

POLICY *Brief*

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Making Farmers Pay: Stubble Burning and the Application of Polluter Pay Principle

The *Polluter Pays Principle* has been one of the most significant environmental law innovations which has been used against polluters. The National Green Tribunal, through a judicial decision, has applied the principle to all farmers who are engaged in stubble burning or setting fire in farms. This has been done to curb the increase in air pollution during winter months in North India. The application of 'Polluter Pay Principle' to farming communities, who are already under severe economic stress, raises critical questions on environmental equity as well as social justice. This paper examines whether the present judicial approach of penalising farmers is the correct approach in dealing with stubble burning.

introduction

Burning of agricultural residue is a common practice in most parts of India. Even among tribals, slash and burn cultivation or *jhum* is practiced in Central as well as in North East India. Stubble burning has recently emerged as an environmental issue in view of the fact that it is regarded as the main factor for increase in air pollution during winter months in North India. In simple terms, stubble burning is defined as a method of removing dry stubble by burning it before ploughing.¹ It mainly refers to the use of a controlled fire to clear the crop residue that remains in the paddock after harvest and could more accurately be called 'crop residue burning'. The very purpose of this activity is to clear the left-over agricultural stubbles after the harvest. The issue of crop residue burning or stubble burning is prevalent in 14 states of India, with Uttar Pradesh being the highest contributor². It is important to note that the

¹http://www.iraj.in/journal/journal_file/journal_pdf/2-189-144438427046-50.pdf

²Presentation given by Gr III in National Conference on Agriculture for Kharif Campaign, accessed on <http://agricoop.nic.in/sites/default/files/CROP%20RESIDUE%20Joint%20group-III%20.pptx>

problem of stubble burning is not confined only to the northern states since States such as Madhya Pradesh, West Bengal, Andhra Pradesh and Maharashtra also have quantities similar to Punjab

The “problem” of stubble burning, which the farmers consider to be an “easy solution”, has intensified in recent years due to shortage of human labour, limited time window between harvesting and sowing of two crops, mechanised harvesting of crop, to name a few.

Environmental Impact of Stubble Burning

The impact of stubble burning is manifold, as it ranges from 'on-farm' such as losses in soil nutrients, soil organic matter, beneficial soil bacteria, soil hardening to off-farm effects such as air pollution, biodiversity loss and impacts on human and animal health. Burning of stubble can potentially result in changes in the physical, chemical and biological properties of soil, including pH, soil organic carbon, nutrient availability, infiltration and microbial activities, with long term implications on sustainability (Walker et al. 1986).³ Air pollution arising from stubble burning is a significant environmental issue in North India According to a study it has been estimated that one tonne straw on burning releases 3 kg particulate matter, 60 kg CO, 1460 kg CO₂, 199 kg ash and 2 kg SO₂.⁴ The same study claims that stubble burning of rice and wheat straw resulted in release of about 110 Gigagrams of methane, which is one of the most potent greenhouse gases leading to global warming and about 2305 Gigagrams of carbon monoxide which has tremendous health implications. According to a study⁵ conducted in the Critically Polluted Area of Mandi-Gobindgarh in Punjab, there was an increase in PM₁₀ and PM_{2.5} level to the tune of 86.7% and 53.2% respectively from pre-harvesting period in one of the agricultural sites, whereas another site with wheat harvesting showed an increase of 60.4% and 33.1% in PM₁₀ and PM_{2.5} levels respectively in the post harvesting period. This substantial increase in particulate matter levels has been attributed to stubble burning after the harvest. Another study titled, “Impact of Stubble Burning on the Ambient Air Quality” burning of paddy straw is also responsible for loss of organic carbon. An estimated 12 megatons of CO₂, a greenhouse gas, is released in the air, which would otherwise have contributed to the soil organic matter. Carbon sequestration in agricultural soils has the capacity to mitigate greenhouse gas emissions, as well as to improve the biological, physical, and chemical properties of soil.⁶ The burning of stubble reduces the potential of soils to sequester carbon dioxide naturally and lead to a decrease of carbon sinks (reservoir of carbon) in the natural environment.

A [study](#), titled “Contribution of post-harvest agricultural paddy residue fires in the N.W. Indo-Gangetic Plain to ambient carcinogenic benzenoids, toxic isocyanic acid and carbon monoxide” published in ResearchGate by Indian Institute of Science Education and Research (IISER), Mohali, crop residue burning in Punjab and Haryana have resulted in increased levels of toxic gases like Benzene and Toluene, which are both known carcinogens. Following the month of harvest of paddy, the levels of these gases were found to be 1.5 times higher than the annual average concentrations between 2012 and 2014. The study also detected, for the first time, a compound known as isocyanic acid at annual average levels close to the toxic threshold of 1ppb (parts per billion).

Crop residue burning resulted in increase of carcinogenic toxic gases like benzene and toluene by 1.5 times higher than annual average

³http://www.cropscience.org.au/icsc2004/poster/2/1/3/273_chanky.htm

⁴skmcccepco.mp.gov.in/sites/default/files/resources/Mngt_of_Crop_Residues.pdf

⁵<https://www.omicsonline.org/open-access/impacts-of-stubble-burning-on-ambient-air-quality-of-a-critically-polluted-area-mandigobindgarh-2375-4397-1000135.php?aid=43437>

⁶<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4870243/>

According to a [study](#), titled “Impact of Stubble Burning on the Ambient Air Quality”⁷ published in the “International Journal of Mechanical and Production Engineering”, health costs from rice stubble burning in rural areas of Punjab are estimated at 76.09 million INR annually. Applying this cost to the total quantity of stubble burnt in Punjab each year of 16 million tonnes (i.e. 80 per cent of 20 million tonnes), gives an estimate of health costs that average INR 4.75 per tonne. They would be much higher if expenses on averting activities, productivity loss due to illness, monetary value of discomfort and utility could be counted and the economic cost of motor vehicle accidents caused by low visibility.⁸

Judicial Action on Stubble Burning

The National Green Tribunal has jurisdiction to hear any matters where substantial questions related to environment are involved, including legal right to environment⁹. In addition, matters which concerns the implementation of various environmental statutes including the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 are also within the jurisdiction of the Tribunal. The NGT has given series of direction with respect to stubble burning in case titled *Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority &Ors*¹⁰. One of the most significant outcome of the litigation is the formulation of the *National Policy for Management of Crop Residues, 2014* by Ministry of Agriculture Cooperation and Farmers Welfare. The Policy deals with different environmental impact of crop residue burning, strategy intervention to curb burning through in situ management and alternative diversified usage of crop residue, capacity building and awareness, promotion of R&D initiatives, financial incentives to stop burning, formulation of monitoring mechanism to ensure effective implementation of proactive measures.

Invoking the Polluter Pay Principle

In the matter of *Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority &Ors*[OA No. 118 of 2013], the National Green Tribunal, observed as follows as far as the problem of air pollution from stubble burning is concerned:

"The agriculture residue burning causes serious environmental hazards. It pollutes the air as excessive matters combine with other pollutants, causing serious issues in relation to public health. Ambient Air Quality in the major cities of all these states, particularly, in NCT Delhi has been found to be more damaging to human health. Before this problem attains dimensions of irresolvable issues, it is necessary that immediate steps are taken to prevent and control impacts of this menace. In the present day, it is not acceptable to advance an argument that crop burning is a necessity. There are clear and specific technical alternative resolutions available to utilization instead of agriculture residue burning. "

⁷ http://www.iraj.in/journal/journal_file/journal_pdf/2-189-144438427046-50.pdf

⁸ http://www.iraj.in/journal/journal_file/journal_pdf/2-189-144438427046-50.pdf

⁹ Section 14 read with Section 2 (m) of the National Green Tribunal Act, 2010

¹⁰ OA No. 118 of 2013

In order to prevent crop residue burning, the NGT in its judgment has highlighted the need to educate as well as provide financial and technical incentive to farmers. However as a last resort it has directed for punitive and coercive action. The NGT held:

"Still, the class of people who persist with default and do not comply with the directions should be dealt with by taking coercive and punitive steps and this has to be done as last resort"

The NGT further directed the defaulters to pay environmental compensation per incidence of crop burning to the tune of Rs 2500 (land holders with < 2acres), Rs 5000 (land holders with land of 2-5 acres) and Rs 15000 (land holders with > 5 acres).

NGT had directed the State government to take punitive action including prosecution under Section 15 of the Environment (Protection) Act of 1986 against the persistent defaulters of crop residue burning, which means the defaulters will be punished with imprisonment for a term which may extend to five years or with fine, which may extend to one lakh rupees, or with both.

Farming, as is practiced in large part of India, cannot be termed as hazardous activity despite the fact that it does rely on chemical fertilisers and pesticide as part of its production process. The most often cited reference in India with respect to Polluter Pay Principle is the Supreme Court Judgment *Indian Council for Enviro- Legal Action vs. Union of India*¹¹, the Court observed, "We are of the opinion that any principle evolved in this 'behalf should be simple practical and suited to the conditions obtaining in this country". The Court ruled that "Once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on". Consequently the polluting industries are "absolutely liable to compensate for the harm caused by them to villagers in the affected area, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas". In *Vellore Citizens Welfare Forum versus Union of India*¹², the Supreme Court held that the "Polluter Pays principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology". It is important to keep in mind the emphasis on the word "hazardous" and "inherently dangerous". The fact that an industry has to be inherently dangerous and hazardous, is a precondition for invoking the 'Polluter Pay principle'.

By directing, farmers to pay compensation for environmental damages, the NGT has in effect invoked the 'Polluter Pay Principle'¹. It is important to highlight the fact that the *Polluter Pay Principle*, has till date mostly being applied to industries and operations carrying out hazardous activities.

¹¹ J.T. 1996 (2) 196

¹² 1996) 5 SCC 647

The NGT, in its judgment, prohibited stubble burning in the States of Uttar Pradesh, Rajasthan, Haryana, Punjab and the NCT of Delhi. It directed that Happy Seeders be provided free of cost to farmers who own land less than 2 acres and at subsidised rates to those who own more than 2 acres. It directed for aid to be given to farmers for the transport of agricultural residues to units which manufacture straw boards and other related stuff. Given the fact that a happy seeders cost around Rs 1,50,000 it is unlikely that the Government will ever comply with the Judgment. Where even basic amenities are not available to farmers including access to water, electricity, sanitation and health services, it is futile to ever expect that every marginal farmer owning less than two acres to be provided happy seeders free of cost.

THE WAY AHEAD

One of the specific directions of the NGT in *Vikrant Tongad versus EPCA* was that the State of Rajasthan, Uttar Pradesh, Haryana and Punjab should educate and advise the farmers through media, Gram Panchayats and Corporations about the environment and health issues of stubble burning. In the State of Haryana for example, all that has been done by way of information to farmers is to simply upload the directions of the NGT on the website of the Pollution Control Board¹³. What is interesting is the fact that even the National Policy on Management of Crop Residues, 2014 which is stated to be under implementation is not available in public domain. Neither the Ministry of Agriculture Cooperation and Farmers Welfare nor the Ministry of Environment, Forest and Climate Change has the Policy uploaded¹⁴. There is no record to show that even one of the directions with respect to providing financial and technical incentives to farmers have been complied with by any of the States. In the absence of compliance of the orders and directions by the State and its agencies, it would be an instance of gross injustice if only farmers are punished for non-compliance and violations under the Polluter Pay Principle. The NGT clearly stated in its Judgment that penalising farmers should be the last resort. Unfortunately, the farmers have become the first target. There is thus a critical need for developing and implementing a strategy with respect to stubble burning which does not end up *only* penalising farmers. Such an approach would not only be a cause of added injustice and hardship to the farming communities but also will only favour corruption and violence against farming communities. In addition, despite all coercive measures, farmers will continue to burn fields, unless technical and financial support is given to shift from stubble burning. At the very least, no farmer should be penalised until all that was required to be done by the State for controlling stubble burning have been implemented in letter and spirit.

Authors :Ritwick Dutta, Kankana Das, Legal Initiative For Forest and Environment, N-71 LGF, Greater Kailash-1 New Delhi. Email info@lifeindia.org

¹³ http://hspcb.gov.in/NGT_118.pdf

¹⁴ A close look at the website of both the Ministry of Agriculture Cooperation and Farmers Welfare and the Department of Agriculture Cooperation and Farmer's Welfare found "No Records" in the "Policy Section" (<http://agricoop.gov.in/actsandrules/policy>)