

STUDY PUTS ANNUAL LOSSES FROM STUBBLE BURNING AT \$30 BN



The study by researchers at the **University of Washington** and the **International Food Policy Research Institute (IFPRI)** was published online in the **International Journal of Epidemiology**.

India loses **\$30 billion** or **Rs 2 lakh crore** every year from **crop fires**, especially in the northern states of **Punjab, Haryana, and Delhi**, a new study estimates amid growing concerns over air pollution.

This is more than **thrice the amount** the Union government spent in its budget for the **health sector**.

Researchers used **satellite data** from the National Aeronautics and Space Administration for **crop fires** and merged it with the results of the fourth round of **National Health Survey** conducted in Haryana between September 2013 and February 2014 to measure the health impact.

What does the International Journal of Epidemiology Study find?

Study gives evidence that it is **not only the residents of Delhi**, but also the farmers and their families in **rural Haryana** who are the **first victims of crop residue burning**.

The findings showed a **threefold increase in risk of acute respiratory infection**, especially in children below five years of age, in districts that reported the highest number of crop fires.

There was a spike in **asthma-related emergency-room** visits and hospitalizations in October and November, when farmers clear their fields for the next crop.

The study that estimates for the first time the **health and economic costs of intense crop residue burning (CRB)** in northern India also found that CRB leads to an estimated economic loss of over **USD 30 billion annually**.

Briefly about Stubble Burning:

Stubble burning was **banned by the National Green Tribunal** in November 2015, but continues unabated in the northern states.

Delhi, one of the **most polluted cities** in the world, witnesses a spike in air pollution in winter because of the **high level of PM2.5** (tiny particulate matter that settles in the lungs).

The pollution is **about 20 times higher** than the World Health Organization's threshold for safe air.

It is a **public health emergency**. If immediate steps are not taken, it is only going to **increase the healthcare costs** over time.

The **productivity of residents** would go down and there would be adverse impacts on the **economy and health**.

The **relation between pollution and mortality** is well-established. **Nearly 12.5% of the total deaths in India** in 2017 were attributable to **air pollution**, which remains the **third leading risk factor** for mortality in the country.

Sources of Stubble burning:

Researchers noted that **crop burning** is a widespread global practice and in India is concentrated in **northwest India**, though has **spread to other regions** of the country in the past decade as new crop harvesting technology is adopted.

Rice cultivation is the primary source of stubble burning. It not only contributes to **air pollution**, but also leads to **severe water depletion**.

The researchers highlight that this is the only study to systematically estimate the **effect of exposure to crop fires on respiratory infections in India** and measure the **economic impact**.

The study warns that in **next five years** economic loss because of burning of crop residue is likely to be **around \$190 billion**, which is nearly **1.7% of India's gross domestic product (GDP)**.

The economic loss from **exposure to air pollution** emanating from burning firecrackers is estimated to be around **nearly \$7 billion a year or nearly Rs. 50 thousand crore a year**.

Farmers try to maximise their yields by **planting the next crop as soon as possible** after the previous crop has been harvested (generally wheat after rice).

Among other factors, smoke from the burning of agricultural crop residue by farmers in Haryana and Punjab especially contributes to **Delhi's poor air, increasing the risk of ARI three-fold for those living in districts with intense crop burning**

To quickly clear the field for the next crop, they **burn the leftover stubble** rather than using the traditional method of clearing it by hand.

Way Forward:

Eliminating the practice of stubble burning will not only help in improving **people's health** but will also contribute towards **soil and plant diversity**, and in reducing the **greenhouse gas emissions**, said the study.

However, farmers continue to practice it due to **lack of convenient and affordable alternatives**.

The study calls for further investment in crop burning abatement practices to **promote sustainable economic development**.

The study recommends **investment in agriculture sector** in these states, and offering **alternative crop residue disposal solutions** to farmers which can also give them **economic returns**.

The required step is to **Enabling Framework** for Implementation of Solutions. Even though there are **adequate technology options** and subsidies available to address the problem, there has always been a **lack of sensitivity and gravity towards the matter**, which has adversely affected the ongoing efforts to tackle the issue.

Conclusion:

Even though **air pollution** has been linked to **numerous health outcomes**, and **respiratory infections** are a leading cause of death and disease in developing countries, none of the existing studies have **directly linked crop burning to acute respiratory infection (ARI)**.

This study suggests that **targeted government initiatives** to improve crop disposal practices are worthy investments.

Programmes and policies must **simultaneously address indoor and outdoor pollution** through a possible combination of bans and agricultural subsidies.

Other important interventions for improving respiratory health are increasing household access to **clean cooking fuels, electricity, and improved drainage systems**.

Only **high-value paddy** such as basmati should be preferred. However, this is expensive and its market is extremely competitive.

The **best long-term solution** is shifting cropping pattern **away from paddy**. The government should encourage and **incentivize farmers** to grow other crops.