**STUDYING THE FACTORS**

The dataset shown below shows the tree cover loss due to 3 different factors, namely “Urbanization”, “Wildfire” and “Shifting Agriculture” from 2001 to 2020.

On studying the dataset, it was clear that shifting cultivation or shifting agriculture contributes the most to the tree cover loss and the figures shown are quite high which makes it pretty clear to study this factor in detail and bring up some suggestions regarding the same.

***But, before moving further it is very important to know what shifting cultivation actually is and in which part of India, it is done the most?***

Shifting agriculture is a system of cultivation in which **a plot of land is cleared and cultivated for a short period of time**, then abandoned and allowed to revert to producing its normal vegetation while the cultivator moves on to another plot.

***JHUM (in India):***

Shifting cultivation or jhum, predominantly practiced in the north-eastern region of India is an agricultural system where a farming community slashes secondary forests on a predetermined location, burns the slash and cultivates the land for a limited number of years. The land is then left fallow and the farming community moves to the next location to repeat the process till they return back to the starting point. It has often been alleged that jhum has led to the loss of valuable natural resources of the region.

Shifting cultivation is recognised as a catalytic force for community life across Northeast India. In the hilly tracts of the region comprising of the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, shifting cultivation continues to be a dominant economic activity. The practice provides a sustainable means of livelihood and food security to the communities that practice it.

It might indeed be enigmatic to imagine that the basic philosophy of shifting cultivation has been to generate forests and not to extinguish them, for, without the existence of forest, the next jhum cycle cannot be nurtured.

The forest can be regenerated after keeping them fallow for a while but the biological species cannot be retrieved back to the original habitat for which shifting cultivation practice has often been blamed for the biodiversity shrinkage in the region. While giving a relook into modifying this rich traditional practice in Northeast India, it is imperative to address issues like food and livelihood security, conservation of soil & water, creating market linkages, and being in conformity with ecological principles. Transformation in any form should not only be an improvement upon the old, rather must also accommodate the value system and needs of any society. In other words, this process of transformation itself should be comprehensive and socially, ecologically and economically sustainable.

The problem is not actually the shifting cultivation but it arises when it is converted into slash-and-burn agriculture. The basic difference between the two is fallen length that is, **the length of time for which the land is used for agriculture**. The slash-and-burn system, the conversion is long-term, often permanent. Shifting cultivation is a more ephemeral use of the land for cultivation.

| **YEAR** | **URBANIZATION** | **WILDFIRE** | **SHIFTING AGRICULTURE** |
| --- | --- | --- | --- |
| ***2001*** | 95.19746176 | 149.0244312 | 7110.184005 |
| ***2002*** | 65.71917883 | 108.4305826 | 7528.989108 |
| ***2003*** | 38.38849067 | 114.0274303 | 6974.420396 |
| ***2004*** | 64.67523844 | 230.5378965 | 10657.99401 |
| ***2005*** | 77.17141325 | 180.5623916 | 9473.534674 |
| ***2006*** | 94.83553602 | 189.2143605 | 13037.0195 |
| ***2007*** | 137.8965582 | 192.882031 | 15899.36635 |
| ***2008*** | 123.3998415 | 119.0506696 | 18078.52085 |
| ***2009*** | 102.9549799 | 140.812699 | 16445.56953 |
| ***2010*** | 117.1840571 | 70.71520396 | 8316.685416 |
| ***2011*** | 182.1435983 | 66.33118457 | 20159.77589 |
| ***2012*** | 194.1744443 | 133.5265798 | 14360.3207 |
| ***2013*** | 110.7621001 | 145.3057435 | 7431.788704 |
| ***2014*** | 221.608177 | 128.9658336 | 14271.25264 |
| ***2015*** | 84.12740798 | 122.3212379 | 7891.903854 |
| ***2016*** | 216.4949232 | 252.6184983 | 13380.48866 |
| ***2017*** | 186.737217 | 450.2380777 | 22952.77999 |
| ***2018*** | 158.2788981 | 210.8397006 | 17010.49705 |
| ***2019*** | 135.0218314 | 134.808931 | 18877.68164 |
| ***2020*** | 173.2554798 | 178.4249409 | 19060.08243 |

***CONCLUSION:***

According to the 2018 report released by the Indian government, an area of about 8500 square km is still being used to practice shifting cultivation.

Recent decades have seen a dramatic increase in tropical deforestation caused by slash-and-burn clearing for the establishment of more permanent agriculture, plantations and pastures, which often result in degraded grasslands or degraded fallows.

Apart from all of this, the main reason behind it is the demographic pressure and here again the increase in population becomes the most impactful factor of deforestation and forest cover change.

As demographic pressure has increased and more and more people have been forced to seek land in the forested areas, traditional systems have been replaced by crude slash-and-burn, in which the cultivation period is prolonged and the forest regeneration is endangered and is inadequate to maintain fertility. The net result is deforestation with its various undesirable consequences.

Other reasons include population pressure, inadequate land for cultivation, low education levels, policy planning and implementation without local participation are all factors that influence farmers’ decision to continue shifting cultivation.