

# SWOT ANALYSIS FOR DISCUSSION OF SUCCESS FACTORS AND OBSTACLES ON ECO-INDUSTRIAL PARK PROJECTS IN SEVERAL AISAN COUNTRIES

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This paper aims to evaluate the development and effectiveness of (Eco-industrial Park) EIP as an implementation of the concepts of circular economy and industrial ecology in several Asian countries: Korea, China and Thailand. Basing on data and information from document review and on-site investigation, situations of EIP projects in these countries are introduced, especially policy and support from government which affects development of EIP projects. And through SWOT analysis on EIP projects in these countries, discussion on success factors and obstacles are conducted. Lastly, this paper gives useful advice about policies and execution for the EIP projects.

**Key Words :** *Eco-industrial park (EIP), SWOT analysis, South Korea, Thailand, China*

Over the past decades, many countries have made effort on implementation of industrial ecology in their industrial area. Eco-industrial Park (EIP), as a part of this effort, is also been paying more and more attention. EIP reforms the linearity link between the industries into circular link, increases environmental technology and focuses on energy conservation, material development and integrated waste management. All these endues EIP concept with a practical solution of sustainable development.

With attention and development on EIP, many papers were published to introduce EIP projects and effort on its development. Most of these papers are introduction of a certain park. (N.B. Jacobsen, 2006; Q. Zhu, 2007) There are also papers analyzing successes and lessons on EIP development, most of that were basing on literature review. (T. Tudor, 2007; R.R. Heeres, 2004)

This paper aims to evaluate the development and effectiveness of EIP as an implementation of the concepts of circular economy and industrial ecology in several Asian countries. Through SWOT analysis on EIP projects in these countries, success factors and obstacles on the development of EIP project are discussed. And also, this paper gives useful advice about policies and execution for the EIP projects.

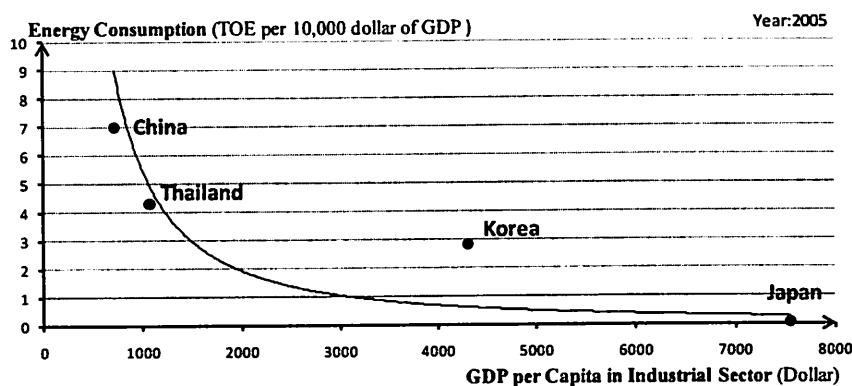
The basic data and information for this research are mostly collected from documents such as reports, papers and homepages. On-site investigation and interview are also conducted to reinforce the data and information.

## 1. HYPOTHESIS ON STAGE OF EIP RELATING TO STAGE OF ECONOMIC DEVELOPMENT

Though the development of EIP has been achieved in many Asian countries, the stage of their developing and countermeasure of environmental protection and resource circulation is quite different in those countries. In this research, we make a hypothesis on stage of EIP relating to stage of economic development using Japan, Korea, China and Thailand as cases.

Energy consumption rate (TOE per 10,000 dollar of GDP) is used to indicate the stage of development of industrial ecology for its signification on progress of technology, energy saving and ecological efficiency.

Figure 1 is the relationship between stages of development of EIP in these four countries basing on



Data source: Statistical Yearbook of Japan, Korea, Thailand and China

Fig.1 Relation of the level of energy consumption in industrial sector with the economic developing level.

the level of energy consumption in industrial sector and the economic developing level.

Date in this figure refers and calculates from the data in the statistical yearbooks of Japan, Korea, Thailand and China in the year of 2005.

It shows that in these four countries, the higher the level of economic development, the lower the energy consumption per 10,000 dollar of GDP, that is, the more effort and achievement on high technology, cleaner production, industrial symbiosis and industrial ecology. This hypothesis is validated on the practical statuses of development of EIP in these Asian countries that are introduced in the following chapters.

## 2. INTRODUCTION OF THE EIP PROJECTS IN KOREA, CHINA AND THAILAND

### (1) South Korea

With remarkable raising of economy in a short time, the industrial complex in Korea faces difficulty on management of environmental problems because of the simultaneous raising of residential and commercial facilities around. Consequently companies within the industrial complex have difficulty in operating the business. To resolve the issue, in 2003, Korea launched an eco-industrial park (EIP) initiative with the help of the Korean National Cleaner Production Center (KNCPC). It targets on the Korean EIP establishment for infrastructure of Cleaner Production with the support of Ministry of Commerce, Industry, and Energy (MOCIE). (J. LIU, 2008)

In the last a few years, the waste management policy in Korea has led to major changes in the generation of solid waste. Main waste policy include the obligatory building of facilities for food waste resourcification, the banning the direct landfill of food waste, the control of packaging material waste generation, the Volume-Based Waste Fee System, and etc. Though there is still no direct institution on incentive mechanism of EIP, the industrial parks who want to implement industrial ecology could get fund and technology support from national and local government through other related technology or waste reducing promotion policies. For example, budget to promote EIP from national and city government on Ulsan EIP, fund for research of energy conversion technology from waste, land could be obtained in low price for building of EIP park and recycle center. Besides, Envico supplies subsidies to promote recycle business.

### (2) Thailand

Industrial Estate Authority of Thailand (IEAT) in the collaboration with Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ, a German official development assistant organization founded in 1975) has implemented Development of Eco-Industrial Estates and Networks (DEE+Net) project, during the period from 2002 to 2004. The preparatory phase was started in 2000. The vision of IEAT for the development is "applying the eco concept to be the strategy of the Industrial-Estate Development in the future to be the Eco Industrial Development towards the sustainability", with a long-term view to promoting this principle among the existing 29 industrial estates under the supervision of IEAT as well as those that are

proposed, such as the Rubber City.

There is no any institution from the national government to regulate what kind of support the industrial estate could get for its development of EIP, but the IEAT and GTZ supply support such as technology consultation to the parks.

The IEAT has formed energy conservation projects such as extension of energy conservation outcome in cross section of industries. In this activity, a seminar was held to allow entrepreneurs who met success of participation energy conservation to transfer that experience to 600 small and medium-sized industrial plant entrepreneurs in six industrial estates.

### (3) China

Circular Economy has become the keyword of economic and social development in China from 2005. The circular economy is a new model of economic development based on the principles of industrial ecology where economic and environmental systems are integrated. Ministry of Environmental Protection of china (MEP, formerly SEPA) promotes the “3+1” model in the progress of circular economy, viz. small circle, medium circle, great circle and waste disposal and recycle. Small circle is cleaner production within enterprise. Medium circle, based on the theory of industrial symbiosis, is to establish relationship of mutual relying and supporting between enterprises and then develop these enterprises into eco-industrial parks, by means of exchange on material and by-products recycle among these enterprises. Great circle is to

establish circular cities or circular community, in which the agriculture and industry, production and consumption are operated environmentally friendly and sustainable.

Now, MEP attaches importance to the progress of medium circle of circular economy that is EIP. In order to prod the construction and development of eco-industry parks, SEPA has started from 1999 establishing National Eco-industrial Demo Park (NEIDP), while cooperating with UNEP on the project of “environmental management of industries parks in China”.

In “Regulation for application, nomination and management National Eco-industrial Demo-Parks (on trial), SEPA, 31th, Dec., 2003”, it is said that “local government offer NEIDP favourable policies and supporting.” There is still no concrete financial support from central or local government for NEIDP in China, but parks could get finance support for its implementation of cleaner production, circular economy, ISO14001 and environmental protection facilities. The central and local governments also propagandize the concept of industrial ecology and offer training course in the parks, and organize symposium for communication.

### 3. THREE PARKS AS CASE STUDY

Three parks are selected from these three countries for case study. Basic information of these three parks is listed in Table 1, and also locations in Figure 2.

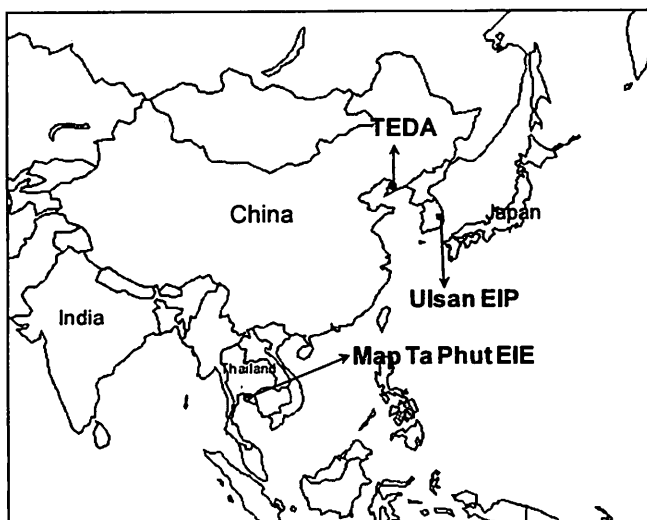


Fig.2 Location of 3 parks.

Table 1 Information of 3 parks.

Item	Ulsan EIP	Map Ta Phut EIE	TEDA
Location	Ulsan, Korea	Rayong, Thailand	Tianjin, China
Established time	1962	1989	1984
Dominant industries	<ul style="list-style-type: none"> <li>• Non-ferrous metal</li> <li>• Oil-refinery</li> <li>• Petrochemical</li> <li>• Shipbuilding</li> <li>• Motors</li> </ul>	<ul style="list-style-type: none"> <li>• Petrochemical</li> <li>• chemical</li> <li>• Fertilizer</li> <li>• Steel</li> <li>• oil refinery</li> <li>• power plant</li> </ul>	<ul style="list-style-type: none"> <li>• Electronics and telecommunications</li> <li>• Machinery and manufacturing</li> <li>• Biomedical industry</li> <li>• Food and beverage</li> </ul>
Size	63.468km <sup>2</sup>	14.4km <sup>2</sup>	41km <sup>2</sup>
Companies	737	89	3518
Employees	95,670	13,818	288,000
Added Production Value per year	US\$46,600million	N.A	US\$8,025million
Management department	Korea Industrial Complex Corp (Kicox)	Industrial Estate Authority of Thailand (IEAT)	Management committee of TEDA

### (1) Ulsan EIP

Ulsan EIP is considered as the most successful model park in Korea. Therefore, this research takes Ulsan EIP as case study to give an image of the development of EIP in Korea.

Ulsan EIP is appointed as a national industrial park in 1962 and Ulsan city became an industrial city subsequently. According with the development of industry in this city, it was the most polluted city during the 1970's and 1980's in Korea. To resolve the environmental problem, Ulsan enacted the strictest environmental law in 1980's and spread the concept of Sustainable Development since 1992 and Declaration of "Eco-polis Ulsan", a campaign objected to construct an environment-friendly city, began in 2004. Beginning in 2005, Ulsan EIP has been developed to facilitate the implementation of cleaner production and EIP, to enhance business performance and improve environmental quality for businesses, individuals and organizations located in Ulsan/Mipo Onsan national industrial complex.

Area of UEIP is 63 km<sup>2</sup>, and dominant industries are machinery, petrochemicals, transportation, electronics and non-ferrous. Before 2005, the concept of EIP be implemented, networks between the industries have been conducted in UEIP.

Currently, the total number of industrial symbiotic activities is 70, with 34 from collective utility systems, 19 by-product exchanges, 9 shared connections for steam energy, 5 uses of excess steam, and 3 linkages for the recycling of industrial water. (Hung-Such PARK, 2007) The direct economic profit of network between industries is 93 billion Won (about US\$ 98 million) per year, in that 82 billion Won (88%) is from the networks formed before 2005.

The plan of Ulsan EIP is not only the network between the industries, but also network between the industry and academy, network between industry and community, and cultivation of environmental industry. Ulsan EIP make a budget of 2 billion Won (about US\$ 2 million) to implement this plan, and 1.8 billion Won come from central government and the rest come from city government.

The UEIP Center assists companies by process diagnosis and assessment, environment management, training, and disseminating the development results, and develops to long-term eco-friendly business strategies and plans to increase their global competitiveness by taking proactive measures to comply with the international environmental laws and regulations.

## (2) Map Ta Phut EIE

The Eco Forum of the Map Ta Phut Industrial Estate in the Eastern Seaboard of Thailand developed into an "idea exchange" for eco-industrial projects between individual firms. Within two years over 450 projects with a total of 60 companies were presented with projects ranging from material savings over training, transportation to joint energy projects and safety plans. (GTZ)

Map Ta Phut Industrial Estate was developed in 1989 by the state enterprise, IEAT, Ministry of industry. It was established as the raw material production bases for consumption in the country in order to substitute import goods. Map Ta Phut Industrial Estate consists of petrochemical, chemical and fertilizer, steel, oil refinery and power plant. It locates in Map Ta Phut Sub-district, Muang District, Rayong Province, with an area of 9,000 Rai (about 14.4 km<sup>2</sup>) and 89 factories. It is selected as Center for Environmental Assessment and Reporting System.

The industrial symbiosis in this estate is practiced on exchange of by-product, share of facilities and transportation, share of information and human labor. Routine management system and communication system have been established, and public participation and education have been developed.

## (3) Tianjin Economic Development Area (TEDA)

TEDA, established in December, 1984, is one of the 14 areas that belong to the first batch of national development areas.

The dominant industries in TEDA are electromunication, automobile, machine, medicine and chemical industry, food and beverage. Electromunication accounts 60% to 70% of the total industry production value.

There are more than 10,000 corporations in TEDA, within which more than 4,000 are invested by foreign capital. TEDA has got Number One continuously nine years on the integrated assessment of economic indicators among the 52 development areas around China. The GDP of TEDA in 2006 is 78 billion RMB (about US\$ 11 billion) and total industry production value is more than 300 billion (about US\$ 43 billion). The economic growth rates in recent years are from 25% to 30%. Permanently reside population in this area is 0.11 million and employment population is 0.3 million. 2% of GDP is used on environmental promotion every year. The whole area has passed the certification of ISO14000 environmental management system.

The environmental protection bureau of TEDA is setup in 1992, with 25 staffers. The bureau is composed with project management department,

supervisal management department, chief engineer office, and environmental monitor station.

The government of TEDA plans to fund 100 million RMB (about US\$ 14 million) on supporting energy saving and consumption decreasing. There will be a list to show what kind of project could get support from this fund.

## 4. SWOT ANALYSIS

SWOT analysis method is used to analysis the initiative and potential of development of EIP in Korea, Thailand and China. The three parks, introduced above, are chosen as case for this SWOT analysis. That is: Ulsan EIP for Korea, Map Ta Phut EIP for Thailand and TEDA EIP for China.

SWOT is a strategic analysis method to evaluate the Strengths, Weakness, Opportunities and Threats involved in a project, a plan, an objective or a business venture. Strength and Weakness are internal factors influencing its development, which reflect its capability and conditions for development. Opportunity and Threat are external factors, which are commonly circumstance and outer conditions supporting its development.

The results are showed in Figure 3-5.

### (1) Strength

#### a) Ulsan EIP

**Higher awareness and consciousness of KICOX Ulsan Center:** As manager of Ulsan EIP, KICOX Ulsan Center congregates many excellent talents with higher consciousness and awareness on EIP. It offers a firm basis for EIP developing.

**Detailed plan on EIP development:** KICOX Ulsan Center constituted detailed plan on development of Ulsan EIP, which include the environmental and economic expectation and industrial symbiosis network.

#### b) Map Ta Phut EIE

**Fine management system and complete infrastructure:** This park has advanced management system with monitoring and information system. The infrastructure in this park is also completed servicing the factories locating in the park. All of these supply necessary basis for execution of EIP.

**Strong communication among the enterprises:** Map Ta Phut EIP has regular information communication system and many clubs for communication and collaboration between the enterprises within the park. This is an important condition for information exchange.

### c) TEDA

**Location:** TEDA locates near one of the biggest port in China, Tianjin Port. It offers big attraction for TEDA to all kinds of enterprises to build in this park. So, it is possible for TEDA to choose the suitable enterprises that have high added value and low pollution and the enterprises who could be complementarities or candidates for their industrial network. Besides, the big industrial group located in TEDA such as Motorola and Toyota had made effort on circular economy and formed links before the park is designated as National Eco-industrial Modal Park.

**High awareness of the manager:** The Environmental Protection Bureau (EPB) of TEDA is set in the park on the same right level with TEDA Administrative Commission. With high environmental awareness, the EPB of TEDA has right of permission of building of factories in the park. And now, it also is researching on technology and method of cooperative management between government and academy.

**Active investment on infrastructure:** With certification of ISO14001 and designation as National Eco-industrial Modal Park, the manager of TEDA, TEDA Administrative Commission pays more attention on appropriate environmental management within the park, so it is active in investment of infrastructure for central heat supply, electricity generation, waster supply, water treatment, and waste disposal.

### (2) Weakness

#### a) Ulsan EIP

**Lack of active involvement of enterprisers:** EIP project just began for 2 years, the understanding and participation of enterprisers is still weak. And they are inactive on public of their waste data.

**Absence on collaboration with enterprises around the park:** For current EIP project, it has not taken into account of collaboration with enterprises located around the park.

#### b) Map Ta Phut EIE

**Motivation in itself:** Though this EIP has been appointed as pilot EIP project for several years, it mainly develops under support and guidance of IEAT and GTZ, and the motivation in itself looks like weak.

**Shortage on advertisement:** the advertisement on effort of the park on industrial symbiosis and 3R to public is weak. So, the public know little about the effort of the park on decreasing environmental burden and reducing environmental pollution.

#### c) TEDA

**Economical shortage:** industrial network has low

competition with using of new material for its cost on exchange and reproduction of by-product.

**Weakness on participation of citizen:** What locate in TEDA are not just the industries but also community. The awareness and support from the resident are very important for the development of EIP. But now, the education and participation of the community still have no great achievement.

### (3) Opportunity

#### a) Ulsan EIP

**Comply with Declaration of "Eco-polis Ulsan":** "Eco-polis Ulsan" Declaration is a campaign for constructing an environment-friendly city where the environment can coexist with economy and where the nature is harmonized with the people. This campaign was initiated in 2004 and the next year EIP project was initiated. EIP project complies with "Eco-polis Ulsan" Declaration and they could be integrated for developing.

**Collaboration between governor and academics:** There is strong collaboration between KICOX and universities for research on technology and know-how of EIP.

**Expectation from citizen:** Korea is a country with small land area, and with the rapid developing of economy, the industry land is more and more close to residential district. Therefore the citizen has expectation on developing of industrial ecology to control pollution and reducing environmental burden to improve their dwelling environment.

#### b) Map Ta Phut EIE

**Direct management by IEAT:** Map Ta Phut EIP is managed directly by IEAT, which makes it easy to implement the project and effort of IEAT.

**Support from GTZ:** EIP project is implemented in Thailand initiated by IEAT with strong support and collaboration of GTZ. GTZ supplies technology support for the parks.

#### c) TEDA

**Attention from national government:** China government pays big attention on circular economy as a countermeasure of resource deficiency and environment pollution accompanying with the economical development. And EIP project is one of the key areas in it.

**Support from other countries:** TEDA became a member of EIP Model Project in China-EU Environmental Management Collaboration Plan. From this project, TEDA could find support from EU and technology on formation of waste information network.

### (4) Threat

#### a) Ulsan EIP

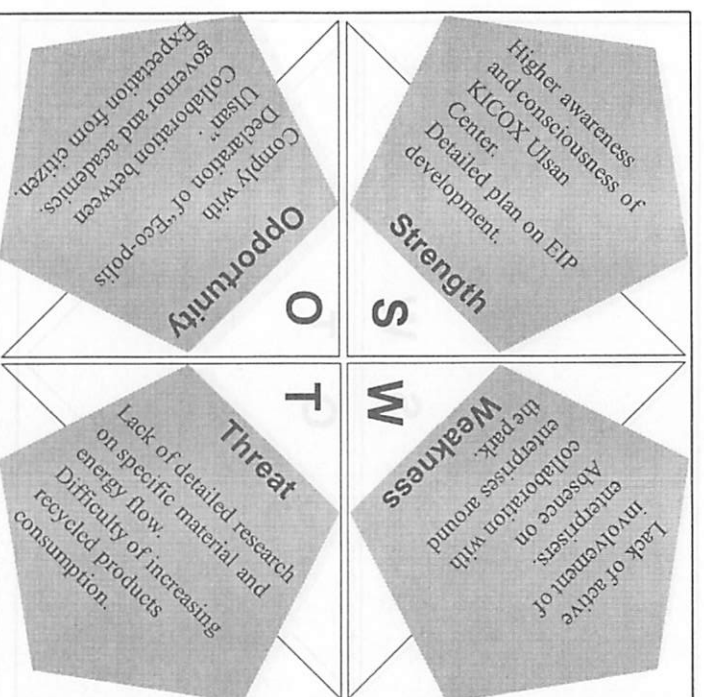


Fig.3 SWOT analysis on Ulsan EIP.

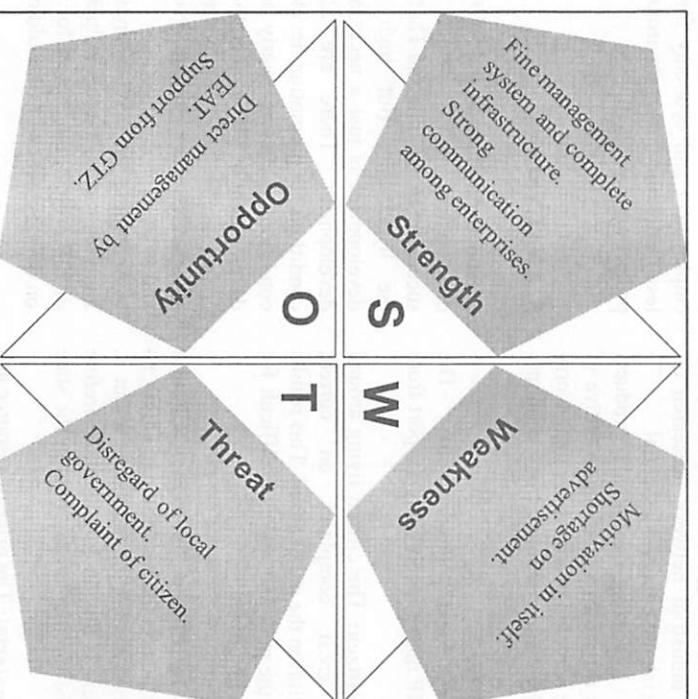


Fig.4 SWOT analysis on Map Ta Phut EIE.

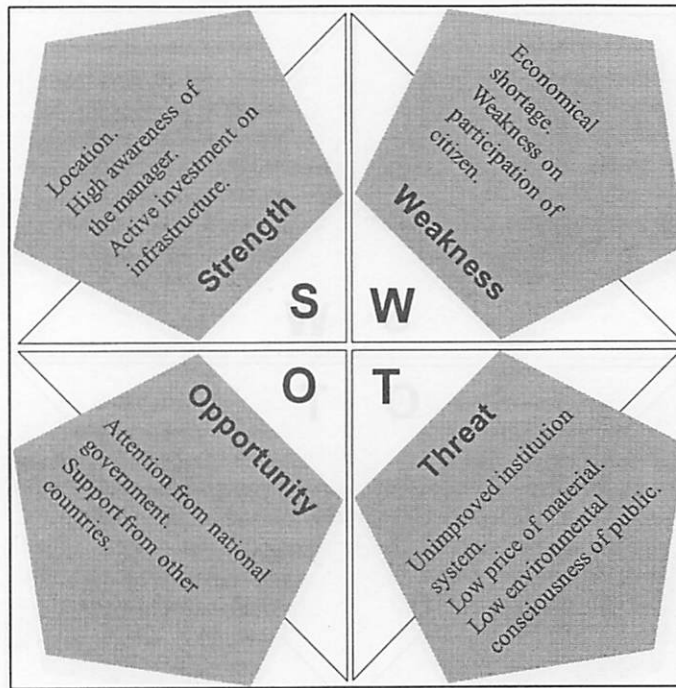


Fig.5 SWOT analysis on TEDA EIP.

**Lack of detailed research on specific material and energy flow:** Technology is an important point in developing of industrial network. Research on symbiosis of material and energy is essential.

**Difficulty of increasing recycled products consumption:** It is difficult to raise the initiative of enterprisers to use recycled products for their worry about the quality and scarcity of economy competition.

#### b) Map Ta Phut EIE

**Disregard of local government:** The development of EIP didn't receive any support from local government.

**Complaint of citizen:** The citizen living around the park has great complaint on current environmental pollution the park caused. This results a bad impress on the park and makes it difficult for its collaboration with citizen.

#### c) TEDA

**Unimproved institution system:** Circular economy policy is just on the beginning in China, so there is still no concrete law or regulation about it, and the EPR system is also in low level. Therefore the development of circular economy is in the state of out-of-date.

**Low price of material:** The price of resource and material in China is set in a low level, which cause low initiative on the exchange and reuse of by-product and waste.

#### **Low environmental consciousness of public:**

Low income level in China brings more attention on employment and economy for the community and less attention on environment and ecology protection.

## 5. ANALYSIS

Above introduction and SWOT analysis show that development of EIP project is more active and successful than China and Thailand as assumption of the hypothesis. But high level of economic development is just a necessary condition for EIP development. There are also some sufficient conditions for promoting development of EIP. These conditions including nearly all sectors relating to development of EIP project, that are national policy, consciousness and cooperation of public and stakeholder, management system, technology level and so on.

According the SWOT analysis, which lists and analyses various factors influencing on development of EIP project, the factors for success and obstacles on development of EIP could be itemized as:

### (1) Factors for success

#### a) Perfect policy system

A perfect policy system is very important for



success on implementing of Eco-industry and 3R. Perfect policy system is a system with policies that clearly show the national objective on circular economy, and clearly regulate the role of each stakeholder on energy circulation and pollution reducing. This is indispensable precondition to guarantee energy and material flow in industrial sector and ensure waste supply for venous industry.

#### **b) Stably financial support**

Commonly, improvement of industrial network needs investment on infrastructures on collected energy supply, waste exchange, transportation and so on. Furthermore, economic benefit from this effort generally couldn't emerge in short time. The enterprisers usually hesitate on this kind of investment. Therefore, stably financial support from government is important to offer confidence and courage. The stably financial support should also pay attention on research on technology. Key technology for material flow should be support for effective network.

#### **c) Communication**

Communication here means communication between enterprises within the park and communication between parks and countries.

The case countries in this report have made some effort on it. For example, in Thailand, DPIM, in cooperation with FTI, has already launched "Eco-Town Information System" with web-based application as of Aug., 07. The system is ready for serving the users as data source of waste & 3Rs technology, Eco-Town planning & analysis tool, and waste exchange center. The application also contains many user-friendly functions while data sets are regularly updated by DPIM staffs.

#### **d) The third part**

It is difficult to build network between two factories on waste exchange because their uncertainty for each other. A third part trusted by all enterprises is necessary serving as database and information center. Agency of government or academy could act as this third part.

#### **e) Understanding and participation of stakeholders**

Obviously, this is the most important precondition for implementation of industrial ecology. Therefore, advertisement, training and seminar are useful.

### **(2) Obstacles**

#### **a) Policy system**

Incomplete policy and un-integration of policy on circular economy with current environmental protection policy cause development of circular economy on a weak policy basis. Most Asian countries still haven't enacted concrete law or

regulation about circular economy, even the countries that have already set one or some regulations, the feasibility of them should be discussed. In China, though the standards and regulations of EIP respectively for sector-specific, sector-integrated and venous industrial park (SEPA, 2006) have been constituted, they didn't say how to improve and master the development of park using these standards and regulations.

#### **b) Technology**

Technology on by-product and waste reusing and building of network is the problem many countries facing during their effort. Encouraging and inspiring to academic institutions, universities and NGO on research of technology are important.

#### **c) Economical benefit of industrial network and recycle**

Though it is obviously that industrial network and recycle are beneficial for resource saving and environmental protection, its economical benefit can't be seen so clearly for enterprises. High investment and far profit make them hesitate on it.

#### **d) Up-down stream**

Because of reluctance of enterprises on public of their detailed data, the energy flow and material flow in the park are very difficult to conduct. Companies must take risk on using by-product of other companies as raw material. The receivers of by-product will be affected if the offers decrease their production or bankrupt. The mistrust of public on the quality of recycled production is also a factor influencing the up-down stream of EIP.

## **6. CONCLUSION**

Development of EIP in Asia is nearly ten years. Though in every country, they have their own background and framework separately, the development of EIP in these countries all brings benefit not only for enterprises but also for community on both economical and environmental aspects. But circular economy development is not on a smooth way. Some problems are common in all the countries and success factors are also useful for their improvement.

Success factors commonly include:

- (1) Perfect policy system to guide and guarantee EIP development;
- (2) Stably financial support on infrastructures, research technology and other aspects;
- (3) Communication between stakeholders;
- (4) A third part act as agent for construction of exchange chain;
- (5) Consciousness and cooperation of stakeholders.

Obstacles include;

- (1) Incomplete or un-integrated policy system;
- (2) Technological insufficiency;
- (3) Unclearly economical benefit;
- (4) Unstable material flow.

From the experience and lessons on development of EIP in Asian countries especially the case countries in this report, we can also state the following in conclusion.

### (1) Influence and effect of EIP

To analyze the effect of EIP is a hard task for researchers because reluctance of enterprises on public of their data. But some efforts of research on it have conducted. Through economic benefit analysis of symbiosis network of Ulsan EIP, it could bring the park direct economic benefit 93 billion Won (about US\$ 9 million) per year. At the same time, just the multipurpose and heat recovery incineration plan in Ulsan EIP could reduce green house gas emission 55,582 ton CO<sub>2</sub> per year. And through effort on Minimum Waste in TEDA EIP, it could save raw material 1,034 ton/year, save fuel 108 ton/year, save gas 2,340 m<sup>3</sup>/year, save water 244,200 m<sup>3</sup>/year and so on.

This is just rough analysis on the benefic of EIP on material cycle, and the influence and effect of EIP are very broader than this. The development of EIP raises imagine of enterprises and the park on environmental protection and help them harmonious with community. At the same time, it promotes the improvement of technology on energy saving, waste reducing and material cycle. And it also raises the social consciousness.

### (2) Social background for successful EIP

For a successful EIP, social background is an essential condition. Completed social background upholds development of EIP along with its lifecycle including support on construction, guarantee on up-down stream and improvement on communication system. social background for successful EIP includes perfect policy system, stably financial support both on EIP construction and technology development, communication within and without the park, a third part serving as database and information center and understanding and participation of stakeholders.

### (3) Timing for induction of EIP concept

As showed in Figure 1, the developed countries have low energy consumption per GDP, that is, they have made more effort on "eco-thinking". But every

country even every park has potential on developing of eco-industry. And the park should induce EIP policy as early as possible. For newly-built park, EIP policy should integrated from the stage of park plan. Industrial network should be taken into account in the process of plan. In this way, industry structure and building of infrastructure could be decided beforehand for better conduction of EIP policy. In the process of recruiting, the industry that could complement the industry chain should be recruited in priority.

### (4) Effective measure for promoting construction of cooperation between enterprises

To improve the cooperation between enterprises, the support from government is necessary. And it is also necessary to analyze the economical benefic of network, which could strengthen the confidence of the enterprises on EIP.

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