation were limited to 16% based on membership counts c) COVID-19 also affected capacity building events and community meetings during first two years of the project.

2	Community Start acknowledging emerging environmental challenges and increase in community knowledge and awareness related to water conservation and how it impacts their livelihoods	Acknowledged by community and particularly by farmers in Daang area in upper ridges. They are also exposed through external exposures (11) and different types of training events (110).	In total, 11 exposures were done with selected progressive VDC members All these exposures were related to types of livelihood activities could be promoted, more emphasis on use of organic extracts and multilayer farming. All these exposures aware them importance of efficient use of water and increase knowledge in terms of other ways of improving livelihoods in farming for climate smart agriculture. Total 110 training events were organized for VDC members in themes like water governance, sustainable agriculture, FPO etc. Recent FGDs conducted to understand the farmer's knowledge and preference of NRM work. We concluded that there is positive response among the farmers related to adoption of NRM activities and they find it useful in two ways i.e., increase in productivity and availability of water.
3	1.2 lakh tons of soil prevented from erosion	5106 Ha of land treated through SWC interventions which supported farmers to prevent soil losses and retaining moisture in it to improve productivity.	In total, 1645 direct farmers benefitted through 5106 Ha area treated in SWC Works. While indirectly, it is impacting 3181 beneficiaries whose land are adjacent to the direct families particularly in case of field bunds and earthen pals.
4	4.25 lakh cum of water harvesting potential created	16.493 Lakhs cum water harvesting potential created by the end of the project.	469 direct beneficiaries benefitted through 115 structures constructed and renovated which created water harvesting potential of 16.493 Lakhs cum. The type of structures constructed including bund strengthening, deepening, new earthen dams, and masonry check dams. Indirectly, it is impacting whole villages in intervened villages as livestock and other come to ponds for drinking water. Farmers also share water for irrigation as well.
5	2100 Ha. of unproductive land converted to cultivable land and additional irrigated area created 1250 Ha	1003.95 Ha area unproductive land converted into cultivable land and 733 Ha. of land has been provided additional one irrigation	Two major interventions done in case of conversion of un-productive land into cultivatable land i.e., pond silt applications in upper ridge area and construction of earthen pals in ravines area. Total 237.15 Ha land treated through pond silt application and 766.80 Ha. through earthen pals in drainage lines. Rest, area

			treatments are done in semi-productive lands through SWC measures. Taking 7.5 cm water for irrigation in one hectare, 750 cum water volume required for one hectare of land. Therefore, additional irrigated area would be 733 Ha based on water storage potential created i.e. 5,49,766 cum.
6	30-40% increase in land productivity	The productivity is variable with respect to crop. In case of wheat demonstrations, there is an increase of 36.92%, for Bajra – 15.18% and for Mustard – 13.25%.	The productivity in case of demonstration of wheat is 13.59 quintals per bigha while average district productivity is 9.925 quintals per bigha. While in case of Bajra, demonstration productivity is 5.73 quintals per bigha while district average is 4.975 quintals per bigha. In case of Mustard, demonstration productivity is 4.7 quintals per bigha while district productivity is 4.15 quintals per bigha. All district productivity is calculated based on decadal production data of the district and taking average of that.
7	Increased awareness of farmers on improving soil health for sustainable agriculture production and decreased usage of nitrogen-based fertilizer	Based on FGDs done through support of external consultant, 71% of farmers in Karauli were aware about seed treatment and had received training from SRIJAN for the same, 55% of the farmers reported to being aware of line sowing and 87% of the farmers had a favorable attitude towards reducing usages of chemical fertilizer and adopting organic means.	In total, 2921 farmers have been demonstrated for natural farming practices out of 3000 targeted. Based on FGDs, it is observed that a medium to high level of awareness within the community regarding the PoP training on sustainable agriculture demonstration promoted by SRIJAN. Based on total sample soil testing of 165 samples taken of demonstration farmers, 114 samples were found having organic carbon greater than 0.5 which is 68.26 % while 31% are in range between 0.4 to 0.5 % as organic carbon. The results are encouraging.

8	Enhanced usage of organic Agri-inputs and bio inoculum	Based on FGDs done through support of external consultant, 91% of farmers reported to be aware of the training provided by SRIJAN on jeevamrit (Organic extracts) and do have favorable attitude but only 4% farmers have reported to be using jeevamrit regularly, 79% used once or twice and 18% have not used yet on field. While 39% of the farmers reported to having used organic pesticides as adoption percentage.	During seed treatment and improvement of organic inputs, it is general practice to use PSB, Rhizobium etc. as seed treatment bio-liquids and tricoderma as bio-pesticide for treatment. 72 total trainings conducted on sustainable agriculture in three years apart from exposures in Krishi Vigya Kendra for demonstrations.
9	Area brought under horticulture/ plantation activity having potential to improve green coverage and livelihoods	73.95 Ha total area brought under horticulture. Based on FGDs conducted by external consultant, 72% of the respondent were aware of the guava plantation activity undertaken by SRIJAN. Most of those who have already got SRIJAN's support in setting up guava plantation were satisfied with the training and other support provided by SRIJAN and gave rating of 4.2 on a scale of 5 for the support provided.	14.5 Ha in first year, 47.8 Ha in second year and 11.65 Ha in third year area covered in horticulture by 183 unique farmers. As on date, the survival rate is 80.09%. Farmers are monitored for inter-cultural practices like staking, pruning etc. on regular basis. Based on research paper, Guava tree sequester 13.25 Kg. equivalent of CO2 per tree per year considering age of Guava to be 15 years. Therefore, based on above standard calculation, total carbon sequestration potential created is 2521 tons equivalent of CO2 considering number of total survived plant as on date.

10	Area Covered Organic vegetable cultivation	121.28 Ha	45.64 Ha in second year and 75.68 Ha in third year covered under vegetable cultivation. 310 unique farmers are covered under organic vegetable cultivation.
11	% Of net sown area under micro irrigation	Till date, 137.5 Ha of land has been brought under micro-irrigation which increases 1.3% area of net sown area i.e., 10566.5 Ha. under micro-irrigation activity.	Total 154 units of sprinkler and drips are availed to farmers which cover 137.5 Ha of land. Out of total 154 units, 132 are supported from project cost while remaining 22 units are leveraged from Government convergences and other sources.
12	45 Ha of additional are brought under Solar irrigation	35.25 Ha of additional land brought under solar irrigation from installation of 14 units.	Total 14 Units of solar irrigation pumps have been installed out of which 07 units are installed using project cost while 07 units have been leveraged through horticulture department. All these are solar pumps with variable capacities i.e., 7.5 HP and 5 HP.
13	Saving equivalent to Rs. 20000-25000 for irrigation compared with diesel pump	Average savings from solar irrigation pump is 20,040 INR i.e., 15,040 INR from diesel and 5,000 INR from maintenance of diesel pumps.	Based on FGD, it is observed that on average per farmer 19 irrigations are required in Rabi crops i.e., Wheat and Mustard for which majorly diesel pumps are used by farmers in upper ridge area. 160 liters of diesels required each year on average which multiplying by 94 INR per liter, saves 15,040 INR per annum. While remaining 5,000 INR used in maintenance like use of engine oil etc. While when farmers do high value crop like vegetables, it saves more. This also created 120.23 tons equivalent to CO2 carbon sequestration potential considering per liter consumption of diesel emits 0.732 KgC and 20 years as life of solar irrigation pump based on research paper.

8. Impact Indicators (To be filled for all the indicators mentioned in MoU)

Sr. no.	Expected Impact (As per MoU)	Achieved Impact (By 31st July 2022)
1	60% of VDCs operating on its own wrt to planning and budgeting	Total VDCs formed is 74 by the end of the project. In the month of July 2022, grading of VDCs were done in which out of total 74 VDCs graded, 16 VDCs are under Grade A, 43 are in B and 15 are in C grade. The grading is done based on several norms that a VDC should ideally follow and work on that. We are under-achieved in the dimension which is due to following reasons – a) Issues with the banks related to opening of accounts due to informal institution types even after several attempts during project cycle b) Male dominancy in terms of interventions related to natural resources as women participation were limited to 16% based on membership counts c) COVID-19 also affected capacity building events and community meetings during first two years of the project.
2	Planned convergence in activities related to environmental amelioration at Panchayat level	In three years, total convergence has been done of amount 59.79 Lakhs majorly from horticulture department, Gram Panchayat and Krishi Vigyan Kendra, Karauli. The convergence happened particularly related to assets development i.e., solar irrigation pumps units, sprinkler units, water harvesting structures etc. Community has been skilled in terms of process of convergence from government department and linkages have been built with district administrations for future. Gram Panchayats also worked in collaboration with village development committees for water harvesting structures which are need of the farmers as well, particularly for common structures. This will be way forward for community to take it forward in future.
3	Enhanced budget allocation/ utilization in activities related to SWC, plantation, water conservation etc. at GP level	By the end of 2nd year, 232 families availed the benefits of government schemes while this number doubled in this quarter i.e. 562 individuals get benefitted through different government schemes which included themes like social security schemes and also related to enhanced water security through MGNREGA. The different schemes included Chiranjeevi Swasthya Bima Yojna, Jan Aadhar Card Preparation, National Pension schemes, MGNREGA etc. Thus, at GP level, participation of VDC members has been increased.
4	Enhanced Water Security	469 direct beneficiaries benefitted through 115 structures constructed and renovated which created water harvesting potential of 16.493 Lakhs cum. The type of structures constructed including bund strengthening, deepening, new earthen dams, and masonry check dams. Indirectly, it is

		impacting whole villages in intervened villages as livestock and other come to ponds for drinking water. Farmers also share water for irrigation as well. This has created additional irrigation in 733 Ha of land taking 750 cum water required for one irrigation.
5	Improved ground water table between 0.5 to 1 m	Based on data analysis done of well monitoring data of all months, the average deviation in a year is found to be 0.4912 m.
6	Average increase in cultivable area	In total, 1003.95 Ha has been treated through construction of pond silt application and earthen pals and 528 is total number of unique beneficiaries benefitted through these interventions. Thus, average increase in cultivable land is 1.90 hectares per beneficiary.
7	Increased cropping intensity increased from 130% to 160%	The overall cropping intensity in Karauli was found to be 184%. This indicates that on an average a piece of land was cultivated 1.84 times during a year. On comparison of cropping intensity among the sub-locations at Karauli, it was found that Mandrayal has a relatively higher level of cropping intensity of 187% compared to 178% in Sapotara (Based on FGD done by external consultant)
8	Enhanced Soil Organic Matter, Improved Porosity and Enhanced Infiltration Rate	Based on total sample soil testing of 165 samples taken of demonstration farmers, 114 samples were found having organic carbon greater than 0.5 which is 68.26 % while 31% are in range between 0.4 to 0.5 % as organic carbon. The results are encouraging. It is evident that increase in organic carbon percentage or subsequently increase in soil health increases porosity and ultimately, infiltration rate of soil.
9	Additional Secured and alternative income source 70-80 K per ha/ per annum	Based on analysis of organic vegetable demonstration done last year, on average 0.43 hectare of land fetches 47,497 INR on average per farmer which means 1.12 Lakhs per ha/annum could be earned through vegetable cultivation which is also evident now. As in case of orchard, it is expected to earn 800 INR on average per tree based on experiences of neighboring district Sawai Madhopur. Based on survival data and average per farmer plantation equals to 70 and thus, it will support farmer to have annual incremental income of 56,000 INR per 0.25 hectare of land. Based on research paper, Guava tree sequester 13.25 Kg. equivalent of CO_2 per tree per year considering age of Guava to be 15 years. Therefore, based on above standard calculation, total carbon sequestration potential created is 2521 tons equivalent of CO_2 considering number of total survived plant as on date.

10	% Under high value crop of net sown area	195.27 Ha of land has been brought under vegetable and fruit orchards which is high value crop. It is increase of 1.85% in percentage of high value crop with respect to net sown area of the project village i.e. 10566.5 Ha.
11	Improved water Productivity	137.5 Ha of land has been brought under micro-irrigation which increases 1.3% area of net sown area i.e., 10566.5 Ha. under micro-irrigation activity. Total 154 units of sprinkler and drips are availed to farmers which cover 137.5 Ha of land. Out of total 154 units, 132 are supported from project cost while remaining 22 units are leveraged from Government convergences and other sources. This is saving equivalent to 36 to 40% water during irrigation.
12	Annual fuel saving equivalent to 7500 liters worth Rs. 600000 for a life period of 15 years	Annually, it is saving 2240 litres of diesel based on average annual use of 160 liters of diesel per farmer for 19 irrigations which also saves 210560 INR on annual basis for a life period of 20 years. This also created 120.23 tons equivalent to CO2 carbon sequestration potential considering per liter consumption of diesel emits 0.732 KgC and 20 years as life of solar irrigation pump based on research paper.

9. Convergence (Mention about the efforts made for the convergence with Government and with other partners along with its outcomes)

In three years, total convergence has been done of amount 59.79 Lakhs majorly from horticulture department, Gram Panchayat and Krishi Vigyan Kendra, Karauli. The convergence happened particularly related to assets development i.e., solar irrigation pumps units, sprinkler units, water harvesting structures etc. Community has been skilled in terms of process of convergence from government department and linkages have been built with district administrations for future. Gram Panchayats also worked in collaboration with village development committees for water harvesting structures which are need of the farmers as well, particularly for common structures. This will be way forward for community to take it forward in future.

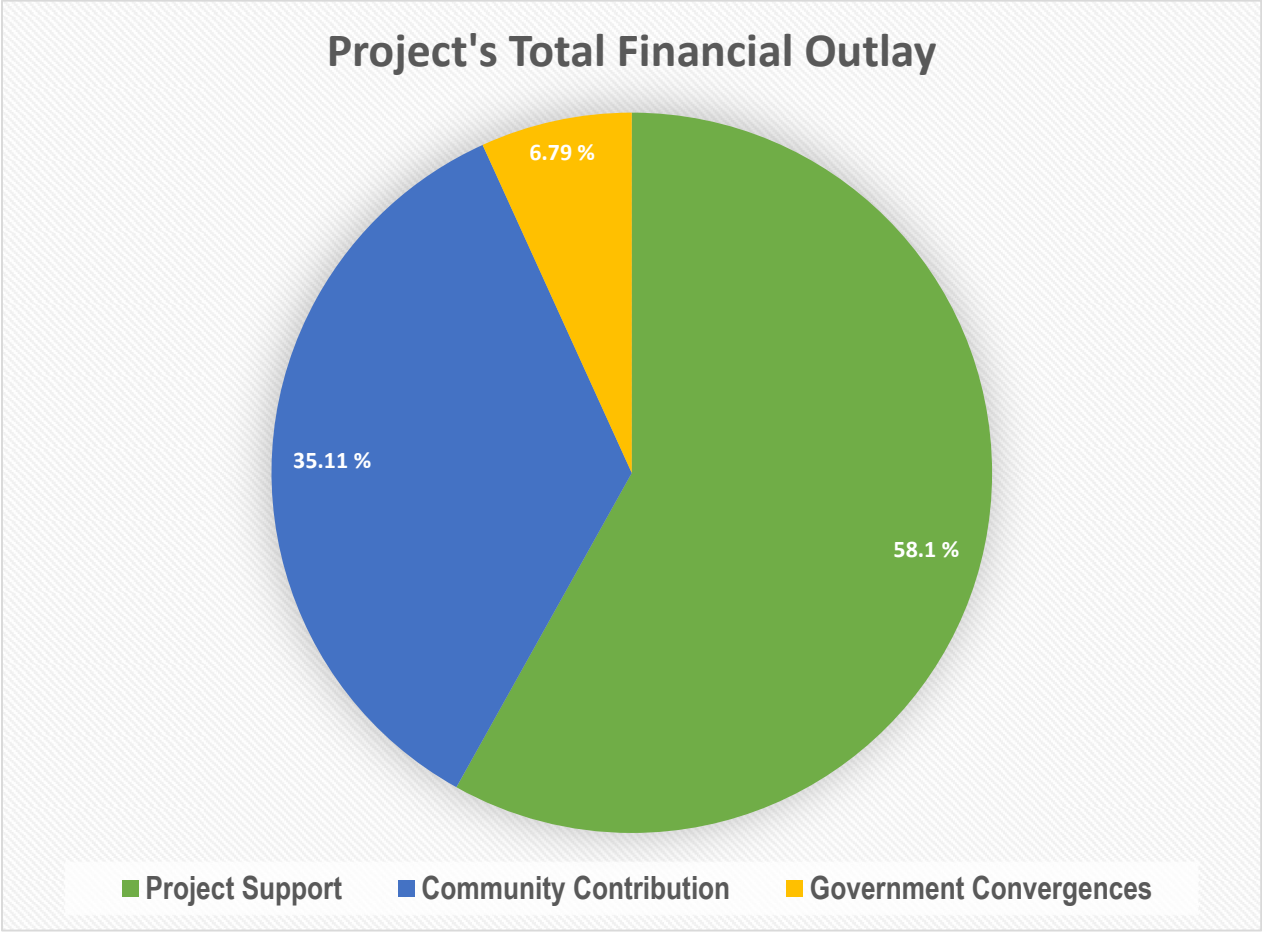
Sl.No.	Year of the Project	Name of the Quarter	Particulars	Number	Source of Convergence	Amount of Convergence
1	Year 02	Quarter 2	Sprinkler Demonstration	20	Horticulture Department	1,62,782
2			Onion Storage House	1	Horticulture Department	87,500
3		Quarter – 3	Solar Unit	1	Horticulture Department	2,17,000

4		Quarter – 4	Water Harvesting Structure (Construction of Model Talab)	1	Gram Panchayat – Dhoreta	10,15,993
5.			Drip Units for Horticulture Farmers (Amount has not been claimed as PriMove is NSEF partner only)	2	PriMove	-
Total Convergence Amount (For Second Year of the Project)						**14,83,275**
6	Year 03	Quarter – 2	Solar Irrigation Pumps Unit	3	Horticulture Department	5,28,965
7		Quarter – 3	Solar Irrigation Pump	2	Horticulture Department	4,20,642
8		Quarter – 4	Spray Pump and Bajra Seeds	30	Krishi Vigyan Kendra	92,730
9			Solar Irrigation Pump Unit	1	Horticulture Department	2,10,321
10			Water Harvesting Structures	4	Gram Panchayat – Nibhaira	32,43,331
Total Convergence Amount (For Third Year of the Project)						**44,95,989**
Total Convergence Amount (For three years of Project)						**59,79,264**

10. Financials:

The overall projects financials have been tabulated below based on targets:

Year of the Project	**Annual Project Outlay (INR)**	**As on Date (From 1st August 2019 to 31st July 2022) Financial Status in INR**			
		NSEF Contribution	**Community Contribution**	**Convergence**	**Total Project Outlay**
		(a)	**(b)**	**(c)**	**(a+b+c)**
Year 01	2,49,08,000	1,01,86,863	65,48,000	0	1,67,34,863
Year 02	3,86,25,000	2,29,94,046	1,27,14,120	14,83,275	3,71,91,441
Year 03	2,88,11,200	1,79,76,977	1,16,55,850	44,95,989	3,41,28,816
	9,23,44,200	**5,11,57,886**	**3,09,17,970**	**59,79,264**	**8,80,55,120**



11. Photographs (Attach 5 to 10 good quality image with captions)

Creating Water Harvesting Potentials through WHS

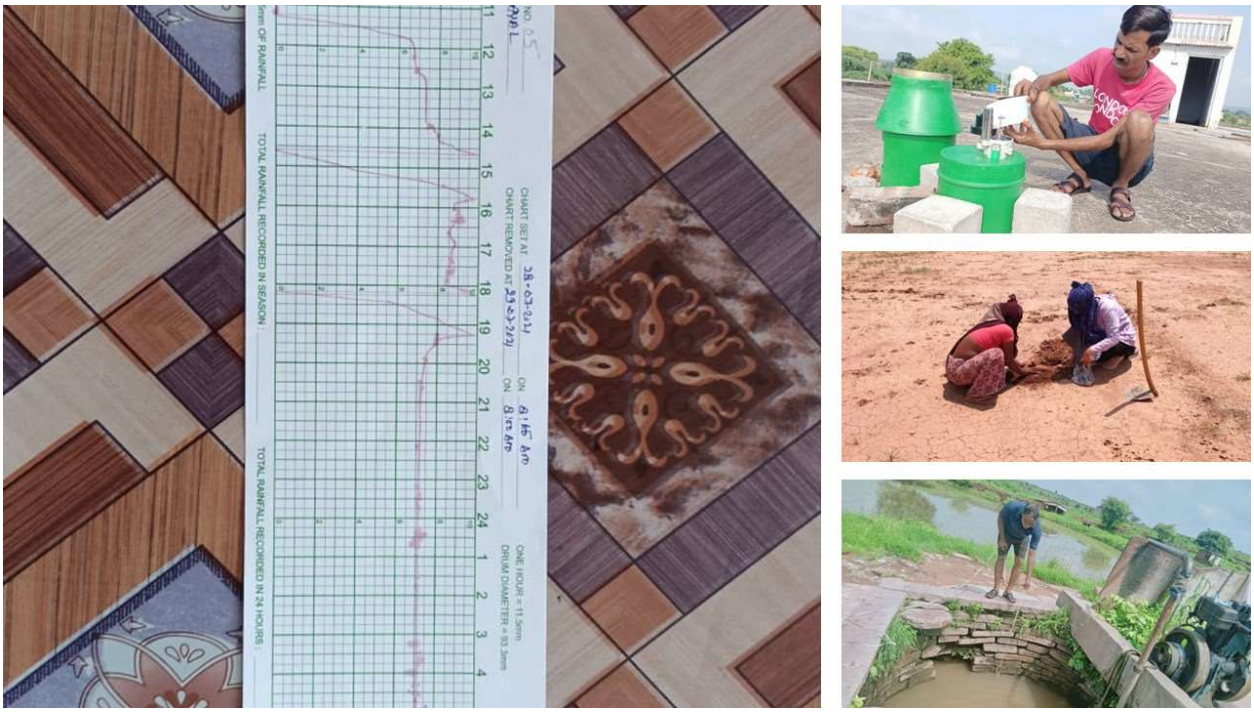
Soil and Moisture Conservation Measures

Horticulture as Crop Diversification Activity

Vegetable Cultivation as Crop Diversification Activity

Regenerative Agriculture Demonstrations

Capacity Building and Exposures of the Community



Monitoring Activities For Reporting Data

Village Development Committees Meetings

Activities under Project - CAVACH

Installation of Solar Irrigation Pumps at Farmer's Field