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Detrimental effects of deforestation of Kundian forest on environment and natural habitat in district Mianwali-Punjab Pakistan

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Abstract

Present study was conducted to investigate about very important issue of deforestation in Kundian forest due to which environmental conditions of the area were being changed and there is huge loss of very important plant and animal species due to degradation of natural habitats. Plants are pure sources of oxygen and they are also involved in protecting and maintaining the ecosystem. Deforestation is a serious factor to pollute the environment. Cutting of forest for fuel, furniture, medicine ,crop lands and for making colonies for human residence is common now a days. Extensive survey was conducted during March 2018 to July 2019 and 102 plant species that belong to 42 plant families were collected and specimens were mounted over herbarium sheet for record in university of agriculture Faisalabad. It was concluded that kundian forest were enriched with floral diversity but deforestation changed the vegetation pattern because there was a huge overexploitation pressure recorded. Environment was being polluted due to deforestation was creating serious problems for all life forms.

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Introduction

Nature is diverse in its forms which is combination of many things. Biodiversity plays important role for the stability and functioning of this earth. (Tilman 2000). Classification of plant species and mapping is need for planning and proper management of resources. In ecological studies it is very important to know the geographical conditioning of the species, because unique area has special characteristics that influence the plant diversity. (Whittaker 1978). Rapid loss in the habitats due to anthropogenic and other activities is the world level issue when habitat losses it results in the decline of biodiversity in the area and causes many detrimental effects on all life forms. Habitat in the area can be fragmented, degraded or completely disappear and can cause alarming situations (Lubchenco *et al.*, 1991).

Deforestation and massive over-exploitation of plant species for various purposes are reasons behind the loss of habitat on large scale and due to loss of habitat many important plants and animal species are threatened in the area (Ajaib *et al.*, 2010). Forest are rich sources of biodiversity they contain variety of habitats therefore they have large number of plant species. Forest are playing key role for maintaining healthy environment along with this they are used for fuel, shelter, natural dyes, food and medicine (Cody1985).

Forest are major resources of biodiversity and they are distributed worldwide they provide their immense services for fauna and flora. They are best sources of healthy oxygen and remove dust and pollution from the environment. Deforestation due to anthropogenic activities is a major cause for decline of natural habitats and increasing atmospheric pollution in the environment. Deforestation has very dangerous impacts on climatic conditions developed countries violate the rights of poor people by excessive exploitation of natural resources. Industries are also responsible for climatic changes and they are polluting the clean and green environment and therefore sea level is also rising. (Adnan and Holscher, 2010).

Deforestation is the removal of tree species from specific area for other uses of land like farming etc. deforestation is responsible for changing habitat of the given area. Deforestation results in carbon dioxide emission and soil degradation which disturbed the natural environment. Approximately forests are 30% on the earth and can absorb 45% of the carbon dioxide from the environment (Percy *et al.*, 2003).

Forest are considered as natural factors for climate control they are responsible for weather conditions, rainfall in the area while Deforestation has many dangerous effects it raises temperature, excessive emission of poisonous gases in the environment, increases runoff salts and leading to global warming. Ozone layer is being depleted day by day due to deforestation and increasing environmental pollution (Strasser *et al.*, 2014).

Pakistan is rich with floral diversity due to its unique kind of geographical position in the world, most of the forest of Pakistan are located in northern areas on hilly peaks and they are habitat for many plant and animal species but due to lack of awareness such natural resources are under extreme pressure (Schweikert *et al.*, 2014). Aims and objective of the current study were to explore the floral study and secondly to investigate about the detrimental effects of deforestation of Kundian forest located in district Mianwali Punjab Pakistan along with this to check the environmental impacts of deforestation in the area.

Material method

Study area

Kundian is famous town in Mianwali district which is famous for its beautiful topography. Study area is Kundian forest which is 9km away from Mianwali district in Punjab Pakistan which was enriched with floral diversity. Deforestation started over large scale on this area.

Extensive survey was carried out by different trips to investigate about Detrimental Effects of deforestation of Kundian forest on environment and natural habitat during March 2018 to July 2019.

Fig. 1. Map of Pakistan.

Climatic condition and annual rain fall

Climatic condition in the area varies it has beautiful four seasons land is beautiful for agriculture purposes. June-July is hottest month when average temperature remains 44°C while winter is extremely cold and average temperature is 2°C during December-January. Average annual rain fall in the area is 372mm while it also varies.

People of the area

Local inhabitants in the area are not much educated and they depend on agriculture resources and livestock for their daily needs.

Methodolgy

A total of 120 different plant species were collected belonging to 42 plant families dried and examined later identified with flora of Pakistan (Ali, 2008) and mounted over herbarium sheets. Photographs of the original habitat were taken with possible good quality camera. All the species association was measured along with their natural habitat. All the possible deforestation factors were investigated to know about the reasons behind deforestation. 10 local timber and wood cutting industries were visited to insure about deforestation and the wood they utilize for making different things. All the results were documented.

Results

Floral diversity in the kundian forest was very important as shown in fig 6. Deforestation was main factor in degrading the natural habitat and polluting the environment as shown in fig 3. Plants are pure and natural sources of oxygen and shelter and they remove the posinous gases from the atmosphere.

Deforestation, local industries, road dust and burning of house fuel were involved in polluting the natural environment of the area as shown in fig 2 and 4. Mostly local industries in the area that are totally dependent upon forest wood of Kundian forest were also involved in deforestation as shown in fig 2. Plant species like *Dalbergia sissoo, Tamarix aphylla, Eucalyptus camaldulensis, Acacia modesta* and *Prosopis juliflora* were overexploited in the past in kundian forest Mianwali Punjab Pakistan result in decline very important plant species.

Discussion

Floral diversity in the kundian forest was very important because earth is green due to plants they provide natural oxygen free from pollution and create healthy atmosphere. As shown in fig 6. Deforestation was main factor in degrading the natural habitat and polluting the environment as shown in fig 3 and

people in the area were not well aware with the importance of plant species. Deforestation, local industries, road dust and burning of house fuel were involved in polluting the natural environment of the area as shown in fig 2 and 4 and it has damaged the composition plant community in this forest.
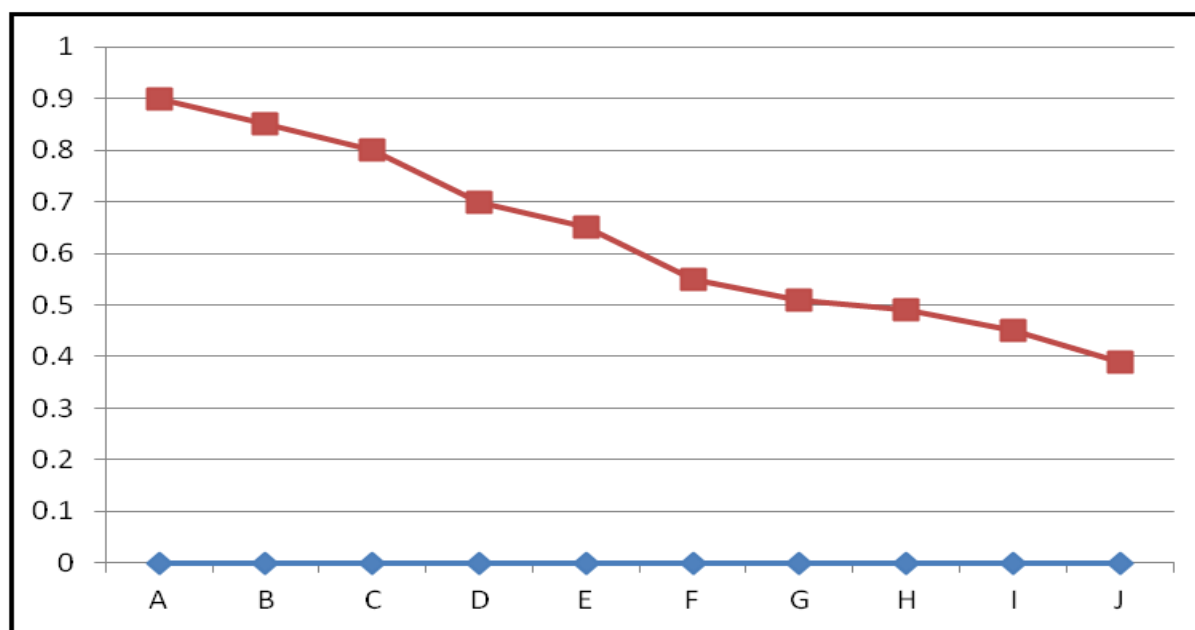

Fig. 2. % of local industries that use Plant species of kundian forest.
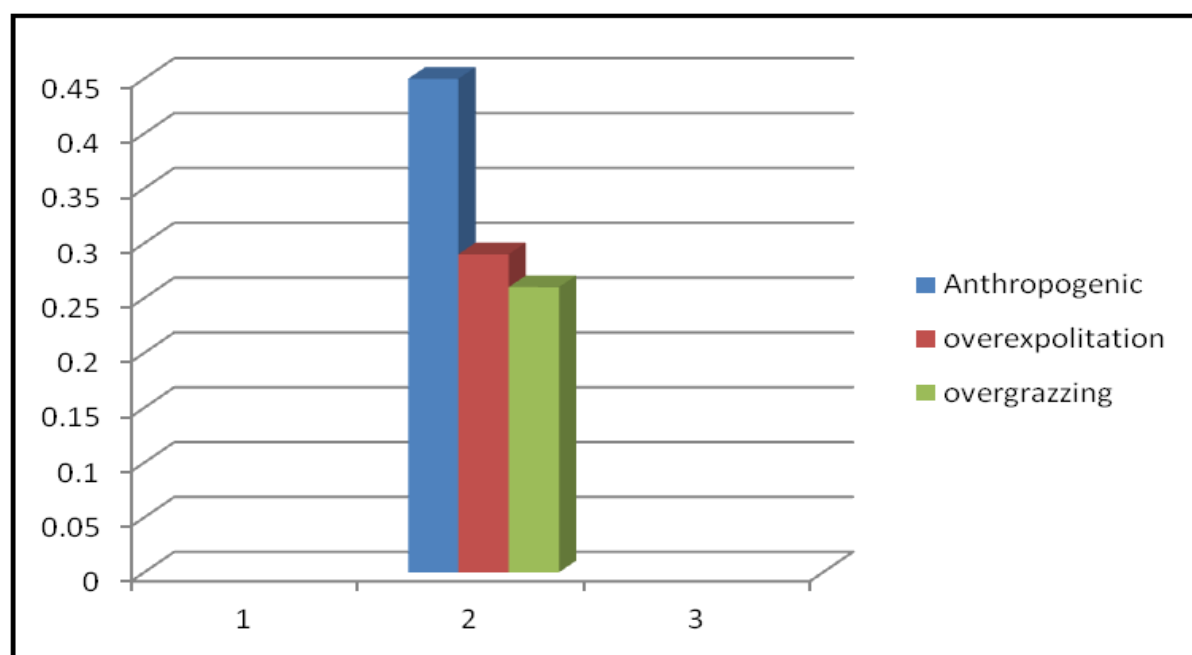

Fig. 3. % of factors causing decline in plant species of Kundian forest Mianwali.

Mostly local industries in the area that are totally dependent upon forest wood of Kundian forest were also involved in deforestation as shown in fig 2 and 6 and there were no proper check and balance to stop the people cutting trees in the forest. Plant species like *Dalbergia sissoo, Tamarix aphylla, Eucalyptus* *camaldulensis, Acacia modesta* and *Prosopis juliflora and many other medicinal plants* were overexploited in the past in kundian forest Mianwali Punjab Pakistan result in decline very important plant species.
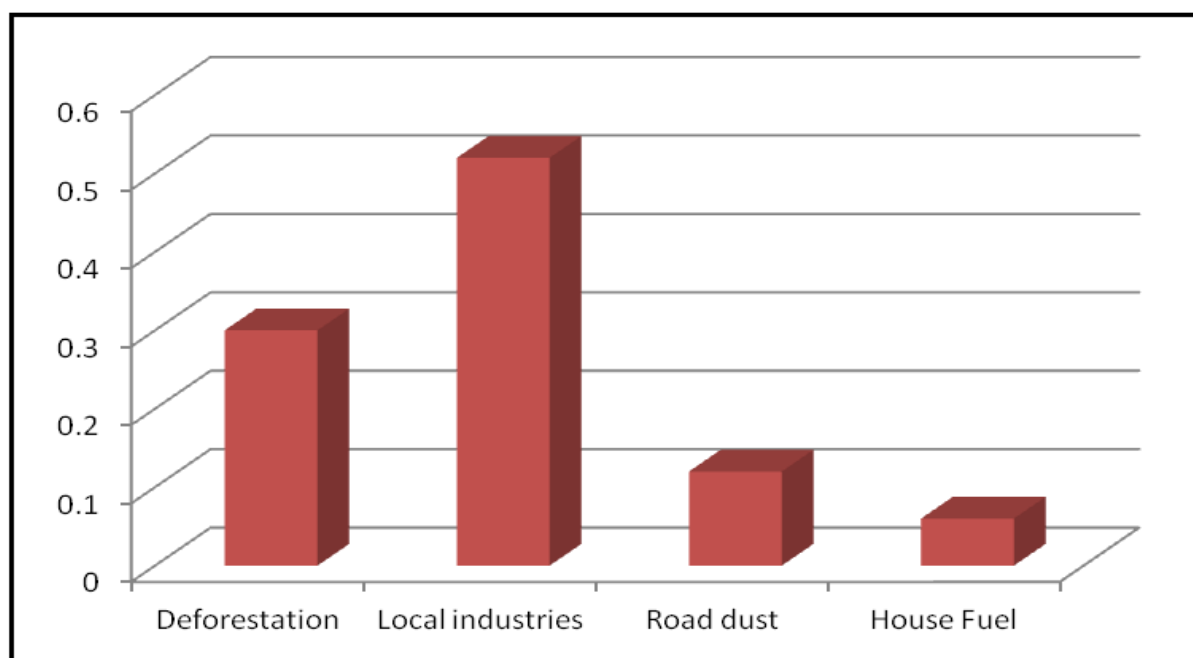
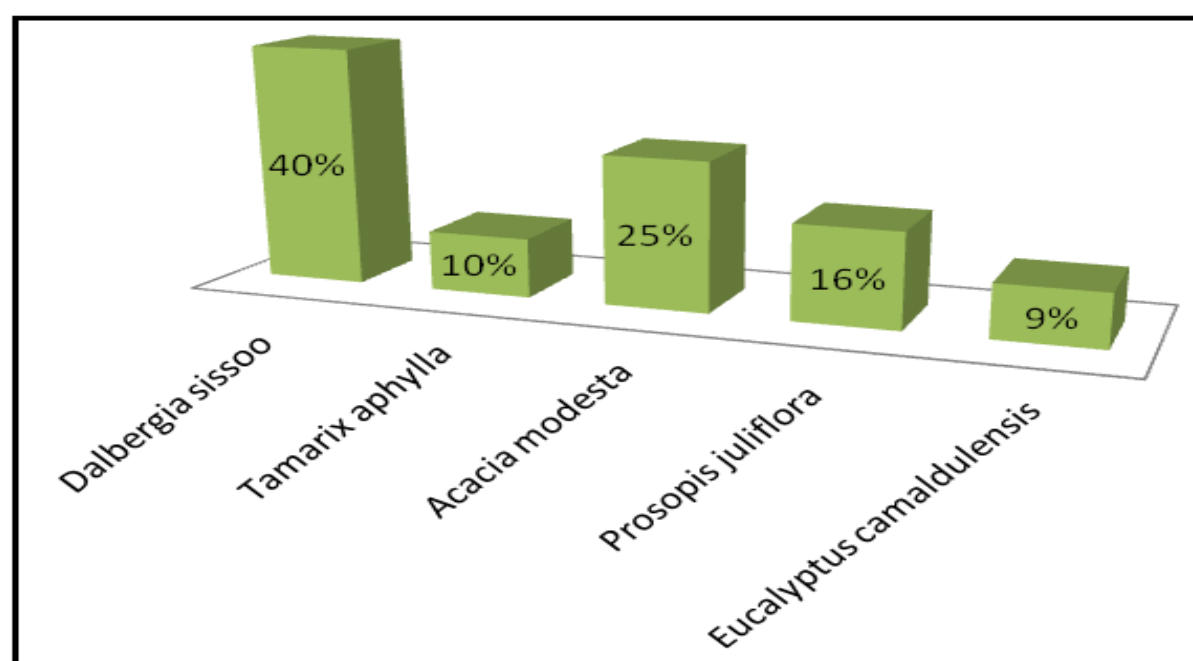**Fig. 4.** % percentage of Factors involved in causing environmental Polution in the area.

Fig. 5. % percentage of Most overexploited plant species of Kundian forest Mianwali.

From above discussion it can be easily concluded that Forest are important because they stabilize climate, provide natural habitat for millions of life forms and are also involved in controlling water cycle and food web. Forest produces pure oxygen and serves all the creations in many ways as they are source of food, timber, shelter, habitat, medicine and fuel. Forest all over the world hold unique importance for inhabitants for their health as they clean the environment and economic importance but they must be protected from deforestation in order to keep climatic conditions healthy for all type of life forms.

Current study area Kundian forest in district Mianwali Punjab Pakistan is recommended for law maker and biodiversity watch to be protected from deforestation in order to prevent loss of many important species and their habitat.
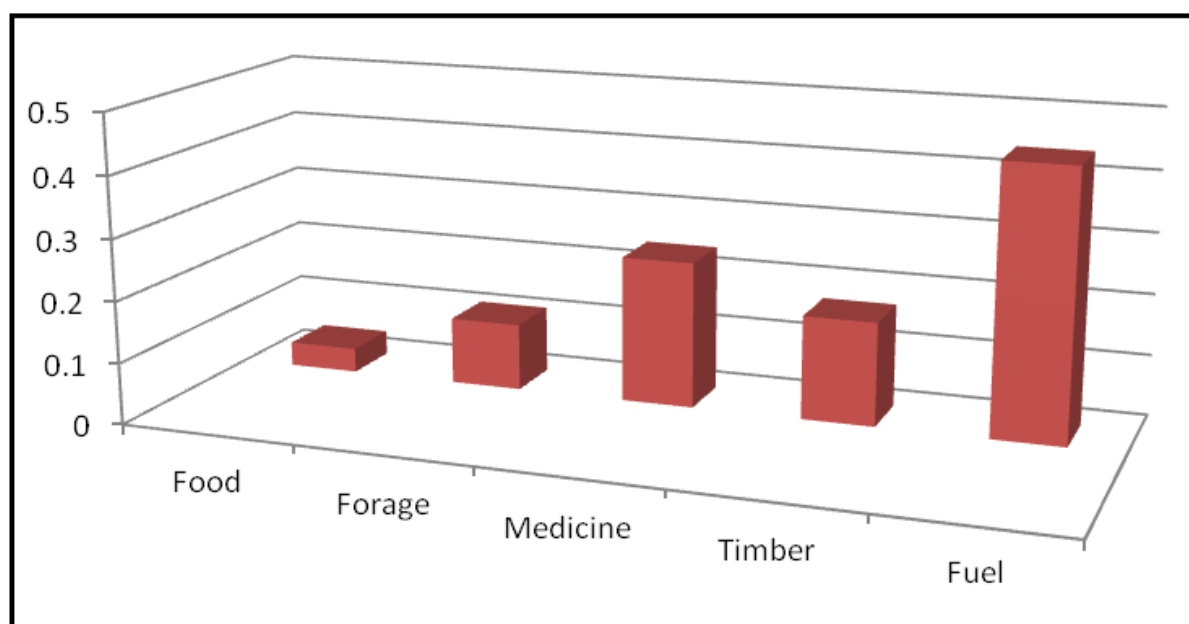
Fig. 6. Economic importance of Kundian forest.

Fig. 7. Habitat and deforestation of Kundian Forest Mianwali Punjab Pakistan.

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