CHAPTER - 7

CONCLUSIONS, FINDINGS AND SUGGESTIONS

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7.1. INTRODUCTION:

In this present day and times, the most important, crucial and critical problems as well as challenges that remain to be addressed or faced are pollution, population explosion and water scarcity. Since water is a natural resource, man has absolutely no control over it. It is high time we learn how to intelligently and efficiently apply our thought processes to conserve this precious resource which we get as a source from rains. Due to the factors of increasing population, industrialization and urbanisation, more amount of water is being utilized; and this is the time to analytically think about its procurement and how to manage this effectively.

Just as oxygen is important for the basic identity or entity of human existence so is the need of water. It would be difficult for humans to envisage of its survival without presence of water.

In India, where the nature as well as ratio of rainfall is quite diversified, it is imperative that the citizens of both urban as well as rural areas learn to value each water drop and use it very sparingly/carefully. Among the various programs included under the Five Year Plans on water conservation, one that stands out prominently is the Watershed Development Program. This research study was taken up in order to know about how successfully the program has been implemented in the various blocks of Junagadh district. This was done by getting the feedback of the various user groups or beneficiaries who had been part of the watershed development program. The findings and conclusions of the study are noted below:
7.2 CONCLUSIONS:

On the surface of the oceans only waves are visible but underneath the vast volume of water there are many secrets lurking in its depths. Similarly, in the field of social research many problems are hidden within.

We do realize that change is the need of the hour especially for the developing countries wherein they can be free from the age old customs, traditions, rituals, norms, values and bindings and accept thoughts of the new age. In spite of this, due to the occurrence of change feeling of empathy is reducing among people and among the continuously progressing mankind the value and need of water is increasing. Before the water crisis situation worsens further and gets out of hand it is needed that man starts to have focussed deliberations and tries to gain solutions. The truth primarily is that water supply is not related to growth in population. Man has no power or control over water which is a natural creation. He only has control over its usage and its conservation.

In scientific terms, water is a chemical substance and its scientific formula is H\textsubscript{2}O. But water cannot be created in the scientific laboratory. Thus it is only sensible that we use this nature’s gift with properly planned management strategies in place.

Chapter 1 The First Chapter describe the significance of the study, objective of the study, methodology, scope and limitation of the study and organization of the study.

Chapter 2 Outline of Study Area: the second Chapter describe the profile of study area.


Chapter 4 Review of Literature: The forth Chapter is devoted to review of literature.
Chapter 5 socio-economic background of respondents. The Five Chapter consists of analysis of on the socio-economic aspects towards development of small farmers, to identify the distribution of finance from institutional credit and non institutional credit in the study area. The age of the respondents, it is noted that no respondents were in the first group consisting of persons younger than 20 years. Of the total respondents, 96 belonged in the 20 to 35 years age group, which works out to 24%, 224 respondents were from the 35 to 50 years, which is 56% and 80 respondents were in the age group of 51 and above which was 20%. Thus of the total respondents numbering 400, the majority of them were in the age group of 35 to 50 years, which is 56% of the total population. 206 respondents (51.6%) were from the Patel community, 27 respondents (6.75%) were from the Darbar community, 26 respondents (6.5%) were from the Ahir community, 48 respondents (12%) were from the Rabari community, 19 respondents (4.75%) were from the Koli community whereas 74 respondents (18.5%) were from the other caste categories. 400 respondents, (368) 92%, among them were males while 32 (8%) were females. Thus it is observed that more number of men were part of this study than women. 400 respondents, 112(28%) of them were not literate, while 144(36%) had been educated till the primary level, 128(32%) had studied till the secondary level of education and 16 (4%) of them had bachelor degrees. The total number of respondents 304(76%) were into farming whereas only 32(8%) were having animal husbandry as their occupation. The remaining 64 (16%) were into other occupations. The total respondents, 96(24%) were staying in joint families whereas majority of the respondents, 304(76%) were residing in nuclear families.

The total of 400 sample, 330 (82.5%) are having farming as their main occupation, whereas 6(1.5%) respondents were having service as their occupation, 60(15%) respondents had business as their main occupation and 4(1%) respondents were traders. The respondents whose villages population was less than or equal to 1000 were 48 (12%) out of the total 400 respondents. While respondents whose village population was in between
range of 1001 to 3000 were 272(64%) and those whose villages had more than 5000 population size were 80(20%). The majority of the respondents belonged to villages having independent Panchayats. Of the total sample of 400 respondents, 336(84%) had independent Panchayats at their villages whereas 64(16%) had joint Panchayats at their villages. From this it can also be deduced that the number of villages having independent Panchayats is more than the ones having joint Panchayats.

As per the feedback received, 385 respondents had access to drinking water facilities in villages, 320 respondents said that pucca roads were developed in their villages, 380 respondents informed that schools were in place, 240 respondents had facilities of health centres present in villages, 256 of them had facility of post offices and 192 respondents had banking facility present in their villages. The total respondents interviewed, 176 replied that they found their village environment very peaceful. While 224 respondents said that they found their village to be very cooperative and 16 responded that their village was not cooperative.

The majority of respondents have confirmed the presence of various boards or associations or organizations in the village. Of the 400 total sample, 368(92%) respondents informed that there were various associations or organizations formed in the villages of different groups. The remaining 32(8%) told that their villages did not have the presence of any such groups formed. The analysis shows the various types of groups that are active at the village level, be it Mahila Mandal, Yuva Mandal or Cultural Mandal. As per the collected data, 368 people said that there were Mahila mandals established in their village. Another 80 persons opined that there were Youth or Yuva groups present in their villages. 16 respondents shared that they had cultural groups that was functional in their villages and 32 replied that they had other functional groups in their villages apart from the above mentioned ones.
Chapter 6 Data analysis regarding watershed development programme. This data reflects the different kind of programs that is being implemented in the villages. Of the total 400 respondents, 368 of them informed that their village was part of the Hariyali watershed program. 80 respondents shared that in their villages the National Rural Employment program was on-going whereas 16 respondents said that the Total Sanitation program was being run in their villages. 32 respondents replied that the Illiteracy Eradication program was being executed in their villages.

This analysis reflects the various treatment activities that have been carried out in the respondent’s villages as part of the watershed development program in the past three years. Of the total of 400 respondents who were part of this study, 240 (60%) people said that well had been recharged through the program. Around 352 (88%) persons replied that check dams had been built as part of the program, 320 (80%) said that farm ponds had been constructed as part of the watershed activities. 144 (36%) respondents informed that Soak pits had been dug in their villages and 96 (24%) responded that Naala plug had been carried out in their villages.

This study gives the information of such villages where a river is passing through it. Of the total respondents, 240 (60%) informed that a river is passing through their village, whereas 160 (40%) of the respondents said that no river passed by their village.

This study shows the number of respondents who have given information about the number of water conservation structures in the village. Of the 400 persons, 192 (48%) respondents said that the number of bore-wells, wells and tanks in their villages are less than 5. 32 (8%) respondents informed that their villages had bore wells, wells and tanks in the range of 5 to 10. 48 (12%) persons said that their villages had bore wells, wells and tanks in the number between 10 to 15 whereas 128 (32%) said that their villages had more than 15 of such water conservation structures.
This study gives us data of the groundwater depth level in the villages. As per the respondents, 32 (8%) of them said that water is available at a depth of less than 100 feet in their villages. While 224 (56%) informed that water is available in their villages at a depth level of between 100 to 150 feet. There were no responses received for the options of water level being at 150 to 200 feet depth or more than 200 feet. 144 (36%) of the respondents did not give any response to this question. The data of the lakes has been taken as per the responses received in the earlier question. Thus, only those respondents, who replied that their villages had lakes, were eligible for this query. All the respondents (336) said that none of the lakes in their villages were filled throughout the year.

In the investigation, the availability of irrigation facilities in the villages of the respondents is noted. Of the total 400 respondents, 192 (48%) said that there were various irrigation facilities available in their villages while another 112 (28%) replied that their villages lacked such facilities for irrigation. The remaining respondents, 96 (24%) did not give any response to this query.

This study gives an idea about the irrigation facilities being used by the respondents in their villages. Of the total 400 interviewed respondents, 128 (32%) of them shared that they were using irrigation facilities for farming, while 176 (44%) of the respondents said that they were not using the irrigation facilities. 96 (24%) of the respondents did not give any response to this query.

The analysis shows the number of Watershed associations that have been formed and are functional in the villages of the respondents. Of the total 400 respondents, 304 (76%) informed that Watershed association has been formed in their villages whereas 86 (24%) of them replied that no such associations had been formed in their villages.

From the study, it is evident that the watershed association is carrying on lot of activities for raising the awareness among people regarding water
conservation. Of the total 400 respondents, 144 said about the Save water Campaign that was conducted by the Watershed association, 240 respondents informed about the programs or activities held to inculcate the practice of using water economically and 48 respondents mentioned about the various programs held in village to raise the awareness bar among community towards water issues.

The study gives information about the number of respondents who own land in the villages. Of the total 400 respondents, 320(80%) said that they had ownership of land in their villages, while 80(20%) respondents informed that they did not own any land in the villages.

The analysis discusses about the volume of land that is present with the respondents. 106(27%) replied that they had 5 acres of land under their name. 90(23%) respondents said that they had 10 acres of land which they owned, 78(20%) respondents informed that they were the owners of 15 acres land, 95(23%) said that they had 25 acres of land owned by them and 31(7%) said that they had around 50 acres of land which they owned.

This table gives the information about the water used for irrigation purposes and if the water levels has been going down in their villages. Of the 400 persons interviewed, 384(96%) respondents admitted that the water levels were dropping in their villages. Only 4% that is 16 persons replied that the water levels in their villages had not declined.

This data reflects the depth of the groundwater table in the villages of the respondents. Of the total respondents who were interviewed for this study, 144(36%) said that the groundwater level in their villages was 10 feet, another 143(36%) respondents shared that the water levels in their villages was in between 10 to 20 feet.

Chapter 7 Conclusions, Findings and Suggestions. The Seventh Chapter deals with Conclusions, Findings, Suggestion of the study.
Appendix:
1. Bibliography
2. Interview Schedule

7.3 FINDINGS:

a. It was observed that most of the respondents who took part in the study were in the age group of 35 to 50 years.

b. It was found that most of the respondents belonged to the Patel community.

c. It was noted that most of the respondents were Hindus and also that most of them were males.

d. It was found that there was not much difference in the number of respondents who had been educated till the primary level and those who had studied till the secondary level.

e. Regarding the occupation of the respondents, it was observed that most of them were having farming as their occupation. Only a few respondents were having Animal Husbandry as their occupation.

f. Most of the respondents belonged to villages whose population was in between 1000 to 3000. Only a few respondents were from villages having population of around 1000.

g. Regarding the type of Panchayat functional in the said villages, most of the villages had independent Panchayats whereas only a few villages had the Joint type of Panchayats.

h. It was found that among the various existing facilities in the villages, the number of villages having facility for drinking water, pucca roads and schools was high. The villages having facility of health center and post office was also quite high.
i. It was found that most of the respondents’ villages had the presence of registered groups or mandals.

j. It was also found that there were many rural development programs on-going in the most of the respondents’ villages.

k. Of the varied types of rural development programs being implemented in the villages, it was noted that respondents mostly opted for the Harihali watershed program. The other programs highlighted by the respondents were the National Rural Employment Program, Total sanitation program and the Illiteracy eradication program.

l. When quizzed about the different activities undertaken in their villages as part of water conservation, majority of respondents stated wells recharging activity, building of check dams and farm ponds.

m. It was found that most of the respondents are having ponds in their villages.

n. Regarding the facilities present in the villages for irrigation purposes, the number of respondents who agreed that the irrigation facilities were present in their villages was slightly higher than the other group.

o. When asked about the existence of Self-help groups in their villages, majority of the respondents said that their villages did have functional self-help groups in place.

p. Majority of the respondents said that there were number of organizations working on watershed areas in their villages.

q. It was found that quite a high number of respondents own lands under their names.

r. It was found that in many villages the groundwater table had receded further as per the opinion of the respondents.
s. Regarding the various main crops that are usually grown in the villages, it was found that people usually are growing grains rather than cash crops. The number of persons growing vegetables is also quite high.

t. As per the feedback received from the respondents regarding the season which is preferred for growing crops, it is seen that they prefer the winter season and monsoon rather than summer. Farming is also not done throughout the year.

u. It is also noted that among the respondents who are engaged in farm labour, majority of them worked for around 3 to 6 months. While the number of respondents who worked for more time period than 3 to 6 months or for lesser time period are quite low.

v. Regarding the role of women in farming, quite a high number of respondents shared that women are also contributing in different ways towards the farm related work.

w. It was noted that among the various irrigation facilities in use for farming the most preferred one was wells. Majority of respondents mentioned wells as the amenity to get their fields irrigated. The other facilities used to irrigate the fields were quite less.

x. Regarding the wide-ranging methods of irrigation used, the majority of respondents were found to be using the furrow based irrigation. All the other methods of farm irrigation were not as much used.

y. Majority of the respondents said that the available electricity was adequate to irrigate their farms.

z. It was found that after the watershed development program was implemented the farm production had received a boost. Majority of the respondents said that after the watershed program was executed the farm production has increased.
aa. When the respondents listed out the various benefits they had got from their farms, the one most citied by majority of them was increase in farm produce. Comparatively, those who also gained other benefits apart from increase in farm produce are quite less.

bb. It was noted that majority of the respondents could compare the rural scenario before and after the watershed program was implemented in their areas. They were able to note the changes that have taken place after the program has been implemented.

cc. In response to the query regarding implementation of the watershed program being known to the respondents or not, it was found that there is not much difference between the number of people who are aware of such a program and those who are not knowing about this project.

dd. In response to the query regarding if water was available on regular basis for irrigation purposes, most of the respondents replied in the affirmative.

ee. It was noted that in response to the question regarding the involvement of the community in the implementation of the watershed program, majority of the respondents said that there was good level of community participation in the program.

ff. One of the outcomes of the watershed development program was the decrease in migration of people to other villages or places for work. Plus people have started settling down permanently in the villages rather than go out for procuring employment. Thus based on the responses, it can be said that the migration trend has reduced.

gg. It was noted that there are watershed committees formed in the villages. Majority of respondents shared about the presence of watershed committees in their villages.
hh. It has been found that majority of the respondents’ income level had gone up due to implementation of the watershed development program.

ii. The amount of earnings has increased till the range of Rs 20000/- per month for most of the respondents. Very less number of respondents’ is found in the other remaining income ranges.

jj. It has been observed that the extra income that the respondents had earned went mostly in developing the business aspects of the farm as well as towards social welfare. Apart from these, there is less responses found in other areas of the respondents.

kk. Among the various types of activities taken up in hand as treatment procedures under the watershed development program, majority of respondents have built check dams. In comparison, other types of activities aiming at water conservation are taken up quite less.

ll. Regarding the various activities taken up in order to promote afforestation and agricultural development it was observed that maximum number of respondents had taken up these activities. The responses for other activities are quite minimal.

mm. Regarding the role of the community in this program’s implementation, it was seen that vast majority of the respondents were actively involved in all its activities. Community participation is an integral part of the watershed development program.

nn. In the various activities undertaken as part of the watershed development program, animal stock raising was hugely preferred by the respondents. Most of the respondents took this up as an option among other occupations that was offered under the program.

oo. Regarding the various employment opportunities that were available due to the implementation of the watershed development program,
most of the respondents interviewed shared that they have found better employment opportunities within the farming and animal husbandry sector. Very less respondents took up other employment avenues apart from those mentioned above.

7.4 SUGGESTIONS

In this present age, lot of researches are being conducted on the topic of water issues owing to the grim and harsh reality regarding water accessibility. Various agencies and sectors like Universities, Research Organizations, Water management institutions and Government Administrative departments are continuously involved in carrying out research on various aspects. This research may prove useful to those persons who in future decide to do research on the topic of either watershed programs or water crisis and the below written suggestions are for them:

1. The watershed development program is a very comprehensive and multifaceted program aimed at addressing the water crisis and related issues. It would be better if any study on watershed development program is not limited to any particular district or block but it encompasses the whole state. This shall ensure that the results derived are more holistic in nature.

2. At the district level, rather than conducting study in a few select blocks if all the blocks or talukas falling within its jurisdiction are included in the study then a totally different picture shall emerge.

3. If all the villages falling under the block which is covered by the watershed development program are included in the study, the chances are that the results may be different than if the study is conducted on only a few select villages.

4. The watershed development program being an extremely result oriented program, it would be better to conduct the studies using a
larger sample size. This study has included just 400 people who were beneficiaries of the program. If the study is conducted on larger scale, the topic can be given more justice.

5. It is also suggested that the interview schedule of this study could have been more practical result oriented.

6. Water is one of the most basic components needed for mankind. Just as air is important for the existence of man, water is also equally important. Thus if we are rationing the use of water, it means that we are also addressing and managing the water crisis situation.

7. In India, during some festivals like Holi and Dhuleti, lot of water is wasted in the name of customs and traditions. It is now the right time to stop the wastage and exploitation of water resources in this manner.

8. In some states of India, the water meter appliance is being activated which helps the person to monitor and regulate the usage of water. This device is very important since it allows the individual to use water sparingly and rationally.

9. Water leakage is a common problem existing in flats and bungalows and the main reason for wastage of water.

10. The spacious gardens that are maintained by some people also use up lot of water in tending to the plants.

11. In many local offices, we find that they are keeping well maintained lawns, lots of trees and shrubs. While it is definitely important to plant and grow more plants, it is equally important not to waste water at the same time. So we should have proper monitoring in place to curb water wastage and misuse by watering green areas.

12. Water conservation measures need exhaustive and focussed awareness which is much desired and totally needed. And along with
that, it is important to also create awareness of how to use water. E.g. how to use water at homes, or at fields etc.

13. The Hariyali program aimed at not only increasing the farm products and its production but also bringing about change in the rural community. In similar fashion, the watershed development programs should not remain focussed on developing geographical areas only but also made more comprehensive.

14. Water is an economic necessity and enjoys status of being a precious social wealth. More propaganda should be regularly done so as to increase its significance among the general population.

7.5. TESTING THE HYPOTHESIS:

This research is done on the watershed development program carried out in the district of Junagadh by the researcher and the hypothesis he had developed is written as below:

1. The hypothesis that the village community would get water on regular basis. This was proved true as per the responses derived from the respondents.

2. Owing to the implementation of the watershed program the farm production has gone up. This suggestion also has been proven true based on the results got from the respondents.

3. In villages, people are getting more conscious about water wastage and are learning to use it quite carefully. This assumption was also proved correct in the study.

4. In the villages the people have alternative arrangements for irrigating the farms; this hypothesis was found to be correct based on the replies of the respondents.
5. There is community participation involved in the implementation of the program. This hypothesis was also proved to be correct.

6. The premise that the migration levels had decreased due to the functioning of the watershed program was again proved correct based on the responses of the group.

7. The hypothesis that there is a water management committee in the villages was also proved to be true.

8. The levels of income have increased after the watershed program was implemented. This assumption was proved to be correct based on the replies received from the respondents.

9. The number of working days of the respondents has increased after the watershed development program was initiated. Looking at the responses received this has been proved to be correct.

10. The hypothesis that the extra income gained by the respondents had been utilized for either developing farms further, animal husbandry or for repaying old debts was proved to be correct.

11. Afforestation measures have improved due to the watershed program being implemented. This assumption was found to be true based on the answers given by the respondents.

12. Lot of rural development activities are being taken up after the watershed program was implemented. This assumption of the researcher was also true.

13. The community had knowledge about the various structures and details of methods used in water conservation and irrigation. This hypothesis was also proved to be true.
14. The negative aspects regarding implementation of the watershed program was also shared by the respondents, and this hypothesis of the researcher was also proved to be correct.

15. Social transformation or change has occurred after the watershed development program was executed. This assumption was found to be true based on the replies given by the respondents.

**7.6 EXPERIENCES FACED DURING RESEARCH:**

The researcher would like to share his experiences he faced during the course of his research. The analysis of these experiences is also important and this fact should be also noted by the researchers who may conduct research in same areas in future.

1. The respondents who were selected based on the sample size and the Universe of the study, most of them gave full support and cooperation while the questionnaire was being filled.

2. Though a significant number of respondents had not studied much and had only the basic literacy skills even then they showed lot of interest in the questions posed by the researcher.

3. As per the saying of Sant Tulsidas, there are different kinds of people who co-exist in this world. The researcher also met different kinds of people, some very supportive and some very negative towards the whole exercise.

4. In spite of the negative approach and attitude of some respondents, though they did not give their feedback regarding important queries, the researcher gained valuable lessons and insights from this experience.

5. But overall the attitude of most of the respondents was constructive as well as firm towards the study.