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Management of Water Resources among Gaddi Community of Chamba, Himachal Pradesh

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ABSTRACT

Water is considered as a community resource and a symbol of hale and hearty culture. Water, being vital for the sustenance, has sacred and cultural connotations. This paper focuses on customary management of natural water resources by the Gaddi community of Chamba. The data for the present study was gathered from district Chamba, Himachal Pradesh, which is the home of this community. The indigenous Gaddi community has traditional values, beliefs and knowledge to conserve and sustainably use natural water resources. But, with the passage of time, these resources are affected by contemporary development and need to be conserved in the manner as before to ensure their availability in future.

1. Introduction

Management of natural resources is the judicious use of earth's resources by human beings that prevent or mitigate their loss and are designed to do so [1]. Water has a strong link with physical and spiritual well-being of human race. Customary laws practiced by indigenous communities have confirmed reasonable use of water and long-lasting services. Traditional resource management is mainly based on local ecological knowledge. The analysis of traditional methods of water management helps in understanding into how communities in resource-stressed regions thrive [2]. A study carried out by WWF (2004) on traditional ecological knowledge, capacity building of traditional institution for sustainable utilization of natural resource in Sikkim and Darjeeling and found that there is need to understand the interaction between the ecological and social pressure [3]. Himalayan region has a rich heritage of traditional methods for water conservation. Various indigenous methods are in practice to store and use water. These methods are economical and use locally available material and human skill [4]. Borana and Konso communities in southern Ethiopia have their own water sources, depending on local hydrogeological environment. Borana is known for wells and Konso for ponds, which have been managed for more than five centuries [5]. Traditional ecological knowledge in the conservation of Biodiversity in Pachmarhi Biosphere reserve has impacts of traditionally laid customs and customary practices which have helped the local people in maintenance of sacred groove [6]. Aka tribes of Arunachal Pradesh have traditional faith and beliefs regarding the utilization of natural resources [7]. The sociocultural and religious practices adopted by indigenous communities resulted in the conservation of these resources. Water scarcity is one of the most pressing development challenges of the early 21st Century and according to an estimate that up to two-thirds of the world's population would be living in water stressed countries by 2025 [8]. Due to modernization, mechanization and globalization, the cultural and biological integrity has transformed and weakened [9]. The changes in the belief system and degradation of cultural practices have resulted in impairment of ancient institutional heritage, which needs to be rejuvenated. Traditional knowledge must be incorporated in modern policies to ensure people participation in conservation and management of natural resources rather than imposing new policies on indigenous communities. This paper focuses on traditional management of natural water resources by the local Gaddi community of Chamba.

2. Experimental Methods

Primary data was obtained by using resource mapping tools, focused group discussion, participatory observation, interviewing, etc.,. For carrying out interviews using pre-designed questionnaires, sample size of 30 was drawn from each panchayat. In all 60 respondents were interviewed. Both males and females of different age groups were interviewed and their views were recorded on traditional management of natural resources and the status of the same in contemporary scenario. Elders were involved for knowing different practices used for the management of water resources. Following topics were covered in the interview schedule:

1. Role of traditional institution in the management of natural water resources, viz. water and forest resources;
2. Role of customary norms in effective water resource management;
3. Community's role in the management of water resources;
4. Traditional mechanism for utilization and management of water resources;

Himachal Pradesh, one of the mountainous states of India, spread over 56,019 km², is situated in the western Himalay. The study was carried out in Guwad and Sarahan panchayats of district Chamba. These panchayats are located in Mehla block of district Chamba. Chamba is one of twelve administrative districts of Himachal Pradesh. Located at an altitude of 996 meters (3,268 ft) above the mean sea level, Chamba town, which is the district headquarter, is known for its biodiversity and resource wealth. It is the northwest district of Himachal and is bordered by Jammu and Kashmir to the north-west and west, Ladakh and part of Lahaul and Bara Banghal to the north-east and east, Kangra to the south-east and Pathankot district of Punjab to the south. The district has preserved its sociocultural and historical legacy from 500 AD. Total geographical area of district is 6,528 km² out of which the forests occupies 2,512 km². The Gaddis are the herders who travel in winter season with their flock of sheep from higher pastures to lower ones and in summers from lower pastures to higher ones. They are only found distributed around Dhauladhar Mountains. They call this area *Gadheran* or '*the land of Gaddis*'. For Gaddis, the mighty Dhauladhar is not just a mountain range, but a mother's lap.

The indigenous Gaddi community of Chamba has traditional values, beliefs and knowledge to conserve and sustainably use their natural resources. They have distinct culture and resource management practices. They considered natural resource as gift of god and manage these resources by linking them with divinity. Over the years, the Gaddi community worship trees, water resources and land resources to manage and protect them for future generation. They have devised their distinct

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mechanism by experience and while interacting with the nature for long time, they have understood nature and its elements. The indigenous community of the region has numerous traditional norms and customs, which ensure sustainable use of natural resources. Due to modernization, economic development, such as, construction of roads, building etc., most of these resources have been ruined. The modern perceptions of young generation have replaced traditional thought of conservation. With the advent of technology, people's perceptions are changing and they are forgetting their customary norms, beliefs and values.

3. Results and Discussion

3.1 Profile of the Respondents

In all 31.6 percent female respondents and 68.4 percent male respondents (Table 1) were included for interviews. The age-wise distribution of respondents is presented in Table 2. Table reveals that majority of respondents (28.5 percent) belonged to the age group of 36-45 years, followed by 25 percent from 46-55 years age group and 21.4 percent from 26-35 years age group. Only 15 percent of the respondents were from 15-25 years age group.

Table 1 Gender-wise distribution of respondents

Gender	Total	
	N	%
Male	41	68.4
Female	19	31.6
Total	60	100

Table 2 Age-wise distribution of respondents

Age Group	Total	
	N	%
15-25	9	15
26-35	13	21.4
36-45	17	28.5
46-55	15	25
56-65	5	8.4
66-75	1	1.7
Total	60	100

Education is a vital factor for speeding up the process of economic development of any society as it depicts the quality of available human resources. The educational status of respondents is presented in Table 3. Educational qualification of respondents was recorded and placed in six categories, i.e., illiterate, up to fifth standard, matric, up to 12th, up to Graduation and up to Post-Graduation. The distribution of respondents in different educational groups shows that bulk of the respondents (n=50) were illiterate, followed by matriculate (n=14), up to 5th (n=10) and up to 12th (n=4). Only 3.4 percent of the respondents were Graduates and Post Graduates.

Table 3 Distribution of respondents according to education qualification

Education Qualification	Total	
	N	%
Illiterate	30	50
Up to 5th	10	16.6
10 th	14	23.3
12 th	4	6.7
Graduate	1	1.7
Post graduate	1	1.7
Total	60	100

Respondents were asked to know about the traditional institution, if any, linked with the management of natural resources. To this, all the respondents expressed that though not as a codified system, but the traditional forms of natural resource management existed in the past and continuing even today.

Out of total sixty respondents, 78.4 percent of the respondents were aware of the existence of natural resources in their respective panchayats, however 21.6 percent were reluctant in expressing about the same. According to Table 4, 11.6 percent of the respondents expressed that there are problems in the management of natural resources, while most of the respondents (83.4 percent) were indifferent to the same. Respondents expressed that the main problem with regard to management of resources is caused due by people (60 percent), followed by government and outsiders (30 percent) and the respondents local people are consulted for managing the small disputes, while in case of serious disputes, if any, the

respective department of government is involved. Nearly 68.4 percent of the respondents agreed that people participate actively in the management of resources (Table 4). While expressing their opinion regarding the management of resources, 90 percent stated that there are sufficient laws ensuring the management of natural resources, however, these should be executed properly and people must abide by these laws. Currently, there is no NGO, SHG or local body in the area, which is actively taking up the issues pertaining to the management of natural resources.

Table 4 People's perceptions on management of natural resources

Statement	Total			
	Yes		No	
	N	%	N	%
Aware of traditional institutions linked with the management of natural resources	60	100	0	0
Aware of the natural resources of village	47	78.4	13	21.6
There are problems with the management of natural resources	7	11.6	53	83.4
People participate in the management of natural resources	41	68.4	19	31.6
There are enough laws for the management of natural resources	54	90	6	10

3.2 Water Resource Management

Water is generally considered as a community resource and hence no individual or monarch can claim sole right on it. Water is not only a symbol of hale and hearty culture but also a reason for a sensible civilization directed by a sense of combined responsibility for its resources. From pre-historic times, the state of Himachal in general and district Chamba in particular has witnessed the continuous efforts of rulers and people to institute well-organized systems of harnessing and saving water, which ensured its availability for the people. The famous story of queen Suhni of Chamba is an exemplary to this: "...King Sahilvarman established the town of Chamba and constructed a water canal. After the construction was over, the water refused to flow through the canal. He asked the Brahmins the reason for non-flow of water. The Brahmin told that the reason behind the non-flowing of water is supernatural. They recommended the king to sacrifice his son or queen to the water spirit to overcome the problem. Hence, the queen sacrificed herself for the sake of people and is propitiated..."

Another legend says: "...King had a dream in which he was ordered to sacrifice his son. The queen pleaded and decided to sacrifice herself in place of her son. On the pre-decided day, the queen was buried alive. As soon as the mud was filled, the water started flowing through the canal..."

In the memory of the queen, a small shrine was constructed at the spot. To mark the sacrifice of the queen, a fair is organized every year near the memorial of the queen in the months of March and April. The women and children attending the fair sing songs in honor of queen. Women pay homage at the shrine and ask for the well-being of their families. To express their happiness and contentment, people offer newly harvested crops at temple.

Water, being vital for sustenance, has sacred and cultural connotations. Besides being used for various domestic purposes, water is used for performing sacraments and religious ceremonies. Water sources are worshipped at the time of marriage by the newlywed couple. Worship of water source is customary on some festivals. People disclosed:

During *sheri* or *sankranti* (transmigration of the Sun from one zodiac sign to another) of *Ashvin* (Indian month corresponding the months of September-October of english calendar), people worship an ornamented corn plant with a cob near a water source. Later it is released into water.

Elders told that in earlier times, the water sources were used as freezers, where the people used to keep the earthen vessels of milk and curd to prevent them from putrefaction. According to the respondents:

A specific place was decided for placing the *pari* (earthen vessel) and it was believed that if somebody steals the curd, the wrath befalls and the stealer will have to suffer from skin disease, in which the skin will have dark and light patches, locally known as *chitra*.

A few elders told: There are some water sources, which are identified as *lunahar*. The water of such sources is believed to have curative properties and thus used in traditional hydrotherapy for the patients having digestive disorders. People used to stay near such water sources for days and use the water as prescribed by the local *vaidya* (traditional healer). Water sources are linked with deity and it is believed that if water source is contaminated, the fury of deity dries up the source, which could only be revived after pacifying the deity.

People of surveyed panchayats were enquired to know the status of water resources in the surveyed panchayats. The traditional natural water sources in the study area include:

- *Sar*: Springs of different kinds, i.e., Seepage spring, Fracture spring and Tubular spring, often bubbling or carbonated;
- *Naher*: Channelized water canals;
- *Talaa*: Still water puddles;
- *Panihar*: Opening of a water source, which releases the water of a spring;
- *Dibru/ Dibri*: A type of ditch made after digging the soil, where a space is created for collection of water from natural source. The running water keeps on replenishing the source and is used separately for human consumption and domestic animals;
- *Naru*: Small springs usually with thin stream of water, which may dry up in summers;
- *Charri/ khurli*: Water diverted from *panihar* or public tap, meant for domestic animals;
- *Aal*: A type of pond, constructed on the bank of rivulet and is used for bathing;
- *Bauries*: Step wells, which have dried up in last few years; and
- *Challa*: In this, water is temporarily diverted from the main source to the fields or to the place where it is required. The diverted water is used for irrigation. Water is channelized through *challa* to avoid flood like situation in fields.

Water is being utilized by the community for agriculture, drinking, cattle and domestic purpose. Since times immemorial, the water resources have been managed traditionally, whether it is distribution or cleaning or revival of diminishing sources. According to 85 percent respondents, mechanism being followed for fair distribution of water for irrigational purpose is still effective, however according to 15 percent respondents modern mechanism is more effective in fair distribution of water. According to the respondents, both traditional and contemporary mechanisms of distributing water are functional in the surveyed panchayats. Traditional one has been evolved by the people, whereas the contemporary mechanism emphasize on the norms fixed by the government.

Most of the respondents (85 percent) were of the view that the mechanism being followed for the distribution of water is satisfactory, while 15 percent were not satisfied with the same.

Table 5 People's perceptions on management of natural water resources

Statement	Total			
	Yes		No	
	N	%	N	%
Water is utilized for irrigational purposes	15	25	45	75
Mechanism being followed for fair distribution of water is satisfactory	51	85	9	15
Water sources are getting depleted	39	65	21	35
Natural water source(s) have extinct in the recent past	26	43.34	34	56.67
Quantity of natural water sources has changed	49	81.67	11	18.33
Willing to revive traditional water mill	51	85	9	15
Find changes in water quality	43	71.67	17	28.33
Awareness regarding traditional method for improving water quality	9	15	51	85
Rituals are linked with the worship of water sources	47	78.33	13	21.67
Water sources are linked with folk deity	58	96.67	2	3.33
There are mechanism for regular maintenance/ cleanliness of natural water sources	46	76.66	14	23.44
People are involved in the maintenance/ cleanliness of natural water sources	58	96.67	2	3.33
Mechanism being followed for regular maintenance/ cleanliness of natural water sources is satisfactory	38	63.33	22	36.67
There are incidences of disease outbreak due to consumption of contaminated water	50	83.33	10	16.67
Aware of rain water harvesting	7	11.67	53	83.33

In the recent years, climate change and other developmental activities have resulted in depletion of water resources, and the panchayats included for the study are no exception to this. According to 65 percent respondents, water sources have depleted in the recent years, while 35 percent showed reluctance in expressing their views about the same. According to the informants of Sarahan panchayat, few water sources have extinct in the recent past. Likewise, the quantity of most of the water sources has changed. According to 81.67 percent respondents, quantity of water has changed in the last few years (Table 5). All the respondents stated that it has decreased, the reason being the aftermaths of global warming, which manifests in form of increased temperature. A few

respondents stated: Several small naturally occurring ponds and rivulets in and around the villages have either extinct or the quantity of water has reduced drastically in last few years. This all has happened because a number of water supply tanks have been constructed, which have tapped the water of natural sources and the snowfall pattern has changed significantly. In earlier times, there were abundant sources of water. The fragmented pieces of glaciers, locally known as *heini* used to supply water in the area for the entire year. But, with increasing temperature, these have diminished.

The informants stated that increasing population is creating pressure on natural resources; moreover, the snowfall pattern has also decreased. According to the respondents: "Ponds and *bauries* have dried up because the ground water could not be recharged or the local users have ignored its maintenance. The traditional water sources such as *bauri* and *nadu* have been replaced by modern cemented springs and public taps. The cementing prevents the seepage of natural water into ground. As a result these could not be replenished, hence dry with the passage of time. Because of decreased incidence of snowfall, the ground water could not be recharged, the consequence being reduced water quantity. In summers, some water sources dry up. Deforestation has increased the incidence of soil erosion and reduced the water holding capacity of soil. There used to be few water sources, which either originated or revived during the monsoon season. The excess of water near certain damp sites like fields used to flow and nurtures the nearby area. These were locally known as *Suddal*, but these have now faded into oblivion. Even during the rainy season, soil cannot hold water and entire water overflow resulting in short-term drought like situation. Consequently, the crops are damaged in want of water."

People opined that construction of cemented tanks has deteriorated the taste and quality of water. The quality of running water was better as far as the taste and digestibility was concerned. Stagnant water in cemented tanks has a foul smell and water dries up in the summers, whereas the renewal or replenishment of ancient storage structures was natural which retained its properties.

All the respondents stated that earlier there used to be *gharats* (water mills) in the area. These could not be spotted because of declining volume in water sources, which is a prerequisite for running a water mill. An elderly owner of a water mill told that the remuneration for grinding the flour was quite less and was either in form of cash or kind, which was insufficient to make the ends meet. Hence, the people stopped undertaking such menial jobs. The flour of water mill was more nutritious and easily digestible. People in addition to their primary occupation, use to run the water mills. Now the *chakki* (mechanized grinding machine) has replaced the traditional water mills. Almost all the respondents were in favor of revival of traditional watermills, since it is the most economical and ecofriendly means of energy.

With the developmental activities, the quality of water is also getting deteriorated and rural areas are no exception to this. In all 81.67 percent of the respondents maintained that quality of has changed (Table 5). According to them, the population increase has amplified the generation of waste and improper sewerage system. The same, if released into water affects its quality. People were aware of traditional method, which could improve the water quality. They told that the water sources should be regularly cleaned and prevented from the release of human and animal fecal matter. According to the respondents:

In earlier times defecation around water sources was strictly prohibited and water was kept clean. Now, the increasing population is resulting in generation of wastes. Release of soaps and detergent into water is affecting its quality. Since, the villages lack proper drainage system, so everything is released in water which deteriorates the quality of water.

Water is considered to be sacred and there are ritual linked with the worship of water sources. According to 78.33 percent respondents, there are rituals associated with the worship of water sources and these are linked with *Nag* devta or serpent deities (Table 5). The ponds, lakes and water spring linked with serpents are propitiated for unceasing water supply. Even the *jatar* is organized to please the serpent deity. However, informants were conscious of the technique being followed for conservation of water sources. According to all the respondents of Guwad panchayat and 53.33 percent respondents of Sarahan panchayat, in order to safeguard the water sources, these must be regularly cleaned by the villagers (Table 5). People told that washing of clothes and bathing is strictly prohibited near the natural water sources and there are separate drinking water sources for domestic animals. There is no defined authority to look after the water sources, but these are maintained through community participation, i.e., the owners of these resources, maintain these. According to 96.67 percent respondents, maintenance done through people's participation, not only upkeep these sources alive but maintains water's quality for safe consumption by human population. According to 83.33 percent informants, there have been incidences of

water borne diseases, like dysentery, throat pain, fever, etc., due to consumption of contaminated water. In the contemporary era, there have been developments of water conservation techniques, which have provided alternates for water scarcity. Rainwater harvesting, though an ancient technique of water harvesting, has lost its worth and must be revived with scientific inputs (Table 5). Only 11.67 percent respondents were aware of water harvesting technique, remaining 88.33 percent were ignorant about the same. According to people:

Water sources must be cleaned regularly and should be prevented from human and animal excreta. Earlier, the cleaning of sheep and goat in community ponds was strictly prohibited. Breaking such norms was punishable by respective deity. If there was any sort of turbidity in the rivulets, then a *dibru* was made and water is diverted. This was believed to filter the water, which could be used for human consumption. Separate wooden tanks, locally called *suhn* kept near water sources were used for providing drinking water to domestic animals in order to prevent the contamination of water meant for human consumption. Sometimes during the winter season, people used to collect water from rooftop because water sources were far away from their home. The rainwater was used for domestic animals and washing clothes during winter season. The house was designed in such a way that every drop of water gets collected from roof through a specially designed wooden pipe called *patnalla*, in a big container.

People reported that: As elsewhere in the mountainous regions, *kuhl* irrigation is done mainly through water channels. The water is channelized and diverted to the field. This is a rare practice of water management. Water from main channel is distributed fairly through different outlets, and in case of any damage to these channels, the people repair, renovate and maintain these. It is worth mentioning that a network of such water channels, though not legalized, but works perfectly only because of community participation. Rain water is believed to replenish the water content of soil in the fields nourished by rain. The traditional agriculture practices, like reduced ploughing and cultivation of crops requiring less water, helps in coping up with the problem of water content in soil. Ploughing is done keeping in view the rainfall pattern and soil moisture. People have devised mechanism of irrigation depending on the availability of water, intensity of rainfall and types of crops. Here, the indigenous wisdom of people and time-honored experience play a significant role.

Each farmer has to wait for his chance for irrigation. Farmers water their fields based on their long-established consciousness. Irrigation is done either early morning or late evening to avoid the heating up of water by sunlight, which is believed to even harm the crop. A number of traditional farming practices evolved by the informants help in conserving soil moisture:

- At times, the ploughing is done after rain followed by leveling, which is believed to retain the soil moisture content;
- Ploughing done during rainy season increases the water content of soil and improves its fertility;
- Sometimes, current fallow land is drenched with water to fulfill the same during scarcity; and
- Ploughing is done keeping in view the slope gradient, which reduces the soil erosion and increases the water holding capacity of soil.

Even today, there is practice of worshipping water source by the newlywed. They are taken to a water source, where the priest makes them worship the source. While coming back, the bride carries a pitcher full of water. The adoring of water source which is believed to be the benign form of Nag devta, on one hand indicates the reverence shown to the faunal elements of nature, bringing the pitcher full of water on the other hand, signifies and ensures permanence of fertility. The worship of serpent deities is common in many ancient cultures, mainly in religion and mythology, where snakes were viewed as entities of power and revitalization. Snake mainly symbolizes renaissance, demise and impermanence, through casting of its skin and being recreated. Village elders revealed: Small ponds, lakes and *panihar* are linked with Nag devta, who is believed to be the rain deity. At the time of need or before sowing crops, people propitiate Nag devta by organizing *jagrata*, with a prayer for adequate rain. Besides *panihar*, there are small ponds called *divari*, which are dedicated to Nag devta. If anyone happens to throw any garbage in or around this source, these sources withered. In absence of drinking water, people used to apologize and undertake ritualistic performances to appease the deity till the water appears in the source. *Jatar* was organized to propitiate Nag devta. Annual fair was also organized. At times, when there was scanty or no rainfall, then villagers used to sit in temple premises for days to propitiate Nag devta. This was known as *Meghe Beshna*. Sheep or goat was also sacrificed on this occasion. People requested for adequate rainfall, neither scanty nor much, so that the agriculture and livestock remain safe.

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Indian beliefs does not allows saving of resources and expounds enjoying these after distribution what one has owned. Hence, in water resource management, local methods appropriate to the geography, geology, precipitation pattern, climate, etc. had been in vogue since times immemorial. Distributing water rather than gathering, essentially remained the underlying principle of management.

The present study has tried to look into the traditions of natural resource management being practiced for generations by Gaddi community. Gaddis are aware of the natural resources, their use and management, which is regulated through time-honored ecological practices. Concept of sacredness and sacrifice governs the management of water resources. Chamba is known for its rulers and kings who made great sacrifices to meet the water requirements of people. Even today the tradition of worshipping the water source persists. Water not only has religious implication but therapeutic significance and some water sources are identified as *lunahar*, which are believed to have curative properties. Water is believed to be sacred and there are sacraments linked with the worship of water sources. The water sources are linked with serpent deities. Such ponds, lakes and water spring are appeased for continuous water supply. Moreover, there are beliefs and notions which talk about the inviolability of water sources. These not only help in keeping them clean but ensure their maintenance. Numerous natural water sources of different types are found in both the panchayats and people make use of these for irrigation, drinking, cattle and domestic purpose. People have observed the impact of climate change and other developmental activities on water sources, which are diminishing with the passage of time. Gaddis expressed a serious concern for decreasing quantity of water in natural sources.

The informants recollected from the past the traditions linked with the management of water sources and expressed their benefits in context of modern systems. According to them, many water sources have either dried up or have extinct because of increasing population and decreasing snowfall. Traditional water sources, which were naturally replenished, have been replaced by the concrete structures and public taps. This not only affects the natural replenishment but reduces the water quality in these sources. People expressed that building of cemented tanks has worsened the taste and quality of water. The water mills are no longer seen because of decreasing volume in water sources. They were in favor of revival of watermills, for their cost-effective and ecological significance. Population increase has intensified the generation of waste and improper sewerage system has affected the water quality. In earlier times defecation around the water sources was strictly forbidden. But, the scenario has changed. Now the waste is released into water sources and there have been incidences of water borne diseases due to consumption of polluted water. Among Gaddis misuse of water source and its pollution is strictly prohibited and breaking such customary norms was a punishable offense. Even at present, people have continued some practices, which not only help in fair distribution of water but also maintained its quality and quantity. There are benefits of water resource management and revival of traditional techniques of water management, which not only check soil erosion and but also ensure water availability. Similar observations were made by Hussain et al., 2014, who have discussed Water resources management in context of Rajasthan [10].

Thus, the Gaddis have developed the management ethics through their indigenous knowledge and beliefs in the elements of nature, which are not only considered as sacred but are worshipped. Such outlook of community helps in confining the level of anthropogenic pressures. Similar observations made by Silori in 2001 are in consensus with present study [11]. Thus, it is imperative that the local communities must be involved in developing the conservation policies, besides tackling the issue of water conservation in a sustainable manner.

4. Conclusion

Creating a sense of reliance and collaboration between users and managers can certainly be the solution to the management efforts. The time-honored customary rules may vary from place to place but the goal is same, which respects the similar viewpoint. These traditional laws often disallow the felling of trees, except when these are required for construction of religious structures. Consequently such limitations have helped in the conservation of biodiversity for generations, and even hold good in the present era. In the management of natural resources efforts must be made to maintain the sanctity of these resources. Young generation must be made aware of customary conservation methods and they should be encouraged to uphold their sanctity and values. The need of hour is to recognize the values of traditional institutions of natural resource management for their usefulness in conservation and create space for such thoughts while formulating conservation policies.

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