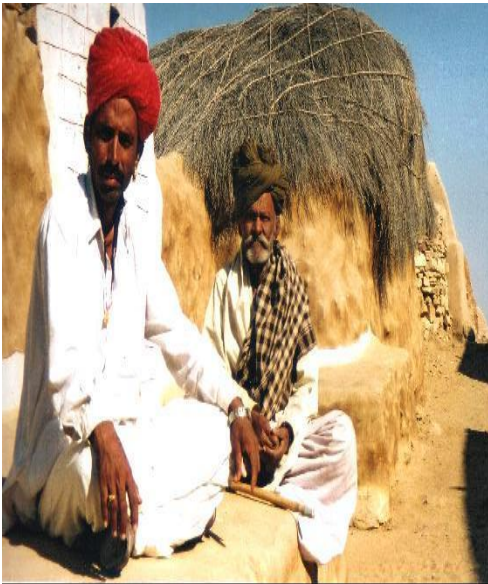




A study conducted by -
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INSTITUTE OF HEALTH
MANAGEMENT
RESEARCH (IIHMR)
AND SAFE WATER
NETWORK (SWN)

A STUDY ON SOCIO-ECONOMIC STATUS OF PROJECT VILLAGES
IN RAJGARH BLOCK OF CHURU DISTRICT RAJASTHAN, INDIA FOR
PROMOTING ROOF TOP RAIN WATER HARVESTING.



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Table of Contents

S.No.	Content	Page no
1	Introduction	1-2
2	Objectives of the Study	2
3	Methodology	2-4
4	Identification of Major Social and Economic Variables Affecting DRWH Project	4-15
4.1	Social characteristic of the surveyed villages	4
4.2	Demographic profile	5
4.3	Household size in the villages	5
4.4	Drainage facility available in the village	5
4.5	Status of supply of electricity	5
4.6	Availability of health facilities	5
4.7	Educational facilities	5
4.8	Self help group	5
4.9	Water and sanitation committee	5
4.10	Facilities available in the villages	5-6
4.11	Educational Status	6
4.12	Major occupation	6
4.13	Main source of drinking water	6
4.14	Place of collection of drinking water	6
4.15	Time taken for water collection	6
4.16	Frequency of collecting water in a day	6-7
4.17	Sex wise distribution with regard to collecting water	7
4.18	Income and expenditure of households grouped into quartiles	7
4.19	Annual household's expenditure	7
4.20	Expenditure on life cycle events (in last three years)	8
4.21	Saving	8
4.22	Indebtedness of households	8
4.23	Source of credit	8
4.24	Purpose of credit	8-9
4.25	Money spent on water	9
4.26	Type of fuel used for cooking	9
4.27	Household's assets and amenities	9-10
4.28	Agriculture land	10
4.29	Households having cattle	10
4.30	Economic status of the households	10
4.31	Involvement of households	10-11
4.32	Awareness about safe drinking water	11

S.No.	Content	Page no
4.33	Perception about rain water	11
4.34	Caste wise income pattern	11
4.35	Caste wise member of SHGs	11-12
4.36	Caste wise perception on rain water	12
4.37	Caste wise BPL families	12
4.38	Caste wise person responsible for collecting water	12
4.39	Caste wise payment for water	12-13
4.40	Caste wise availability of tanks	13
4.41	Caste wise main source of drinking water	13
4.42	Daily demand of drinking water	13-14
4.43	Shortage of drinking water	14
4.44	Daily demand of water for other purposes	14-15
4.45	Cattle population and demand for water	15
4.46	Total demand of water	15
5	Impact Analysis	15-18
6	Conclusion	19

List of Illustrations

S.No.	Tables and Figures	Page No.
1	Table 1: Method of conducting study	4
2	Table 2: Facilities available in the villages	5-6
3	Table 3: Income and expenditure of households grouped into quartiles	7
4	Table 4: Indebtedness of households	8
5	Table 5 : Household's assets and amenities	9-10
6	Table 6: Caste wise income pattern	11
7	Table 7: Caste wise member of SHGs	11-12
8	Table 8: Caste wise person responsible for collecting water	12
9	Table 9: Caste wise main source of drinking water	13
10	Table 10: Daily demand of drinking water	13-14
11	Table 11: Daily demand of water for other purposes	14-15
12	Table 12: Cattle population and demand for water	15
13	Table 13: Impact analysis	15-18
14	Figure 1: Main source of drinking water	6
15	Figure 2: Sex wise distribution with regard to collecting water	7
16	Figure 3: Money spent on water	9
17	Figure 4: Economic status	10

Introduction

Proper Water Management in India is one of the biggest challenges. The demand for water is already outstripping the supply. Majority of the population in the villages of district Churu today are found to be groundwater dependent, though the quality of the ground water is not as per the norms of Rajeev Gandhi Drinking Water Mission. It is noted that people are using private tube-wells or carrying water from private source to supplement their daily water needs. As a result of which, the groundwater table is falling at an alarming rate both in terms of quality and quantity.

Extraction of groundwater is unplanned and uncontrolled. This has resulted into:

1. Hydrological imbalance
2. Deterioration in water quality
3. Rise in energy requirements for pumping

Systematic collection and recharging of ground water, is a recent development and is gaining importance as one of the most feasible and easy to implement remedy to restore the hydrological imbalance and prevent a crisis. Another method which can be of use here is Roof Top Rain Water Harvesting technique. It is well thought of in the project that local roof top water harvesting systems developed by local communities and households can reduce the pressure on the state to provide all the financial resources needed for water supply. In addition, involving people will give them a sense of ownership and reduce the burden on government funds.

Need For Rain Water Harvesting In This Area:

The scarcity of water is a well-known fact. In spite of higher average annual rainfall in Churu which is 63.2 mm. [India - (1,170 mm, 46 inches)] as compared to the global average (800 mm, 32 inches) it does not have sufficient water. Most of the rain tends to flow away rapidly, leaving very little for recharge of groundwater. As a result, it is found that in most parts of India there is a lack of water even for domestic use.

Surface water source fail to meet the rising demands of water supply; Ground water reserves are being tapped and over-exploited resulting into decline in groundwater levels and deterioration of groundwater quality. This precarious situation needs to be rectified by immediately recharging of the depleted aquifers.

Background

Under the financial support of the Safe Water Network (SWN), USA Phase I of the Project was implemented by Bhoruka Charitable Trust (BCT) in the period from August to December 2008. During Phase I, construction work of tanks was carried out in 15 villages in Rajgarh block of Churu district in Rajasthan (India). For the project to be more sustainable and scalable there is the need to adopt comprehensive approach to combine the promotion of both physical construction (the hardware) and promotional/educational elements (the software). In lieu of this, in addition to physical construction of individual households tanks and rehabilitation of community tanks, Phase II of the project was designed to include more software components: Micro- financing (supported by the Centre for micro Finance -CmF) and socio-economic, health and water quality studies, Quality Assurance; Health and Hygiene Education (supported by the Institute of Health Management Research –IIHMR, Jaipur).

Objectives of the Study

Following are the key objectives of this study:

1. To understand the social and demographic profile of the project villages.
2. To find out the economic profile of people in the project village.
3. To know both social and economic dimensions of the variables related to water, sanitation and health issues.

Methodology

Following strategy were adopted while doing the socio-economic survey in the 39 villages of Churu District under promoting roof top rain water harvesting project.

Listing and Mapping

Each and every households of the village was listed with a unique identification code number like SWN-1, 2, 3.....etc. During this house listing operation, the team followed the left thumb rule from the entry point of the village. It implies that the team started moving from left hand households first and only followed the left hand rule, always went to left and left till they finished the listing of every household. Later on involving villagers by the Participatory Rural Appraisal (PRA) exercises, the village map, earmarking each and every households and main land mark and water source points were marked. During technical survey as well as during households' survey the same identification numbers were followed.

Sampling Procedure and Sample Size

The study was done using qualitative and quantitative techniques. These include:

1. A sample survey of the households in selected villages.
2. Observation and study of water sources.
3. Focus Group Discussions.

As the study is on the socio-economic status of the project village so a large sample size was taken as it helps the researcher to understand the correct social dynamics. Hence, it was decided to cover all the 39 villages for the study.

- The sample design for the study is in two stages. At the first stage the project area was divided into two categories. The villages in the first category were those where tanks were to be constructed in every household. The second category was of those villages where tanks were to be constructed in some sample households. In first category 100 percent households were surveyed and in second category 10 percent households were surveyed based on stratified random sampling method.
- Study of all (100 percent) water sources and the status of their functionality were carried out.
- Two Focus Group Discussion (one with women and one with men; socially exclusive group) involving the community in every village was done.

Tools and Techniques of Data Collection

This study is a combination of quantitative and qualitative data. For quantitative study, semi structured questionnaires were constructed on the basis of the objectives of study. Pre-testing of the questionnaire was done in one of the villages (having similar socio-economic condition and water status) in Jaipur district during the training of investigators. During pre-testing some modification were suggested and the same was incorporated in the final questionnaire. Besides village study through questionnaire in 39 villages, Individual interview from households (964) were carried out with the help of these questionnaires. Each and every functional water source was studied. Two FGDs were done to reflect the opinion of the community on perception of roof top rain water harvesting after knowing the historical trend and the problem of water from quality and quantity point of view.

Table 1: Methods of conducting study

Methods	Quantitative and qualitative
Information collection technique	<ul style="list-style-type: none"> • Desk study • Listening and interrogating informants
Tools	<ul style="list-style-type: none"> • Village questionnaire to know the village profile • Household’s questionnaire to know the socio-economic status of the project villages’; people perception on the quantity and quality and access to water to find out the gap between availability and requirements. • FGD with women and men.
Technique for analysis	<ul style="list-style-type: none"> • Computer based data processing (SPSS) • Transforming qualitative information into quantitative data

Desk Study

Besides the above survey the core team of assessment carried out the following:

- Review of analysis of secondary data relating to socio-economic, water quality and quantity of the blocks, districts and state.
- Review of State water policy and new NRDWP guidelines issued by Government of India

Training and Orientation

An intensive training of the investigators for three days including the pre-testing of questionnaire to carry out the above study was done. Besides the core team of IIHMR, water quality expert also contributed his rich experience. A detailed discussion on listing and mapping, field procedure, data collection and recording was part of the training.

Identification of Major Social and Economic Variables Affecting DRWH Project

- 1. Social characteristic of the surveyed villages** - Majority of the people, almost 97 percent are Hindus. If we see the caste wise distribution we see that about 58 percent of the population comes under OBC and another 29 percent are Schedule Caste.

2. **Demographic profile-** The sex ratio of the village is 919 and the average family size is 5.4.
3. **Household size in the villages-** Average no of households in villages is 151 to 300.
4. **Drainage facility available in the village-** It was seen that in most of the cases around 72 percent drainage facility is not available. Among those who have drainage facility about 15 percent had drainage open without an outlet.
5. **Status of supply of electricity-** The results is showing that more than 82 percent people have electricity for more than 6 hours, which means that electricity is not a problem in this area.
6. **Availability of health facilities-** It is noted that people availed the health facility provided by Government.
7. **Educational facilities-** Almost 80 percent villages had middle school but only 21 percent of the villages had higher secondary school and none of the village has college.
8. **Self help group-** In around 97 percent villages SHGs were there. SHGs were formed by calling a meeting at the village level by the NGO (BCT). The groups were formed with a minimum of 10 members and maximum of 20 members. Further, according to the survey team most of the SHGs were found doing exceptionally good work in their respective villages.
9. **Water and sanitation committee** – Although District Water and Sanitation Committee (DWSC) reports that Village water and sanitation committees (VWSC) were made throughout Churu District only 1 VWSC was found in existence.
10. **Facilities available in the villages-** The following were the facilities available in the villages :

Table 2: Facilities available in the villages

Facilities	Frequency	Percent
Post/Telegraph office	16	41.0
Bank	04	10.3
Adult education center	03	7.7
Youth club	12	30.8
SHGs	38	97.4
Market	03	7.7

Credit co-operative society	07	17.9
Agriculture co-operative	06	20.5
Kirana store	35	89.7
Community television set	01	2.6

11. Educational Status – A little more than half (55 percent) of the population is educated, rest are illiterate.

12. Major occupation- Almost 90 percent people are indulged in agriculture thus it is considered to be the major source of income in this area. Out of those who are doing other work only 0.9 percent was into government service.

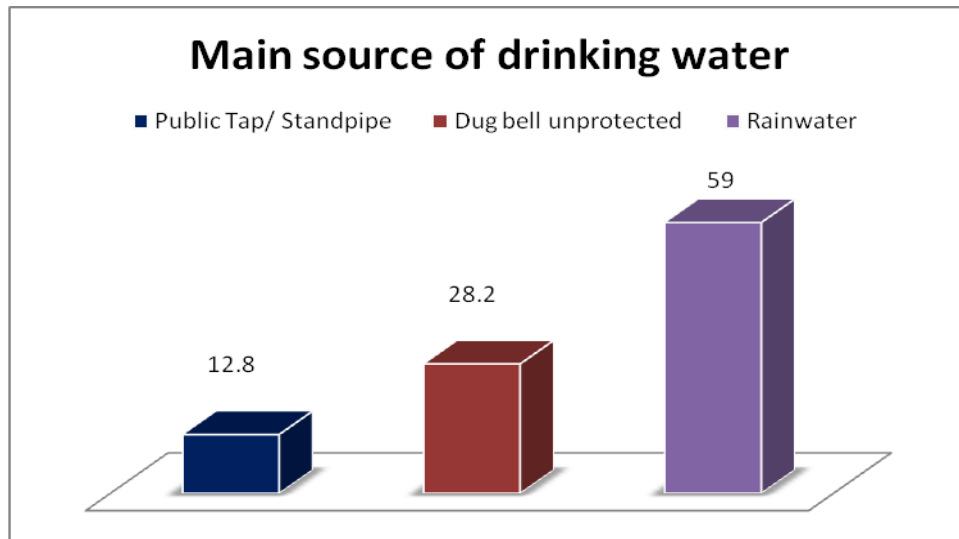


Figure 1: Main source of drinking water

13. Main source of drinking water- Figure 1 gives us the data that public tap, unprotected well and rain water were the main sources of drinking water.

14. Place of collection of drinking water- Only 19 percent people had water source inside house rest of them have to fetch water from outside source.

15. Time taken for water collection- Analysis with regard to time taken by households for water collection brings about a very alarming picture. Results show us that nearly one fourth (24 percent) of households spend more than 60 minutes or more for collecting water once, it also shows that only a little more than one fifth (21 percent) of the households spend less than 10 minutes for collection of water.

16. Frequency of collecting water in a day- A little more than half of households (51 percent) collect water twice a day, whereas nearly one fourth (24 percent) of the households report

that they have to go more than 5 times in a day to bring water. Only around one-tenth (9 percent) of the households collect water once in a day.

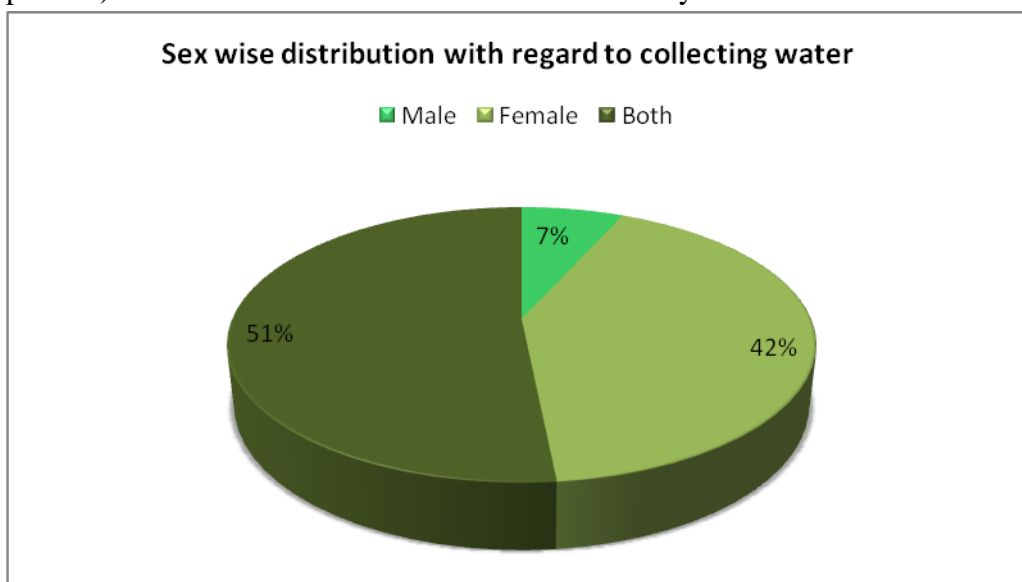


Figure 2: Sex wise distribution with regards to collecting water

17. Sex wise distribution with regard to collecting water- From the above given figure 2 we can see that in around 42 percent cases female is responsible for collecting water. On the contrary males were found collecting water for only 7 percent from source, in rest of the cases both shares the responsibility.

18. Income and expenditure of households grouped into quartiles-

Table 3: Income and expenditure of households grouped into quartiles

Income group (lowest to highest)	Income		Expenditure		Average surplus
	Average income in Rs	Percentage of total income	Average expenditure in Rs	Percent of total expenditure	
First 25%	24512	12.5	33924	19.9	9412
Second 25%	39882	20.3	34271	20.1	5611
Third 25%	55389	28.2	42660	25.0	12729
Last 25%	76643	39.0	59560	34.9	17083
Total	49100	100	42600	100.0	6500

19. Annual household's expenditure- The major expenditure is done on food, other major spending is on health and education.

20. Expenditure on life cycle events (in last three years)- Most important life cycle event is marriage on which around 51 percent money is spent, after that major areas of expenditure are health and house repair.

21. Saving- About 32 percent people have no saving as their income is less and whatever they earn is exhausted in household and other expenditure. Out of those who save money 24 percent of them keep it with SHG, near about 23 percent invest it in Insurance and others keep cash at home.

22. Indebtedness of households- The following table explains the indebtedness of households:

Table 4: Indebtedness of households

No of instance	Nil	< 1000	Rs 1000-2500	Rs 2500-5000	Rs 5000-7500	Rs 7500-1 lacs	1 lacs and above
No of instances	45	4	28	17	10	3	7
Percentage of HH	45	4	20	15	8	3	5

23. Source of credit- Study regarding the source of credit reflects that friend and relatives were the largest source of credit, who contributed 49 percent of the total. The next important creditors were money lender (17 percent) and bank and co-operatives (11 percent). This showed the close network that exists in the community.

24. Purpose of credit- Study with regard to purpose of credit reflects that 28 percent households took loan on life cycle events, majority of them were uncertain. Some 27 percent of the loan was taken for the daily consumption, followed by 14 percent on social consumption and on education. Same study also reflects that average rate of interest was 18 percent per annum. Though it is also noted that rate of interest charged by money lender was maximum (24 percent) where as SHGs were found to be charging half of that (12 percent) per annum.

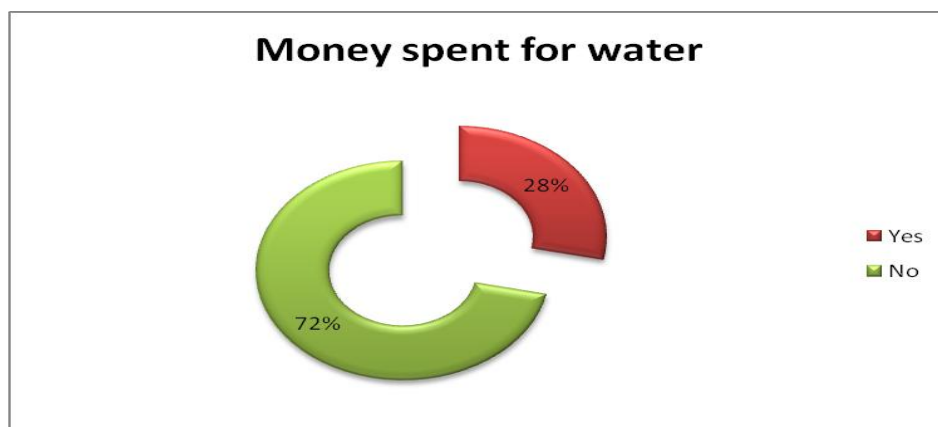


Figure 3 : Money spent for water

25. Money spent on water- Figure 3 gives us a picture that majority of the population does not invest on water. Only some 28 percent people spend money on water.

26. Type of fuel used for cooking- Although LPG and electricity is available in villages still 97 percent people preferred using wood for cooking food.

27. Household's assets and amenities- The table below show us the list of households assets and amenities:

Table 5 : Household's assets and amenities

Household's Assets and Amenities (N = 964)		
Households Assets and Amenities	Percentage	Frequencies
Pucca House	88.3	851
Separate Kitchen	65.0	627
Electricity	84.3	817
Mattress	55.5	535
Pressure cooker	11.7	107
Chair	50.6	488
Sofa set	5.7	55
Cot/Bed	97.3	938
Table	22.1	213
Fan	78.4	756
Radio	15.9	153
Black and White Tele Vision	8.9	86
Colour Television	25.1	242
Sewing Machine	28.9	279

Mobile	55.8	538
Telephone	14.8	143
Computer	1.2	12
Refrigerator	7.5	72
Washing Machine	1.7	16
Watch/Clock	82.9	799
Bi Cycle	12.2	118
Two Wheeler	8.4	81
Animal drawn Cart	10.1	97
Four Wheeler	1.2	12
Tractor	1.6	15
Water pump	0.8	8
Thresher	0.5	5

28. Agriculture land- 91 percent of households own agriculture land. However, the size of land varied from one acre to 937 acre.

29. Households having cattle- Almost every household has cattle but majority of population (71 percent) were rearing cows/buffalos/bulls. Others kept goat, camel, chicken etc.

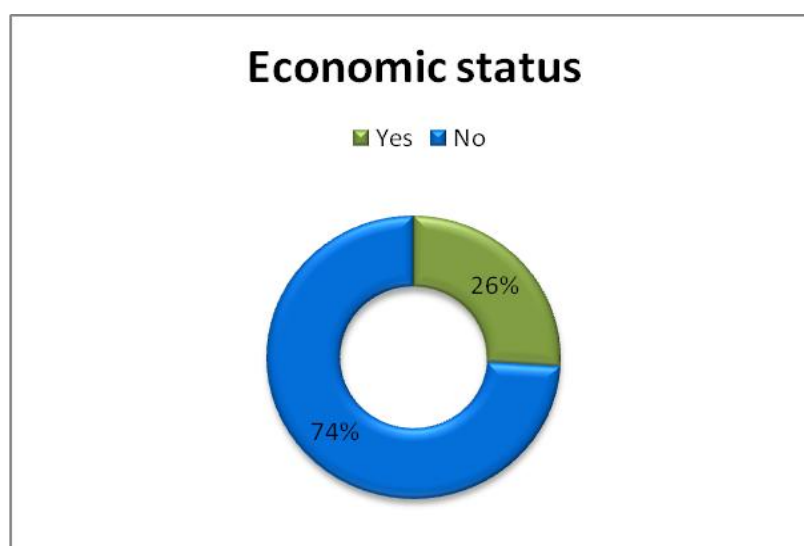


Figure 4: Economic Status

30. Economic status of the households- Figure 4 shows us that only 26 percent of the population comes under BPL others are APL.

31. Involvement of households- Nearly one tenth (20 percent) households were found having member of SHG. Also it is observed that the amount of monthly contribution to SHG

varied from 10 INR to 200 INR. In addition the total amount of savings of the SHG was found 200 INR to 60000 INR. Out of the 20 percent households who have SHG member at home 60 percent took loan from bank and 35 percent from their own SHGs and others from BCT and other NGOs.

32. Awareness about safe drinking water- It is found that majority (84 percent) of households were aware about the messages related to safe drinking water and sanitation, however they acquired the same from different sources of information. Here also it is seen that the major source of information (88 percent) was friends and relatives followed by health professional (55 percent) other sources were TV, Newspaper, radio etc.

33. Perception about rain water- The analysis with this regard suggests that majority (96 percent) of the households reported ready to use rain water as a source of drinking water. Further, it was revealed that nearly 38 percent households were having water storage tank at their respective households.

34. Caste wise income pattern- The table below show the caste wise income pattern :

Table 6: Caste wise income pattern

Caste	Income Group					Total
	Below 20000	20001-40000	40001-60000	60001-80000	Above 80000	
Scheduled Caste	209	37	18	8	6	278
	75.18%	13.31%	6.47%	2.88%	2.16%	29.1%
Scheduled Tribe	5	9	2	0	2	18
	27.78%	50.00%	11.11%	0.00%	11.11%	1.9%
Other Backward class	386	75	45	23	33	562
	68.87%	13.34%	8.01%	4.09%	5.87%	58.7%
General / Others	74	21	7	1	3	106
	69.81%	19.80%	6.60%	0.94%	2.83%	10.3%
Total	674	142	72	32	44	964
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

35. Caste wise member of SHGs- The below given table gives the data on caste wise members of SHG. This table shows that most of the members of SHG are from other backward caste.

Table 7: Caste wise member of SHGs

Caste	Member of SHGs			Total
	Member	Not member	Did, not reply	
Scheduled	34	243	1	278

Caste	39.50%	26.70%	16.70%	27.90%
Scheduled Tribe	3	15	0	18
	3.50%	1.80%	0.00%	2.00%
Other Backward class	46	511	5	562
	53.50%	60.00%	83.30%	59.50%
General / Others	3	103	0	106
	3.50%	11.50%	0.00%	10.60%
Total	86	872	6	964
	100.00%	100.00%	100.00%	100.00%

36. Caste wise perception on rain water- Analysis pertaining to caste wise perception on rain water among the studied population showed a bleak picture. It is found that still 47 percent of the population believes that rain water is not suitable for drinking. Although 83 percent schedule tribe population have a faith on rain water where as it was found to be the lowest in case of General caste.

37. Caste wise BPL families- Analysis with regard to caste wise BPL families gives us a picture that 54 percent of OBC population comes under BPL, 40 percent of SC population comes under BPL , but only 4 percent ST and general population comes under BPL.

38. Caste wise person responsible for collecting water- The table below gives us the data of caste wise person responsible for collection of water.

Table 8 : Caste wise person responsible for collecting water

Caste	Male	Female	Both	Total
Scheduled Caste	19	141	118	278
	6.83 %	50.73%	42.45%	100%
Scheduled Tribe	0	11	7	18
	.0%	61.11%	38.89%	100%
Other Backward class	34	213	315	562
	6.05%	37.90%	56.05%	100%
General/ Others	12	37	57	106
	11.32%	34.91%	53.77%	11.0%
Total	65	402	497	964
	6.74	41.70	51.56	

39. Caste wise payment for water- Investigation with regard to caste wise payment of water gives us a picture that 72 percent of the total population does not pay for water. Among

those who are paying for water 70 percent pay more than 100 Rs. The highest payers are from OBC wherte 76 percent pay more than 100 Rs, In general castes 69 percent pay more than 100 Rs and 61 percent of SC population also pays more than 100 Rs for water.

40. Caste wise availability of tanks- It is observed from the analysis that out of the total tanks available, other backward caste households have maximum (73 percent) nearly two third no of tanks whereas schedule caste have only 14 percent followed by 10 percent of general caste.

41. Caste wise main source of drinking water- Table below gives us the data of caste wise source of drinking water:

Table 9 : Caste wise main source of drinking water

Caste	Main water source for drinking													Total
	0	Piped Into Dwelling	Piped to Yard/plot	Public Tap/Standpipe	Hand Pump	Tube Well/Bore Well	Protected Well	Unprotected Well	Unprotected Spring	Rain water	Tanker Truck	Cart With Small tank	Other	
Scheduled Caste	117	31	6	59	10	4	3	28	1	8	3	4	0	274
	33.7%	17.6%	46.2%	41.5%	47.6%	21.1%	37.5%	35.4%	25.0%	8.6%	10.0%	50.0%	.0%	29.1%
Scheduled Tribe	3	0	0	6	0	0	0	2	0	2	5	0	0	18
	.9%	.0%	.0%	4.2%	.0%	.0%	.0%	2.5%	.0%	2.2%	16.7%	.0%	.0%	1.9%
Other Backward class	181	136	2	62	10	13	4	43	3	77	18	3	1	553
	52.2%	77.3%	15.4%	43.7%	47.6%	68.4%	50.0%	54.4%	75.0%	82.8%	60.0%	37.5%	50.0%	58.7%
General / Others	46	9	5	15	1	2	1	6	0	6	4	1	1	97
	13.3%	5.1%	38.5%	10.6%	4.8%	10.5%	12.5%	7.6%	.0%	6.5%	13.3%	12.5%	50.0%	10.3%
Total	347	176	13	142	21	19	8	79	4	93	30	8	2	942
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

42. Daily demand of drinking water- Daily demand of drinking water with regards to the size of households is given in the table below:

Table 10: Daily demand of drinking water

Daily demand of water for drinking and cooking		
Number of Household Members	Number of Households	Total daily Demand of Water for Drinking and Cooking
1	11	88
2	60	960
3	80	1920

4	226	7232
5	207	8280
6	160	7680
7	89	4984
8	60	3840
9	15	1080
10	18	1440
11	15	1320
12	9	864
13	5	520
14	5	560
16	1	128
18	1	144
32	1	256
40	1	320
Total	964	41616

43. Shortage of drinking water- It was found that nearly 62 percent of the households (596) reported having shortage of water for drinking and cooking for at least one month in a year. The detail analysis of the same shows 25 households among the surveyed households were not having the water security for drinking and cooking throughout the year. Further, another 78 households reported that they did not have the water security for drinking and cooking for almost half (6 months) of the year. Another 106 and 192 households reported that they were lacking the same for about four and two months respectively.

44. Daily demand of water for other purposes - Table below gives us the data of daily demand of water for other purposes by Human Beings:

Table 11: : Daily demand of water for other purposes

Daily demand of water for other purposes by Human Beings		
Number of Household Members	Number of Households	of Total Daily Demand of water for other purpose
1	11	352
2	60	3840
3	80	7680
4	226	28928
5	207	33120
6	160	30720
7	89	19936
8	60	15360
9	15	4320
10	18	5760
11	15	5280
12	9	3456
13	5	2080
14	5	2240

16	1	512
18	1	576
32	1	1024
40	1	1280
Total	964	166464

45. Cattle population and demand for water- Demand of water for cattle with respect to the no of cattle is given in the table below:

Table 12: Cattle population and demand for water

Number of Cattle unit in Surveyed Households		
Number of cattle	Number of Households	Percent
0	146	15.15
1	240	24.90
2	255	26.45
3	157	16.29
4	83	8.61
5	42	4.36
6	22	2.28
7	7	0.73
8	2	0.21
9	4	0.41
10	5	0.52
14	1	0.10
Total	964	100

46.Total demand of water- It is revealed from the analysis that there is a daily requirement of 269880 litres of water in the surveyed villages including water for drinking and cooking, water for other uses by human beings and water for cattle. By and large it was found from the analysis that nearly two third (64 percent i.e., 618) of the households did not have overall water security (drinking and cooking or water for other human uses or water for cattle). It shows that there is a serious need to fulfil the gap immediately.

Impact Analysis

A baseline study was conducted before the execution of the project and an end line study would be conducted after the execution of the project. In order to do the Impact Analysis some variables were identified, which were critical from the socio-economic point of view and a matrix based on these variables was constructed to document the Socio-Economic Impact of the Project in Churu District.

Table 13 – Impact Analysis

S. No.	Variable	Facts Based on Baseline Survey	Facts Based on End line Survey	Impact Analysis
1	Economic Status	54.7 percent are educated . Major occupation of 90 percent people is agriculture. 74 percent families are APL families. 88 percent people have their own house , 65 percent have separate kitchen and 84 percent have electricity at home.8 percent own a two wheeler and 1 percent have four wheeler.		
2	Annual household Expenditure	The major area of expenditure is food (20 percent)in this case followed by health (16 percent) and education (12 percent).		
4	Access to Credit	A little less than 50 percent have borrowed and amount more than 10000, the major source of credit is family member /relatives . The main purpose of taking credit is life cycle events and daily consumption.The average indebtedness of households was Rs 30,500.		
5	Money Spent on water	28 percent of the people spend money on water.		
7	Involvement in Self Help Groups	24 percent people have savings in SHGs. 35 percent people take loan from SHGs. 60 percent of the SHG members have taken external loan from the bank.		
8	Savings	Households have an average annual saving of Rs 5680 per year. it is reported that 21 percent of the saving is kept at home in form of cash, where as 23 percent is invested in life insurance premium and almost same percent is deposited in SHG.		
9	Caste wise Income distribution	75 percent of schedule caste household’s yearly income was found to be below INR 20,000 and only around 5 percent had yearly income of more than INR 60,000. More than two third of the population among the schedule tribe were found to be having annual income more than INR 40,000.		
10	Gender wise collection of Water	Little more than two-fifth of the households, females were responsible for collecting water. On the contrary males are found collecting water in only 7 percent cases.		
11	Water collection facility available inside house	Majority, nearly fourth-fifth (79 percent) of the households collected water from outside the house and only remaining nearly one-fifth (19 percent) of households had facilities inside the house.		

S. No.	Variable	Facts Based on Baseline Survey	Facts Based on End line Survey	Impact Analysis
12	Case wise economic status	On an average 11 percent of the population belonged to BPL categories but among the general caste only 4 percent of total households was identified as BPL and have a BPL card, where as 20.50 percent of the total population from schedule caste was under the BPL category.70 percent of the surveyed population among the general caste and other backward castes had an annual income to be less than INR 20,000.		
13	Main Source of Drinking Water	Public tap, unprotected well and rain water were found to be the main sources of drinking water. Little more than one third (35 percent) of the households were found taking water from public stand-post of PHED, while one fifth of the households reported that they collected water from Rain water harvesting System.		
14	Frequency of collecting water	Nearly one fourth (24 percent) of households spend more than 60 minutes for collecting water once. A little more than half of households (51 percent) collect water twice a day, whereas nearly one fourth (24 percent) of the households reported to go for more than 5 times in a day.		
15	Perception regarding suitability of Water for drinking purposes	More than fourth-fifth (83.5 percent) of the households perceived, that the water they were consuming was safe and did not have any chemical or biological contamination, only little less than one percent was found to be reported that they were not sure about the quality of water.		
16	Willingness to adopt Rain water harvesting system	A majority (96 percent) of the households reported that they could use rain water as a source of drinking water. Further, it was revealed that nearly 38 percent households were having water storage tank at their respective households.		
17	Caste wise payment of water	57.3 percent of other backward caste were found paying for water. Other Backward caste denotes Jat community, who are the dominant caste in the district. Amongst Schedule caste (23 percent) households were found to be paying more, followed by schedule tribe (16 percent).		
18	Caste wise availability of tanks	Out of the total tanks available, other backward caste households have maximum (73 percent) nearly two third no of tanks whereas schedule caste having only 14 percent followed by 10 percent that of general caste.		

S. No.	Variable	Facts Based on Baseline Survey	Facts Based on End line Survey	Impact Analysis
19	Gender wise and caste wise collection of Water	The analysis reveals that in around 58 percent households in other backward caste followed by 53 percent in general caste both male and females shared the responsibility for bringing water from distant sources. However among schedule tribe it was least (39 percent). Among 61 percent in schedule caste followed by 51 percent households in schedule tribe females are responsible for collecting water.		
20	Caste Wise payment for water in monetary terms	The other backward caste (76 percent) followed by schedule caste (60.9 percent) were paying more than INR 100 for collecting the water in a month. Among the 28 percent households who were paying for water, nearly seven-tenth (70 percent) households spent more than INR 100 followed by one fifth (20 percent) households who were paying in between INR 50 to INR 100 per month for collecting water.		
21	Caste wise sources of water	Analysis pertaining to caste wise main source of drinking water of the studied households suggests that little less than half (48 percent) households were found dependent on hand-pump for drinking water. Two fifth (41 percent) of the schedule caste population Were dependent on rain water as a main source.		
22	Shortage of water for drinking and cooking purposes	Nearly 62 percent of the households (596) were having shortage of water for drinking and cooking for at least one month in a year. The detail analysis of the same shows that 25 households among the surveyed households were not having water security for drinking and cooking throughout the year. Further, another 78 households reported that they did not have the water security for drinking and cooking for almost half (6 months) of the year. Another 106 and 192 households reported that they were lacking the same for about four and two months respectively.		

Conclusion

The variables identified in impact analysis summarize the result of Socio-economic survey. Once an end line survey is done and data is collected and tabulated, an impact analysis would be done which would indicate a noteworthy change in social and economic condition of people in villages as a result of implementation of Rain Water Harvesting Project in Churu District.

The base line survey clearly indicates that the problem of scarcity of water has its social and economic implications. The implementation of the project will solve the problem of water for beneficiary households, and an impact analysis done on the basis of above matrix will help in documenting the social and economic implications of the project implementation.

This study has been successful in documenting the present economic status of the people. It will help in designing the right Micro Finance instrument for the community. A social impact of any project implementation takes some time to register itself. This study however indicates a clearly diverse approach regarding the use of water amongst the backward communities. It also indicates a greater acceptance of the Rain Water Harvesting systems amongst these communities. All these factors, would be successful in registering social dynamics related to this project to a great extent.