

An Analysis of Household Transition to Modern Fuel Under Indonesia's Energy Conversion Programme

by

Septin Puji Astuti¹

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Center for Science and Technology, Institut Agama Islam Negeri (IAIN) Surakarta.

Jl. Pandawa, Pucangan, Kartasura, Sukoharjo, Indonesia.

Email: septin.astuti@iain-surakarta.ac.id; zep_tien@hotmail.com

Abstract

The reliance on firewood leads people to be affected by indoor air pollution, which has negative impact on human health. Hence, a reduction on households using traditional fuels, through providing cleaner fuels, is imperative. Indonesia was before 2007 one of the Asian countries with a high proportion of people relying on traditional energy for cooking. However, in 2007, the government of Indonesia aimed to increase the usage of LPG for cooking through the Energy Conversion Program from Kerosene to LPG (ECPKL) policy. The aim of this study is to investigate the impact of the policy on the development of access to modern energy between 2007 and 2011. Data from Statistics Indonesia and interviews with government and members of the public were collected. The statistical data was obtained to analyse the broader pattern of use of modern energy and traditional fuel in Indonesia over 2007-2011. Thematic maps of fuel use were produced and analysed in Geographical Information Systems (GIS). The effect of the policy on the change of fuel use in Indonesia was investigated through non-parametric statistical analyses. The effects of household income and rural-urban location on change in fuel use were also investigated. Interviews with central government and local government were conducted to identify the role of government in ECPKL policy and their aims in instigating the change in fuel use from kerosene to LPG. Interviews with members of society were also conducted to investigate societal acceptance of LPG and the factors that influence willingness or reluctance to use LPG.

Results of the study show that, in terms of quantity of energy, share of expenditure and source of energy measures, the number of households using firewood in Indonesia from 2007 to 2011 was reduced. In 2011, more households had access to LPG in comparison to 2007, and households using kerosene in 2011 were in smaller number than those in 2007. This indicates that the implementation of policy to replace kerosene with LPG had achieved the target of improving LPG use and reducing kerosene on one hand and only had a small influence on the reduction of traditional fuel for cooking use on the other hand, because there was no attempt from the government through the ECPKL to reduce firewood and other

traditional fuel use. It was also found that injustice in the distribution of cleaner fuel for cooking use in Indonesia was apparent, but it reduced from 2007 to 2011. Similarly, the policy implementation led to a reduction in the difference between rural and urban areas in proportions of modern and traditional users, between 2007 and 2011. Interview analysis revealed that there are three levels of adoption of LPG, i.e. full adopters, partial adopters and non-adopters. The factors affecting adoption of LPG include price and the market for LPG and kerosene; trust; the tangible and intangible characteristics of appliances; the campaign for LPG by family and neighbours, and kitchen architecture. Some people decided not to adopt LPG and continued to rely on firewood. There are four main factors that were connected with continuing firewood use: behaviour and life style, economic reasons, being elderly in a rural area, and living in a location that had plentiful firewood resources.