

THE KEY TO CONTROLLING POLLUTION DUE TO STUBBLE BURNING

**CHANDRAJIT
BANERJEE**



Director General, Confederation
of Indian Industry (CII)

The impact of air pollution is widespread and deep. It leads not only to increased expenditure on healthcare but also adds to economic losses across sectors. This year, the outbreak of the coronavirus pandemic is threatening to make the situation even worse.

The quality of air in Delhi, according to the System of Air Quality and Weather Forecasting and Research (SAFAR), already fell to 'moderate' in the beginning of October. It is expected to fall further with the onset of winter and increasing instances of crop-residue burning in the states of Punjab, UP and Haryana.

The Central government has allotted ₹1,700 crore to tackle the issue, enabling the concerned states to subsidise machinery used in managing stubble and enhance campaigns and farmer support programmes to promote alternatives.

Involvement of other stake-

holders, especially industry, civil society and citizen groups, can help address stubble burning. The on-ground experience of the Confederation of Indian Industry (CII) sheds light on how this can be done.

Farmers have traditionally burnt crop residue constrained by a lack of awareness of alternative methods and their benefits, and easy access to requisite machinery. The CII's intervention in 2018 in 19 villages in Punjab through a pilot field project with active technical training and advisory support by Punjab Agricultural University, Ludhiana (PAU) and district agriculture offices resulted in 75% of the area becoming free of stubble burning.

In 2019, the project was scaled up to 105 villages in six districts in Punjab and Haryana. Before our intervention, 64% of the rice straw produced in the intervened villages was

burnt. The village farmer groups were supported with awareness building, training, farm advisory and viability gap funding to procure machinery. A year later, 87% of farmers adopted improved straw management measures, fully or partially, and 76% of straw was saved from burning.

The environmental benefits of improved crop residue management (CRM) remain very strong. A total of 1,83,000 tonnes of rice straw was prevented from being burnt, saving an estimated 1.29 thousand tonne PM10, 770 tonne PM2.5 and other pollutants from being released into the atmosphere. An

estimated 10.15 billion litres of water was saved in the project villages in just one year.

The economic case for better crop residue management looks promising, but further investments are required in the sector. Contrary to popular belief, it costs farmers ₹2,948 per acre at the straw disposal stage, as indicated in the CII's study.

Corresponding operations under CRM alternatives remain slightly costlier, despite the government subsidy on machines, by about 8% in case of in-situ practice and 64% on ex-situ. In the areas where the CII helped, this cost was brought down significantly (₹2,630 per acre and ₹2,672 per acre for mulching and straw incorporation respectively) through shared economy models and financial support. To accelerate the adoption of better CRM practices, farmers need improved technologies and tools at a viable cost.

The machinery cost disadvantage of improved CRM may eventually get offset through input efficiency gains and better yield realisations, but these benefits usually come later.

Behaviour change is criti-

cally important in this endeavour. Persuading farmers to give up stubble burning was challenging, with a sense of helplessness amongst farmers. Social sector professionals and grassroots partner organisations on behalf of the CII led the dialogue with farmers leading to a fundamental change in their behaviour. The CII's work was recently awarded the United Nations Sustainable Development Goals (UNSDG) Action Award by UNDP and Government of Punjab under the category of 'Integration, Convergence, Joint Action and Holistic Solution Approach'.

In the current scenario, while sizeable machinery has been deployed in villages for improved straw management, several issues still require attention.

For instance, Custom Hiring Centres formed under the government scheme face inherent financial and capacity constraints. The capital cost requirement is significant even after subsidy. A collaborative approach with industry CSRs, start-ups, NGOs and citizens groups is critically important to tackle air pollution.

(cb@cii.in)



The on-ground experience of the Confederation of Indian Industry shows how pollution can be addressed by better crop residue management. The CII's intervention in 2018 in 19 villages in Punjab resulted in 75% of the area becoming free of stubble burning. Substantial money and water were also saved, but initial investment is needed to help farmers get improved tech and tools at a viable cost