

# STUBBLE BURNING IN PUNJAB: PROBLEMS AND ISSUES

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## ABSTRACT:

Punjab, being the Bread Basket of India, is facing many agricultural problems too. Stubble burning is one of the major concerns of environmentalists of the state. The main reasons for the above said activity is the poor economic condition of farmers due to which they want economically cheap methods to prepare their fields for next crop. Other reasons for the practice being. It quickly clears the field and is the cheapest alternative and kills weeds, including those resistant to herbicide. It kills slugs and other pests and can reduce nitrogen tie-up. The practice leads to huge amounts of air pollution in the states of Punjab, Haryana and Delhi. It also causes loss of soil fertility and moisture.

Keywords: Stubble, Burning, Air Pollution, Punjab, Soils, Sustainable, Fertility

## INTRODUCTION

Punjab is an agriculture dominated state. The state has been called the Bread Basket of India. Farming being the main occupation of the masses, the problems arising due to the same are a major concern. Stubble Burning, being one of them, tops the charts.

Stubble burning is the act of setting fire to crop residue to remove them from the field to sow the next crop. Recently, the Supreme Court had ordered the Centre to prepare a comprehensive national scheme, in consultation with the States,

to mean small and marginal farmers away from stubble burning. Air pollution in Delhi has now become a familiar story, repeated with minor variations every year, mainly aggravated by stubble burning in Punjab and Haryana.



## CONCERN OF FARMERS:

Need for Stubble Burning After harvesting the old Kharif crop, before planting the new Rabi crop, farmers have to move in a very short interval and if they are late, due to short

winters, they might face considerable losses. Therefore, burning is the cheapest and fastest way to get rid of the stubble. If stubble is left in the field, pests like termites may attack the upcoming crop. The poor economic condition of farmer's doesn't allows them to use expensive mechanized methods to remove stubble.

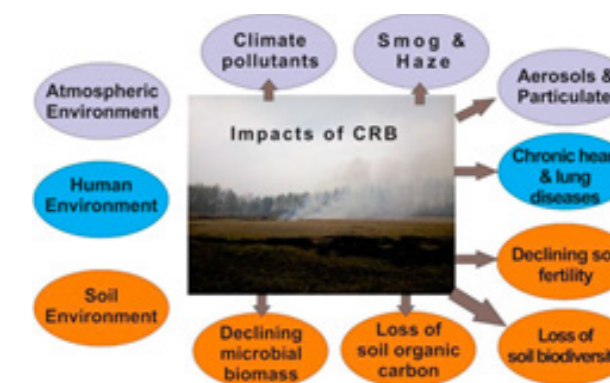
## CAUSES OF THE STUBBLE BURNING

- 1) The main reason of the problem is the use of mechanized harvesting which leaves several inches of stubble in the fields.
- 2) High Silica Content: Rice straw is considered useless as fodder in the case of non-basmati rice, because of its high silica content.
- 3) Experts say that with less income due to crop damage, farmers are likely to be inclined to light up their fields to cut costs and not spend on scientific ways of stubble management.



## IMPACTS OF CROP RESIDUE BURNING

The main adverse effects of crop residue burning include the emission of greenhouse gases (GHGs) that contributes to the global warming, increased levels of particulate matter (PM) and smog that cause health hazards, loss of biodiversity of agricultural lands, and the deterioration of soil fertility. Various types of impacts of crop residue burnings mentioned



# INNOVATIVE MODELS FOR REDUCING STUBBLE BURNING

## 1) Chhattisgarh Model

a) An innovative experiment has been undertaken by the Chhattisgarh government by setting up gauthans. A gauthan is a dedicated five-acre plot, held in common by each village, where all the unused parali is collected through parali daan (people's donations) and is converted into organic fertiliser by mixing with cow dung and few natural enzymes.

b) The scheme also generates employment among rural youth.

c) The government supports the transportation of parali from the farm to the nearest gauthan.

d) The state has successfully developed 2,000 gauthans

2) The most efficient technology to counter stubble burning at the moment is Turbo Happy Seeder (THS). It not only cuts and uproots the stubble but can also drill wheat seeds in the soil that have just been cleared up. The straw is simultaneously thrown over the sown seeds to form a mulch cover.

3) Establishing Farm Machinery Banks for custom hiring of in-situ crop residue management machinery. Co-operative societies of farmers, self-help groups, registered farmers societies/farmers groups, private entrepreneurs for establishment of farm machinery banks or custom hiring centers.



**BIO-CHAR** PAU, Ludhiana has come up with an innovation to convert stubble into biochar which would help in reducing the environmental pollution up to a great extent and would also help in increasing the fertility of the soil. Dr. RK Gupta, a senior soil chemist, Department of Soil Sciences at the PAU, said the burning of the rice and wheat stubble leads to a loss of nutrients and the smoke caused by leads to air pollution. "We have been working on this project for the past three years and the experiments conducted have given a positive result. We found that making biochar from stubble, instead of burning it will help in reducing the environmental pollution caused by it by 70 percent," said Dr. Gupta. "After successful experimentation for three years now, we will be asking the KVK of the PAU to make biochar and disseminate knowledge about it to the farmers so that they can also adopt this method," he said. He said apart from curbing the pollution, using biochar as manure would help in improving the soil health, along with 10 percent increase in the grain yield. It also leads to the improvement in the infiltration rate and water-holding capacity of the soil. Biochar will help in improving the grain yield indirectly by improving the soil health (infiltration rate and water holding capacity of soil).



# NEED OF THE HOUR

Unless financial assistance is to be provided by the Centre for boosting farm mechanization, it is difficult to completely stop stubble burning. States needs to make alternative arrangements for consumption of paddy straw into the soil as per the directions of the NGT.

