



Research Article

Comparative Study of Socio-Economic Factors Responsible for the Degradation of Forest in Sherani District

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Abstract | The purpose of this study is to demonstrate that a variety of socioeconomic factors have an impact on the district Sherani due to overall forest degradation. Because in the study area there is a very low level of literacy, most people are not aware that deforestation that contributes to a number of issues, including soil erosion and flooding, which in turn trigger other natural phenomena and specifically the destruction of natural resources. According to findings of this research, poverty is a widespread issue. The statistics show that the population has very low income along with the other associated variables. In this context, we developed a well structure questionnaire and collect primary data from it and through descriptive analysis while collecting data from core area. Despite the fact that many individuals go to urban places to work, such as Dubai and the Arab Emirate. Further, statistics and reports show that the government has made a little advancement in the area's growth in a few successive years. They don't have any clear guidelines for protecting the forest in the Sherani district. The people are using the forest resource to meet their energy needs due to lack of facilities. People keep a large number of livestock that are grazed year-round on forest and range terrain. These animals harm the local regeneration as well as the local land cover. The proposed Hypothesis shows that the significant relationship between Dependent and Independent variables i.e. Forest Degradation and Socio-Economic Factors.

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Introduction

The largest province in Pakistan, Balochistan, covers an area of 34.72 million hectares, of which 15.63 million ha. has 1.09 million acres and is unclassified land is the 3.1% of the total area that is under the supervision of the forest department (Amjad and Khan, 1987). The lack of lumber and fuel

wood is severely hurting the province. The demands of the expanding population cannot be met by the current forest production. The province's rural sections are home to more than 84% of the total population, who are entirely dependent on agriculture and cattle. (Thoms, 2008) income comprises of various domains that include Wages, salaries, profits, rents, and other forms of received income are all considered to be

remuneration of an employee. [Leemans et al. \(2003\)](#) the educational degree needed to secure a job and the salary levels that differ between jobs and within ranks of occupations are reflected in occupational status. [Fitzgerald \(1978\)](#) suggest that most people live in poverty and own relatively little land ([Amadou, 2010](#)). The examination of various home traits and variables that are pertinent to policy influences each household's desire and willingness to participate in resource conservation initiatives in Burkina Faso. Natural resources including soil, water, and forests are the foundation of the research. He emphasized the importance of education and training. Natural resource conservation willingness does not appear to be influenced by age or gender. [Lambin et al. \(2003\)](#) looked at the ecological causes of the late-classical cultural system's collapse ([Allen and Barnes, 1985](#)). Most often, population increase, poverty, and the spread of agriculture are the key factors that encourage deforestation in the short term, while wood harvesting and export exacerbate it over time ([Cundill and Fabricius, 2009](#); [Armitage et al., 2009](#)) the complexity of social ecological systems and their capacity to adapt and respond to change are explored through several research methodologies ([Warner, 1995](#); [Gilmour, 2003](#); [Bannister and Nair, 2003](#); [Viswanath et al., 2000](#)). Numerous household characteristics, biophysical, and socioeconomic factors are known to affect smallholder farmers' decisions about on-farm tree management and wood output ([Leemans et al., 2003](#)). Water management is becoming more uncertain as a result of climate change, making it more challenging to narrow the supply-demand gap ([Sunderlin and others, 2005](#)). The social and physical conditions of rural poor people may be limited by poverty and other socioeconomic variables ([Chowdhury, 2006](#)). It may be amplified by immediate reasons that directly induce a change in land use or cover, or it may be by driving forces that magnify the effects of immediate causes. [Conway et al. \(2000\)](#) Similar to how population growth affects natural resources directly or indirectly, it raises concerns about the security of food, water, and livelihoods because the poor frequently depend on them. Population growth combined with settlement expansion could hasten the deforestation of the Terai. [FAO \(2001\)](#) stated that forest resources contribute directly to livelihoods and combine with other key components of poverty reduction through food production.

Hypothesis

Ho: There is no relationship between dependent and

independent variables.

Hi: No. of domestic animals has a direct impact on forest degradation.

Hii: The population growth has a significant relationship with forest degradation.

Hiii: Occupation of resident has a significant relationship with forest degradation.

Hiv: Income sources has a direct relationship with forest degradation

Hv: Fuel consumption has a significant relationship with forest degradation.

Hvi: Literacy rate in an area have positive relationship with forest degradation.

Hvii: Failure in natural regeneration direct impacts on forest degradation.

Objectives

- To explore the various socio-economic impacts of district Sherani over Forest degradation.
- To device the strategies in order to overcome the social impact that ultimately reduce the natural exigencies due to Climate change phenomena.
- To seek out the overall impacts of societies by estimating results for future references.

Study area

Sherani district was the second biggest tehsil of Zhob District until 2005. In 2006, It was officially graded as district with the name of "Sherani" (Sherani is the name of the largest tribe of the area). Sherani district is situated in the higher elevation of Balochistan, and forming the north eastern corner of the province. It is situated between 29°30'N 65°40'E / 29.5°N 65.667°E according to Pakistan ([Figure 1](#)).

Materials and Methods

Sampling design

Due to large area mostly comprises of Forest land. For the purpose of data collection, the convenient sampling technique is use with Multistage sampling, which includes random sampling and incidental sampling.

Sample size

Overall, more than 150 questionnaire were circulated through forest and wildlife staff after giving necessary training/guidance, for which about less than 120 questionnaires were received, in which some were partially filled due to lack reluctant attitude towards data collection survey.

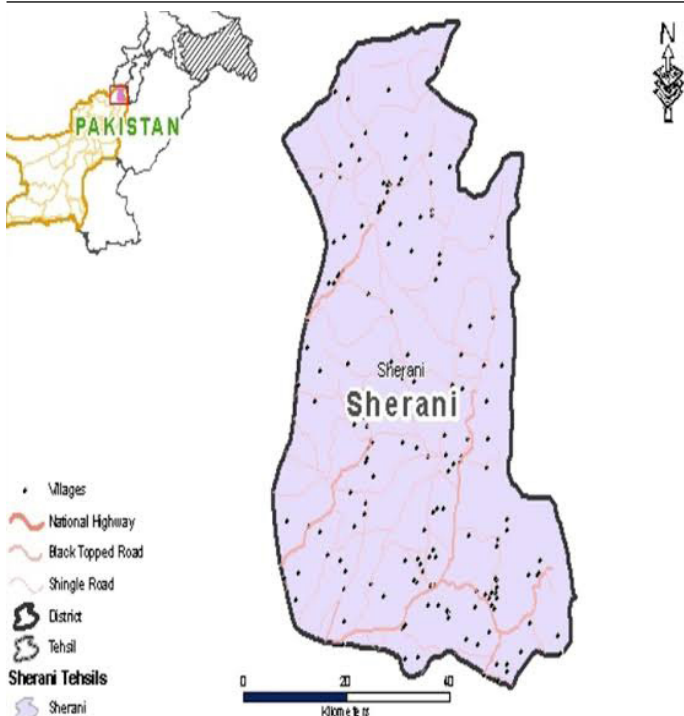


Figure 1: Map: Distirt Sherani, Balochistan Province, Pakistan.

Data collecting tool

The questionnaire was designed on the basis of style in which some questions are designed with open ended opinion in order to obtain the views and comments. The static questions were used to pin point the date to get exact answers.

Research diagram

Research diagram depicts the relationship amongst the variable (Figure 2).

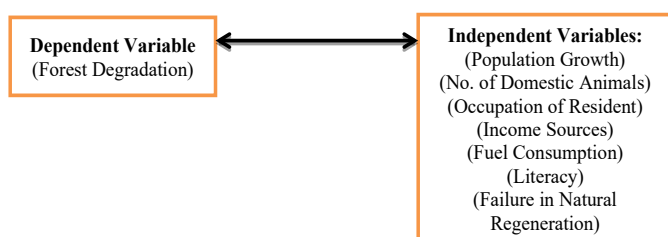


Figure 2: Statistical analysis.

Result and Discussion

The respondent's various socioeconomic characteristics were examined. The deterioration of the forest in the Sherani district is being influenced by these variables to some extent.

Literacy rate

The level of literacy in a region is important, especially when managing or destroying forests. Four categories have been established for the education criteria Table

1 and Figure 3.

Table 1: Respondent's level of education.

Education class	Education of respondent	
	No.	Percentage %
Above Matric	7	14
Matric	5	10
Below Matric	11	22
Uneducated	27	54

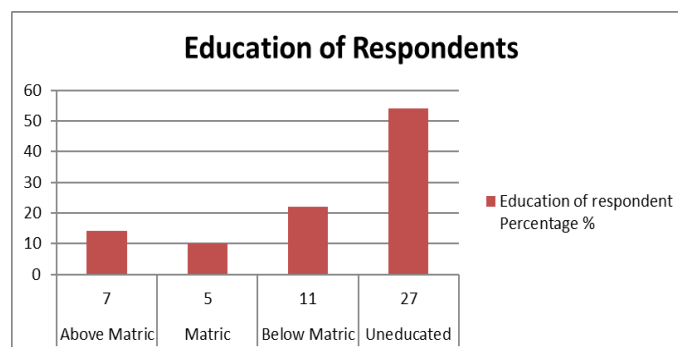


Figure 3: Respondent's education.

Family size of respondent

The district of Sherani is rapidly increasing in population. The resources of the existing rangelands and forests are greatly impacted by the fast expansion.

Table 2: Family size of respondent family size: (i) 1-6, (ii) 7-12, and (iii) 12 and above.

Family size	Respondents	
	No	Percentage %
1-6	7	14
7-12	16	32
12 and above	27	54

Occupation

Agriculture and livestock are the main resource of income in Sherani district (Figure 4).

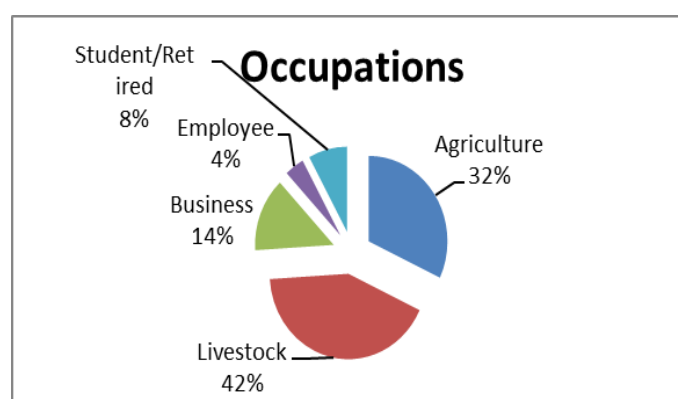


Figure 4: Occupation of respondent.

Source of income

The 50 respondents were asked about their resources of income (Table 3).

Table 3: Source of income of respondents.

Source of income	No. of respondents	Percentage %
Agriculture	41	41
Livestock	37	37
Business	11	11
Employ	7	7
Foreign	4	4

Domestic and wild animals

The people around the study area used for animals for grazing throughout the year, which contributes to the destruction of the forest in the Sherani district (Table 4).

Table 4: Sheep, goat and cattle population.

Classes	No of sheep and goat	Percent-age %	No of cattle	Percent-age %
> 30	21	42	-	-
15-30	12	24	-	-
1-15	13	26	27	54
Nil	4	8	23	46

Trees for fodder

In Sherani district various forest trees are used as food sources for animals. Thus, forest is prone to degradation (Table 5).

Table 5: Trees for fodder.

Trees	No. of respondents	Percentage %
Poplar	3	6
Mulberry	21	42
Khinjik	14	28
Olive	9	18
Others	3	6

Source of feeding animals

The forest and range lands of district Sherani are harmed by the over grazing resulting soil degradation Based on the fig. It is obvious from the responses that the vast majority of people (75%) use the forest and rangeland region for grazing their animals (Table 6).

Fuel consumption in Sherani district

The removal of forest flora for the purpose of Fuel wood directly affects the canopy cover of public forest (Table 7).

Table 6: Source of feeding animals.

Source	No. of respondents	Percentage %
Purchased	13	16
Grazing forest	29	35
Grazing rangeland	33	40
Others	7	9

Table 7: Type of fuel usage in Sherani district.

Type of fuel	No. of respondents	Percentage %
Wood	50	45
Gas	6	5
Coal	11	10
Cowdung	9	8
Agriculture waste	22	20
Electricity	13	12

Forest efficacy

People of each category in the Sherani district fully used the forest to gain the most benefits in the form of fuel wood, grazing animals, logs for construction, etc. (Figure 5).

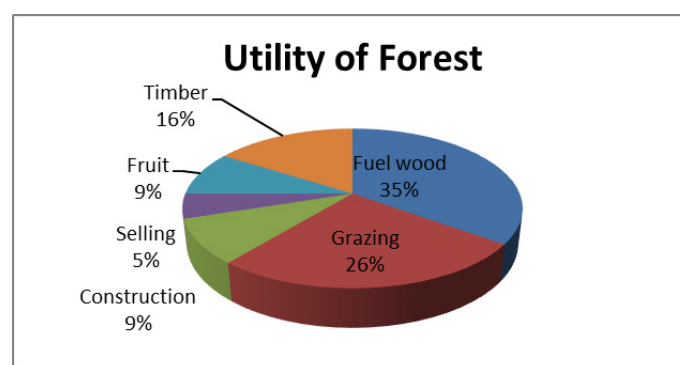


Figure 5: Forest efficacy.

Forest land encroachment and conversion to agriculture

People of district Sherani always choose agriculture in order to make the most money possible quickly, thus forest land encroachment and conversion to agriculture (Table 8).

Table 8: Forest land converted to agricultural land.

View	No. of respondents	Percentage %
Yes	3	6
No	47	94

Forest degradation and their impacts

In order to determine the degree of knowledge about forest degradation, various questions were posed (Table 9).

Table 9: Forest degradation impacts.

Effect of deforestation	No. of respondents	Percentage %
Soil erosion	37	27
Soil degradation	13	10
Low water quality/quantity	42	31
Water logging	5	4
Aesthetic value	32	23
Environment	7	5

Natural regeneration failure

The natural regeneration of the forest has been severely harmed by heavy cutting, grazing, and soil loss. The following information regarding the failure of natural regeneration was provided by the respondents (Figure 6).

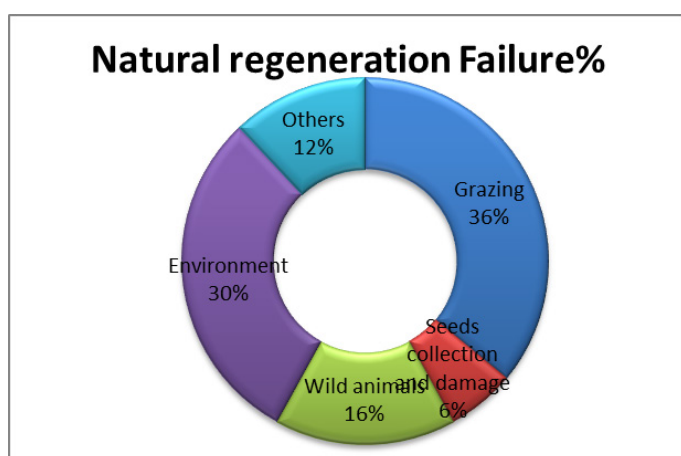


Figure 6: Natural regeneration.

Trees planted on agriculture lands

According to 72% of respondents, fruit trees have been planted. While on their properties, 9% of respondents planted poplar trees and 19% planted mulberries (Table 10).

Table 10: Trees planted on agriculture lands.

Species	No. of respondents	Percentage %
Fruit	42	72
Poplar	5	9
Mulberry	11	19

Table 11: Depletion of forest.

Factors	No. of respondents	Percentage %
Grazing	37	47
Felling	42	53

Depletion and destruction of forests

When we asked the respondents about the two main

causes of forest depletion, they identified grazing and firewood harvesting as the main culprits in the Sherani district (Table 11).

Conclusions and Recommendations

The information gathered from 50 randomly chosen respondents using questioners was tabulated. According to the data, more than 80% of people are illiterate, and the majority of them work in agriculture and the livestock industries. Compared to other Balochistan regions, where families average 12 members, this region has larger families. About 92% of people let their animals graze on forests or rangelands. *Olea ferruginea*, *Pistacia khinjuk*, and Mulberry are the main species of fodder cut down extensively to feed these livestock. The Sherani are staunch believers in their religion and fierce upholders of traditional norms. The majority of responders had fewer than 10 acres of land under their control. Wheat is the area's main crop, mostly for domestic consumption. On the edges of some areas' crops, mulberry and poplar trees have been seen to be planted for firewood and timber.

Table 12: Recommendation to enhance socioeconomic circumstances.

Suggestions	No. of respondents	Percentage %
School	45	18
Roads	43	17
Hospital	32	12
Telephone	17	7
Vet. Hospital	22	9
Water	29	11
Electricity	37	14
Agriculture health	19	7
Community planting	9	4
Others	3	1

Recommendations

Recommendation to enhance socioeconomic circumstances according to respondents. The primary needs of the populace are for drinking water, schools, and roadways. Although schools have been built in certain areas, none of the students are being taught there. Some educated respondents claimed that forest department can actively take part in the uplifting of socio-economic condition by planting plantation on communities lands. Basic facilities are not present in the area. There are just two high schools for boys and no high school for girls. The area is in extremely

poor condition. Every respondent requested basic amenities. They asked for a variety of amenities that may significantly alter their life. The following table lists the respondents' request (Table 12, Figure 7).

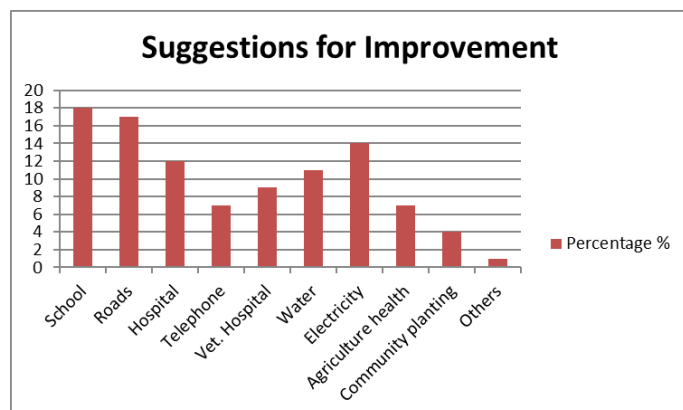


Figure 7: Suggestions for improvement.

Suggestions

- Some of the suggestions will help to show how the forestry situation in Sherani is getting worse.
- A comprehensive campaign should be launched to raise community awareness and encourage participation in conservation efforts.
- In the severely degraded range and forest areas, soil conservation and stabilization are necessary.
- Opportunities for employment inside the community.
- Alternative energy sources. The district of Sherani contains several areas without access to gas and electricity. To preserve the Sherani Forest's important forest, the government should give gas and power.
- Both on private property and communal land, a significant planting campaign may be started in the area.

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Novelty Statement

To Explore the overall impacts of Socio-economic

exigencies on Forest degradation in order to device future plan of actions.

Author's Contribution

Moazzam Baig: Provide research enlighten study about various socio-economic impacts on Forest degradation.

Sohaib Ahmed: Provide main work methodology to carry out entire study.

Arz Muhammad Umrani: Supportive role in entire study.

Conflict of interest

The authors have declared no conflict of interest.

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