# Perception of Farmers Regarding Climate Change in Balochistan with Special Reference to Agricultural Extension
### (in the light of Shariah)

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## Abstract

*All the aspects of life are covered by the teaching of Islam. The environment is the creation of Allāh (SWTA). The creation of this earth and all its natural resources are sign of His Wisdom, Mercy, Power and His other Attributes and therefore serves to develop human awareness and understanding of Allāh (SWTA). This study was carried out in Balochistan to analyze the awareness level of farmers about climate change. The results show that majority (41%) of the respondents were in the age group of 56-65 years. Most (78%) of respondent of the area were illiterate. Majority of respondents were aware of about climate change and the effects of climate change. Majority (87%) of the respondents observed negative change in water table and (97.1%) observed increase in temperature. While most (93.2%) of the respondents observed that rainfall is decreasing. Highly significant association between age, farming experience and awareness about climate change. The results further reveal that there is no significant association between education of respondents and awareness level about climate change. In light of these results, government should develop policies for quality education, construction of dams, and promote reforestation in the province.*

***Key word:** Climate change, Perception, Balochistan, Agriculture, Extension, Shariah.*

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**Introduction**

Climate change indicates the average weather and it can be explained in statistical terms of mean and variability of commonly surface variable such as precipitation, temperature and wind pattern. In Intergovernmental Panel on Climate Change (IPCC) usage climate change mentions a change in the state of climate that can be recognized by change in mean and /or variability of its properties that persists for a longer period of time, usually decades or longer. Climate change can be a result of natural process or anthropogenic activities in the atmosphere or land. The United Nations Framework Convention on Climate Change (UNFCCC) described the climate change as directly or indirectly humans' activities that change the composition of atmosphere which leads to natural climate variability and it can be observed over long period of time. Global climate change means alteration in the climate of the Earth, whereas, climate change experiences when "average weather" of a region is changed over a long period of time. Variations means change in weather associated features i.e. wind, rainfall, temperature and storms called climate variability (Bukhari and Bajwa, 2012).

A system known as "Greenhouse Effect" regulates the temperature on Earth. The Green House Gases (GHG) combined with water vapor and trap the radiations from Sun preventing it from dispersing back into the space. Normally GHG occurs in space, without which normal temperature on Earth would be -18°C rather than the present 15°C and life on earth would be incomprehensible. The Industrial Revolution has essentially expanded these GHG e.g., carbon dioxide has expanded by 30 percent, methane by 145 percent, and nitrous oxide by 15 percent (Hussain *et al.,* 2005).

According to IPCC fourth assessment report, the environmental change is showed in different forms. The warming of atmosphere is unequal, as it is observed from increase in worldwide normal air and sea temperature, across the World dissolving of snow and ice, rising normal ocean level. The average global surface temperature is raised to 0.74°C in 100 years from 1906 to 2005. The temperature is increased worldwide and more noteworthy higher in northern latitudes. Land regions faster warmed than oceans. Worldwide normal ocean level raised more than 3.1 mm for every year from 1993 to 2003 as during summer snow and ice shrunk higher. The precipitation inclined from 1900 to 2005 demonstrates critical increase in a few areas of the globe and diminishing in others, including parts of South Asia. Since 1970s the drought affected areas are increased worldwide. Frequency of hot days and nights, heavy rainfall, heat waves and raising of oceans' level is globally increasing, while on most land areas frosts and cold nights become less frequent (IPCC, 2007).

The 60% of earth's surface is occupied by agriculture, forests and pastures which is directly exposed to climatic variability. Unpredictable fluctuations in rainfall, wind and temperature is increasing the risk and severity of floods and droughts turning long term implications for the sustainability of environment. When changes occur in climatic conditions then changes must be occurred in the distribution

of agro-ecological zones, plant diseases and pests, population of fish and circulation of oceans. These changes have significant effect on agriculture and food production. (Singh and Grover, 2013).

Pakistan is located at $24^o$ to $37^o$ latitudes north and $61^o$ to $75^o$ east longitudes. Pakistan covered an area of 796,095 km², 1,046 km coastline with Arabian Sea in the south and 6774 km border area with neighbor countries, 2430 km border area with Afghanistan, 532 km with China, 2913 with India and 909 km with Iran. Pakistan also have marine border with Oman. (Wikipedia, 2017).

Generally Pakistan is mostly under threat to clime change because of its warm climate. Geographically Pakistan lies in that region where the temperature is increased or expected to increase then the normal World. Mostly Pakistan is arid and semi-arid approximately 60 percent area receives less than 250 mm rainfall per year and 24% receives 250-500 mm of rainfall per year. Rivers of Pakistan flow by the glaciers of Hindu Kush-Karakoram, due to global warming it is reported that these glaciers are melting rapidly. Its economy is highly depended on agriculture which is extremely sensitive to climate. The country facing major risk of changes in monsoon rains in result of these changes country experienced many times high flood and long period of drought. Keeping in view these factors such as water, flood, drought and energy scarcity Pakistan is under serious threat of climate change (PDMA 2017).

The basic need of human survival is agriculture but unfortunately it is most vulnerable to climate change. The largest sector and life line of Pakistan's economy is agriculture and its total share in GDP and labor force is 19.8 percent and 42.3 percent respectively. The agricultural country is mostly affected by climate change as the growth of crop depends on temperature, if the temperature is increased, the growth of crop will speed up and will reduce the time for sowing and harvesting which affects the production of crops and fodder (GoP, 2016).

The production of agricultural crops totally depends on climate. Different factors of climate like rainfall, wind, temperature and floods that affect the production of different crops, prices of agricultural commodities and at the end economic growth of the country. Keeping in view the current situation of climate change and national food security globally shifted the focus on the policy towards the advancement of agriculture sector. Government of Pakistan is also focusing on increasing agricultural production through increasing crop yield, efficient use of inputs and modern technology to uplift the economy of farming community (Agrihunt, 2017).

The largest by area, smallest by population and less developed Balochistan province is located in South-Western at $27.7^o$N and $65^o$ E in Pakistan. Total area of the province is 347,190 km$^2$ which is 44 percent of the total area of the country. Total population of the area is consisted on eight million people. The province have two major tribes Baloch and Pashtun. Majority of the Baloch tribe are in the south and east in the province while the Pashtun tribe is in the north of the province. Capital of the province is Quetta has majority of Pashtun tribe with Baloch, Hazara. The

province's 80 percent area is mountainous and 20 percent area is flood plains and coastal plains. Climate of the region is semi-arid and arid with average annual precipitation about 200 to 350 mm but in many parts of the province as low as 50 mm annually which makes rainfed agriculture impossible. The major source of economy depends on agriculture, livestock, fisheries and minerals.

The province experienced many times extreme droughts but the recent one from 1997-2002 which was the longest drought in the history of Balochistan. Droughts occur in an area due to less or no rainfall for long period of time normally a season or more. Some of the districts of Balochistan i.e. Zhob, Loralai, Chaghi, Nushaki, Kalat and Musakhail are affected many times by droughts. Monthly rainfall in dry areas of Balochistan is 2 to 25 mm which is too much low as compared to other parts of the country. The worst situation was developed in 1997-2002 due low rainfall in the province.  The major cause of drought in the province was less rainfall. According to the Ministry of finance the growth rate of economy is low by 2.6 percent during the period and the loss is PKR 25 billion to the national economy in the year 2000-2002. In result of drought some major effects were, shortage of fodder for animals, almost 80 percent of farmers cut their apple trees and different orchards and migration of local people from the affected areas (PDMA, 2017).

**Objectives of the study**

1. To find out farmers' awareness level about climate change in the study area.

**Research Methodology**

Balochistan province was the universe of this study. The Province is consisted of six divisions i.e. Kalat, Makran, Nasirabad, Sibi, Zhob and Quetta. Multistage sampling technique was used to draw the required sample size. The researcher has selected Zhob division for data collection purposively as the selected division is mostly affected by climatic extremes. Zhob division consists of six districts i.e. Zhob, Sherani, Loralai, Qilla Saifullah, Musakhail and Bharkhan. The researcher has selected three districts out of these six i.e. Zhob, Loralai and Musakhail purposively as these are the agriculture based districts of the division. Due to low population in selected districts the researcher considers all the farmers of each selected district as population for the study.

For selection of farmers the researcher used unknown population formula.

$$n = \frac{Z^2 V^2}{d^2} \text{...............................(3.1)}$$

Where:

$Z^2$= reliability coefficient (Constant)= (1.96)

n= required sample size

d= assumed marginal error (5%)

$$n = \frac{1.96^2 50^2}{5^2} = 384$$

Therefore, through equal allocation formulae, 128 respondents were selected from each selected district i.e Musakhail, Lorali and Zhob. Primary data were

collected through well-structured interview schedule and secondary data were obtained from published and unpublished sources. Collected data were analyzed through Statistical Package for Social Science (SPSS) to draw the conclusions of the study.

**Results and Discussion.**

Age is an important demographic factor to be considered in agriculture. The more the age of respondent, the better management of the farm will be. Sampled respondents of the study area were classified in different groups on the basis of their age.

**Table No. 1 Distribution of sample respondents regarding their Age.**

| Districts | Age of the respondents (in years) | | | | | Total |
|---|---|---|---|---|---|---|
| | Up to 35 | 36-45 | 46-55 | 56-65 | Above 65 | |
| **Musakhail** | 7 (5) | 21 (16) | 29 (23) | 50 (39) | 21 (16) | 128 (100) |
| **Loralai** | 8 (6) | 9 (7) | 22 (17) | 63 (49) | 26 (20) | 128 (100) |
| **Zhob** | 10 (8) | 21 (16) | 46 (36) | 44 (34) | 7 (5) | 128 (100) |
| **Total** | 25 (7) | 51 (13) | 97 (25) | 157 (41) | 54 (14) | 384 (100) |

Source: Author survey results 2018. Values in parenthesis are percentage.

Table 1 depicts the district wise number of respondents and their percentage in each age category. In district Musakhail highest number of the respondents (50) lay in age group of 56-65 years which was 39% of the total respondents from the same district while the least number of respondents (7) lay in group of age upto 35 years comprising 5% of the total respondents from the same district. The highest number of respondents (63) from district Loralai lay in age group of 56-65 years accounting about 49% of total respondents from same district while the least number of sampled respondents (8) was observed in the age group of upto 35 years comprising only 6% of the total respondent from same district. Similarly, most of the respondents (46) from district Zhob dropped in age group of 46-55 years consisting of about 36% of the total respondents from same district while the least number of respondents (7) was observed in age group of above 66 years consisting only 5% of the total respondents from same district. Over all in the study area majority of (157) respondents were in the age group of 46-55 years. The results are similar with those of Raghuvanshi *et al.*, (2017) who reported that 61% of the respondents have age between 45 to 67 years.

**Level of education of respondents in the study area**

Education is an important factor to cope with climatic challenges, it is one of the most neglected part of our policies. The educational level of the respondents in study area was classified in different groups.

**Table 2**            **Distribution of respondent regarding level of education of the respondent in the study area.**

| Districts | Education level of the respondents | | | | | Total |
|---|---|---|---|---|---|---|
| | Illiterate | Primary | Middle | Matric | Intermediate | |
| **Musakhail** | 108 (84) | 8 (6) | 4 (3) | 3 (2) | 5 (4) | 128 (100) |
| **Loralai** | 95 (74) | 12 (9) | 8 (6) | 5 (4) | 8 (6) | 128 (100) |
| **Zhob** | 97 (76) | 14 (11) | 5 (4) | 6 (5) | 6 (5) | 128 (100) |
| **Total** | 300 (78) | 34 (9) | 17 (4) | 14 (4) | 19 (5) | 384 (100) |

Source: Author survey results 2018. Values in parenthesis are percentage.

Table 2 shows district wise number and percentages of the respondents in various groups of education. In district Musakhail, majority of the respondents (108) were illiterate comprising of about 84% of the total respondents from same district while the least number of respondents 3 were in the group of educational level Matric, consisting of 2% of the total number of respondents in each category in same district. Similarly, in district Loralai, majority of the respondents (95) was illiterate consisting of 74% of the total respondents from same district while least number of respondents (5) were observed having educational level upto Matric which were about 4% of the total number of respondents from the same district. Like districts Musakhail and Loralai, most of the respondents (97) in district Zhob were also illiterate consisting of about 76% of the total respondents from same district while least number of respondents (5) were in group of educational level upto Matric which consisted of 4% of the total respondents from same district.

**Perception of farmers about water table.**

Fresh water is the most important natural element of life as well as for agricultural and industrial use of many countries. Especially in rain fed areas the water table is decreasing day by day due to climate change. While increase in temperature, decrease in rain fall and over pumping of ground water are the major factors that affect the water table (ozlem Yagbasan, 2016. Loaiciga, Valdes, & Vogel, 1996).

**Table No. 3 Perception of Sample respondent about water table.**

| District | Observed any Change in Water Table | | | If Yes | |
|---|---|---|---|---|---|
| | Yes | No | Total | Stable | Decrease |
| **Musakhail** | 104 (81) | 24 (19) | 128 (100) | 24 (19) | 104 (81) |
| **Loralai** | 122 (95) | 6 (5) | 128 (100) | 6 (5) | 122 (95) |
| **Zhob** | 110 (86) | 18 (14) | 128 (100) | 18 (14) | 110 (86) |
| **Total** | 336 (87) | 48 (13) | 384 (100) | 48 (13) | 336 (87) |

Source: Author Survey results 2018. Values in parenthesis () are percentages.

Results in table 3 shows that majority (87%) of the respondents had observed the change in the water table since last 10-15 years whereas only 13% of the respondents

had observed no change in the water table. Among those respondents who observed change in the water table majority (122) of the respondents were from Loralai followed by Zhob (110) whereas 104 of the respondents were from Musakhail district. The respondents who reported yes were further investigated regarding the change in the water table and all of the respondents were of the view that water table has decreased whereas 13% of the respondents reported that water table is stable. These results indicated that due to less rainfall, lack of water reservoirs and over exploitation of underground water might be the reasons of decrease in depth of water table in the study area.

**Table No. 4. Perception of sample respondent about temperature.**

| Districts | Change In Temperature | | | If yes | | |
|---|---|---|---|---|---|---|
| | No | Yes | Total | No change | Decreased | Increased |
| **Musakhail** | 11 (2.9) | 117 (30.5) | 128 (33.3) | 11 (2.9) | 0 (0.0) | 117 (30.5) |
| **Loralai** | 0 (0.0) | 128 (33.3) | 128 (33.3) | 0 (0.0) | 0 (0.0) | 128 (33.3) |
| **Zhob** | 0 (0.0) | 128 (33.3) | 128 (33.3) | 0 (0.0) | 0 (0.0) | 128 (33.3) |
| **Total** | 11 (2.9) | 373 (97.1) | 384 (100) | 11 (2.9) | 0 (0.0) | 373 (97.1) |

Source: Author Survey results 2018. Values in parenthesis ( ) are percentages.

Table 4 shows that majority (97.1%) respondents of the study area reveled that they have observed the change in last 10-15 years while only 2.9% of the respondent reported that they did not observe any change in the temperature. Majority of the respondents (33.3%) and (33.3%) of Loralai and Zhob except Musakhail where 30.5% of respondents reported that they had observed that temperature is increased, while in Musakhail district only 2.9% of the respondents have not observed any change in temperature. These result are closed to those of Ajuang *et al* (2016) who reported that 86.7% of respondent in Kenya have observed increase in temperature.

**Table No. 5 Perception of sample respondent about rainfall in the study area.**

| Districts | Change In Rainfall | | | If yes | | |
|---|---|---|---|---|---|---|
| | No | Yes | Total | No Change | Decreased | Increased |
| **Musakhail** | 9 (2.3) | 119 (31) | 128 (33.3) | 9 (2.3) | 114 (29.7) | 5 (1.3) |
| **Loralai** | 3 (0.8) | 125 (32.6) | 128 (33.3) | 3 (0.8) | 125 (32.6) | 0 (0.0) |
| **Zhob** | 8 (2.1) | 120 (31.2) | 128 (33.3) | 8 (2.1) | 119 (31.0) | 1 (0.3) |
| **Total** | 20 (5.2) | 364 (94.8) | 384 (100) | 20 (5.2) | 358 (93.2) | 6 (1.6) |

Source: Author Survey results 2018. Values in parenthesis ( ) are percentages.

Table No. 5 shows that majority (94.8%) of the respondents reported that they observed changes in rainfall while only 5.2% of the respondents reported that they did not observed any change in the rainfall. Majority (29.7%, 32.6% and 31%) of the respondents from Musakhail, Loralai and Zhob respectively had perceived that rainfall is decreasing since the last 10-15 years, while only 1.6% respondents of the study area reported that rainfall has increased.

**Association between Age of the respondents and awareness level about climate change.** Table 6 shows Chi Square results of age of the respondents and their awareness level about climate change which reveals that there is highly significant association between these two parameters. The gamma value is 0.523 which indicated that there is

positive association among the two attributes indicating that middle and older age respondents had more awareness about climate change phenomenon then the Youngers.

**Table No.6 Association between Age of the respondents and awareness about Climate Change.**

| Age of the respondents (in Years) | awareness about climate change | | Total | Chai-Square, P. Value and Gamma. |
|---|---|---|---|---|
| | No | Yes | | |
| Up to 35 | 9 (2.3) | 16 (4.2) | 25 (6.5) | $\chi^2 = 37.730$ Sig = (0.00) $\gamma = 0.523$ |
| 36-45 | 4 (1.0) | 47 (12.2) | 51 (13.3) | |
| 46-55 | 5 (1.3) | 92 (24.0) | 97 (25.3) | |
| 56-65 | 7 (1.8) | 150 (39.1) | 157 (40.9) | |
| 66 and Above | 1 (0.3) | 53 (13.8) | 54 (14.1) | |
| Total | 26 (6.8) | 358 (93.2) | 384 (100.0) | |

 The value in parenthesis indicate percentage.

**Association between education level of the respondent and awareness about Climate Change.** Table 7 shows chi-square results of association among educational level of the respondents and their awareness about climate change which revealed that there was non-significant (P>0.05) association among these two attributes which means that education does not contributed in creating awareness about climate change among the respondents in the study area. The result are confirmed by (Silvestri *et al*. 2012; Teka *et al*. 2013).

**Table No 7 Association between Awareness about climate change and education of the respondents.**

| Education level of the respondents | Awareness about climate change | | Total | Chai-Square, P. Value and Gamma. |
|---|---|---|---|---|
| | No | Yes | | |
| Illiterate | 24 (6.2) | 276 (71.9) | 300 (78.1) | $\chi^2 = 4.392$ Sig = (0.356) $\gamma = .579$ |
| Primary | 2 (0.5) | 32 (8.3) | 34 (8.9) | |
| Middle | 0 (0.0) | 17 (4.4) | 17 (4.4) | |
| Matric | 0 (0.0) | 14 (3.6) | 14 (3.6) | |
| Intermediate | 0 (0.0) | 19 (4.9) | 19 (4.9) | |
| Total | **26 (6.8)** | **358 (93.2)** | **384 (100)** | |

The value in parenthesis indicate percentage.

**Association between farming experience and awareness about climate change**

 Table 8 showed chi-square results of farming experience of the respondents and their awareness about climate change which reveals that there is highly significant (P≤0.01) association among these two attributes. The gamma value is 0.784 which showed that there is positive association among the two attributes indicating that the respondents having more farming experience have more awareness about the climate change phenomenon. These result are also in agreement with (Issa *et al* 2015; Gutu *et al.* 2012; Hisali *et al*, 2011; Nhemachena and Hassan. 2007) reported that there is positive and significant relationship between farming experience and knowledge about climate change.

**Table No 8 Association between farming experience and awareness about climate**

| Farming Experience (in years) | awareness about climate change | | Total | Chai-Square, P. Value and Gamma. |
|---|---|---|---|---|
| | No | Yes | | |
| 10-20 | 17 (4.4) | 56 (14.6) | 73 (19.0) | $\chi^2$ = 40.810 Sig = (0.000) γ = .784 |
| 21-30 | 7 (1.8) | 134 (34.9) | 141 (36.7) | |
| 31-40 | 2 (0.5) | 131 (34.1) | 133 (34.6) | |
| 41 and Above | 0 (0.0) | 37 (9.6) | 37 (9.6) | |
| **Total** | **26 (6.8)** | **358 (93.2)** | **384 (100)** | |

The value in parenthesis indicate percentage number.

**Islamic Teachings about Climate Change**

Greenery and trees play major role in maintaining natural shape of the world. They not only provide us with different edibles in the form of vegetables and fruits but are also greatest source of sustaining beauty and purity of the world. Allah louds greenery and highlights their importance in the following verse.

وَهُوَ الَّذِي أَنْشَأَ جَنَّاتٍ مَعْرُوشَاتٍ وَغَيْرَ مَعْرُوشَاتٍ وَالنَّخْلَ وَالزَّرْعَ مُخْتَلِفًا أُكُلُهُ وَالزَّيْتُونَ وَالرُّمَّانَ مُتَشَابِهًا وَغَيْرَ مُتَشَابِهٍ ۚ كُلُوا مِنْ ثَمَرِهِ إِذَا أَثْمَرَ وَآتُوا حَقَّهُ يَوْمَ حَصَادِهِ ۖ وَلَا تُسْرِفُوا ۚ إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ[1]

It is He who produces gardens, both cultivated and wild, and date-palms, and crops of diverse tastes, and olives and pomegranates, similar and dissimilar. Eat of its fruit when it yields, and give its due on the day of its harvest, and do not waste. He does not love the wasteful.

Mentioning the advantages of certain tress, Allah says that:

وَشَجَرَةً تَخْرُجُ مِنْ طُورِ سَيْنَاءَ تَنْبُتُ بِالدُّهْنِ وَصِبْغٍ لِلْآكِلِينَ

And a tree springing out of Mount Sinai, producing oil, and seasoning for those who eat.[2]

Apart from the above mentioned verses there are other numerous verses in which Allah talks about growing trees, protecting them and caring for them because they of great assistance to living beings to lead a profitable and sustained life.

Hazrat Anas RA narrates the prophet PBUH saying that:

ما من مسلم يغرس غرسا او يزرع زرعا فياكل منہ طیر او انسان او بھیمۃ الا کان لہ بہ صدقۃ[3]

Whoever among Muslims grew a tree or a field and animals and birds eat something from the fruit or the grains, it will become a Sadaqa for him.

Hazrat Jabir bin Abdullah RA narrates from the holy prophet PBUH that

(من كانت لہ ارض فليزرعها ، فان لم يزرعها فليزرعها اخاہ[4]

Whoever has a cultivable field must grow it and if he himself is not in a position to grow it then he must hand it over to his brother so that he may grow it.

Islam puts great emphasis on growing trees and other greenery so much so that it says even if one has only last few breathings left and one is in a position to grow some tree then one should grow it before dying. The prophet of Allah says in one of his narrations that:

ان قامت الساعۃ وفی يد احدكم فسيلۃ فان استطاع الا تقوم حتی يغرسها فليغرسها[5]

If it is the hour of the Day of Judgment and if one has power to grow a tree just before it starts then one must grow it.

Islam on the other hand very strictly forbid from destroying trees, green fields and other greenery and considers it a crime against the nature and human beings. Allah says that:

وَإِذَا تَوَلَّىٰ سَعَىٰ فِي الْأَرْضِ لِيُفْسِدَ فِيهَا وَيُهْلِكَ الْحَرْثَ وَالنَّسْلَ ۗ وَاللَّهُ لَا يُحِبُّ الْفَسَادَ[6]

When he gains power, he strives to spread corruption on earth, destroying properties and lives. God does not like corruption.

The holy prophet PBUH would forbid his companions from unnecessarily cutting trees and greenery and particularly form the fruit providing trees. In one of his farewell speeches he delivered while sending his companions on an expeditions he addressed the leader of the troop and said that:

لا تعقروا نخلا ولا تحرقوه ولا تقطعوا شجرة مثمرة ، ولا تذبحوا شاة ولابقرة ولا بعيرا الا لما كله[7]

Don't cut or put on fire neither the date tree nor any other fruit giving tree and also do not sacrifice milk giving cow, goat or camel except for eating purpose. Regarding cleanliness and keeping the climate in order, the holy prophet PBUH said that:

ان الله طيب يحب الطيب النظيف يحب النظافة ، كريم يحب الكرم، جواد يحب الجود ، فنظفوا افنيتكم لا تشبهوا باليهود[8]

Allah is good and He likes good people, Allah is clean and likes clean people, He is merciful and likes merciful, He is generous and likes generous people. So you keep your house and your surroundings clean and don't act like the Jews.

Expressing the rewards of removing some hurdle and teasing thing from the way, the messenger of Allah says when a Muslim removes some teasing thing from the way Allah surely rewards him for this act even if he removes a simple thorn from the way. The prophet of Allah says that:

بينمارجل يمشى بطريق وجد غضن شوك على الطريق فاخره، فشكره الله له فغفرله[9]

When one is travelling on a way a finds a bough of tree lying there and he removes it, Allah is pleased with him and thanks him for his this act.

So much so that the holy prophet PBUH says that Allah will reward Jannath to some people only because they removed teasing thing from path and took care of climate. In a tradition narrated from Abu Huraira RA the holy prophet PBUH said that.

لقد رأيت رجلا يتقلب فى الجنة فى شجرة قطعها من ظهر الطريق كانت توذى المسلمين[10]

I saw a person wandering there in paradise only because he had cut a tree which was there in the middle of the path and it was causing troubles to Muslim.

The holy prophet PBUH wanted to teach about climate protection and cleanliness of the atmosphere when he said that:

اتقوا الملاعن الثلاث ، البراز فى الموارد، وقارعة الطريق، والظل[11]

Avoid three acts which cause curse; pissing and shitting around reserves of water, on banks of the path and in the shade of tree.

Quran forbid from sound pollution just like it forbid from other forms of pollution.

وَاقْصِدْ فِي مَشْيِكَ وَاغْضُضْ مِنْ صَوْتِكَ ۚ إِنَّ أَنْكَرَ الْأَصْوَاتِ لَصَوْتُ الْحَمِيرِ[12]

And moderate your stride, and lower your voice. The most repulsive of voices is the donkey's voice.

Similarly, the prophet of Allah has strictly forbidden from pissing and shitting in the static water and this is only because it pollutes the atmosphere and cause bad effect on the surrounding. He said that:

لا يبولن احدكم فى الماء الراكد ثم يغتسل فيه[13]

None among you should piss in a static water because he may have to bath in the same water afterword.

**Conclusion:**

It is concluded from the results of the study that age and farming experience is the most important factor which influences the awareness level of farmers about climate change. Furthermore, the result of the study indicates that water table is declining, temperature is raising and rainfall is decreasing, these all are the signs that the human beings are not following the teachings of Islam about protection of trees, unnecessary use of water, utilization of agriculture land and cleanliness of the environment. Islam is a complete code of life if the human beings do not follow it, they may face such adverse effects of nature.

**Recommendations:**

The following recommendations were formulated based on the conclusions of the study.

1. Agriculture extension of Balochistan should organize trainings about climate change adaptation strategies for farmers.
2. Government of Balochistan should develop polices for the provision of quality education and ought to be construct dams in the study area to overcome the shortage of water for irrigation.
3. Department of agricultural extension should start awareness campaign about tree plantation and climate change issue.
4. It is the core responsibility of the religious clerics to address peoples on protection of the environment and emphasis on working on it, referring to the Islamic teaching in every Friday sermon in the study area.

**Acknowledgement:**

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[1] Al Quran 6:141

[2] Al Quran 23:20

[3] Bukhari, Hadith no 42

[4] muslim

[5] Bukhari 479.

[6] Al Quran 2: 205

[7] Al Tarikh al Tibari

[8] Tirmizi

[9] Bukhari and Muslim

[10] Muslim

[11] Abu Dawood and Ibn e Maja

[12] Al Quran 31:19

[13] Bukhari