SIDS (Pacific Island Countries) Capacity Building Training Programme on the Implementation for the Jaipur Declaration on 3R and Circular Economy (2025-2045)

Opportunities for advancing circularity in construction and demolition sector: The role of extended producer responsibility (EPR)

Michikazu Kojima
Senior Research Fellow on Environmental Issues
Economic Research Institute for ASEAN and East Asia
and
Chief Senior Researcher
Institute of Developing Economies, JETRO

Extended Producer Responsibility in the Construction Sector (1)

- Foster, Chris (2022) *Applying Extended Producer Responsibility in the Construction Sector.* A discussion paper, by Construction Products Association.
  - "It seems very unlikely that a single Extended Producer Responsibility scheme for the diverse set of construction products would work."
  - "It seems very unlikely, too, that one single instrument could achieve both a long-term objective of promoting a more fundamental shift towards a circular economy (e.g. as measured by total material consumption in the economy) and a short-term objective of changing practice in relation to current C&D waste (as measured by percentage recycled etc.)."

Extended Producer Responsibility in the Construction Sector (2)

- Graaf, Lisa, Zsolt Toth, Ruger Broer and Jules Oriol(2024) *Extended Producer Responsibility in the Construction Sector, Exploring the Potential – What is EPR? How Can It Be Applied? What is the Role of the EU,* Building Performance Institute Europe.

- The changing face of construction & EPR
  - If EPR simply engages new entities in managing construction and demolition wastes, and routes funding to those entities to increase recycling of the current waste stream, then these changes are of incremental significance, although a shift to modular construction methods is said to lead to much lower levels of waste at the construction site (i.e. the location of the finished building) so there may be less waste available than existing statistics would suggest.

Japan and Some Asian Countries

Japan: Construction Material Recycling Act (1)

- The Construction Material Recycling Act: enacted in 2000.
- The Construction Material Recycling Act requires that contractors of construction work (target construction work) above a certain scale, such as demolition work for buildings that use specific construction materials (concrete (including precast panels, etc.), asphalt concrete, wood) or new construction work that uses specific construction materials in its construction, must separate and dismantle the materials and recycle them.
  - https://www.env.go.jp/content/900452889.pdf
- In case of Japan, EPR is not mentioned in context of Construction Material Recycling Act.

Japan : Construction Material Recycling Act (2)

As the volume of waste generation increases, waste treatment related problems such as shortage of final landfill sites and improper treatment of wastes have been all the more worsening recently. Construction wastes including concrete blocks generated in construction works, asphalt/concrete blocks and timbers generated in construction works account for 20% of the whole volume of industrial wastes which equals to 20% of total volume of wastes put into final disposal sites, while they account for 70% of the total volume of illegal dumping (FY 2001).

Also, it is projected that construction wastes would be increased since the buildings constructed mid-1960s will be demolished and reconstructed in future. In order to address these issues, the Construction Material Recycling Law was enacted in May 2000, aiming at recycling and reuse of prospected construction materials in view of ensuring efficient use of resources. The Construction Material Recycling Law requires to contractors to sort out and recycle wastes generated in demolition work of a building that the specified construction materials, such as concrete (including pre-cast plates), asphalt/concrete and wood building materials are used or construction work using the specific construction materials and is above certain scale (hereinafter referred to as the "designated construction work").

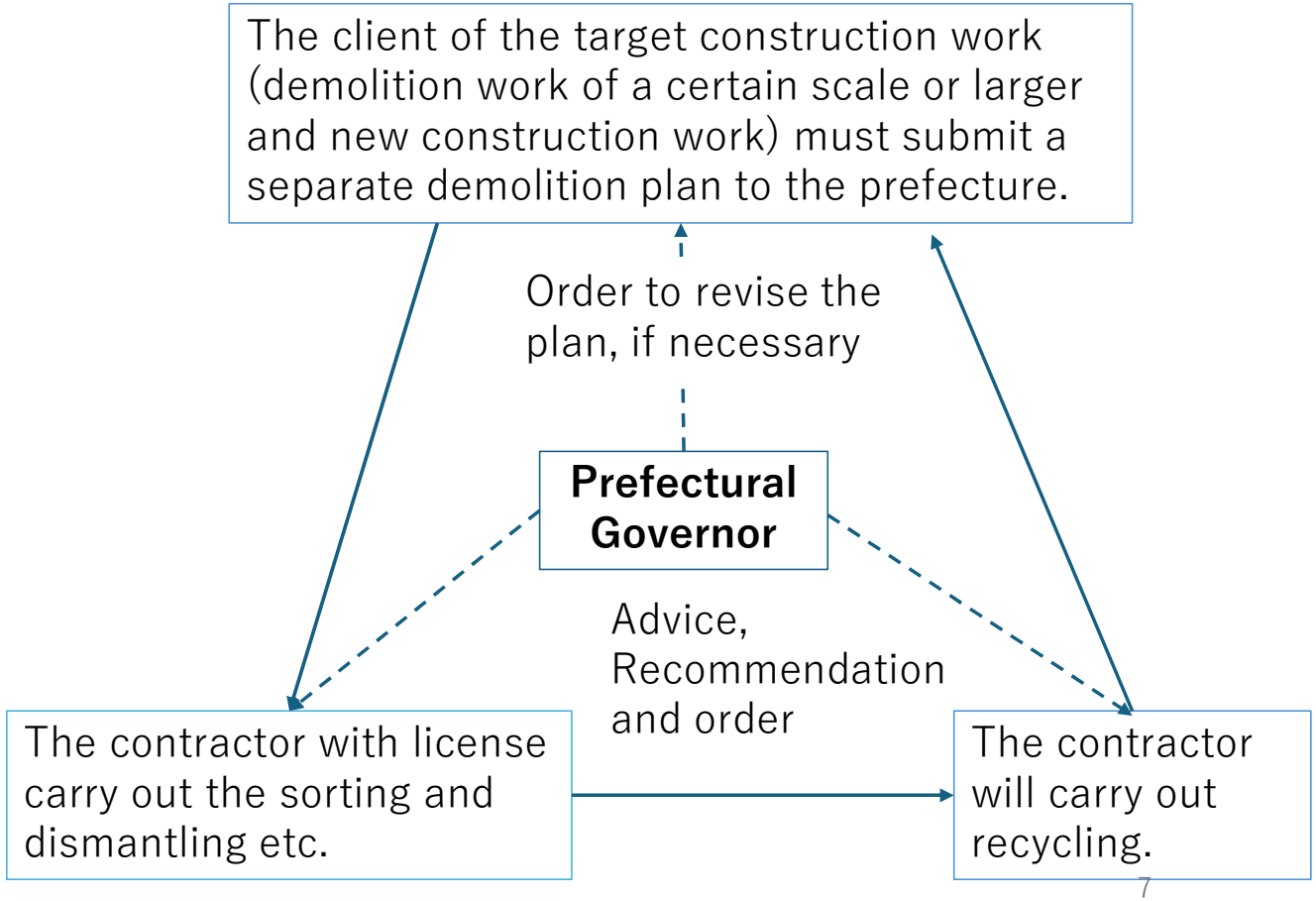
Criteria in the Terms of Scale for the Obligation of Sorting Construction Waste

(i) in case of demolition work of building, the total floor larger than 80 ㎡;

(ii) in case of construction work or enlargement work, the total floor area is larger than 500 ㎡;

(iii) in case of repair work or remodeling, contract fee exceeds 100 million yen; or

(iv) in case of demolition work or construction work other than building, contract fee exceeds five million yen



Reutilization Rate of Construction Sector in Japan

Material	Indicator	2018 Target Rate	2018 Achievement
Asphalt・Concrete Block	Recycling rate	Over 99%	99.5%
Concrete Block	Recycling rate	Over 99%	99.3%
Wood Waste from Construction Work	Recycling/Reduction rate	Over 95%	96.2%
Construction Sludge	Recycling/Reduction rate	Over 90%	94.6%
Mixed Construction Waste	Percentage of Mixed Waste	Lower than 3.5%	3.1%
Total of Construction Waste	Recycling/Reduction Rate	Over 96%	97.2%
Construction waste soil	Effective Reutilization Rate	Over 80%	79.8%
Mixed Construction Waste	Reutilization/Reduction Rate	Over 60%	63.2%

Source: Ministry of Land, Infrastructure, Transport and Tourism
https://www.mlit.go.jp/policy/shingikai/content/001361657.pdf

UK “Applying Extended Producer Responsibility in the Construction Sector”

- A discussion paper by Chris Foster (Construction Products Association), in January 2022.
  - https://www.constructionproducts.org.uk/media/557035/applying-epr-in-the-construction-sector-discussion-paper.pdf
  - Principles & Objectives
    - Incentives generated in any EPR scheme in the construction sector must apply to those who have control over relevant decisions.
    - EPR in the construction sector should seek the most environmental benefit for the lowest possible cost on the chosen timescale
    - Fair competition must be maintained.
- “Producer Responsibility (EPR) could and should be extended out to a wider range of products including construction products. This discussion paper seeks to explore the applicability of the concept of EPR to construction products - is it applicable to all, to some, or no products at all – and whether any general principles to guide potential application can be identified.

Design for Disassembly

- Zaipul Anwar Zainu amd Ahmad Rahman Songip (2016) “Design for Disassembly as Support Trend Towards Extended Producer Responsibility Policy in Malaysia”. *Journal of Science, Technology and Innovation Policy*, Vol.2, No.2.
  - the Malaysian Government has recently cooperated with the Japanese Government to draft a new framework to manage e-waste (i.e. electrical and electronic equipment waste), which include provisions of the EPR policy. With this scenario, it is highly important for both the manufacturing and construction industries to consider incorporating the Design for Disassembly (DFD) into their processes. The DFD is needed to support the EPR policy, since the DFD provides design and technical support that contributes to the successful implementation of the policy.

Question to Island Countries

- Are there construction companies in your country?
- Are there companies to repair building in your country?
- Are there companies demolish building, bridges and others?
- Are there companies which produce construction materials from construction waste?