

8<sup>th</sup> International Conference on

# FOOD SAFETY, QUALITY & POLICY

November 27-28, 2017 Dubai, UAE



**Jong-Tae Lee**

Korea University, South Korea

## Application of DPSEEA framework in developing food safety health indicator in Korea

Food safety health indicators are useful tools for explaining the food hazards, contamination pathways, contamination and exposure status, and health effects in terms of public health. It is necessary to organize indicators by applying a systematic framework in order to link and interpret the complex relationship between food hazard factors and human health. We have applied the Driving Force-Pressure-State-Exposure-Effect-Action (DPSEEA) framework to develop food safety health indicators in Korea. We have investigated the pros and cons of each of the various frameworks in use. DPSEEA framework was selected because it divided the chain of causation into five domains from distal to proximal cause and also allows for actions to target each domain. Based on this framework, Korean food safety health indicators were developed through a total of 6 procedures. The indicator developing process was conducted with 45 initial indicators and total of 4 indicators were selected. Among the final 4 indicators, one indicator corresponds to 'State' domain, which indicates the chemical hazards of residual pesticides. The remaining three indicators are in the 'Effect' domain and are indicators of the health effects of food contamination. The final indicators can be useful in food safety management because they can represent information on the overall food environment, hygiene and food health. DPSEEA framework was useful in developing food safety health indicator in that each indicator can be classified according to the domain and intervention points can be identified systematically. However, a structure limitation in this framework is that it does not take into account population sensitivity or vulnerability, which can affect the area between each domain and can cause the health risk to vary across time and space. Modified version DPSEEA framework would be needed when developing the indicators.



Fig. 1. Driver-Pressure-State-Exposure-Effect-Action (DPSEEA) framework.

### Recent Publications

1. Choi G, Heo S and Lee J T (2016) Assessment of environmental injustice in Korea using synthetic air quality index and multiple indicators of socioeconomic status: A cross-sectional study. *Journal of the Air & Waste Management Association*; 66(1): 28-37.
2. Son J Y, Lane K J, Bell M L, Lee J T (2016) Urban vegetation and heat-related mortality in Seoul, Korea. *Environmental Research*; 151: 728-733.

### Biography

Jong-Tae Lee is a Professor in the Department of Public Health Policies and Management in Korea University, South Korea. He holds PhD degree in Epidemiology from University of North Carolina at Chapel Hill. He has contributed to epidemiologic researches on air pollution and climate change for almost three decades. He has participated in the Global Burden of Disease Project as an expert on air pollution in Eastern Asia. His interest concerns variation of effects of air pollution and its connection with political accountability.

[jtleee@korea.ac.kr](mailto:jtleee@korea.ac.kr)