



ELSEVIER



Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 211 (2015) 336 – 341

Procedia
Social and Behavioral Sciences

2nd Global Conference on Business and Social Science-2015, GCBSS-2015, 17-18 September
2015, Bali, Indonesia

Effect of injured Acute Respiratory Infection (ARI) and Having Toddler in household to the willingness to pay of Smog Risk Mitigation in District of Pontianak and Pontianak City, West Kalimantan

Restiatun^{a*}, Eddy Suratman^b

^{a,b} Tanjungpura University, Pontianak, West Kalimantan, Indonesia

Abstract

Acute respiratory infection (ARI) is one of the negative effects caused by smog. The main cause is the burning of land carried out by the entrepreneurs during the opening land. This was done because the way is the cheapest way of opening land. Injuring ARI resulted in many losses; include medical expense, lost income when injured sickness, in addition to sickness creates disutility. To reduce the magnitude of cost, the ARI sufferers have willing to compensate for employers. This research is aimed to determine people's willingness to pay for risk mitigation of smog as well as investigate its determinants.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Organizing Committee of the 2nd GCBSS-2015

Keywords: Willingness to pay, smog risk mitigation, Acute Respiratory Infection

1. Background

Burning of land is the most inexpensive way to land clearing than the manual way, if it does not take into account the resulting negative impact (Potter & Lee (1999)). The direct impact of the burning land is the occurrence of smog, where smog cause a variety of negative impacts among outbreak acute respiratory disease (ARI), which if attacked

* Corresponding author. Telp. + 62-0561-743465 ; fax +62-0561-766840
Email Address: restiatun@untan.ac.id ; eddy_suratman@untan.ac.id

babies and toddlers can cause death. Smog also lead to disruption of economic activities as a result of flight delays, traffic jams as a result of the extremely limited visibility, and so on (Detiknews, some editions).

This disaster occurred almost every year in West Kalimantan, even according to the results of the NOAA-18 satellite detection during the period of January, 1st to September, 10th 2012, West Kalimantan is a province with the highest number of hotspots, as many as 5,027 hotspots (www.mongabay.co.id). According BNPB (National Board for Disaster Management) (2003), the city of Pontianak and Pontianak district are two of the seven areas in West Kalimantan are included in the disaster-prone areas, including fire.

Forest fire smog is composed of carbon monoxide, sulphur dioxide, nitrogen dioxide, ozone, lead, volatile organic compounds, and particulate matter (Carney, 2003), so it is not healthy for the inhale and can cause ARI illness. ARI attacks the throat, nose, and lungs which lasted for 14 days. ARI infect the part of the structure of the upper and lower the respiratory tracks simultaneously or sequentially (Behrman et.al, 2015: 89).

Given the high costs caused by the haze, so risk mitigation is a necessity. If people are willing to give compensation to the land burners, there are expected to landowners will stop burning the land and began clearing it manually. The value of willingness to pay (WTP) of households for mitigation activity is a measure of the amount of benefit that is believed to be received by each household.

In general, variations in the value of WTP are influenced by several factors. Several previous studies (Pavlova, Groot, & Merode, 2004; Olsen, Donalson, & Pereira, 2004; Awad, Donalson, Lucini, & Moatti, 2004; Binam, Arsene, & Nkendah, 2003; Viscussi & Evans, 1990) found that the magnitude of the value of willingness to pay (WTP) significantly affected by income level. In research on health insurance premiums was found that individual subjective beliefs on health risks significantly affect the value of the WTP (Restiatun, 2014). In terms of smog risk mitigation, the WTP values for these activities would also be influenced by risk perceived to the dangers of the smog on health. So in addition to the role played by demographic factors, psychological factors are also influential in the determination of the WTP value.

2. Theoretical Framework

Each negative impact always causes costs to be borne by the recipient of an impact. The level of losses on the value of health from smog disaster events is very high. Total loss is derived from the sum of the costs of health care due to ARI disease that caused by air pollution and the loss of income when sick so he or she cannot work, as well as other immaterial costs as a result of disruption of economic activity.

Costs of illness in the form of costs to be incurred to restore the health status plus disutility arising from illness (Wagstaff, 1986). In addition, pain may also cause the loss of opportunity to earn income due to cannot work while ill (Barigozzi, 2006). The total cost caused by smog to society may be far greater than the costs for the prevention activities. The amount of expenses that the public is willing to pay to mitigate the risks of smog will be measured in the value of their willingness to pay.

Batemen, et al. (2000) states that there are four tools to quantify the WTP. Assumed individuals are as totalled to contactable two types of goods, X and Y, where X is interpreted as a particular commodity, while Y is a composite, measured in the value of money (Rp). WTP will measure the change in the value of individual consumption from x to x' (where $x' > x$) or vice versa, given some initial endowment, y is the numeraire. WTP measurement tools are as mentioned below.

a) Compensating Gain (CG). Assumed an individual has the endowment to the quantity of x, y. CG (x, x', y) is the maximum amount above the Y is willing to pay as compensation of the increase in consumption from x to x'.

b) Compensating Loss (CL). Assumed an individual has endowment with the quantity x', y. CL (x, x', y) is the minimum amount on Y are willing to accept for the decline in consumption of x' to x.

c) Equivalent Loss (EL). Assumed an individual has the endowment to the quantity x', y. EL (x, x', y) is the maximum amount of Y are willing to pay to avoid a decrease in consumption of x' to x.

d) Equivalent Gain (EG). Assumed an individual has the endowment to the quantity of x, y. EG (x, x', y) is the minimum amount Y is willing to accept for the things that can stop the increase in consumption of x' to x.

CG, CL, EL and EG specified in terms of individual behavior, in which the fourth is an independent empirical measure. Based on the model of Hicksian consumers behaviour, if the goods are examined strictly normal, then the $CG = EL < EG = CL$.

Download English Version:

<https://daneshyari.com/en/article/1108190>

Download Persian Version:

<https://daneshyari.com/article/1108190>

[Daneshyari.com](https://daneshyari.com)