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Majid Hussain, Riffat Naseem Malik, Adam Taylor, Maureen Puettmann

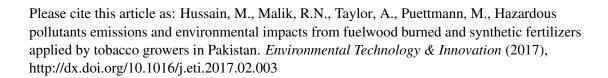
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Hazardous pollutants emissions and environmental impacts from fuelwood burned and synthetic

fertilizers applied by tobacco growers in Pakistan

Majid Hussain^{1, 2, 3}, Riffat Naseem Malik²*, Adam Taylor³, Maureen Puettmann⁴

¹Environmental Biology and Ecotoxicology Laboratory, Department of Environmental Sciences,

Quaid-i-Azam University, Islamabad, 45320, Pakistan

²Department of Forestry and Wildlife Management, University of Haripur, Hattar Road Haripur

22620, Khyber Pakhtunkhwa, Pakistan

³Center for Renewable Carbon, Department of Forestry, Wildlife and Fisheries, University of

Tennessee, Knoxville, TN, 37996-4570, USA

⁴Woodlife Environmental Consultants LLC, Oregon, USA

Corresponding author: Riffat Naseem Malik and Adam Tylor

Address: Environmental Biology and Ecotoxicology Laboratory, Department of Environmental

Sciences, Quaid-i-Azam University, Islamabad, 45320, Pakistan and ³Center for Renewable Carbon,

Department of Forestry, Wildlife and Fisheries, University of Tennessee, Knoxville, TN, 37996-4570,

USA

Email: r n malik2000@yahoo.co.uk, mtylo29@utk.edu

Telephone & Fax No.: 0092 51 90643017

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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