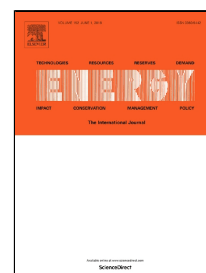


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# Understanding the Determinants of Household Cooking Fuel Choice in Afghanistan: A Multinomial Logit Estimation

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## Abstract

Cooking energy demand in Afghanistan has mostly fulfilled by traditional energy sources despite availability of health and environment friendly clean energy options internationally. Understanding the determinants of household cooking fuel choice either to prefer clean or traditional energy sources is therefore important to identify policy options for clean energy promotion. For this, a nationally representative household information using Afghanistan Demographic and Household Survey 2015 is analyzed using multinomial logistic regression model. The results show that residence in urban areas, availability of electricity, higher household wealth, high education, married status and separate cooking place positively affect choice of liquefied petroleum-gas as compared to traditional fuels; whereas large family size and aged household head indeed have positive linkages on probability of choosing animal dung as cooking fuel. Robustness of the results shows that wealthy households are more likely to use liquefied petroleum gas and fuel wood compared to poor households, therefore confirm priority for wealth generation. For motivating the rural households to use clean-cooking-fuel, government and other cohorts should put effort on increasing affordability of rural households to clean energy sources through provision and employment opportunities, improving access to electricity and creating awareness about the health and environmental benefits of clean energy.

**Key Words:** Cooking Fuel; Clean Energy; Afghanistan; Multinomial-Logit; Choice Probability.

**JEL Code:** Q42

## 1. Introduction

A decline of petroleum oil consumption in residential sector, for example two third of total oil consumption replaced by natural gas from 2000 to 2015, suggests quality and convenience of fuel usually escort a tradeoff between quality and utility (benefit)[1]. Household demands for diesel and liquefied petroleum gas (LPG) have increased while that for kerosene and gasoline declined[1]. But, households in developing countries still depend heavily on fuel wood and other solid fuel-based energy sources for cooking fuel. This is either due to lack of consistent sources of modern energy or to the lavishness of cheap fuel wood nearby. In developing countries, more than 2.5 billion people use solid fuels, for example fuel wood, charcoal, agricultural waste and animal dung to meet their energy needs for cooking [2–4].

To provide universal access to clean energy facilities, International Energy Association (IEA) has established a global energy scenario through the year 2030 called “Universal Modern Energy

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