The Role of Built Environment on Under-Five Malnutrition in Indonesia

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Abstract— Thirty five percent of under-five deaths are associated with undernutrition. In fact, there were more than one hundred million underweight children, 171 million stunting children, 13 million low birth weight children. In many developing and poor countries, malnutrition is still a burden. The built environment is factors that affect the nutritional status. Yet, the data and information on the relationship between the built environment and the undernutrition is still limited. The analysis aims to obtain the relationship between the built environments with nutritional problems on under-five children.

Method

This is a secondary data analysis. Data on the prevalence of malnutrition on under-five children is obtained from a national survey Basic Health Research (Riskesdas) 2013 that covers 82,666 children throughout 34 provinces in Indonesia. Data of the built environmental was derived from a national survey Village Potential Statistics 2011, which covers all villages in Indonesia, 70,390 villages. Ecological analysis and regression were conducted to examine the relationship between prevalence of malnutrition and various built environment variables. The unit of analysis is province.

Results

The prevalence of underweight (z-score <-2) was 19.6 per cent in 2013 and stunting (z-score <-2) was 37.2 per cent on under-five children in 2013. The correlation analysis suggested that variable of a waste temporary shelter (WTS) in village (r= 0.70), four-wheel car passable roads in villages (r = 0.59), a restaurant/food vendor in village (r = -0.52), and a minimarket in village (r = -0.59) had the most strongly and significantly correlated with the prevalence of underweight (zscore <-2SD). While variable of four-wheel car passable roads in villages (r = -0.60), a waste temporary shelter in village (r = -0.74), a minimarket in village (r = -0.56) were the most strongly and significantly correlated with the prevalence of stunting (z -score <-3SD). To eliminate underweight and stunting in the longer term, interventions need to address those variables and other underlying causes of undernutrition, such as poverty, infrastructure, and unhealthy environment.

Index Terms: **built environment, malnutrition, underweight, stunting, community nutrition**