

# Social Impact of Deforestation and Land Degradation in Tajikistan

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## **Abstract**

*In the society of Tajikistan, the impact of deforestation and land degradation is not felt much. Labour migration has increased from rural as well as from urban areas in the country. Due to labour migration both the per capita income as well as rural family income has increased in the country. From 1990 to 2015 there has been an increase of 920 USD in the per capita income of Tajiks. Rural household income also increased by 579 USD during the same period. Due to increasing natural disasters and deteriorating environment, health of the people has also deteriorated. Due to environmental degradation and other reasons the per capita expenditure on health has increased by 141.2 USD from 1995 to 2015. The government of Tajikistan has increased the fund allocation to the department of health and its share to the total GDP has increased by 6.8 percent from 1995 to 2015.*

**Key Words:** *Land degradation, Deforestation, Labour Migration, Per capita Income, Health expenditure,*

## **Introduction**

Deforestation and Land degradation in Tajikistan is wide phenomenon its impacts are very enormous and it can last for long. The impact of deforestation and land degradation can be felt in rural as well as urban areas. The effect of this on environment and economy are huge and socially it also affects many aspects of life. In rural areas land resource is part and parcel of life and any loss in this important resource can affect their life and society. Due to depletion in the quality in the soil resource, agricultural productivity gets reduced and people, especially young male member of the family must migrate to other areas/country to earn their living. People of Tajikistan mostly migrate to Russia to earn their living and they work mostly in construction areas where their living condition is not satisfactory. Their payment is also not very much so their women work in the agricultural fields in Tajikistan and earn little to support the family. The family income from home and abroad together is not sufficient to live a healthy life. Their expenses in health are very high. A brief account of migration, family income and health status have been discussed in below.

## Labour Migration

In Tajikistan there are two types of migration. First is international migration and the second is internal migration. International migration is from Tajikistan to Russia, Kazakhstan and Middle East. Labour Migration from Tajikistan is from rural and urban areas both. Internal migration is from rural areas to urban areas in search of work by those who are leaving agricultural farming due to non-profitability in the primary sector. More than 70 percent of population lives in rural areas and depends on agriculture. After the independence due to deforestation and land degradation in Tajikistan, primary sector became non-profitable, people started to migrate to another area to earn their livelihood. As the agriculture fails or job market deteriorates, a lot of people come to the southern Russia and rent land and grow agricultural products. From 2001, tenant from northern Tajikistan started to migrate to adjoining areas of Kyrgyzstan where fertile land is available and taxes are low. The population of the richer oblast like Dushanbe, RRS and Sughd increased and the population of poorer oblast like Khatlon and GBAO has decreased. It is due to internal migration within the country. It is not clear how many people migrate internally but according to the TLSS data of 2003, one percent household reported that they have migrated within Tajikistan in the last six months and about 5 percent said that one member of the family have migrated out of the country. Most of the Tajik migrants go to Russia and 41 percent in Russia are from Khatlon.<sup>1</sup>

Ecological migration is a further small but growing trend. Due to over grazing and over cutting of forest, there is an ecological imbalance in the country. The declining income through agriculture and recurring natural disasters which annually inflict extensive damage, particularly in the mountainous regions, are mudflows, snow avalanches and earthquakes are causes of ecological migration. According to State Meteorological Service, most of people who were forced to flee from home due to natural disaster are from highly degraded areas of GBAO especially from Khorog, Roshtkalin and Vanch districts, from the highlands of central Tajikistan's Verzob and Rasht districts and from northern Tajikistan's region surrounding the Zarovshan river. There are many rural districts in Tajikistan from which the entire male population has left home for work to abroad. These districts are Isfara, Kanibadam, Asht, Aini, Penjikent and Sakhristan of the Sughd region close to Uzbekistan, the Bokhtar, Vaksh and Farkhor districts of the Khatlon region and from RRP the Lenin, Kofarnikhon and Varzon districts.

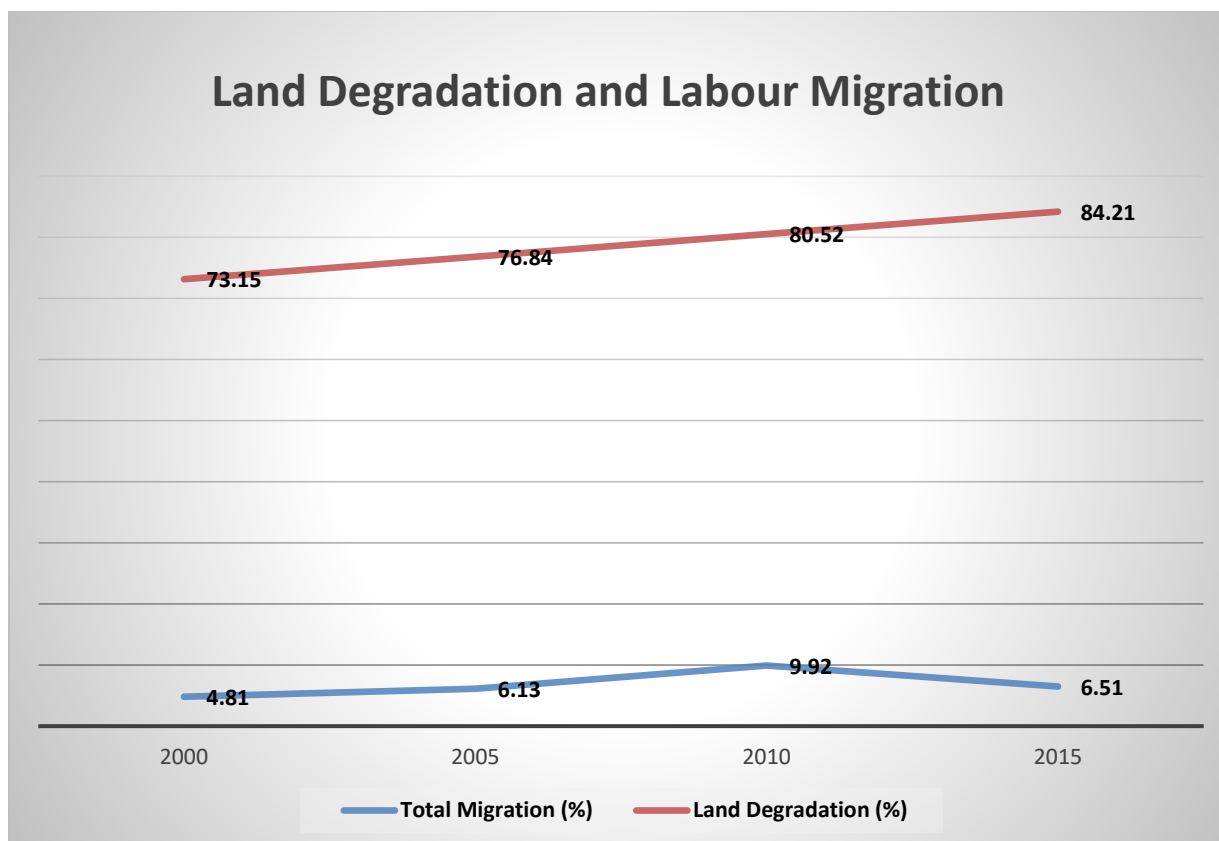
The increase in labour migration started from mid-1990s when after the civil war the socio-economic condition was deteriorated. The civil war has forced many people to seek work in abroad. According to official contracts only 5000 to 6000 people leave Tajikistan annually for abroad (mostly to Russia and Kazakhstan), the actual size of labor migration is much more as many Tajik labor migrants get a job on their own and does not get it reported in the national statistics. The exact number of labor migrants from Tajikistan abroad is therefore very difficult to measure accurately. According to the official statistics from Tajikistan, during the mid-2000s

there were 420,000 people outside the country for temporary employment. These data however, does not match with the data from foreign sources of statistics. The Research conducted at the beginning of the year in 2000 by local experts showed that among the 600,000 labor migrants of Tajikistan 85 percent went to work in Russia<sup>2</sup>. According to the World Bank there were 791,000 citizens of Tajikistan abroad in 2010, which was 11.2 percent of the total population.<sup>3</sup> An analysis of Table 4.12 reveals that migration from Tajikistan increased from 4.81 percent in 2000 to 9.92 percent in 2010. In the year 2010, about 0.73 million people migrated to other countries for work. This was the highest number since independence of the country in 1991. In 2015 there was a decrease in the rate of migration as only 6.51 percent of the total population migrated to abroad. In the same period from 2000 to 2015, land degradation has increased constantly. It was 73.15 percent in 2000 which has increased to 84.21 percent in 2015. It shows that there is no clear relationship between land degradation and labour migration in Tajikistan.

**Table: 1.** Land Degradation and Labour Migrations in Tajikistan (2000-2015)

Year	Total Population	Total Migration	Total Migration (%)	Land Degradation (%)
2000	6,216,205	299,266	4.81	73.15
2005	6,718,900	412,123	6.13	76.84
2010	7,417,411	736,446	9.92	80.52
2015	8,481,855	552,596	6.51	84.21

Source: UNICEF, 2015 and The World Bank



Source: UNICEF, 2015 and The World Bank

**Fig: 1.**

### Family Income

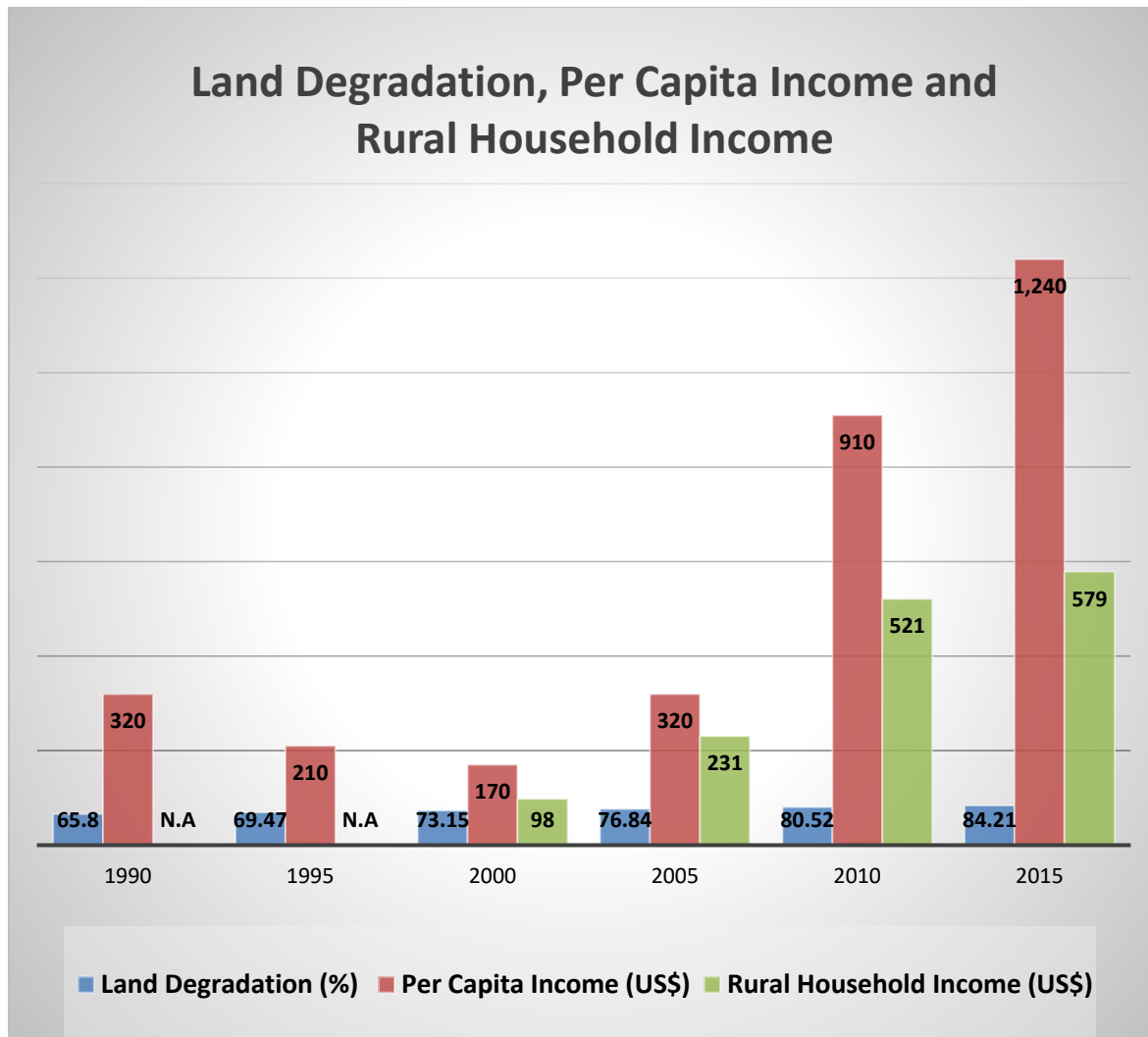
Tajikistan is agriculture and remittance dependent country. Most of its family income comes from these two sources. Labor income is the most important source of income for all households belonging to the migrant labourers in Tajikistan. Income from the production of goods and gifts is the second most important source of income. Those households in the bottom of the distribution of expenditure, social transfers only account for 10 to 13 percent of income. Income from business or agricultural activities remains relatively unimportant. Due to deforestation, land degradation and decreasing fertility of soil in the country people have started to move out of the agricultural sector. Deforestation and Land degradation affects the income of rural households much compared to urban households due to urban resident's engagement in secondary and tertiary sectors. In Tajikistan due to less industrialization and poor condition of agriculture, people have migrated to other countries to earn their livelihood. Rural as well as urban people went abroad especially Russia to earn their livelihood. Per capita income of Tajikistan has increased from 320 USD in 1990 to 1,240 USD in 2015 and the increase was steady. The

increase in the per capita income is attributed to increasing remittances from abroad. The income of rural household has also increased from 98 USD in 2000 to 579 USD in 2015. Even though the income is very less in rural areas but Table 4.12 shows that there is an increase of 481 USD in family income from 2000 to 2015. This increase is also attributed to remittances sent from abroad. In 2008 about 2.5 Billion USD came to Tajikistan as remittance sent from abroad.<sup>4</sup> Rural people of Tajikistan have also gone abroad, and the number of females working in agricultural fields to earn meager income for food has increased in the country since independence in 1991. Since many people from rural areas too migrated abroad, the income of rural household has also increased. A close examination of Table 4.13 shows that in 2000 the average rural household income was 98 USD which has increased to 579 USD in 2015. After independence of Tajikistan, per capita income and rural household income have increased both and the land degradation has also increased from 65.80 percent in 1990 to 84.21 percent in 2015. This shows that there is no relationship between income and land degradation in Tajikistan, since most of the family income comes from abroad.

**Table: 2.** Land Degradation, Per Capita Income and Rural Household Income in Tajikistan.

<b>Year</b>	<b>Land Degradation (%)</b>	<b>Per Capita Income (US\$)</b>	<b>Rural Household Income (US\$)</b>
1990	65.8	320	N.A.
1995	69.47	210	N.A.
2000	73.15	170	98
2005	76.84	320	231
2010	80.52	910	521
2015	84.21	1,240	579

Source: The World Bank and [www.ceicdata.com](http://www.ceicdata.com)



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**Fig: 2.**

### Health Expenditure

Increased risk of natural disasters caused by deforestation and land degradation especially considering flash floods and mudflows seriously affect human health and security. In 2005, catastrophic landslide and flood, which was triggered by intense precipitation and abrupt increase of temperature, seriously destroyed and washed out several villages in Tajikistan. The people were temporarily settled in tents in the large sport stadium, which did not have favorable living conditions with basic sanitary services and hygiene. Hence, a risk of infectious diseases increased<sup>5</sup>. Due to land degradation in Tajikistan, production of crop had decreased, and soil fertility was lost. To improve the soil fertility and to increase the production of crop farmers started to use chemical fertilizers and pesticide in large amount in the last two decades. The

increased amount of fertilizers and pesticides are cause of different types of disease in the country. Hence, per capita expenditure in health has increased in recent time.

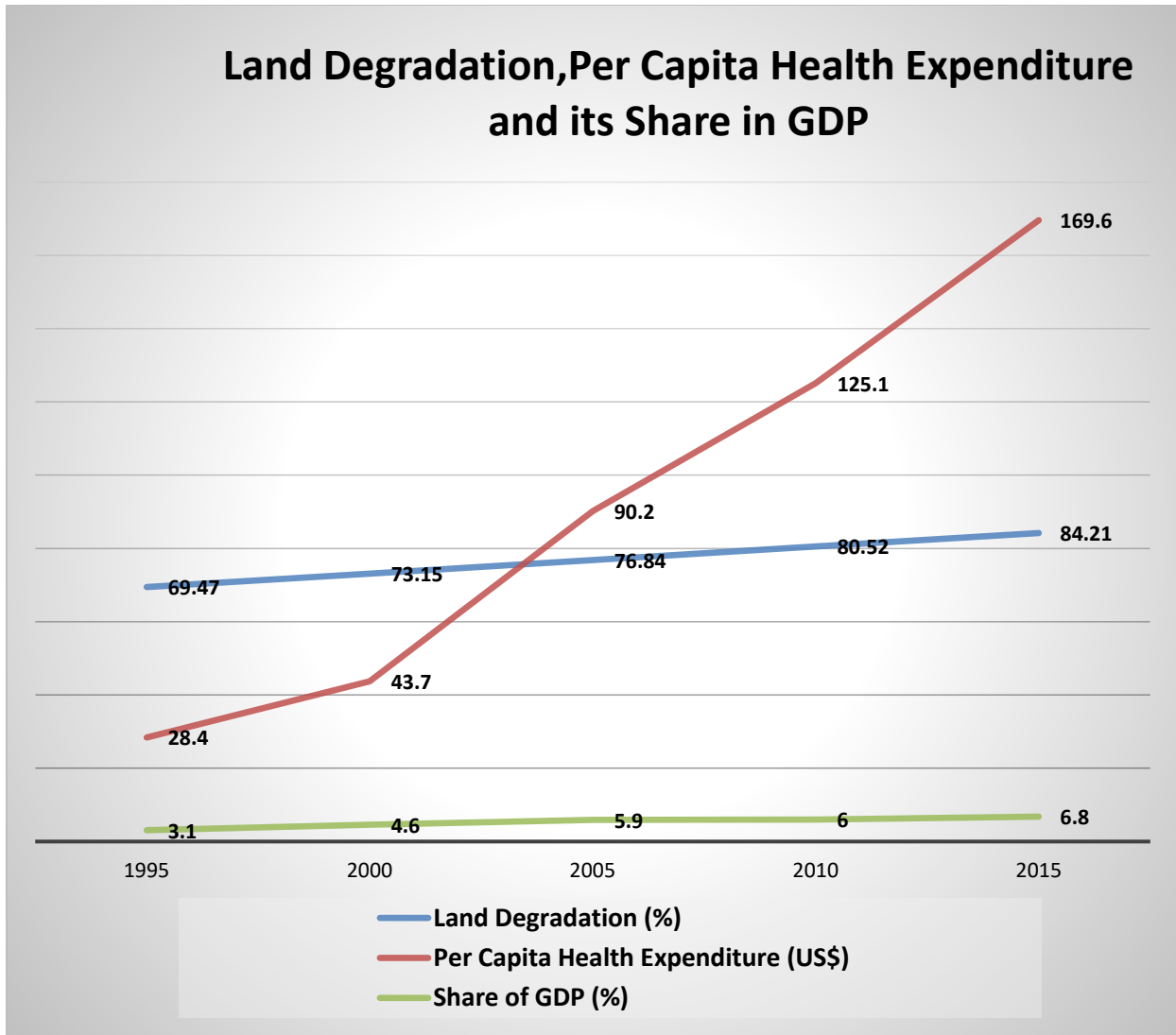
Tajikistan is the country with an increased risk of water-borne diseases, especially due to unsatisfied conditions of the water treatment systems and canalization in rural areas, where most (73 percent) of people live.<sup>6</sup> Instead, local population usually uses water from the streams and canals, which unable to provide clean drinking water. The most vulnerable group of people susceptible to diseases is children up to 14 years old. They are accountable for more than 80% of all diarrhea cases<sup>7</sup>. The favorable environment for reproduction of microorganisms and bacteria responsible for waterborne diseases are likely to expand with the increase of air and water temperature, especially in stagnant ponds and open reservoirs. This in combination with the current state of water treatment system and disaster risk will increase human and health insecurity. Growth in air temperature aggravates the risk of malaria, infectious diseases, heat waves and stress, high blood pressure and respiratory diseases. Even though, malaria ceased to be a mass epidemic in Tajikistan since 1980s, climate warming and poor healthcare system coupled with the risk of trans-boundary malaria cases from neighboring countries – primarily from Afghanistan and Kyrgyzstan – may provoke the increase of malaria. The similar situation was observed in 1992-2002, when more than 400,000 of people were at risk of malaria given the rapid increase in air temperature and growing stagnation of ponds and river banks<sup>8</sup>.

According to National Health Accounts data, total health expenditure amounted to 3.1 percent of GDP in 1995 (Table 4.14). It continuously increased and reached to 6.8 percent of GDP in 2015. Government is spending more in health sector after the independence of the country in 1991. In the last twenty years allocation for health sector have increase more than three percent of total GDP. Per capita expenditure in health also has increased in Tajikistan. In 1995, per capita income was 28.4 USD which has increased to 169.6 USD in 2015. The jump was very much remarkable for the poor country like Tajikistan.

**Table: 3.** Land Degradation, Per Capita Health Expenditure and its share in GDP of Tajikistan (1995-2015)

Year	Land Degradation (%)	Per Capita Health Expenditure (US\$)	Share of GDP (%)
1995	69.47	28.4	3.1
2000	73.15	43.7	4.6
2005	76.84	90.2	5.9
2010	80.52	125.1	6
2015	84.21	169.6	6.8

Source: The World Health Organization, 2017



Source: The World Health Organization, 2017

**Fig: 3.**

**Conclusion:** In the society of Tajikistan, the impact of deforestation and land degradation is not felt much. Migrant labour migration has increased from rural as well as from urban areas in the country. Due to labour migration both the per capita income as well as rural family income has increased in the country. From 1990 to 2015 there has been an increase of 920 USD in the per capita income of Tajiks. Rural household income also increased by 579 USD during the same period. Due to increasing natural disasters and deteriorating environment, health of the people has also deteriorated. Due to environmental degradation and other reasons the per capita expenditure on health has increased by 141.2 USD from 1995 to 2015. The government of Tajikistan has increased the fund allocation to the department of health and its share to the total GDP has increased by 6.8 percent from 1995 to 2015.



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