

## Stubble Burning

### Why in news?

Recently, Supreme Court asked the Punjab government why it could not fund the costs of crop residue management machines for marginal farmers.

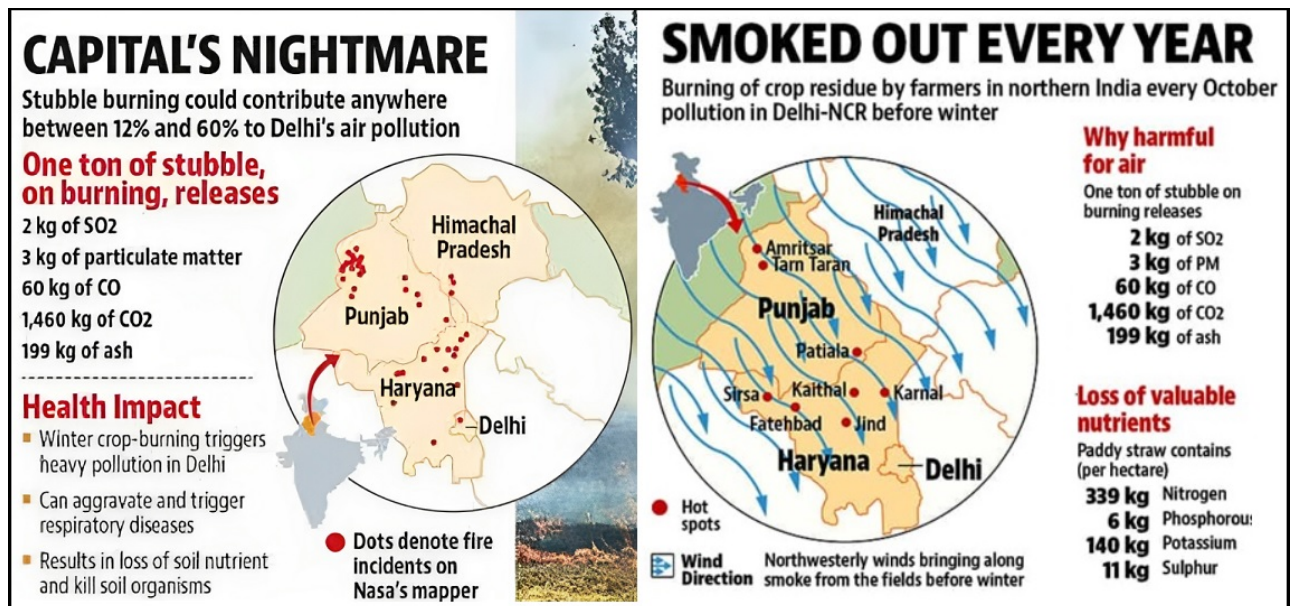
### Why stubble burning is practised?

- Also called as **parali burning**, stubble burning is a method of removing paddy crop residues from the field to sow wheat.
- It is usually done in the last week of *September to November*.
- It is usually required in areas that use the combined harvesting method which leaves crop residue behind.
- It is practised by the farmers to prepare the land for the next cultivation.
- It is practised mainly in the *Indo-Gangetic plains* of Punjab, Haryana, and UP to clear the fields for rabi crop sowing.

Stubble burning	High prevalence
Rice	Punjab and Haryana
Wheat	Uttar Pradesh

### Why stubble burning is practised?

- **Limited duration**- Multiple cropping and shortened intervals between crops give a very short window of about 10-15 days during which the field needs to be prepared for the next crop.
- There is only short time available between rice harvesting and sowing of wheat as delay in sowing wheat affects the wheat crop.
- **Cheap**- It is considered one of the cheapest methods to clean the field after the harvesting season.
- **Labour shortage**- Use of expensive labour for stubble extraction is not feasible, especially in Punjab and Haryana where farm sizes are large.
- **Clears all stubble**- The use of mechanized harvesters leaves stubble of 10- 30 cm in the field, depending on the type of crop, which was not the case earlier with manual harvesting.
- **Low crop residue**- The low commercial and economic value of crop residue, coupled with the high costs of processing, reduces its value for farmers.



## What are the impacts of stubble burning?

- **Air pollution**- It emits toxic pollutants in the atmosphere containing harmful gases like carbon monoxide (CO), methane (CH<sub>4</sub>), carcinogenic polycyclic aromatic hydrocarbons, volatile organic compounds (VOC).
- The combustion of agricultural residue is a prominent contributor to air pollution in certain regions of northern India.
- **Soil fertility**- Soil becomes less fertile and its nutrients are destroyed when the husk is burnt on the ground.
- **Heat penetration**- Stubble burning generates heat that penetrates into the soil,

causing an increase in erosion, loss of useful microbes and moisture.

- **Climate change**- The release of toxic gases from stubble burning will increase global warming, further aggravating the climate change.
- **Uncontrolled firing**- Risk of fires spreading out of control, could turn into huge pit of flames.

## Supreme Court's Remarks on Stubble Burning

- The court asked the Punjab government why it could not fund the costs of crop residue management machines for marginal farmers.
- Punjab responded that the *issue of manpower and fuel* for the machines was a challenge.
- The court warned that paddy cultivation would deplete the water table in Punjab and suggested switching to crops other than paddy to save water and reduce pollution.

## What are the strategies to reduce stubble burning?

- **Promote agri-implements**- Punjab has rolled out schemes for providing subsidy for mechanical implements that can mix the crop residue with soil to improve fertility.
- Promote *co-ownership models* for the agri-implements which can make such

implements accessible to farmers.

- **Foster awareness**- Farmers should understand the value of crop residues and use of agri implements in extraction and packaging.
- **Power generation**- State governments need to incentivise establishment of biomass-based power plants through fiscal interventions and prioritization. Example- [Biomass co-firing](#)
- **Promote R&D**- *Punjab Agricultural University* is developing a variant of paddy straw that has *lower silica content*, thereby making it suitable for utilisation in biomass-based power plants.
- **Biofuel production**- The State governments, along with appropriate policy interventions from the Central government need to incentivise utilisation of biofuels.
- **Industrial application**- Biomass pellets can be sold commercially as the main fuel for industrial boilers and replace coal. Micro-pelletization should be incentivised and its local usage promoted.
- **Crop residue collection mechanism**- Create a uniform decentralised mechanism for the collection, storage and commercial sale of crop residue.

## References

1. [Indian Express- Tackling stubble burning](#)
2. [Down To Earth- Strategies to reduce crop residue burning](#)

