



## Verification Report for

Project : Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India.

UWR Project ID : 382

Name of Verifier	SQAC Certification Pvt. Ltd.
Date of Issue	January 10, 2024
Project Proponent & Owner	Farm pond owner (farmers) of the villages from Deesa, Dhanera, and Lakhani Taluka, Banaskantha, Gujarat, India.
UWR Project Aggregator	Yojan Solutions
Work carried by	Mr. Santosh Nair
Work reviewed by	Mr. Praful Shinganapurkar

### **Summary:**

SQAC Certification Pvt. Ltd. has performed verification of the “Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India”. The project activity is a man-made constructed pond structure having a large catchment area that conserves and stores rainwater for future use in the different villages of Deesa, Dhanera, and Lakhani Taluka.

The project activity meets the following UN SDG’s:



Verification for the period: **01/01/2021 to 31/12/2022.**

In our opinion, the total RoU’s over the crediting / verification period stated in the Project Concept Note and Monitoring Report, PCNMR submitted to SQAC are found to be correct and in line with the UWR guidelines.

Accredited by 5 Jupiter House, Callera Park, Aldermaston, Reading Berkshire RG7 8NN, United Kingdom (UK).

India Office: Off. No. 4, Fifth Floor, Buildmore Business Park, New Canca Bypass Road, Khorlim, Mapusa, Goa – 403 507

Web: [www.sqac.in](http://www.sqac.in)

Email: [info@sqac.in](mailto:info@sqac.in) Tel: 7219716786 / 87





The verification was done remotely by way of video calls / verification, phone calls and submission of documents for verification through emails.

SQAC is able to certify that the RoU's from the Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India, (UWR ID – 382) for the period 01/01/2021 to 31/12/2022 amounts to **1,30,678** RoUs

### **Detailed Verification Report:**

The project activity is pre-approved under the UWR RoU program for the following scope:

- Scope 2 (Measures for conservation and storage of excess surface water for future requirement).

### **Purpose:**

The project, Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India, is located at 35 villages and 3 Talukas of Banaskantha district, Country India. The Project Proponent and owner (PP) maintain the project activity and ensure that the rainwater runoff is harvested and flows into the farm pond that provides potable water supply to the PP during post-monsoons for irrigation and other usage. PP is responsible for maintaining the catchment area and ensuring the smooth flow of rainwater during the monsoon period in the farm pond. PP maintains all the necessary permits and ownership documents for the water harvesting and conservation activity.





**The project details are as follows:**

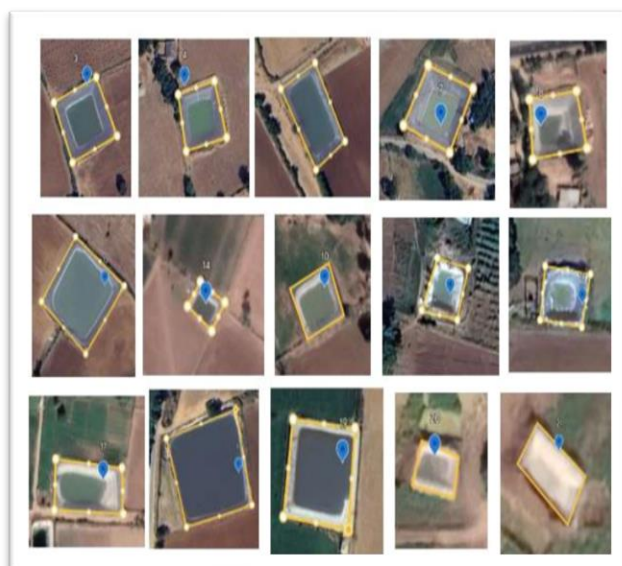
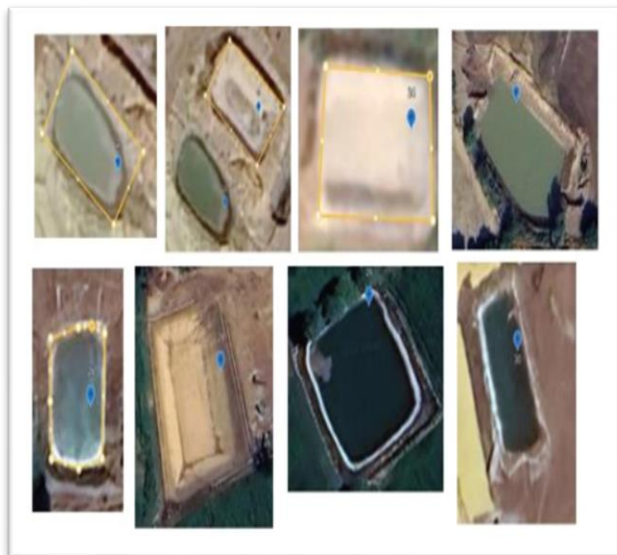
<b>Project Name</b>	: Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat India
<b>UWR Scope: RoU Scope 2</b>	: Measures for conservation and storage of excess surface water for future requirement
<b>Date PCNMR Prepared</b>	: 22 <sup>nd</sup> August 2023
<b>Catchment Area</b>	: 2000-3600 Sq.mt (approx.)
<b>Type of structure</b>	: Square Shape Farm pond
<b>Month and Year of Construction</b>	: June 2020
<b>Month and Year of Commissioning Rwh's</b>	: 01/01/2021
<b>Average Rainfall</b>	: 678 mm (for the year 2021-2022)
<b>Run off Coefficient</b>	: 0.3
<b>Evaporation and absorption losses</b>	: 35%
<b>Catchment Capacity</b>	: Approx. 6-8 million liters of water in each pond
<b>RoU Crediting Period</b>	: 01/01/2021 – 31/12/2022 (For Year 2021-2022)
<b>Total RoUs Generated For the Crediting Period</b>	: 130678

The project activity Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat India is a man-made constructed pond structure having a large catchment area that conserves and stores rainwater for future use in the different villages of Deesa, Dhanera, and Lakhani Taluka.

The project activity fulfils the UWR RoU requirements for “measures undertaken for conservation and storage of excess surface water for future requirements.”

A farm Pond is a dug-out structure with a definite shape and size having proper inlet and outlet structures for collecting the surface runoff flowing from the farm area and others. It is one of the most important rainwater harvesting structures constructed at the lowest portion of the farm area and is cost-effective.




Below are the satellite images for some of farm ponds:






## United Nations Sustainable Development Goals:

The project activity ensures the water security of India and attains the Sustainable Development Goals (SDGs) 1, 3, 6, 8, 10, 11, 12, and 13.



Sustainable Development Goals Targeted	Most relevant SDG Target / Impact	Indicator (SDG Indicator)
 <p>Goal 1 - End poverty in all its forms everywhere</p>	<p>1.4: By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.</p>	<p>1.4.1 Proportion of population living in households with access to basic services.</p>
 <p>Goal 3 – Ensure healthy lives and promote well-being for all at all ages.</p>	<p>3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p>	<p>3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services).</p>
 <p>Goal 6 - Ensure availability and sustainable management of water and sanitation for all.</p>	<p>6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.</p> <p>6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p>	<p>6.1.1: Proportion of population using safely managed drinking water services.</p> <p>6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources.</p> <p>6.b.1: Proportion of local administrative units with</p>





	<p>6.b: Support and strengthen the participation of local communities in improving water and sanitation management</p>	<p>established and operational policies and procedures for participation of local communities in water and sanitation management.</p>
 <p>Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	<p>8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.</p> <p>8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training.</p>	<p>Number of jobs created, and people trained during the installation and maintenance process of the project activity.</p>
 <p>Goal 10: Reduce inequality within and among countries.</p>	<p>10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status</p>	<p>Improved water security and therefore a stronger sense of independence and trust amongst villagers.</p>
 <p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.</p>	<p>11.1: By 2030, ensure access for all to adequate, safe and affordable basic services.</p>	<p>The PP provides SDW as a basic human right.</p>



 <p>Goal 12: Ensure sustainable consumption and production patterns</p>	<p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources</p>	<p>The PP will store and use the runoff rainwater for further use.</p>
 <p>Goal 13: Take urgent action to combat climate change and its Impacts.</p>	<p>13.2: Integrate climate change measures into national policies, strategies and planning.</p>	<p>Amount of water conserved.</p>

**Scope:**

The scope covers verification of RoUs from the project - Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India, (UWR ID – 382)

**Criteria:**

Verification criteria is as per the requirements of UWR RoU program for the scope – 2.

**Description of project:**

The overall goal of this project is to promote sustainable water development in the villages of Deesa, Dhanera, and Lakhani Taluka of Banaskantha district, Gujarat, India and prevent over-exploitation of groundwater resources.

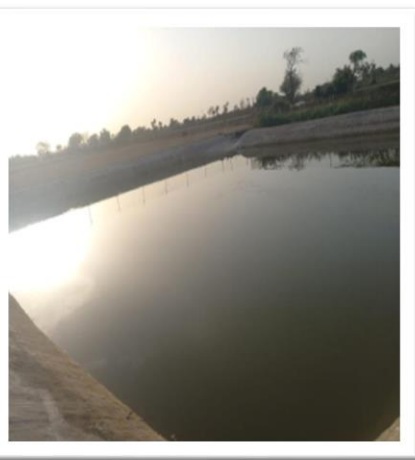
For the different villages of Deesa, Dhanera and Lakhani Taluka of Banaskantha district 109 Farm ponds have been constructed. Among them 70% of the farm ponds are covered with Geomembranes sheet and 30% of the farm ponds are built by applying the layer of soil and cement mixtures.



Hence among all the 109 farm ponds, the farm ponds with Geomembranes sheets layered are being used or reused for different purposes like irrigation water for cattle's, drinking, etc. The farm ponds which are having the layer of soil and cement mixture will gets some small cracks into it within the passing year of time so by the mode of this cracks water gets into it ground level and will helps in improving the ground water table along with the other usage. Some of this farm ponds are also helping in the recharging their Borewell.

The approximated catchment area of the farm pond is 1600 to 2500 sq.mt. of each pond. The total catchment area of all 109 farm ponds is approximately 1,64,737 Sq.mt. Hence approx. 6-8 million Liters of water can be stored in each farm pond during the heavy rainfall seasonal.

So approx. 400 million Liter of water can be stored in all the 109 farm ponds.







The artificial recharge of groundwater by the project activity aims at the augmentation of groundwater reservoirs by modifying the natural movement of surface water utilizing suitable civil construction techniques, such as rooftop rainwater harvesting.

#### **Benefits of Farm Pond:**

- It collects excess runoff during rainy periods.
- Stored water can be used for supplemental irrigation to crops, without waiting for rainfall.
- It is useful as drinking water for cattle during drought situations.
- It can be used for spraying pesticides.
- It conserves soil and moisture.
- It reduces soil erosion and recharges groundwater / Borewell.
- It helps to recharge the open well when there is excess water in the pond.
- One can use the soil excavated during pond construction as topsoil for uncultivable land.
- Increase the income of farmers as the increase in the crop irrigation.

<b>PROJECT NAME</b>	: Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India.
<b>UWR Scope</b>	: RoU Scope 2: Measures for conservation and storage of excess surface water for future requirement.
<b>Total Catchment area of all ponds</b>	: 164734 m <sup>2</sup>
<b>PCNMR Prepared on</b>	: 22/08/2023.
<b>Project Commissioning Date</b>	: 01/01/2021

#### **Rainfall and Recharge**

Rainfall data in respect of 6 rain gauge station representing Banaskantha district have been collected from Water Resources Investigation (WRI), State Data Centre, Govt. of Gujarat, Gandhinagar. Data has been analysed for the year of 1981 to 2016 (36 years). The average annual rainfall of the area is 552.62 mm (year 1981-2016), although there is a considerable variation from year to year. It occurs generally during the months of June to September. The isohyetal map for the year 2016 shows the progressive decrease in annual rainfall towards the west. It is more than 690 mm in the east side and less than 290 mm.

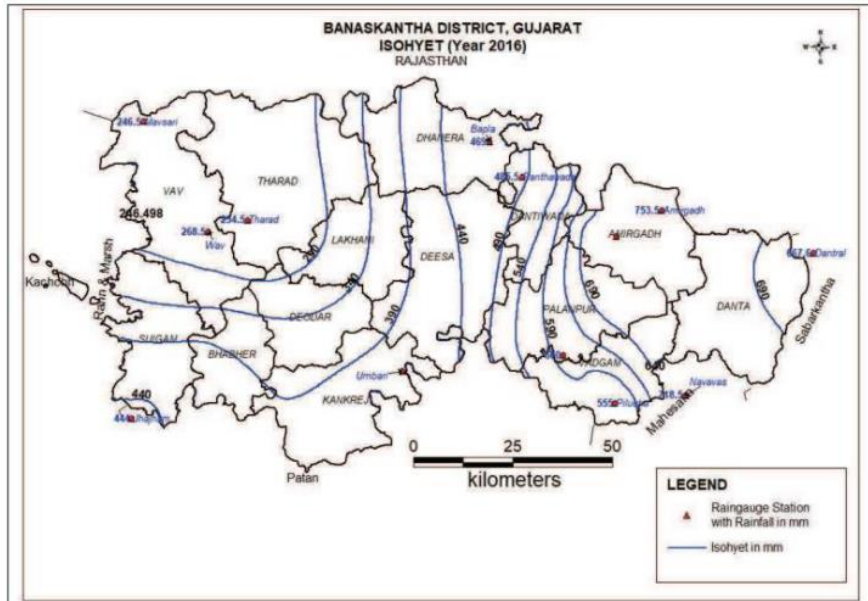



Fig.4.2 Isohyetal map year 2016, District Banaskantha.



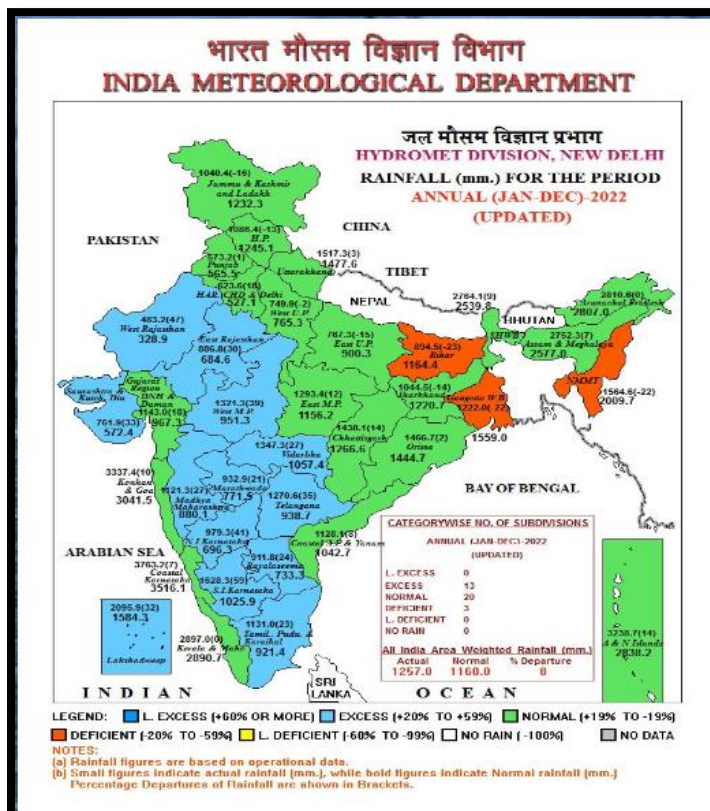
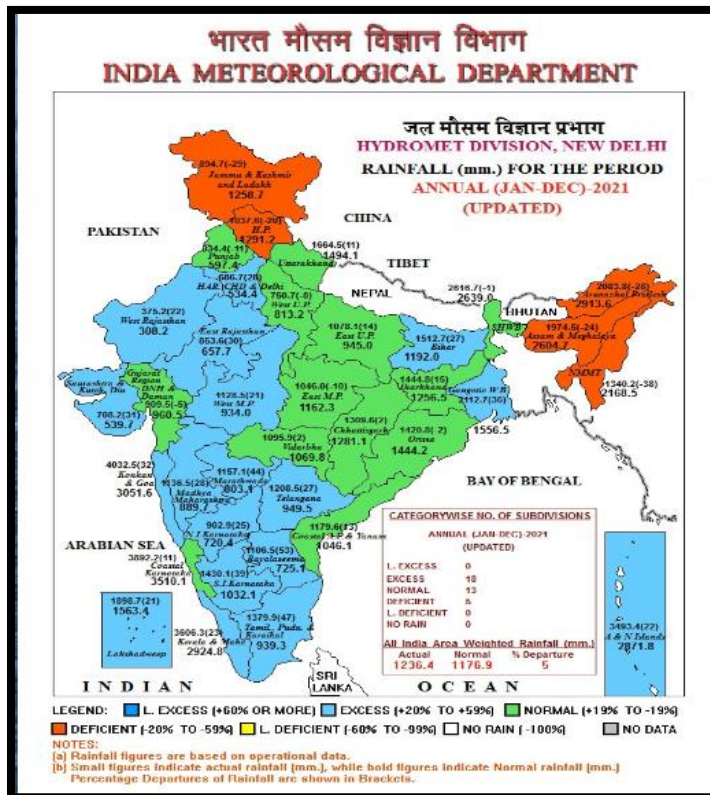
**Customized Rainfall Information System (CRIS)**  
 Hydromet Division  
 India Meteorological Department  
 Ministry Of Earth Sciences  
 New Delhi-110 003

Choose the States/UTs: GUJARAT Select District: BANASKANTHA GO

**District : BANASKANTHA**

Note : (1) The District Rainfall In millimeters (R/F) shown below are the arithmetic averages of Rainfall of Stations under the District.  
 (2) % Dep. are the Departures of rainfall from the long period averages of rainfall for the District.  
 (3) Blank Spaces show non-availability of Data

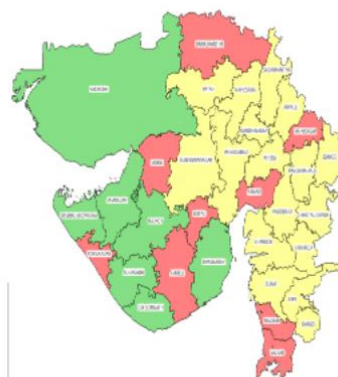
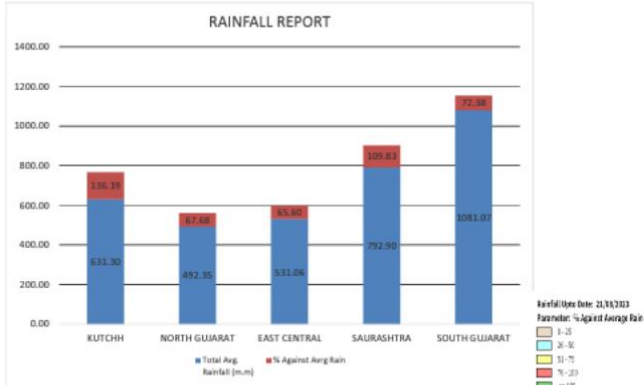
YEAR	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEPT		OCT		NOV		DEC	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP		
2018	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100	32.1	-49	123.0	-44	54.3	-70	5.1	-95	0.0	-100	0.0	-100	0.0	-100
2019	0.0	-100	0.5	-59	0.0	-100	3.5	219	0.1	-98	73.5	16	116.2	-46	229.7	20	180.4	102	83.2	507	21.1	146	4.6	253
2020	0.0	-100	0.0	-100	6.6	185	0.0	-100	6.4	63	53.6	-16	86.7	-60	484.7	153	105.0	18	8.3	-40	0.0	-100	0.0	-100
2021	0.0	-100	0.0	-100	0.0	-100	1.0	-9	12.4	217	87.1	37	88.2	-59	20.7	-89	240.0	169	4.5	-67	48.1	459	3.2	149
2022	1.7	58%	0.0	-100%	0.0	-100%	0.0	-100%	0.0	-100%	21.1	-67%	387.8	63%	425.2	113%	83.7	-15%	0.5	-97%	0.0	-100%	0.0	-100%





8 - RAINFALL REPORT-ZONEWISE

Region	Avg Rain (1993-2022)	Avg. Rain During last 24 Hrs.	Total Avg. Rainfall (m.m)	% Against Avg Rain
KUTCHH	464	0.60	631.30	136.19
NORTH GUJARAT	727	2.84	492.35	67.68
EAST CENTRAL	810	3.95	531.06	65.60
SAURASHTRA	722	0.61	792.90	109.83
SOUTH GUJARAT	1494	5.48	1081.07	72.38
<b>STATE</b>	<b>877</b>	<b>2.81</b>	<b>711.44</b>	<b>81.16</b>



Source: <http://www.gsdma.org/index.aspx>

Rainfall data in mm				Total Rainfall (mm)
Taluka / Year	Deesa	Dhanera	Lakhani	
2021	708	465	272	1445
2022	1125	757	741	2623
				<b>4068</b>

### Baseline scenario

The baseline scenario is the situation where, in the absence of the project activity, unutilized rainwater flows uncollected into drains or is not conserved and harvested within the project boundary and hence remains unutilized.



Baseline scenario, if not directly measurable, is calculated by using the UWR Standard.

The PP has selected the following method from UWR standard.

**Harvested water or Volume of water utilized (m<sup>3</sup>)**

**= Area of Catchment / Roof / Collection Zone (m<sup>2</sup>) X Amount of rainfall (mm) X Runoff coefficient  
\*Uncertainty Factor (1-0.35 = 0.65)**

As per UWR RoU Standard:

Runoff coefficient

Surface Area	Runoff Coefficient (K)
2.1 Untreated Ground surface catchment	0.3

Area of Catchment: 1,64,737 Sq. mt

**Level of Assurance:**

The verification report is based on remote audit, information collected through tele interviews, supporting documents provided during the verification, Project Concept Note - Monitoring Report (PCNMR) submitted to SQAC. The verification opinion is assured provided the credibility of all the above.

**Verification Methodology:**

Review of the following documentation was done by SQAC Verifier, Mr. Santosh Nair who is experienced in such projects.

- Project Concept Note / Monitoring Report (PCNMR)
- Commissioning period.
- Self Declaration
- Rainfall Data

**Sampling:**

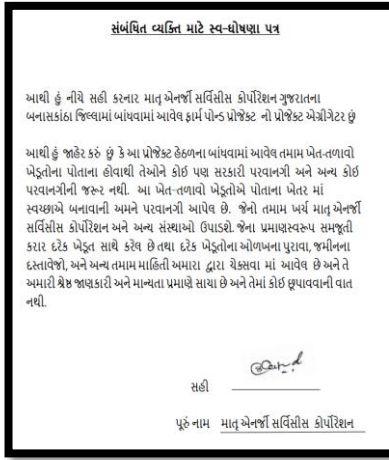
Ponds at Rampura, Sherpura, Gugal, Pechhadal and Laxmipura were taken as samples out of the entire lot of 109 farm ponds.





## Persons interviewed:

Sr No	Name	Village
1	Gordhanji Savaji jat	Rampura
2	Narengji Lalaji Jat	Sherpura
3	Suryben Natavarji Suthar	Gugal
4	Vahtabhai Kanajibhai patel	Pechhadal
5	Jagdish Tarad	Laxmipura





### 8 - RAINFALL REPORT-ZONEWISE

Rainfall Report 30-11-2021 (Rainfall in mm)

Sr. No	Avg Rain (1991-2020)	Rain till Yesterday	Rain During last 24 Hrs.	Total Rainfall	% Against Avg Rain	Sr.No.	District/ Taluka	Avg Rain (1991-2020)	Rain till Yesterday	Rain During last 24 Hrs.	Total Rainfall	% Against Avg Rain					
<b>NORTH GUJARAT</b>																	
<b>4 Mahesana</b>																	
1	402	400	0	400	99.40	1	Becharaj	663	711	0	711	107.22					
2	474	867	0	867	182.96	2	Jodana	746	668	0	668	89.55					
3	485	426	0	426	87.70	3	Kadi	814	753	0	753	92.53					
4	394	598	0	598	151.89	4	Kherali	678	500	0	500	73.73					
5	434	466	0	466	107.91	5	Mahesana	774	627	0	627	81.01					
6	357	298	0	298	83.53	6	Satasana	752	496	0	496	65.92					
7	474	488	0	488	102.92	7	Unha	741	776	0	776	104.70					
8	511	513	0	513	100.47	8	Vadnagar	645	405	0	405	62.83					
9	433	564	0	564	134.89	9	Vijapur	808	631	0	631	78.06					
10	490	471	0	471	96.14	10	Visanagar	662	429	0	429	64.78					
<b>Dist. Avg.</b>					<b>442</b>	<b>511</b>	<b>0</b>	<b>511</b>	<b>115.60</b>	<b>Dist. Avg.</b>			<b>724</b>	<b>600</b>	<b>0</b>	<b>600</b>	<b>82.86</b>
<b>KUTCH REGION</b>																	
<b>442</b>													<b>511</b>	<b>0</b>	<b>511</b>	<b>115.60</b>	
<b>NORTH GUJARAT</b>																	
<b>2 Patan</b>																	
1	510	382	0	382	74.88	4	Posina	829	845	0	845	101.90					
2	591	402	0	402	68.00	5	Prantli	822	612	0	612	74.49					
3	697	631	0	631	90.52	6	Talod	795	588	0	588	73.96					
4	638	551	0	551	86.40	7	Vadali	872	669	0	669	76.70					
5	528	337	0	337	63.86	8	Vijaynagar	539	794	0	794	94.64					
6	443	345	0	345	77.97	<b>Dist. Avg.</b>						<b>552</b>	<b>665</b>	<b>0</b>	<b>665</b>	<b>77.94</b>	
7	698	821	0	821	119.33	<b>6 Aravali</b>											
8	521	402	0	402	77.15	1	Bayad	877	503	0	503	57.37					
9	761	702	0	702	92.23	2	Bhioda	926	474	0	474	51.18					
<b>Dist. Avg.</b>					<b>593</b>	<b>508</b>	<b>0</b>	<b>508</b>	<b>85.63</b>	<b>3 Dhanura</b>			<b>902</b>	<b>668</b>	<b>0</b>	<b>668</b>	<b>74.03</b>
<b>3 Banaskantha</b>																	
1	810	453	0	453	55.90	4	Malpur	803	376	0	376	46.81					
2	504	397	0	397	78.76	5	Meghraj	866	601	0	601	69.39					
3	849	920	0	920	108.35	<b>Dist. Avg.</b>						<b>878</b>	<b>552</b>	<b>0</b>	<b>552</b>	<b>63.09</b>	
4	634	543	0	543	85.67	<b>7 Gandhinagar</b>											
5	666	708	0	708	106.25	1	Dahagam	806	474	0	474	58.82					
6	534	360	0	360	67.42	2	Ghagor	715	423	0	423	59.16					
7	597	465	0	465	77.83	3	Kaloi (gr)	782	742	0	742	94.90					
8	505	343	0	343	67.97	4	Mansa	800	574	0	574	71.75					
<b>Dist. Avg.</b>					<b>607</b>	<b>272</b>	<b>0</b>	<b>272</b>	<b>44.79</b>	<b>Dist. Avg.</b>			<b>765</b>	<b>553</b>	<b>0</b>	<b>553</b>	<b>72.27</b>
<b>10 Patanpur</b>																	
11	544	403	0	403	74.06	<b>N.G REGION</b>						<b>717</b>	<b>555</b>	<b>0</b>	<b>555</b>	<b>77.90</b>	
12	440	343	0	343	77.88												
13	756	767	0	767	101.46												
14	512	280	0	280	54.68												
<b>Dist. Avg.</b>					<b>626</b>	<b>484</b>	<b>0</b>	<b>484</b>	<b>78.07</b>								

### 8 - RAINFALL REPORT-ZONEWISE

Rainfall Report 30-11-2022 (Rainfall in mm)(Dt.29-11.2022 06:00 am to Dt.30.11.2022 06:00 am)

Sr. No	District/ Taluka	Avg Rain (1992-2021)	Rain till Yesterday	Rain During last 24 Hrs.	Total Rainfall	% Against Avg Rain	Sr.No.	District/ Taluka	Avg Rain (1992-2021)	Rain till Yesterday	Rain During last 24 Hrs.	Total Rainfall	% Against Avg Rain				
<b>NORTH GUJARAT</b>																	
<b>4 Mahesana</b>																	
1	Abdasia	415	829	0	829	200.00	1	Becharaj	678	920	0	920	135.76				
2	Anjar	499	919	0	919	184.23	2	Jodana	753	660	0	660	87.61				
3	Bhadrau	474	537	0	537	113.31	3	Kadi	812	792	0	792	97.49				
4	Bhuji	411	1206	0	1206	293.50	4	Kheralu	679	759	0	759	111.72				
5	Gandhinagar	436	577	0	577	132.46	5	Mahesana	780	1010	0	1010	129.56				
6	Lakhot	366	1041	0	1041	284.35	6	Satasana	754	1100	0	1100	145.97				
7	Mandvi(K)	488	976	0	976	199.89	7	Unha	742	645	0	645	85.77				
8	Mundra	523	1025	0	1025	195.97	8	Vadnagar	643	594	0	594	92.42				
9	Nakhtrana	451	836	0	836	185.34	9	Vijapur	802	1003	0	1003	125.03				
10	Rapar	501	548	0	548	109.36	10	Visanagar	662	649	0	649	98.07				
<b>Dist. Avg.</b>					<b>456</b>	<b>849</b>	<b>0</b>	<b>849</b>	<b>186.18</b>	<b>Dist. Avg.</b>			<b>724</b>	<b>836</b>	<b>0</b>	<b>836</b>	<b>115.65</b>
<b>KUTCH REGION</b>																	
<b>456</b>													<b>849</b>	<b>0</b>	<b>849</b>	<b>186.18</b>	
<b>NORTH GUJARAT</b>																	
<b>5 Sabarkantha</b>																	
1	Himatnagar	836	1200	0	1200	143.47	2	Idar	969	1365	0	1365	140.88				
2	Idar	969	1365	0	1365	140.88	3	Khedbrahma	833	1122	0	1122	134.77				
1	Chanama	514	660	0	660	128.47	4	Posina	836	1186	0	1186	141.89				
2	Hari	596	636	0	636	106.66	5	Prantli	815	729	0	729	89.44				
3	Patan	708	870	0	870	122.97	6	Talod	788	701	0	701	89.00				
4	Roshanpur	649	1009	0	1009	155.57	7	Vadali	866	1263	0	1263	145.80				
5	Sani	531	440	0	440	82.84	8	Vijaynagar	834	1161	0	1161	139.14				
6	Santaur	449	615	0	615	137.08	<b>Dist. Avg.</b>						<b>848</b>	<b>1091</b>	<b>0</b>	<b>1091</b>	<b>128.69</b>
7	Saravali	705	785	0	785	111.38	<b>6 Aravali</b>										
8	Shankheshwar	527	483	0	483	91.71	1	Bayad	878	632	0	632	71.99				
9	Siddhpur	770	1128	0	1128	146.59	2	Bhioda	917	1124	0	1124	122.52				
<b>Dist. Avg.</b>					<b>601</b>	<b>736</b>	<b>0</b>	<b>736</b>	<b>122.46</b>	<b>3 Dhanura</b>			<b>906</b>	<b>1032</b>	<b>0</b>	<b>1032</b>	<b>113.93</b>
<b>3 Banaskantha</b>																	
1	Amrighath	807	1023	0	1023	126.83	5	Meghraj	870	1099	0	1099	126.32				
2	Bhadraj	513	730	0	730	142.33	6	Modasa	866	941	0	941	108.70				
3	Danta	864	1269	0	1269	146.89	<b>Dist. Avg.</b>						<b>878</b>	<b>916</b>	<b>0</b>	<b>916</b>	<b>104.69</b>
4	Dantivada	646	1070	0	1070	165.60	<b>7 Gandhinagar</b>										
5	Deesa	683	1125	0	1125	164.77	1	Dahagam	790	897	0	897	113.59				
6	Deodar	542	952	0	952	175.78	2	Ghagor	711	568	0	568	79.85				
7	Dhanera	607	757	0	757	124.68	3	Kaloi (gr)	784	840	0	840	107.12				
8	Kankrej	509	655	0	655	128.68	4	Mansa	792	709	0	709	89.52				
<b>Dist. Avg.</b>					<b>609</b>	<b>741</b>	<b>0</b>	<b>741</b>	<b>121.65</b>	<b>Dist. Avg.</b>			<b>760</b>	<b>754</b>	<b>0</b>	<b>754</b>	<b>99.16</b>
<b>10 Patanpur</b>																	
11	Surgam	556	873	0	873	157.04	<b>N.G REGION</b>						<b>720</b>	<b>881</b>	<b>0</b>	<b>881</b>	<b>122.45</b>
12	Tharad	450	648	0	648	144.13											
13	Vadgam	765	1137	0	1137	148.59											
14	Wav	520	540	0	540	103.90											
<b>Dist. Avg.</b>					<b>634</b>	<b>908</b>	<b>0</b>	<b>908</b>	<b>143.23</b>								

### Corrective Action Requests (CARs)

Not applicable as no non-conformities has been evidenced.

### Applied methodologies:

Verification criteria is as per the requirements of UWR RoU program for the scope – 2.

### Applicability of double counting emission reductions

Currently not applicable for water credits.

Issuance Period: (02 years, 00 months) – 01/01/2021 to 31/12/2022

According to the UWR RoU Standard principles, the project activity accomplishes the following:

- ❖ Increases the sustainable water yield in areas where over development has depleted the aquifer
- ❖ Collect unutilized water or rainwater from going into storm drains or sewers
- ❖ Conserve and store excess water for future use



Harvested water or Volume of water utilized (m<sup>3</sup>) = Area of Catchment / Roof / Collection Zone (m<sup>2</sup>) X Amount of rainfall (mm) X Runoff coefficient \* Uncertainty Factor (1-0.35 = 0.65)

**Annual RoU calculation:**

Year	Catchment Area	Rainfall (mm)	Runoff Coefficient (K)	Uncertainty Factor	(RoUs)
	A	B	C	D	(A*B*C*D)/1000
2021	164737	1445	0.3	0.65	46418
2022	164737	2623	0.3	0.65	84260
<b>Total</b>					<b>1,30,678</b>

**Conclusions:**

Based on the audit conducted on the basis of UWR Protocol, which draws reference from UWR RoU program, the documents submitted during the verification including the data, Project Concept Note (PCNMR), SQAC is able to certify that the Water Credits from the project -: Rainwater Harvesting and Reuse through Farm Ponds, Banaskantha, Gujarat, India (UWR ID – 382) for the period 01/01/2021 to 31/12/2022 amounts to **1,30,678 RoUs**

Santosh Nair  
Lead Verifier  
(Signature)



Praful Shinganapurkar  
Senior Internal Reviewer  
(Signature)

Date: 10/01/2024