

# Critical Review On Past Literature Of Deforestation In Rural Sector Of Pakistan

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**ABSTRACT:** Deforestation is the process where wood is cutting through different techniques and methods from the surface of the earth for the purpose of livelihood while such type activities disturb the ecosystem of the world and make the environment unfavorable. Seeing to its importance the present study was carried out in Pakistan since September 2017. The major objective was that to critically review the past literature about deforestation and reach to conclusion what is the positive and negative effects of this phenomena in Pakistan. Purposively total 17 studies were selected and reviewed 20 times in depth and analyzed the situation. The review shows that deforestation disturb the ecosystem in Pakistan and make environment unfavorable and raised different type diseases in the community and affect the climate in different angle. Through deforestation problem of soil erosion occur which speed up the flood in the area and destroy crops and building and increase poverty in the long run while latter on taking changes in cropping pattern. However deforestation speed up the melting point of glacier in the mountain and disturb the natural habitat not only in Pakistan but also in the whole world and also affect biodiversity in the country. The review further explain that the major reason of deforestation is poverty because rural people cut the wood for their survival of life while miss management of forest department is also considered the main reason of deforestation. They cut the wood for their own purpose and miss utilized the means of the government. On the basis of finding following recommendation were suggested for further improvement of the forest. Reforestation program should be arranged every year in the country for multiplication of trees; Honest and mature staff should be selected in forest department; Awareness program about ill effect of deforestation should be launched in the rural community of Pakistan; Forest institution should be multiplied in Pakistan for the purpose of research for uplifting forest in the country; Forest check post should be multiplied for the purpose of forest protection in the county. Powerful policy should be developed by government for forest protection in the country.

## 1. INTRODUCTION

Forests plays vital role in the economic development of the country. It provides resources for basic livelihood needs. This is especially true for the poor and rural populations. More than 200 million inhabitants of the forest and the livelihoods of poor immigrants is directly depend on the food, fiber, fodder, fuel and other resources taken from the forest or produced on recently cleared forest soils (Angelsen *et al.*, 1999). Medical researchers in the tropical rainforests continues making new discoveries each year from plants. These plants may contain the cure for cancer or some clues that could lead to a scientific discovery (Winters 2000). However, more than 1.6 billion people around the world depend on forests for some part of their livelihood (USAID, 2007). Forest area and its changes are important and supposedly easily measurable, indicators for sustainable resource management in larger areas to improve environmental and economic health (Kleinn, 2001; Morrow *et al.*, 2001). Although the value of tropical forest resources at national and international levels is increasingly recognized, Most of the forests will continue to be seriously threatened and disappearing amazingly at an alarming rate. In tropical regions, deforestation and forest degradation are progressive processes that are advancing at an alarming rate (Verolme *et al.*, 1999; Rudel and Roper, 1997; Laurance, 1999), resulting in the conversion of wooded area into a mosaic of mature forest fragments, degraded habitat and pasture. Deforestation is one of the main environmental problems in third world countries (Araya *et al.*, 2003) and rapid depletion of forest resources is causing various other social and economic problems in the world. Every year, large areas of rainforest were cut down in the whole world. In addition, increased drought is expected to affect parts of the rainforest in the course of the next century (Malhi *et al.*, 2008). Deforestation is primarily confined to developing countries, primarily in the tropics (Myers

1994). In addition, tropical deforestation has become a problem of global environmental issues concern, in particular because of the value of tropical forests, in biodiversity conservation and in limiting the greenhouse effect (Angelsen *et al.*, 1999). Deforestation leads to destruction of biodiversity and the extinction of plants and animals. It's estimated that 4,000 plants and animals become extinct each year due to deforestation, most of which have never been found. One thing is certain if deforestation continues out of controlled, numerous species will be disappear forever in the deforestation process. Many biologists beleived that loss of biodiversity is the most important impact of deforestation (Winters 2000). Pakistan's economy relies on agriculture while increasing urbanization, utilization of land for agriculture, higher population rate and weak state forest policies are considered main factors causing deforestation in the country. Due to these factors Pakistan has a high rate of deforestation. Forest resources are vital for conservation of soil, water resources and biological diversity worldwide and play key role in meeting requirements for forest products both timber and non timber (Siry, 2005). Pakistan, due to limited forest resources with deforestation rate of 4.6% per annum ranks on the second highest number in world and represents thrashing ecological services nationally (Khan & Khan, 2009). The forests in Pakistan particularly Conifer forests reflect immense climatic and physiographic contrasts and are under constant pressure due to population growth, human activities and commercial harvesting for fuel wood mad timber utilization (Anon., 2007a). A variation in the climatic condition that can be recognized by changes in the mean or the changeability in the climatic properties pertain for an unlimited time, generally decades or longer (Anon., 2007b; Shakoore *et al.*, 2011). The relationships between forest change and its associated driving factors are often complex and nonlinear (Mas *et al.*, 2004). The

most recent impacts of climate changes were also witnessed during the droughts of 1900 to 2000 in Pakistan (Anon., 2007b). In the hilly areas of Pakistan trees and forest resources almost always have a place in rural livelihood. Rural people depends on forests for livestock fodder, timber for houses and for fire wood which is the most important, and often the only source of energy for cooking and heating. (Khan & Naqvi, 2000). But in Pakistan deforestation problem is at peak. A decrease of 39000 hectare of forest per year is cleared (FAO, 2001). If the rate sustain in Pakistan, it will lose most of its forest within thirty to forty years and being considered as a forest poor country with occupying less than 5% of total land, so forest preservation is a really important task for Pakistan. A tree can be harvested when reached to a certain age but forests are renewable source. Khyber pakhtunkhwa (KPK) is the rich area of forest in Pakistan based on climatic condition the whole Khyber pakhtunkhwa should be covered under tropical thorn forest in the plain, Temperate forest as short elevation and wide leaved forest as foothills with low rainfall (Champion, 1996). The Khyber pakhtunkhwa province of Pakistan is endowed with wealth of natural resources including forests. However due to multiple reasons (Ali *et al.*, 2007; Shahbaz *et al.*, 2007), as the natural forests of KPK is shrinking at a high rate (FAO, 2007). Indeed depletion of natural forests in these areas is one of the most threatening environmental issues in Pakistan. Nevertheless numerous forest development and extension projects had been carried out by international donor agencies and the government of Pakistan during the last three decades. But in spite of these entire efforts deforestation rate is still very high and the situation is worsening every year (FAO, 2005 and 2007). Many researchers have pointed out towards the ineffectiveness and un-sustainability of state forest policies is one of the major causes of forest depletion towards this and some authors have under lined the needs for the involvement of stakeholders in the development intervention. There exists a vast range of stakeholders who have stake in the use of forest resources in KPK and have different rights and claims in the forests (Suleri *et al.*, 2008). The valley of Swat is a part of Malakand Division and typically consists of mountainous protected forest owned by the state. The government contractors can cut trees which are used as source to generate revenue 60 to 80% and out of this are paid as public royalty. The local people have the constitutional rights of grazing and collection of small products which is a source of earning and carries out agriculture on the plain of the valley (Iqbal, 2003). Historical developments are at the origin of the right holding of heirs of the most important families allied to the local dictator. Swat has a distinct history in relation to Pakistan and the rest of the Indian subcontinent. While the rest of the area was colonized by the British crown, Swat succeeded in conserving its autonomy and, once Pakistan became independent in 1947, it did not fully access Pakistan until 1969. In Swat there are lush green hills and mountains with snowcapped peaks in the distance. The impression is of paradise. On second sight most of the lush green areas are not the virgin forests that once covered the hillsides in a not so distant past. There are only isolated spots of forest left. On the road there is a steady stream of trucks, pick-up trucks, donkeys and

human beings transporting timber and fuel wood from the forests to the lower, more densely populated areas. Corruption plays an important role in illegal logging operations that take place across Swat. The enforcement agencies (first of all, the Forest Department) whose official goal is protecting the forest have in many occasions turned into the main culprits.

## 2. Material and Methods

The universe of the study was Pakistan. Purposively total 17 past research studies were selected for the study. Twenty times all the studies were critically reviewed and analyzed the situation and reached to conclusion what is the positive and negative effects of the deforestation in Pakistan and also focused on the reasons what reasons are responsible for deforestation? So fully reviewed the situation and result was concluded.

## 3. Critical Review on Past Literature

Malik and Malik (2004) studied the seven plant communities in Kotli, Azad Kashmir in 2000 during monsoon they studied entirely 58 species. About 9 of them were woody, 36 of them were herbaceous while rest of 13 were shrubby. Their findings reflect a high range of deforestation and over grazing. Tomas *et al.* (2004) studied deforestation in Himalayan mid hills of Northern Pakistan. Studied showed the relationship between local societies and Ayubia national park and forestry area around it while taking fodder and fuel wood management into account. The consideration of foresters and conservationists in collection of forest products needs attention in controlling deforestation. Ali and Benjaminsen (2004) worked on consumption of fuel wood and extraction of timber in Basho Valley, Northern Pakistan to investigate the usual perception of targeted group i.e. local community about the main cause of forest depletion. The study of them reached to the reality that there are some other causes of deforestation other than fuel wood collection. During the last three decades 30% of the deforestation has been estimated which is mostly commercial harvesting and also government mismanagement. They reported that illegal harvesting and commercial usage of forest leads to depletion that the conditions will even the shortage to local community. Ali *et al.* (2005) viewed the loss of forest and its causes in Basho Valley, Northern Pakistan. The increase in population is the basic cause of deforestation in Himalayas. The study met findings that the construction of roads in 1968 in Bashu valley opened the way communication on one hand but on the other hand, resulted in the reduction of at least 50% forests. The road construction opened the system of legal and illegal commercial harvesting at a large scale. The study found that legal harvesting at commercial level has stopped in 1987 but illegal harvesting could not be stopped unfortunately due to the corruption of forest departments. Steimann (2005) investigated the institutional dynamics of the forest department and response of officials under local and personal environments. The deep relation between forest and stockholders has been evaluated and different factors affecting the balance between them. The most important stockholders contributing to the forest were nomads, forest department, federal government, timber contractors, non-government organizations, international donor agencies and timber mafia. Qamar *et al.* (2006)

conducted a survey in Ghomat game Reserve, Upper Neelum Valley, Azad Jamu and Kashmir to examine the present situation of important wild life species. The results of the survey revealed that these species are reducing continuously and once in a time will also become vanished. These species are known as endangered species. Deforestation, over grazing and mining were considered as the cause of disturbance of biodiversity in Neelum Valley. Ali *et al.* (2006) analyzed the Myths and realities of deforestation in North West Pakistan. The study reported a very high deforestation rate in Pakistan. Forests play a better role in country's economy as well as major source of livelihood of that rural community. The study worked on taking a perception of targets groups regarding different factors like condition of forests, forests use patterns, change in forests, cover that are responsible for forest depletion and ascending rate of illegal cutting. The results showed that forests department strategies regarding forest management in effective and excessive use of forests regarding household needs. The report also recommended some follow-up plans for efficacy of forestry extension services. Rehman (2007) studied the environmental situation of forest in Baralikass village of Kotli Azad Kashmir, Pakistan exposed that the forest territory in this village is at risk. The study reported the loss of forests surroundings; deprivation and disintegration are the major issues to be taken under observation in village BaraliKass. The studied showed the issue with a purpose to come across at the reasons which make the most of these forest resources inadequate and brittle in the research area. Pellegrini (2007) studied the role of jungle in Pakistan. The basic area of their study is corruption and forest management in Swat. According to them the follow up of "crime and punishment" is not possible until the environment of institution on the whole is strong. Study suggested that forest management regime, institutional reforms to get rid of present institutional enforcement which is mostly captured by corruption and should focus on local community management of natural resources. Noack (2007) studied the misuse of forest which is highly associated to economic factors such as lack of institutions. Further analysis showed the causes of deforestation of deciduous broadleaved forests on the slope of the Talysh Mountain in southern Azerbaijan, since the collapse of soviet union the forests are under threat and have suffered allot from diverse type of degradation in the early 1990s. The Kolkhozes breakdown serves as; major employer, as shortage of energy in rural areas and a lack of forest laws enforcement annoyed the situation. The villagers pull out more than 30,000 m of wood per anum with a value of about 0.5 million in terms of local currency. Karkee (2007) studied the effects of deforestation on different tree variety and livelihood of local community. The study showed that wild animals and trees are becoming meagre due to deforestation. Deforestation also causes soil erosion which increase debris flow and contributes flooding of debris. The erosion further effect soil fertility and in turn lessen agriculture yield in the area of research. The study explains that with the control of deforestation there will be constructive effect on livelihood of local people. Ali *et al.* (2007) conducted a study to analyze the impact of participatory forest management on livelihood, which is introduced by Forestry Sector project (FSP) in KPK.

Studied showed that forests are an important source of natural capital which plays a vital role in routine life. All the third world countries having the same socio-economic and ecological zones have almost same situations and the result of this study was applicable to all of them to improve their natural resource management, the result of their findings has focused on natural and social assets and reducing the worse effect on livelihood however the factors of vulnerability which the elites tinted by building new institutions have been ignored. The study suggested bottom-to-top approach before implementing any mega project. Miles and Kapos (2008) examined that in developing countries degradation of forest and deforestation has been increased due to recent climate in Bali. All this is done within the anticipated post-kyoto emission reduction agreement. However some land used changed will be shifted to other location but most of the forest will be protected. At Bali a administration phase launched which provides an opportunity to study the ecosystem services and biodiversity and its potential outcomes. Research should be considered for selecting the priorities areas for decreasing emission from degradation of forest and deforestation in order to deliver multiple benefits. Sheil *et al.* (2009) observed that different protected area are still being observed and looked after by the government the policy of the government. The policy of the government is not to involve the local administration in this conservation system because they have much of the negative role in this. In some countries like Vietnam there are more models of protecting forests from deforestation. The paper concludes that if the local priorities, effects and wishes are identified and proper decisions are made accordingly. They also suggests that keeping the societies not involved in conserving system, will make the condition more worst and the benefits cannot be achieved. Bunkei *et al.* (2010) found that in Japan the main cause for progressive deforestation is the poor management. In Japan the biodiversity and water retention or decreasing faster than ever as a function of deforestation leading to less soil fertility and thus adversely affect the ecosystem of the region. For the restoration of ecosystem it is important to detect forest degradation but this method needs much more labour and it is very difficult to apply in mountainous areas. In this study it is also found that the degraded Japanese plantation has much lower level of soil water contents than the well managed and conserved forests. Fensham *et al.* (2011) concluded that overgrazing on a specified area decrease the specie richness in an environment. The local flora in defined region can be protected by preventing the grazing over perennial grasses and making the system coordinated with local authorities in order to have a better effect. The study also states that less productive forest are more prone to deforestation then ecologically rich forests. Qasim *et al.* (2014) conducted study on "Fighting Deforestation In Swat Pakistan Through Realigning Property Rights, Education And Community Participation". They reported that forest cover between 1968 and 2007 showed a drastic change in forest cover. In lowlands forest cover decreased by 36 % and in high elevations by 69%. Annual deforestation rates observed were 1.86% (scrub forest zone), 1.28% (agro-forest zone) and 0.80% (pine forest zone) in the respective areas of district Swat. This change in forest cover leads to destruction of ecosystems and

associated livelihoods. They also reported that lack of education / environmental awareness and lack of alternative income sources in district Swat have been mainly linked with the health and status of the overall forest ecosystems. A multi-sectorial approach is required which needs to work alternative income sources and enhancing agricultural productivity based on the conservation of traditional crop diversity and value addition to agric-products, education and environmental awareness, efficient and effective implementation of the state rules/laws governing the forest use and protection and to solve the property rights issues in the region.

#### 4. Conclusion and Recommendations

The critical review finally conclude that deforestation makes the environment unfavorable and disturb the ecosystem in the long run and spread different type diseases not only in Pakistan but also in the whole world. It speed up the soil erosion which increase the chances of flood which destroy crops, livestock and make the environment unfavorable for agricultural Practices in the country. The study consider major causes of deforestation poverty, miss management of the forest department and weak policy of the government. The study recommend that reforestation program should be arranged every year in the country for multiplication of trees; Honest and mature staff should be selected in forest department on high qualification basis; Awareness program about ill effects of deforestation should be launched in the rural community of Pakistan; Forest institution should be multiplied in Pakistan for the purpose of research for uplifting forest in the country; Forest check post should be multiplied for the purpose of forest protection in the county. Powerful policy should be developed by government for forest protection in the country

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