Household waste generation in Asian countries [Session 9 Modeling session (3)]

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In this study, we develop a tool that estimates environmental load generation from consumption behavior, which is applicable to Asian countries where such data is limited. The tool is applied to study the environmental load generation in six Asian countries (i.e., Japan (JPN), China (CHN), India (IND), Indonesia (IDN), Korea (KOR), and Malaysia (MYS)) in order to estimate the household consumption structure and household waste generation until 2020. Figure 1 presents the estimation flow.

Table 1 present the estimation of the amount of household waste generated in the future. The estimated amount of household waste generated in Japan remained unchanged owing to a decrease in population or a slowed increase in consumption expenditure. In contrast, household waste generation was estimated to increase in all Asian countries other than Japan. In Korea, where consumption expenditure was estimated to slow down in a manner that was less significant than Japan, the amount of household waste generated in 2020 was estimated to increase by 1.36 times over the 2005 level; this estimate was around three times in China, Indonesia, and Malaysia and around twice in India. China presented an extremely high rate of increase in the amount of household waste generated per capita, with the amount estimated for 2020 being 2.67 times as much as the actual level in 2005.

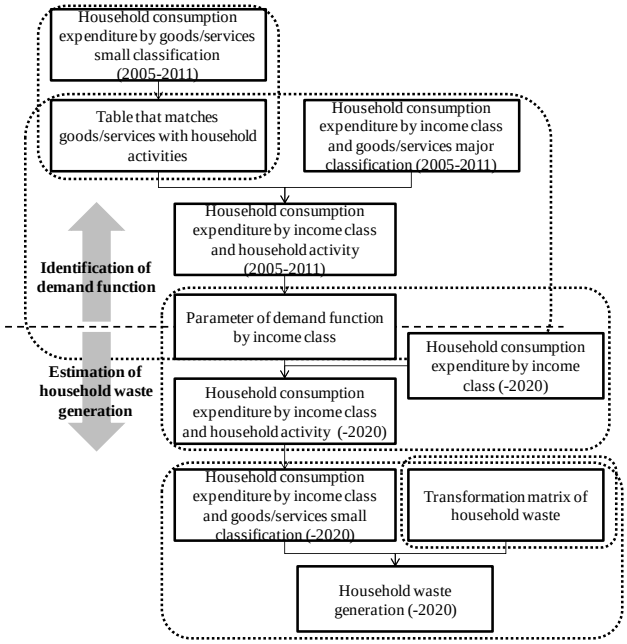

Figure 1 Estimation flow

Table 1 Future household waste generation

Total (Unit: 10^3 t)		2005	2010	2015	2020
JPN	Waste generation	12753	12719	12614	12602
	Growth rate		100%	99%	99%
CHN	Waste generation	31921	46635	65641	90683
	Growth rate		146%	206%	284%
IND	Waste generation	23085	28662	35438	43702
	Growth rate		124%	154%	189%
IDN	Waste generation	3674	5110	7409	10392
	Growth rate		139%	202%	283%
KOR	Waste generation	3082	3538	3904	4207
	Growth rate		115%	127%	136%
MYS	Waste generation	688	991	1407	1984
	Growth rate		144%	205%	288%
Per capita (Unit: kg/perso/year)		2005	2010	2015	2020
JPN	Waste generation	99.8	99.9	100.2	102.1
	Growth rate		100%	100%	102%
CHN	Waste generation	24.6	34.9	48.1	65.5
	Growth rate		142%	196%	267%
IND	Waste generation	20.9	24.0	27.7	32.0
	Growth rate		115%	132%	153%
IDN	Waste generation	16.8	22.0	30.3	40.9
	Growth rate		131%	181%	244%
KOR	Waste generation	64.0	72.4	79.2	85.3
	Growth rate		113%	124%	133%
MYS	Waste generation	26.3	35.1	46.6	61.8
	Growth rate		133%	177%	235%