

Social Benefits and Environmental impact of Reuse and Secondhand EEE Markets in Developing Asia - Possible policy options -

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Outline

- Review of Problems
- Identifying Possible Benefits
 - Economic, Social and Environmental benefits
 - Future research challenge
- Reviewing and Analysing SH EEE related Policies
 - Developing countries
 - Developed countries
 - International communities
- Research challenges

Problems-4 types

1) Unusable / non-repairable end of life EEE

- Disguised as second hand , inappropriately recycled
- Inadequate proper recycling / disposing facilities in developing countries
- Environmental pollution / health hazards

2) Second hand EEE which are very close to Unusable / non-repairable end of life EEE

- Short remaining life, insufficient repair
- They becomes Unusable / non-repairable end of life WEEE, very soon.
- Same as 1): improper recycle/dispose, environmental or health hazards

3) Usable / repairable but less energy efficient used EEE

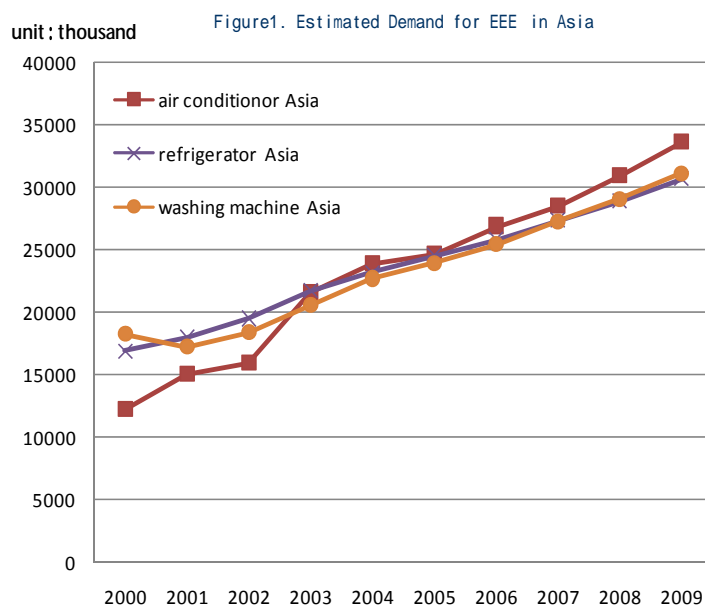
- The possible impact to GHG through the usage of Usable / repairable but less energy efficient second hand EEE

4) “Ultimate” “real” end of life of usable / repairable second hand EEE

- Same as 1): improper recycle/dispose, environmental or health hazards

- The existence informal sector (smuggler, improper recycler / disposer)
- Difficulties / different definition to distinguish between usable · repairable and unusable · non-repairable

Economical benefits: Satisfying rapidly growing demand



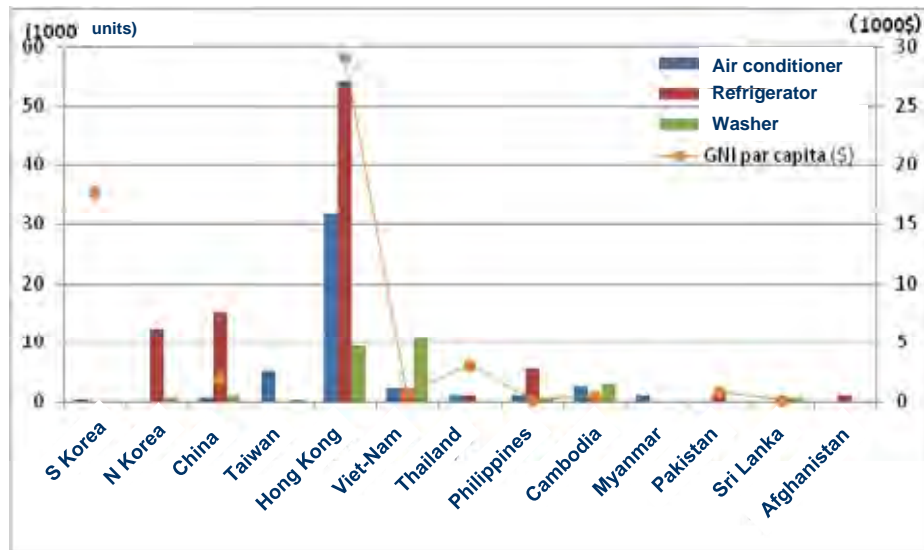
Source: compiled by IGES based on JEMA

上 JEMAによれば、2000～2005年の需要は、各国の公式統計(販売統計、生産・輸出・輸入統計)等の情報を収集・分析した実績値であり、2006～2009年の需要は、JEMA委員各社の海外拠点を通じて入手した情報や、調査会社の情報、各国の経済状況等をもとに予測した推計値である。

Economical benefits: Providing products at affordable price

Lower GNI countries tend to import more secondhand EEE.

Figure2-1. the export of second hand EEE from Japan to Asia (2008)



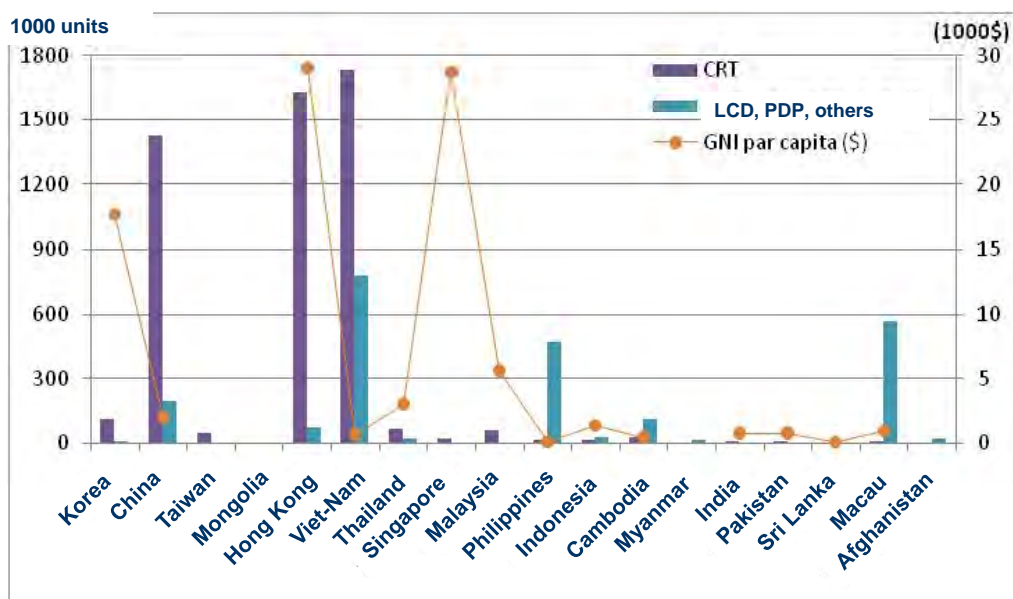
Source: compiled by IGES based on MOF Japan

- Based on HS code which applied since Jan. 2008
- The figure does not include disguised or smuggled trade.

Economical benefits: Providing products at affordable price

Lower GNI countries tend to import more secondhand EEE.

Figure2-2. the export of second hand EEE from Japan to Asia (2008, HS code base)



Source: compiled by IGES based on MOF Japan

- Based on HS code which applied since Jan. 2008
- The figure does not include disguised or smuggled trade.

Social Benefit

- Increasing choice of products
 - Audio, fixed phone, sewing machine
- Employment, Skilled Labor Force



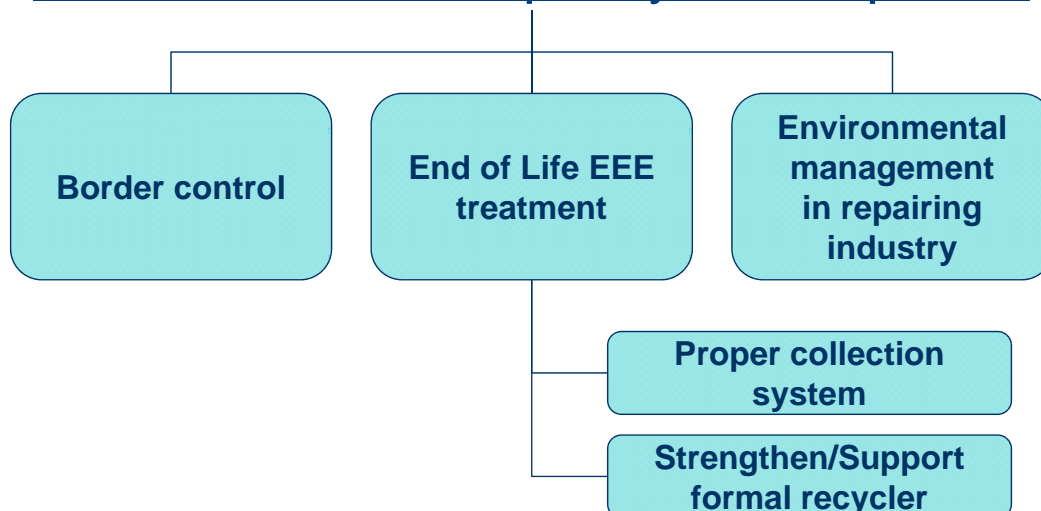
- Material Resource Saving? but non energy saving?



photo by Hotta, Aoki of IGES WMR

Policy Analysis - developing Asia

Institutional and capacity development



Border control – developing countries

- Developing import regulations,,,,,,
 - Different standards country to country
- But, Weak enforcement of border control 
- **✗** secure legal trade perfectly
 - control or inspections are conducted only **through checking documents** submitted by exporters or importers
 - pre-shipment inspections in addition to border control.
- **✗** check all containers
 - strengthen direct check of containers through x-ray inspection system,
- Illegal traders tend to go vulnerable ports in local area




Difficult to change the situation immediately,,,
 - Institutional and Capacity Development in longer term
 - Exporting developed countries should have primary responsibility

End of Life EEE treatment – developing countries

Current situation –

Secondhand EEE, either legally or illegally imported, becomes the end of life EEE at the end. & Likely to be collected by informal actors and recycled improperly.

- Weak or lacking Governing institutions for **waste collection and transportation systems**
- Low **awareness** in household for the risk of improper recycles 
- Few physical **infrastructures** for environmentally appropriate recycling
- Shortage of technical **know-how and trained staff**



Proper collection system, Strengthen/Support formal recycler

Infrastructure, Institutional and Capacity Development in longer term

End of Life EEE treatment – developing countries

Proper collection system

- Should be properly transported to proper recyclers not informal actors.
 - to shift a flow towards from inadequate to adequate treatment.

Strengthen/Support formal recycler

- EPR–based recycling system cannot be simply applied(Kojima et al., 2008)
 - difficult to define responsible actor of end-of-life products
 - Illegally imported second hand
 - repaired goods composed of several makers' parts
 - counterfeit products
- The approaches of China and Thailand can be considered
 - Fund to subsidize to formal recyclers which manage hazardous waste and used products
 - take charges for regulated product from producers/importers



Promoting the formalization of informal sector

Environmental Management in repairing industry – developing countries

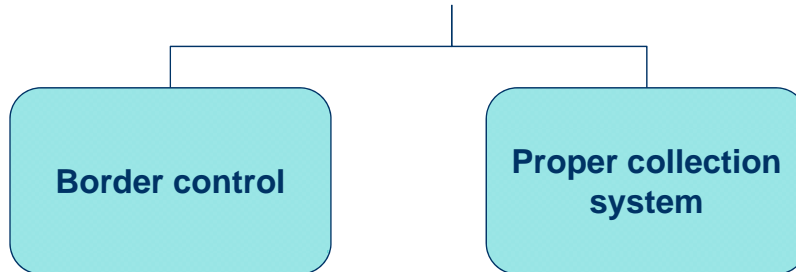
- Little treatment has been conducted for residues of repaired products or chemicals emitted in the related industry.
 - Residues(can be hazardous) are collected as municipal waste



- **Strict environmental and health standards**
- **Training and awareness raising**
- **Waste collection systems of the repairing market**
- **Quality evaluation system for second hand to avoid the dissemination of short-remaining life products, which become e-waste soon.**

Policy Analysis - developed Asia

Strengthen policies and enforcement



Border control- developed Asia

- Exporting developed countries should have primary responsibility

- There are still loopholes (Ex. Japan)

✗ Documents



- customs requires traders to submit pictures of the contents of containers to customs authorities, together with other export application documents.
- But exporter could still replace the contents after making documents.

✗ Checking all containers

- Authorities also conduct x-ray or open inspections of randomly selected containers.

✗ Guidelines to distinguish between secondhand and e-waste



- It does not cover all traded secondhand electronics.
- Ex. Japan
 - For trader: CRT TV only (CRT monitor is under consideration)
 - For consumer , retailer: TV, AC, Washing machine, refrigerator
- Basel convention: mobile, PC

End of Life EEE treatment – developed

- Ensuring formal collection from end-user
 - Recycling system is already well established
 - As long as **end-user send to formal recyclers in the countries**, the used electronics are properly recycled.
 - E-waste would not be exported, not be disguised as second hand or metal scraps.



To make end-user follow the formal process

- Economic incentives, for example deposit-refund systems.
- More convenient collection system
- System to easily identify reliable collectors

Expectation to developed exporting countries Policy Analysis - International Framework

- Internationally standards on secondhand EEE
 - It might violate direction / thoughts / attitude to the benefit of trade in each country
 - The definition depends on the country's capacity
- International organization which provide fund to improve used EEE related issues in developing countries
 - International producer organization
 - Producer would pay depending on the amount of exported secondhand
 - statistical development of Secondhand EEE necessary (Japan applied HS code to Secondhand EEE)
 - Extension of EPR
 - Extended exporter responsibility(Yoshino, 2008)
 - Exporting country would provide money through (ODA etc...) depending on the amount of exported secondhand
 - International hazardous waste compensation fund (Kummer, 1995)
- Basel Convention

Challenges for future Research

- **Quantitative information on benefits**
 - Detailed information on Price of SH
 - The % of secondhand in the whole EEE markets in each Asian countries
 - The size of repairing market (Number of people, sales etc...)
 - More info. of environmental impact on international trade of second hand EEE

- **Need more policy analysis from the perspectives of increasing benefits**
 - Current analysis are relatively focusing on reducing environmental benefits

- **Focus Area (*Not only Japan and developing Asia....*)**
 - From EU, US, Korea, China (big manufacturer)to developing Asia
 - Between developing Asia to developing Asia or others

Thank you.







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Social benefits: Increasing choice of products at Cheaper(?) Price -Example of prices and situation in Markets

Examples of price & brand name of secondhand products sold in Siem Reap and Hanoi	
PC	Siem Reap : Desktop(180-290US\$), laptop (360 (hp)-450US\$ (IBM)) HP, IBM, Dell, Hitachi
TV	Hanoi : 21 inchCRT:100\$, More than 32 inch CRT is also popular (Siem Reap : New products of Chinese SONY is popular (14inch=36US\$, 21 inch =47US\$), but life is 3-4 years)
AC	Siem Reap : Many SH are made in Japan, 100US\$-150US\$ (repaired) Hanoi : Many SH are made in Japan 35US\$(non-repaired), 300 US\$(repaired incl. setting)
Audio	Siem Reap - Hanoi : Most of SH are made in Japan or Japanese brand made in Malaysia or China
Fixed phone	Hanoi : Most of SH are made in Japan

Source: authors based on Field survey in Dec 2009 (photo by Hotta, Aoki of IGES WMR)

How can we decide Good balance between enhancing/keeping benefits and reducing negative impacts?- developing

	Border control	End of Life EEE treatment		Env. Management in repairing industry
		Proper collection	Strengthen formal recycler	
Reducing negative environmental effect				
Increasing benefit				

Need more policy analysis from the perspectives of increasing benefits.

How can we decide Good balance between enhancing/keeping benefits and reducing negative impacts?- developed

	Border control	Proper collection
Reducing negative environmental effect		
Increasing benefit	*guideline	

Need more policy analysis from the perspectives of increasing benefits.

How can we decide Good balance between enhancing/keeping benefits and reducing negative impacts?- international community

	International standards	International organization
Reducing negative environmental effect		
Increasing benefit		*depends on money allocation

Need more policy analysis from the perspectives of increasing benefits.

Linkage with the Basel Convention

- There is limitation of the Basel Convention
 - Basel does not cover second hand EEE
 - Difficulties to distinguish between secondhand and e-waste will remain as a concern
 - Basel Ban amendment might not be realistic option
 - The ban might violate the benefit of legal trade
 - The Ban can only the trade under the legal process, Smuggling and disguised trade will remain as concern
 - The amendment regulate only the trade from OECD to non-OECD
 - The trade among non-OECD had been happening and increasing recently
 - National import regulation are not well linked to the Basel
 - The SBC does not manage all the information of import regulation
 - Some import regulation are beyond the Basel
 - Some countries do not inform their import regulation
 - Even though the article 3
 - Some developing countries have not developed import regulation yet