

STUBBLE BURNING

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WHAT IS STUBBLE BURNING?

Stubble burning is intentionally setting fire to the straw stubble that remains after wheat and other grains have been harvested.

In order to plant next winter crop in a very short interval it's easiest and cheapest method available for farmers.

REASONS TO BURN STUBBLE

- ✘ Very short time between harvesting of paddy and cultivation of wheat.
- ✘ While mechanized harvesting the machine does not cut close enough to the ground leaving stubble behind.
- ✘ Non-availability of local farm labours.



ENORMOUS IMPACT ON ENVIROMENT

Pollution

- Study estimates that crop residue burning released 149.24 million tones of CO₂, over 9 million tones of carbon monoxide and 0.25 million tones of sulphar which directly contribute to environmental pollution.

Impact on Soil

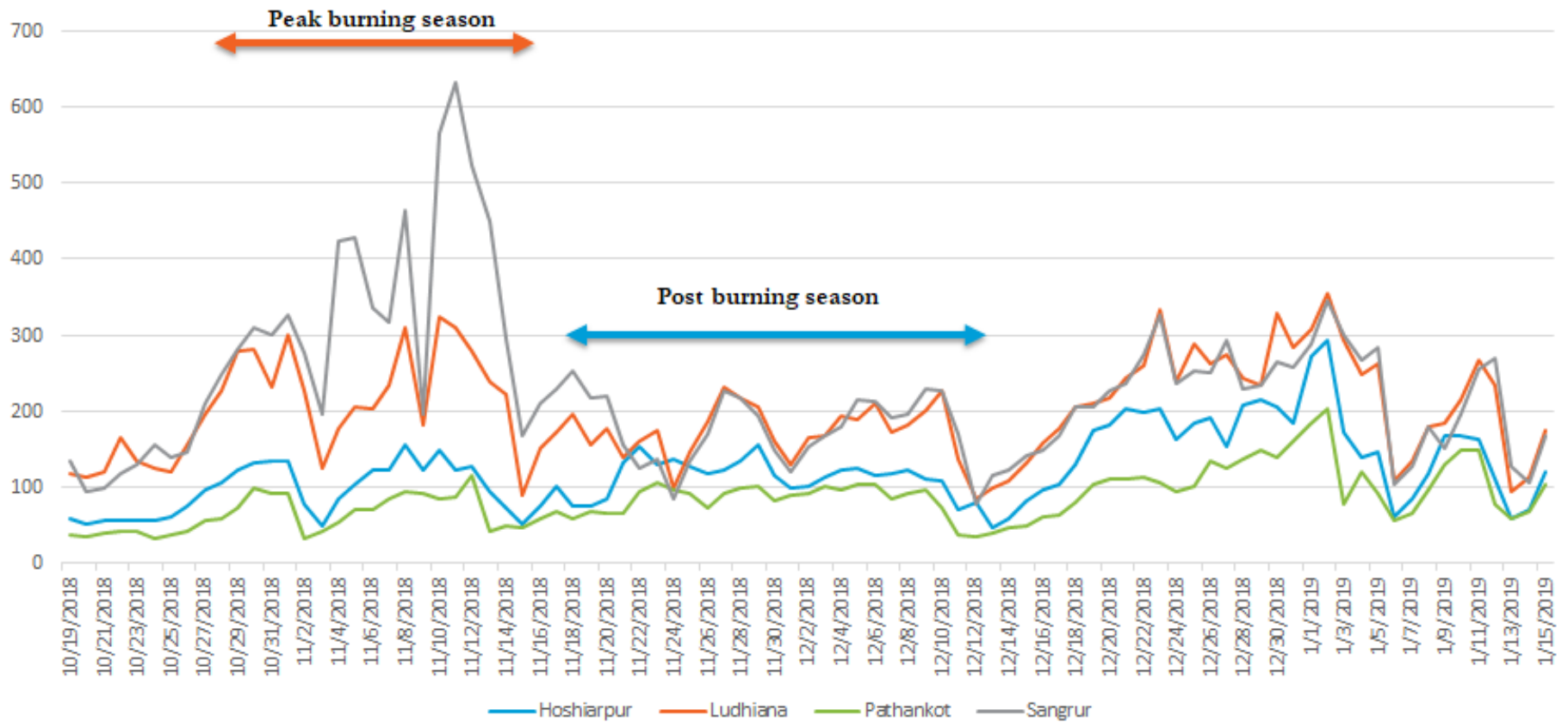
- Loss of vital components such as nitrogen, phosphorus, sulphar, and potassium from the top soil layer, making the land less fertile and unavailable for agriculture in the long run.

Heat Penetration

- Heat generated by stubble burning penetrates into the soil, leading to the loss of moisture and useful microbes.

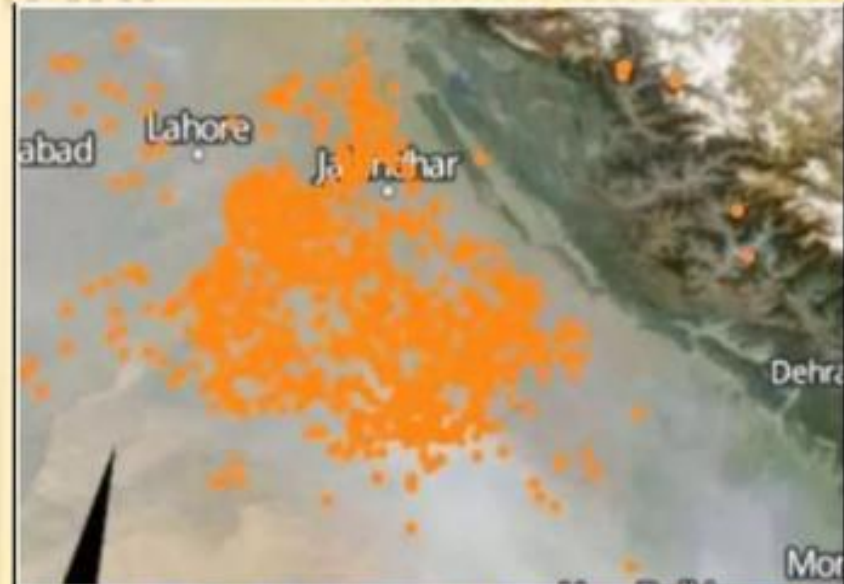
Increase in PM 2.5 during peak burning season

PM 2.5 level across four districts in Punjab



STUBBLE BURNING IN INDIA

- ✘ *From October to November, massive clouds of smoke streak across Punjab Haryana, Delhi, and neighboring states.*
- ✘ *Crop stubble burning causes one-quarter of the air pollution that blanketed Delhi.*
- ✘ *Despite a ban by the Punjab control Board, stubble burning is still practiced.*



**NASA IMAGES SHOW RISE
IN STUBBLE BURNING**

- ✘ *In the current covid-19 pandemic doctors fear that the resultant emission from stubble burning will aggravate the covid-19 situation in the region.*

CROP BURNING INSTANCES IN PUNJAB AND HARYANA

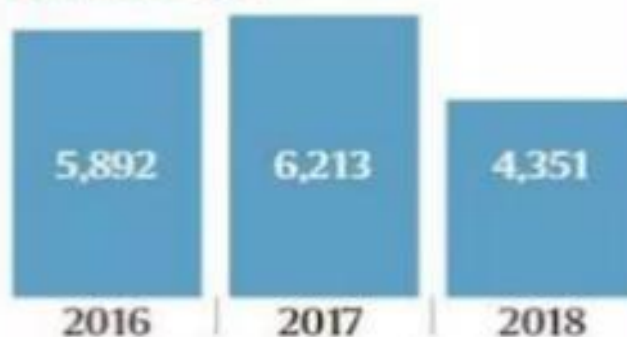
INCIDENTS DURING PADDY SEASON

PUNJAB



(Figures for Sept 27 to Oct 30)

HARYANA



(Figures for Sept 25 to Oct 30)

PUNJAB DISTRICT HIGHS (1,000+ EACH YEAR)

	2016	2017	2018
Firozpur	1,939	2,007	1,866
Tarn Taran	2,136	1,779	1,743
Patiala	2,452	2,283	1,705
Sri Muktsar Sahib	2,158	1,614	1,363
Sangrur	2,001	2,204	1,214
Bathinda	2,036	1,794	1,130

Source: Punjab Pollution Control Board, Haryana State PCB

GOVERNMENT INITIATIVE

Environmental Pollution Control Authority, directs Punjab, Haryana to ensure complete ban on burning of agricultural stubble by 2014. state asked to promote uses of paddy straw, such as power generation.

Punjab Government has subsidized 28,000 happy seeder machines in 2019 to clear left over paddy stubble but it's not enough it would need 1lakh machines to clear 65lakh hectares of land in 15days

Efforts are also made through kishan camps, trainings and workshops through various print media, television shows.

SOLUTION ON STUBBLE BURNING

1. Biomass farming- biomass is a modern approach of burning plant or animal material for energy production.

- ✘ Biomass energy has the potential to supply a significant portion of country's energy needs, while revitalizing rural economics, increasing energy independence, and reducing pollution.



2. Happy seeder- Happy seeder is a tractor-mounted implement that cuts and lift up the residue of rice straw, and sows wheat seeds into the bare soil, and deposits the paddy straw over the plant area as mulch.

3. Bedding material for cattle- Farmers can use paddy straw as bedding material for animals during winters. The paddy straw bedding during winters help in improving the quality and quantity of milk as it contributes to animal's comfort, under health and leg health

4. Pusa decomposer tablet

CONCLUSION

- ✘ Paddy straw waste has been identified as a major environmental and health hazard.
- ✘ Farmers are left with few options as the lack of labor during the harvesting period and limited time available for preparing the field.
- ✘ Lack of operational biomass power plants.
- ✘ Paddy straw can be commercially sold as the main fuel for an industrial boiler as a replacement of coal.

THANK YOU