



MITIGATION OPTIONS TO REDUCE OPEN-BURNING

# CCAC AGRICULTURE INITIATIVE

## WHY MOVE FROM AGRICULTURAL BURNING TOWARDS NO-BURN ALTERNATIVES?

Alternatives to open agricultural burning can provide economic and social benefits to farmers, particularly by improving crop productivity while preserving sensitive ecosystems and improving livelihoods and farmers' health conditions. At the same time, they help address climate change by reducing black carbon (BC) – a short-lived climate pollutant (SLCP).

With each successive burning, soils become less fertile and water retentive, increasing both soil erosion and the need for fertilizer. Alternative practices such as conservation agriculture help keep soil unbroken while also maintaining vegetation coverage with agricultural residues and/or via crop rotation, reducing the need to burn. Agriculture residues are also a valuable resource. For example, through the conversion of stubble to pellets residues can be turned into an energy source; straw can be used for livestock feed or bedding. No-till farming, a key conservation agriculture strategy, is another technique that leaves crop residues on the soil surface, facilitating planting and increasing nitrogen in the soil. A robust and flexible approach that embraces local input and expertise, together with the range of cultural dynamics and practices, climactic conditions, landscapes, and soil diversity, is most effective in addressing open agricultural burning.

Open burning is the single largest source of BC emissions globally, producing over one third of such emissions affecting nearly 340 million ha per year. Black carbon emissions from open burning have intensified impacts near cryosphere regions, darkening the ice and snow and accelerating melting. It also represents one of the largest global health impacts after cookstoves.

Better practices can lead to a 50% reduction in BC emissions.



**CLIMATE &  
CLEAN AIR  
COALITION**  
TO REDUCE SHORT-LIVED  
CLIMATE POLLUTANTS

### WHO WE ARE

The Climate and Clean Air Coalition (CCAC) Agriculture Initiative's Open Burning Component seeks to replicate and scale up open burning mitigation options as a result of a) determining the nature of open burning (who burns what, when, where and why) in particularly vulnerable regions of the Eastern Himalayas and Andes; and b) creating regional open burning networks and partners, and c) developing shovel-ready pilot mitigation projects with specific actions targeted to each region and crop type.

### WHAT WE OFFER

- Replicable and scalable targeted no-burn alternative demonstration projects in the Himalayas and Andean Regions to catalyse widespread adoption of no-burn practices and thereby reduce SLCP emissions.
- Access to regional networks to exchange knowledge and lessons learned to improve awareness among farmers, public sector officials and other stakeholders of the dangers of open burning and the availability of affordable and more climate and health-friendly agricultural practices.

Specific interventions include:

- Targeted policy and strategic planning support to regional governments, and farmer associations that will provide open burning alternatives with incentives to farmers and that will spur the uptake of national measures at the policy level.
- Capacity building through strengthened regional networks that facilitate the exchange of information on alternative practices.
- Identification of regional and global strategies to bring the impacts of open burning on crop yields, climate and health and the viability of alternatives to greater regional and global attention.
- Regional satellite monitoring and on-the-ground mapping of fires to monitor impact.

**NO-BURN ALTERNATIVES  
CAN HELP SAVE 190,000 LIVES  
GLOBALLY EVERY YEAR.**



“ I have been practicing no-till for several years on some fields as an experiment but was not fully convinced it was a good idea. Now that I have learned more and seen demonstration projects I am convinced it is the way to go. ”

**Local farmer who participated in demonstration farm visits and seminars.**

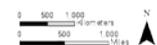
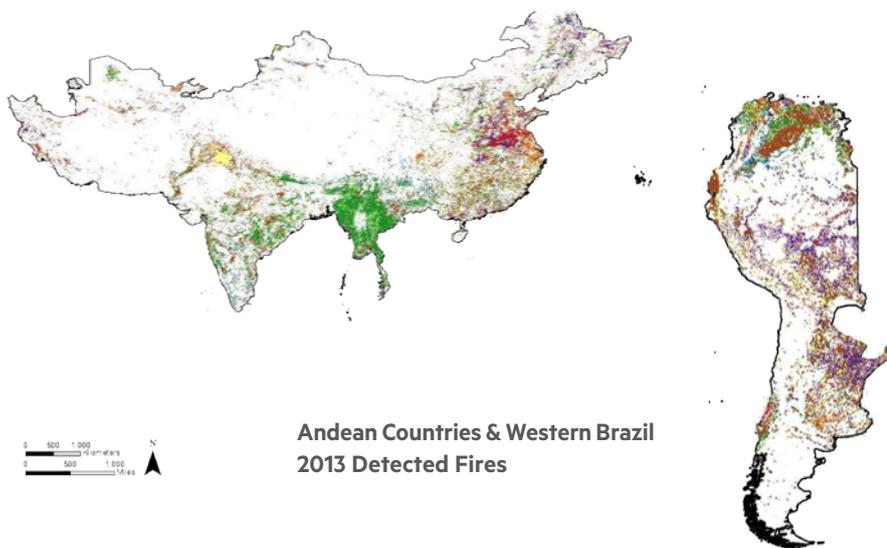
**AMBITIONS**

- By 2018, provide policy and strategic planning support to 6 countries (Bolivia, Colombia, Peru, Pakistan, Ecuador and India);
- By 2018, implement no-burn alternative demonstration projects in 2 countries (Peru and India);

**OPEN BURNING MAPS**

The initiative focuses on replicable and scalable open burning mitigation options in the Eastern Himalayas and Andes regions which are particularly sensitive to BC emissions.

**Himalayan Countries - 2013 Detected Fires**



**Andean Countries & Western Brazil  
2013 Detected Fires**

- |          |        |           |
|----------|--------|-----------|
| January  | May    | September |
| February | June   | October   |
| March    | July   | November  |
| April    | August | December  |

**Lead partners** of the CCAC Agriculture Initiative: Bangladesh, Canada, the European Commission, Ghana, the International Cryosphere Climate Initiative (ICCI), Japan, New Zealand, Nigeria, the United States, the Food and Agriculture Organization of the U.N. (FAO), and the World Bank.

**ABOUT THE CCAC**

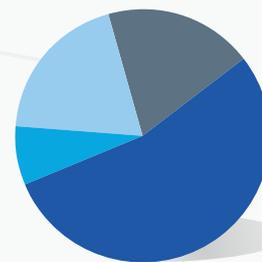
The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) is a voluntary global partnership of governments, intergovernmental organizations, business, scientific institutions and civil society committed to catalysing concrete, substantial action to reduce SLCPs (including methane, black carbon and many hydrofluorocarbons). The Coalition works through collaborative initiatives to raise awareness, mobilise resources, and lead transformative actions in key emitting sectors.

- Adoption of alternatives to open burning by farmers;
- Uptake of supportive measures to decrease open burning by local and national governments.

**RESULTS SO FAR**

- Satellite Mapping of Open Burning in the Andes and Himalayas Regions;
- Design of shovel-ready mitigation projects for 6 countries (Bolivia, Colombia, Peru, Pakistan, Ecuador and India);
- Final Report on the Impacts and Reduction of Open Burning in the Andes, Himalayas – and Globally.

**FUNDING**



**USD 4,026,354**

- Manure Management  
**USD 2,190,800**
- Enteric Methane  
**USD 756,354**
- Paddy Rice  
**USD 779,200**
- Open Burning  
**USD 300,000**

**Note:** The Open Burning component is part of the CCAC Agriculture Initiative, which addresses also Methane emissions from livestock (manure management and enteric fermentation) and from rice paddies.



**MORE INFORMATION**

[www.ccacoalition/initiatives/en/agriculture](http://www.ccacoalition/initiatives/en/agriculture)

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