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Hazardous pollutants emissions and environmental impacts from fuelwood burned and synthetic fertilizers applied by tobacco growers in Pakistan

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Abstract

This study aimed to estimate hazardous and greenhouse gas (GHG) emissions and associated environmental impacts from fuelwood burning and synthetic fertilizer application by tobacco growers in Pakistan during the cropping year of 2014-2015. Primary data regarding fuelwood and synthetic fertilizers consumption were collected through surveys and interviews with tobacco growers in the Khyber Pakhtunkhwa (KP) and Punjab provinces of Pakistan. Annual fuelwood consumption data (t dm/y) were converted into harvested biomass (m³) using a general wood density value of 0.65 t dm/m³. For annual GHG estimations, methodology outlined by the Intergovernmental Panel on Climate Change (IPCC) was applied. The results revealed that fuelwood consumption varies from region to region and amounted to 99,268 t dm and 152,721 m³ during the cropping year 2014-2015. GHG emissions from fuelwood burned by tobacco curing barns are estimated as 160,245 tCO₂, 705 tCH₄, and 4.74 tN₂O in 2014-15. Moreover, consolidated GHG

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