





Tackling Air Pollution: How to prevent Crop Burning

Using green agricultural technology to battle smog

Can subsidizing green technology reduce crop burning?

An ongoing International Growth Centre project is looking at the impact of government subsidies for Rice Straw Shredders and Happy Seeders. These two technologies can help reduce the impact of stubble burning, which leads to increased emissions.

Agricultural emissions contribute approximately 20% to Punjab's air pollution, mainly due to farmers burning rice stubble after harvest in ricewheat cropping systems.

Why green technology matters

Traditional combine harvesters leave behind rice straw that must be managed within a two- to three-week window before wheat plantina.

> Farmers commonly burn this stubble because alternative methods are more time-consuming and labour-intensive. Rice stubble burning accounts for as much as 20% of smog emissions!

The program is providing 500 Rice Straw Shredders and 500 Happy Seeders to farmers in rice-growing districts.



The Mechanised Management of Rice Crop Residue program provides 80% subsidy for buying a Rice Straw Shredder through a public lottery.



Rice Straw Shredders and Happy Seeders can reduce farm emissions by



How is research informing solutions?



What is the demand for Rice Straw Shredders and Happy Seeders?



How can we monitor crop burning in real-time?



The project used a randomised controlled trial (RCT) to roll out subsidies for Rice Straw Shredders and Happy Seeders through a public lottery.



Are government subsidies increasing adoption?



How can tech use and its impact on crop burning be measured?



The researchers studied adoption and takeup of green technologies and are now measuring the impact of these technologies on reducing stubble burning and agriculture emissions through spot checks and surveys.

Helping the government identify

how to roll out green technology

Realizing the potential of technology to reduce smog Point 01

Point 02

Potential Impact

Developing a machine learning model to monitor crop burning in real-time

Reduction in crop burning and the resulting smog

This projected titled "Can subsidizing green agricultural technology reduce pollution?" is led by Michael Greenstone, Kelsey Jack and Usman Naeem