

# **Comprehensive evaluation on environmental load and its reduction potential related to food system in Japan**

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This research aims to evaluate environmental load related to Japanese food consumption and its reduction potential using method of life cycle assessment (LCA). This thesis contains below;

- a. Life cycle evaluation of Japanese food system.
- b. Estimation of potential in environmental load reduction by various measures
- c. Scenario analysis of future household consumption including food consumption
- d. Dynamic analysis of future environmental load and its reduction based on future scenario

In “a”, LCA method was utilized to estimate environmental load from production, transportation, consumption, waste treatment of food items, and environmental load emission structure of Japanese food system.

From result of “a”, quantitative effects by emission reduction consumption of various measures by producers and consumers are evaluated in “b”.

On the other hand, consumption structure of household is analyzed to consider future changes of consumption pattern of food and other goods and services, and Greenhouse gas (GHG) emissions from them. The microeconomic model of consumers was estimated and applied several future scenario of demographic and economical conditions.

In “d”, changes of future emission structure and emission reduction potential using the results of “a”, “b”, and “c”.

This research is a comprehensive evaluation of environmental load related to Japanese food system including dynamic life cycle thinking.