

Networking International Recycling Zones in Asia

- Towards improvement of resource efficiency and solutions for environmental problems in developing countries -

*Toru Hashi and
Hideyuki Mori*



Author: Mr. Toru Hashi
Senior Policy Researcher,
IGES Long-term Perspective and
Policy Integration Project
hashi@iges.or.jp



Author: Mr. Hideyuki Mori
Project Leader,
IGES Long-term Perspective and
Policy Integration Project

The Asian region is experiencing a rapid expansion of the cross-border market for recyclable materials (recyclables). As a consequence of rapid economic growth in the region, the demand for resources has increased. On the other hand, there are also negative impacts on the environment and human health, especially in developing countries, because of illegal dumping and inappropriate treatment of waste. The cross-border movement of recyclables presents an opportunity to develop a sound material-cycle society in the region. But how can an appropriate recyclables market be established? The solution is **Networking International Recycling Zones** in countries within the region. The Network of International Recycling Zones will not



The informal waste sector operating at landfill site (Malaysia)

only promote recycling industries in developed and developing countries, but will also minimise the illegal waste trade. This would result in creating economically and environmentally appropriate markets in the region.

Cross-border market expansion

The major driving forces of the recent rapid market expansion include the significant growth of demand for recyclables in China (Figure 1) and the increased supply capacity of recyclables in industrialised countries in the region. Since countries such as Korea and Japan introduced the 3R policy (Reduce, Reuse, Recycle), they have strengthened their domestic market for recyclables and have become major exporters of recyclable materials.

The growth of cross-border markets for recyclables has highlighted the practices of illegal dumping and inappropriate treatment of waste in receiving countries. Within these countries, monitoring of illegal trade is weak and there is

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“...countries must actively endeavour to reduce waste by implementing a comprehensive waste management policy such as the 3Rs.”

a lack of capacity for proper waste management and disposal. Consequently there has been a significant negative impact on the environment and human health. This situation is particularly prevalent in developing countries as recyclables tend to flow into countries that have high resource demand and low labour costs. In Guangdong Province, China, around 100,000 poor migrant workers are employed to break apart and process obsolete computers imported from developed countries. These computers contain hazardous substances and since local workers do not have adequate technology or protective equipment, they are exposed to appalling working conditions, unaware of health dangers and environmental hazards. Open burning, acid baths and toxic dumping are just some of the practices causing serious pollution of land, air and water.

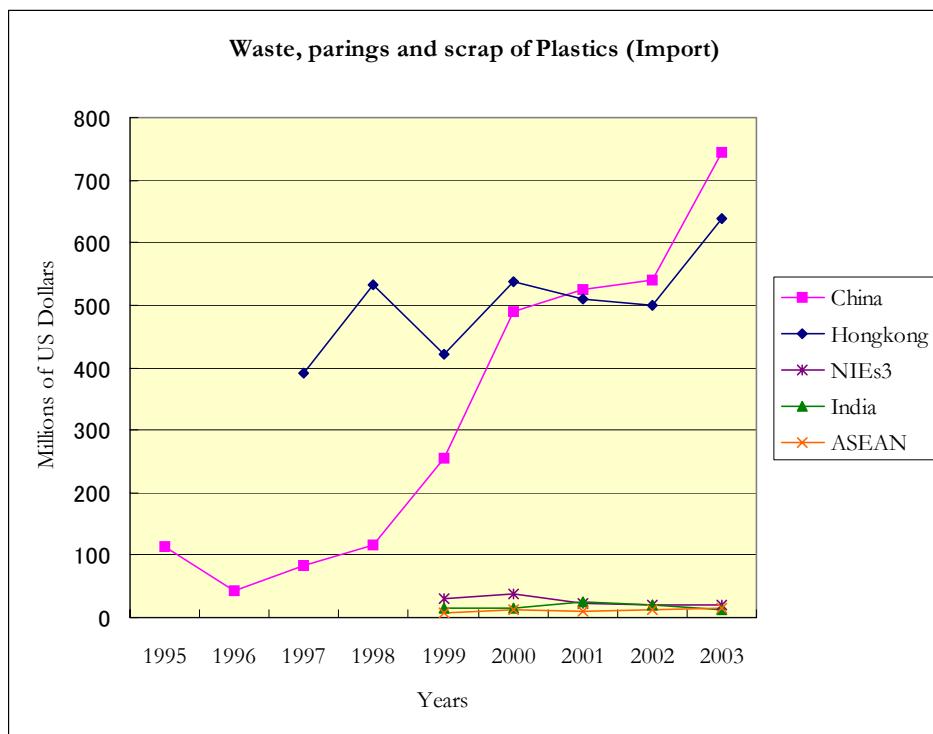


Figure1. Trend of import of waste plastics in the region
Source: World Trade Atlas

“...the trade of recyclables must take place only when the receiving country has adequate waste management capacities.”

Does the existence of these practices mean that the expansion of the cross-border market should be discouraged? No, but certain conditions must be met before further expansion takes place. The cross-border market is considered complementary to waste minimisation because such policy introductions will narrow demand-supply gaps of recyclables which currently exist in many domestic markets. Consequently resource efficiency will increase on a region-wide basis.

The first condition in expanding cross-border markets is that waste generating countries must act to reduce waste by implementing a comprehensive waste management policy such as the 3Rs. Waste minimisation efforts in each country will lead to the creation of a new market for recyclables and the expansion of related industries, both of which will generate employment opportunities.

“Our proposed policy promotes a sound environmental and economical cross-border market for recyclables.”

“Participating countries must establish International Recycling Zones comprising a designated port and designated industrial areas.”

The second condition is that the trade of recyclables must take place only when the receiving country has adequate waste management capabilities. The two major problems which currently exist within the cross-border market are illegal or disguised trade, and the inappropriate treatment of recyclables in receiving countries. A number of developing countries have reported serious environmental and health concerns resulting from the trade of e-waste containing hazardous substances. The lack of capacity of developing countries to appropriately manage waste of this kind has therefore already been highlighted as an issue of concern.

The reality is that the international trade of recyclables is driven purely for economic reasons without regard to environmental and health implications. Urgent action is needed to properly address these issues before further expansion of the cross-border market takes place. **Our proposed policy promotes a sound environmental and economic cross-border market for recyclables.** It seeks to reduce illegal and disguised trade, while at the same time helping developing countries to enhance their capacity for proper waste management.

Responsibilities within the Network of International Recycling Zones

The proposed policy has three components: the introduction of a **certification system**, the establishment of reliable **International Recycling Zones** in participating countries, and the **networking of the recycling zones** in the Asian region.

Certification system

Each government introduces a system to **certify companies and traders** willing to conduct international trade on recyclables through designated International Recycling Zones (see below). Eligible companies must have factories and offices in a designated zone, a good performance record, and suitable financial and technological capacity. The list of certified companies will be shared by participating countries.

International Recycling Zones

Participating countries must establish **International Recycling Zones** comprising a designated port and designated industrial areas (Figure 2). The designated port will facilitate international trade of recyclables, providing the transaction is between certified companies. To reduce processing time, document requirements for customs clearance will be minimised and physical inspection procedures will be simplified. As such, there will be a significant advantage of undertaking cross-boundary trade through international recycling zones rather than through ordinary ports.

The designated port is linked to **designated industrial areas** which process all recyclables traded between designated ports. The designated industrial area in exporting countries manages the collection, sorting and storage of recycled materials, while the industrial area in importing countries will be responsible for the separation, demolition, and extraction of recyclables; remanufacturing using

recyclables; and shipment of recycled products to importing countries. The industrial area will accommodate the factories and offices of certified companies, and provide R&D and training facilities. Access to soft loans may provide the initial financial incentive required to attract companies to designated industrial areas.

“International agreement is required to effectively implement this policy”

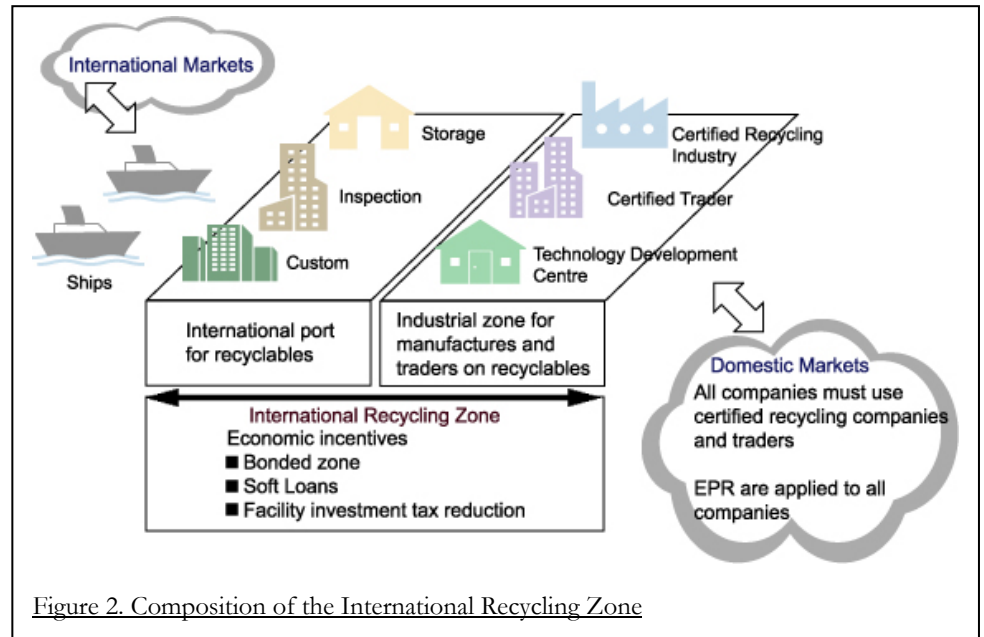


Figure 2. Composition of the International Recycling Zone

Network of International Recycling Zones

International agreement is required to effectively implement this policy. Detailed regulations regarding customs clearance, and appropriate treatment and disposal of recyclables must be agreed upon and ratified by participating countries. Once this has occurred, a network of international recycling zones will be established (Figure 3). One of the strengths of this policy is the possibility of introducing the system on an experimental basis, as the first step towards more full-fledged agreement in the future.

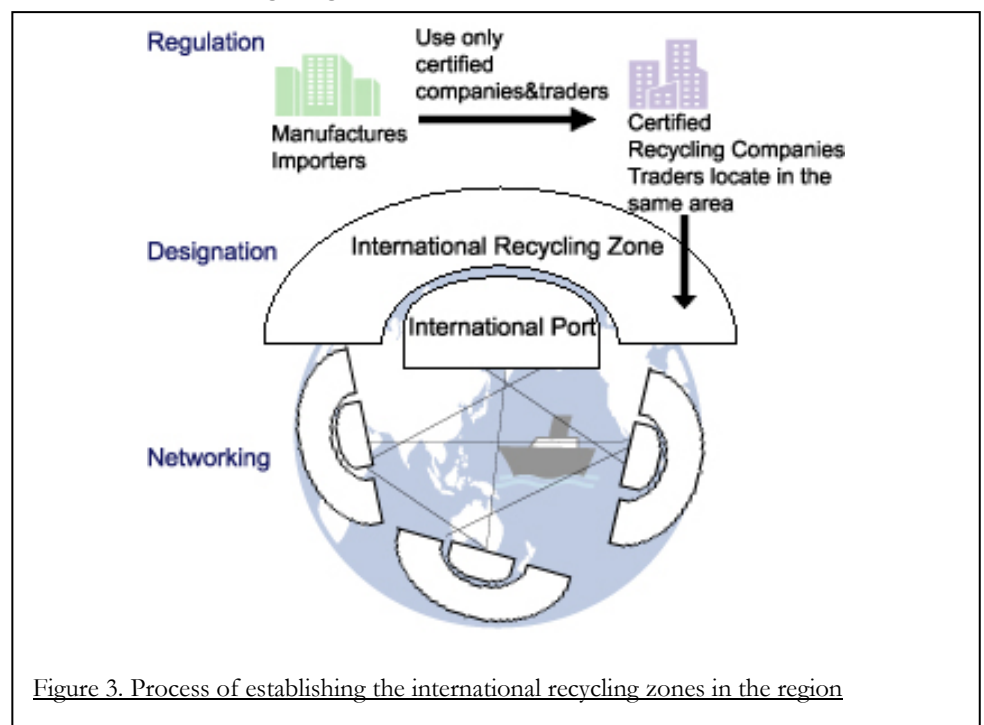


Figure 3. Process of establishing the international recycling zones in the region

“One of the advantages of the proposed policy is that it can be implemented as a pilot project with some countries and regions.”

“The certification system provides a competitive edge for companies who have proven their reliability and capability.”

The responsibility for administering the cross-border trading network will be held by a small joint office established by participating countries. Staffed by representatives of these countries, it may be accommodated in one of the international or regional organisations concerned. In addition to the administration of the network, the joint office may initiate capacity building activities when appropriate. If this policy is introduced on an experimental basis, the established project office will take a coordination role.

The joint office will monitor international transaction on recyclables, liaise with NGOs and other stakeholders, and coordinate and facilitate agreement on rules and regulations relevant to recyclables trade including terms, standards, and procedures. In addition, the joint office will assist developing countries to enhance waste management capabilities by providing training, developing technology, and disseminating information.

One of the advantages of the proposed policy is that it can be implemented as a pilot project with some countries and regions. This will be the initial step for the future agreement and implementation of the proposed policy. Sites which could easily be adapted into international recycling zones include the Kitakyushu Eco-Town Project in Japan, which aims to establish a base for international resource recycling in East Asia, and the industrial zones for recycling along the Pacific Coast of China. The connection of these zones will be the first step in establishing a network of international recycling zones.

Outcomes of Networking International Recycling Zones

The six expected outcomes of the policy are:

1. Reduction of illegal activities

Illegal activities will be reduced by increasing trade among certified companies via designated port zones. The certification system provides a competitive edge for companies who have proven their reliability and capability. The reduction of illegal dumping and inappropriate treatment of waste will result in minimising the negative impacts on the environment and human health. The proposed policy will increase the use of designated ports for the trade of recyclables. The authorities of non-designated ports can, thus, concentrate their monitoring activities on the reduced volume of recyclables traded through them.

2. Transformation of the informal sector

Prominent in developing countries, waste scavengers, waste traders, junk shops, and other informal sectors of recyclables trade will be transformed into a more dynamic sector. Operations located in designated international recycling zones will benefit from training opportunities and the transfer of technology. As such, these operations will gain formal support from within their countries and internationally.

“...approval procedures introduced in designated international recyclable zones are streamlined thereby minimising administrative delays.”

3. Promotion of technological development and exchange

Collaboration between certified companies located in the same international recycling zone will have broad benefits for the industry as a whole, with the waste of one company providing useful resources for another. Technologies to enable the conversion of hard-to-process waste into resources may be jointly developed, and disseminated throughout the network.

4. Mitigation of negative impacts on human health and the environment

Current inappropriate treatment of waste by companies and individuals, primarily in developing countries, has a negative impact on the environment and human health. The proposed policy will reduce such impacts by giving a comparative market advantage to companies capable of appropriately handling recyclables, and hence, reduce illegal activities.

5. Reduction of barriers to the international flow of recyclables

Barriers such as higher tariff rates and non-tariff barriers for recyclables have restricted the international flow of materials and stunted opportunities for technological developments realising the process of converting waste into recyclables. The proposed policy counteracts these barriers for certified companies operating in designated zones.

6. Simplification of the Basel Convention approval process

Import and export of hazardous waste is currently controlled by the Basel Convention (1989). The existing import/export procedure requires approval from all countries, including transition countries, for trade to proceed. This cumbersome procedure has become a barrier to international trade of recyclables. Through the proposed policy, approval procedures introduced in designated international recyclable zones are streamlined, thereby minimising administrative delays.

Strategies for Implementing the Network

The proposed policy may initially be implemented on an experimental basis. Once proven effective, it will incorporate more countries and designated zones. This roll-out approach provides an opportunity for issues requiring international cooperation and agreement to be resolved.

Co-existence with the 3R initiative

At the G-8 summit held on 8-10 June 2004 in the United States, participants agreed to the 3R initiative, which advocates the establishment of a recycling-based society by globally promoting the 3Rs.

Based upon this agreement, the Ministerial Conference for the 3R Initiative was held on 29-30 April 2005 in Tokyo, Japan. Discussions at this conference highlighted differences in the opinions of developed countries and developing countries regarding promotion of the trade of recyclables and remanufactured goods. The primary concern of developing countries was that the

implementation of such a policy would increase their risk of becoming a dumping ground for waste generated by developed countries.

The proposed policy addresses this concern by establishing a win-win situation for both developed and developing countries. If introduced in stages, the implications of the policy regarding the concerns of developing countries can be monitored.

It is anticipated that international understanding of the recyclables trade market will be enhanced during 3R initiative discussions at the ECO ASIA (Environmental Congress for Asia and the Pacific) to be held in Gifu, Japan in June 2005.

Incorporation into regional integration

Since 1999/2000, the Asia-Pacific region has experienced a rapid expansion of regional and bilateral Free Trade Agreements (FTAs). It is expected based on the current movement of bilateral and regional trade agreements that an East Asian Community will be established in the not-so-distant future.

The inclusion of the expansion of the cross-border market of recyclables in the regional liberalisation of trade and investment is foreseeable. Measures to promote the trade of recyclables and remanufactured goods could be incorporated into specific FTAs, subject to the effectiveness of such measures initially experimented with a small number of designated ports. This phased policy approach has the advantage of enabling lessons learned to be incorporated into the policy, thereby improving the mechanisms as the system is applied to a much wider region.