

9

The Conception of the Development of Tumen River Area

Ding Shicheng

CONSTRUCTION BLUEPRINT

TEDA and TREZ

The tentative idea of Big Golden Delta and Small Golden Delta was first put forward by the author in the article "The Future Golden Delta of Northeast Asia—Tumen River Delta" at the First International Conference of Northeast Asia Economic and Technology Cooperation in Changchun from July 16 to 18, 1990. At that time, the Big Golden Delta referred to the combination of the 3 cities of Chongjin of Democratic People's Republic of Korea (DPRK), Yanji of China, and Vladivostok of Russia. Its area covered 10,000 km². The Small Golden Delta referred to the combination of the 3 cities of Rajin of DPRK, Jingxin of China, and Posyet of Russia, with its area covering 1,000 km².

The idea of Big Golden Delta and Small Golden Delta was accepted by experts and scholars from countries of Northeast Asia, and also by United Nations Development Programme (UNDP) experts. The Big Delta and Small Delta of Tumen River area were mentioned in the documents of UNDP Pyongyang Conference, at the UNDP Seoul First PMC (Program Management Committee) Conference. They referred to the Big Golden Delta initially as the TEDA (Tumen River Economic Development Area). In the document, the group chose the 3 cities of Chongjin of DPRK, Yanji of China, and Vladivostok of Russia as the 3 corner cities. This was identical to the idea which was presented by the author in the 1990 article. They designated the Small Golden Delta initially as the TREZ (Tumen River Economic Zone). The 3 corner cities were Rajin of DPRK, Hunchun of China, and Posyet of Russia. This was also very close to the idea of the author in the 1990 article, except for the change from Jingxin of Hunchun to Hunchun City. Its area would cover 1,000 km².

Since July 1990, the Northeast Asian area has developed very fast. USSR urged United Nations Industrial Development Organization (UNIDO) to study the Vladivostok Free Economic Zone. UNIDO agreed to do the study (The Border Area Free Economic Zone Pre-Feasibility Study) together with the government of USSR. From May 25 to June 15, 1991, the investigation group of 4 specialists conducted a

study tour from Japan to Vladivostok. Their final report was completed in November 1991. In this report they proposed a development plan of 'Greater Vladivostok Free Economic Zone' with its initials GVFEZ. The GVFEZ would include 3 small areas, that is Nakhodka, Vladivostok, and Khasan. The population would rise to the number of 2.25 million in the year of 2010 from 1.2 million in the year of 1990, with the rate of population increasing from 1.44 percent 20 years before to 3.15 percent 20 years after. Also the labor force would increase from 725,000 in 1990 to 1.35 million in 2010. The total area of GVFEZ would be 15,000 km². Its length from east to west would be 250 km, with a width from south to north of 150 km. The industrial development would be divided into 3 phases: The first phase, from 1991—1995, would develop resource processing exportation oriented industry; the second phase, from 1996—2000, would develop moderate technology import replacement industry; and the third phase, from 2001—2010, would develop advanced technology exportation guidance industry. The total investment during the 20 years would be US \$4,000 million, with the average GNP increasing one time during the period.

The original Big Delta included Vladivostok and Khasan. However, since the Russian Greater Vladivostok Plan is an integrated plan, the new Tumen River Area Development Programme (TRADP) should include the Greater Vladivostok Plan.

On December 28, 1991, DPRK announced the Rajin—Sonbong Free Economic and Trade Zone, with its area covering 621 km² and a population of 131,000. Most of the population is concentrated in the city. At present, the area of the city is 11 km², but in the future it will be a modern city with a population of 1 million. Now the handling capacity of Chongjin port is 8 million tons, and the handling capacity of Rajin port is 3 million tons. According to the development plan the handling capacity of Chongjin will be 20 million tons, and Rajin will be able to handle 30 million tons. In addition, Ungsang's new port will add 50 million tons, bringing the total handling capacity up to 100 million tons. Now the distance from North Hamgyong Province—Chongjin—Hoiryong—Namyang—Saebiyol—Sonbong—Rajin—Chongjin is 405 km. The transportation capacity per year right now is 12 million tons; afterwards it will be up to 50 million tons per year with electric railways and double tracks. Now this area has a road system of 431 km. Because the rank of road is comparatively low, it needs expansion. As a result, the plan will include the construction of an expressway of 306 km. In the meantime, the area will improve the communication system and develop industries. DPRK announced the designation of Chongjin port as the Free Economic Zone at the same time of naming Rajin—Sonbong as the Free Economic Trade Zone; Chongjin, Rajin, and Sonbong will be, of course, included in the Big Delta.

The Chinese government decided on November 19, 1991 that Hunchun city would become a rank A open city, open to foreigners. On March 9, 1992 China announced that Hunchun, Manchuri, Mehe, and Shuifenhe would be 4 cities designated as open cities along the border, enjoying the same policies with 14 open cities along the sea. Jilin Provincial Government also decided in June of the same year that Yanji city would become the special experiment zone of minority nationality. Immediately after this, the government decided that Tumen city would be the open city along the border at the provincial level, and that Longjing city would originally

be included in the Big Delta. As a result, Hunchun, Yanji, Tumen, and Longjing would be 4 cities that are included in the Big Delta.

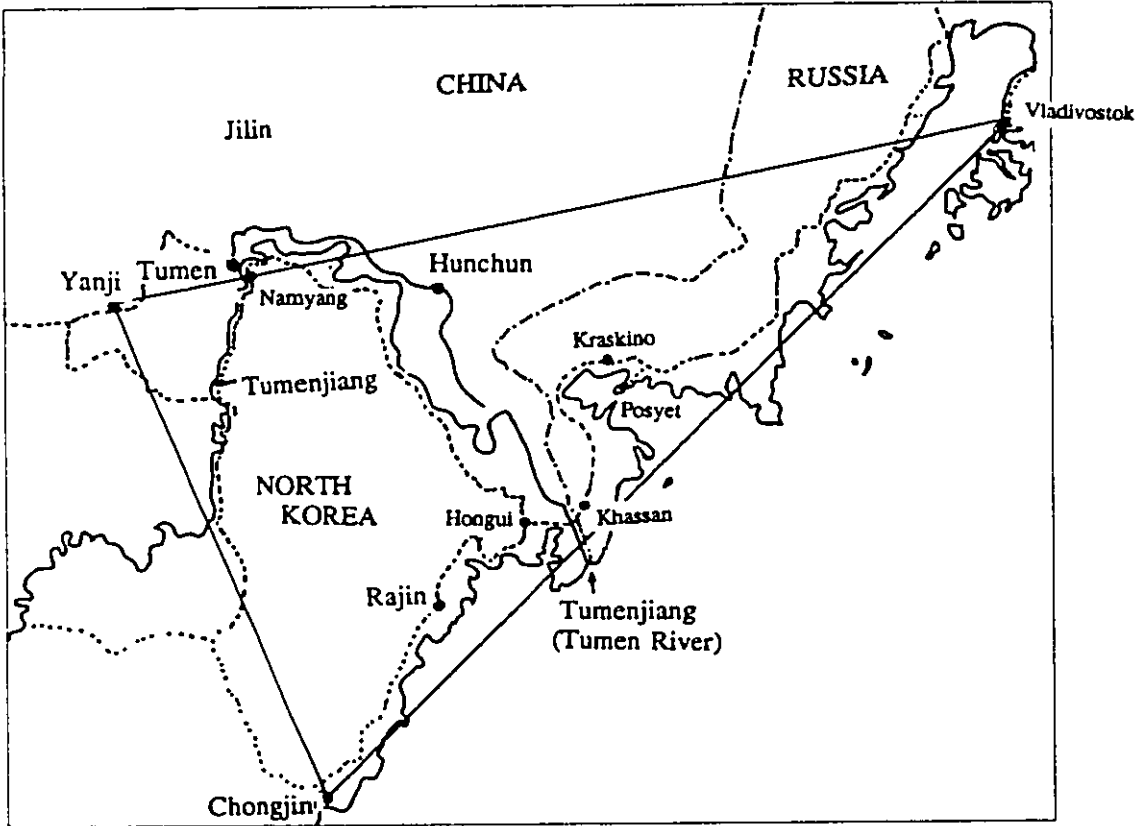
Because China, Russia, and DPRK accelerated their opening in the last year, the Big Delta should include China's Hunchun, Yanji, Tumen, and Longjing, the Russian Greater Vladivostok Free Economic Zone and DPRK's Chongjin and Rajin—Sonbong. Because Musan is the biggest iron mine of North Korea, and mainly for the Chongjin Steel Works, the Big Delta should include Musan—Chongjin, in the northeast part of North Hamgyong Province. So the Big Delta should be amended to 33,000 km². That means the TEDA should be given a new concept within this region. Russia has a population of 1.2 million, China 0.86 million, and DPRK almost 0.94 million, with a total population of 3 million. This is also a big Delta which is now at least 2.3 times larger than the Big Delta originally defined. As for the Small Delta, TREZ should also be suitably amended. The Small Delta should include the international city composed of cross-country free economic zones. The author has pointed out in the article, "The Image of The Development of Tumen River Cross-Country Special Economic Zone," in December 1991, that the area of this international city is almost 1,000 km². It can be named as Tumen River city. The city would include Jingxin of China, with its area of 330 km², Khasan of Russia, and Sonbong or Ungsang of DPRK. By the year 2020 the population will reach 3 million. Around this international city should be Hunchun of China, Rajin—Sonbong of DPRK, and Kraskino, and Posyet—Zarubino of Russia. Thus, TREZ would also be a small delta with the area of almost 2,600 km², only 1.5 times bigger than the original area.

In this manner, I again give a new definition to the TREZ, Big Delta, and Small Delta. I hope all of you would be willing to accept the revised opinion. (Map 9.1 indicates the new TEDA and TREZ.)

City Layout

Within TEDA, the city should be divided into 3 levels.

Base City: The population of Vladivostok of Russia is 0.677 million. Chongjin of DPRK has almost 0.6 million. Yanji of China at this time has 0.3 million. Among those 3 base cities, the position of Yanji is the most disadvantaged. First, Vladivostok and Chongjin are of equal rank as the capital city of a province, but Yanji is only the capital of a prefecture, one rank lower than the other two cities. Second, the population of Yanji is the least, only half of either of the other two cities. Third, Vladivostok and Chongjin have their own ports, but Yanji is an inland city, without a port or customs. There will be competition among China, Russia, and DPRK after the implementation of the Tumen River Area Development Plan. It will hinder the development of Yanji. There is no way to change the first disadvantage, but the second and third can be changed. Thirty years ago, Yanji, Tumen, and Longjing were one county. Since Yanji city is only 30 km from Tumen and 20 km from Longjing, we can combine the 3 cities into one city. After the combination the population will be up to 0.5 million. The combination also can reduce the competition among them, and the development can be well-coordinated. So I suggest a new Yanji city plan. This new Yanji city would be the combination of Yanji city, Tumen city, and Longjing town. Also the plan would combine the rural areas of the 3 cities into a suitable



Map 9.1 Tumen River development area

Longjing county or combine the 3 cities totally into a city, named Yanji, with an area of 5,200 km² and population of 0.68 million. The new Yanji city plan is a necessity for the development of the Tumen River area, which also depends on the development of Yanji. If there is not a powerful central city in Yanbian, there will be no way to lead and promote the economic development of the whole autonomous prefecture.

The 3 base cities need to be highly developed along with the implementation of the Tumen River Area Development Plan. Their development is necessary not only for the self-development but also in order to promote the development of the international city and its satellite towns within the Small Delta. They will provide full support in labor force, technology, funds, experience, etc. The effect of the base will not be weakened within at least 20 or 30 years. The second Hong Kong, Singapore, or Rotterdam in the Small Golden Delta can also certainly promote, advance, and stimulate the development of the 3 base cities. I think the investment environment of the 3 base cities will be apparently better than the satellite towns and the international city in this century. It will attract many investors, as investors entering into the base of Small Delta can go in and go out with less risk. This must be of benefit for the development of the 3 cities. The main point for the GVFEZ is the development of Vladivostok. The special experiment zone for Yanji minority nationality is for the development of Yanji, so it can be a new Yanji minority nationality special experiment

zone, Chongjin is also a city that DPRK wants to develop. Consequently these 3 cities all should be given the right to be highly developed.

The new international city should be located in the center of the TEDA. (The scope of the Tumen River city is illustrated in Map 9.2.) Thus the Tumen River city would be composed of 3 cities: Jingxin of China, Khasan of Russia, and Sonbong of DPRK. It will be a very beautiful city, with the Tumen River of a 100 km long across the entire city. Along the riverside there will be new high buildings. Especially the buildings can be constructed according to different types, such as: Chinese style, Korean style, Russian style, Japanese style, Mongolian style, European style, and American style. To the east of the city is Posyet bay, which can be used as a bathing beach and passenger dock. To its south is the Sea of Japan. It can be used as modern port. To the north and east are small regions that can be used for gardens, villas, and highrise buildings. We can also construct a Mongolian town, Japanese town, European town, and American town within the city.

In this international city should be built an airport, a communication port, a big seaport, a railway hub, new Northeast Asia international financial center, commercial center, information center, educational center, and research center. It should be the second Hong Kong or Singapore. This new international city will be a cross-country special economic zone that can adopt the mode of Hong Kong and Singapore to carry out its economic development.

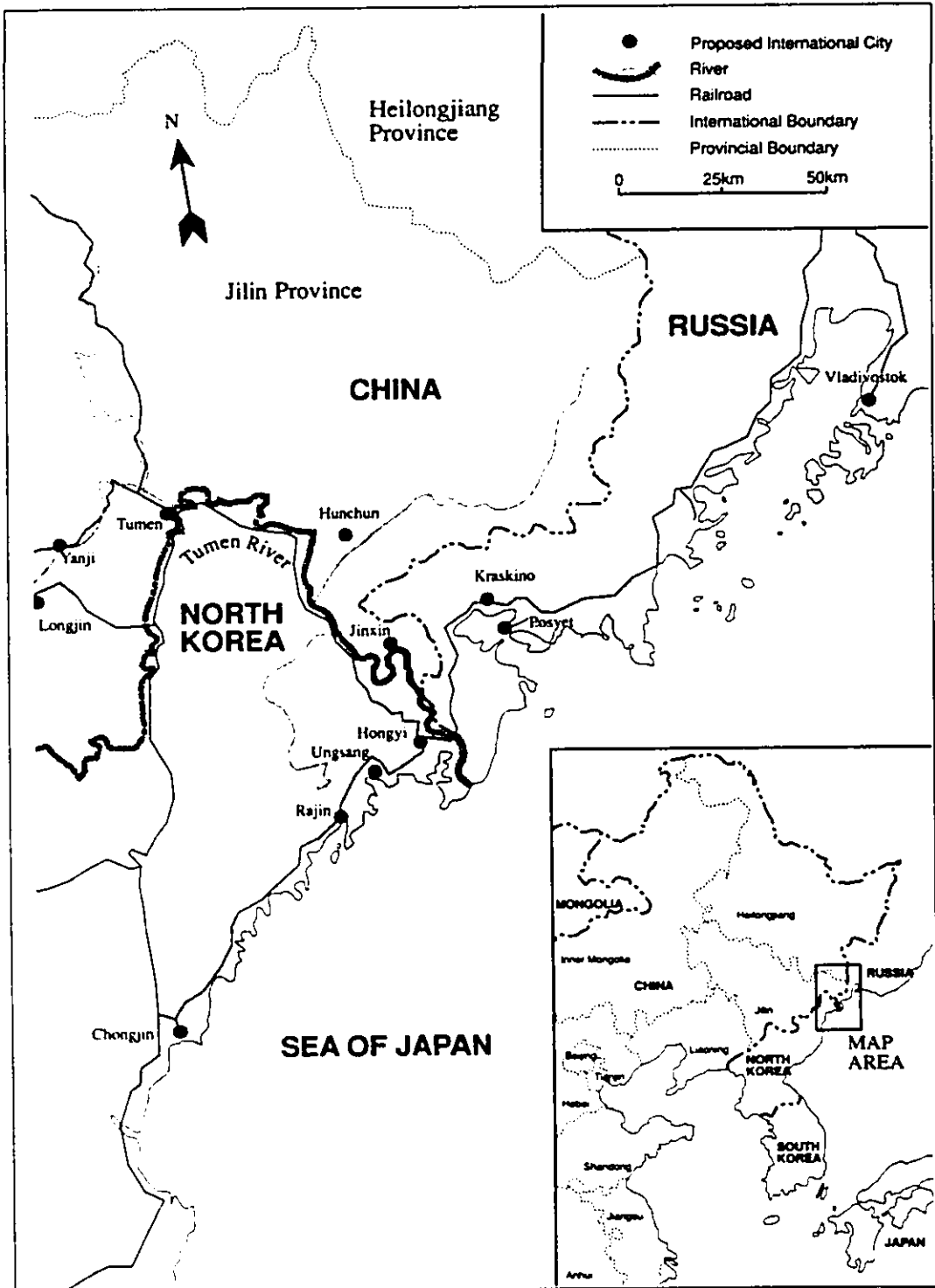
The third level is comprised of satellite towns, which will include Hunchun of China, Kraskino, Posyet, and Zarubino of Russia, like a belt city, and Rajin—Sonbong of DPRK.

These 3 satellite towns will also acquire a supersonic development and will form a special zone following the model of Shenzhen. The development of the satellite towns must be based on the abilities of China, Russia, and DPRK themselves, but, of course, also will need to absorb big amounts of foreign investments like Shenzhen, by the way of an export-oriented economy. Because the main point of the development of the new international city focuses on the commercial center, financial center, information center, transportation hub, and communication hub, the satellite towns should mainly develop industries. At the same time they need to develop commerce and foreign trade, because the goods going in and out of the international city from satellite towns are considered as import and export. The information business should also be highly developed because the satellite towns are very close to the international city.

For the 3 levels of cities, the degree of opening should be different. The international city—The new international city should be a cross-country special economic zone with the mode of free port, similar to Hong Kong and Singapore. Satellite towns—The cities which are very close to the international city belong to China, Russia, and DPRK, patterned after the model of Shenzhen. Base city—The 3 old administrative, economic centers can adopt the model of open cities along the coasts of China, that is, the model of Guangzhou, Shanghai, and Dalian.

Social Development

Along with the implementation of programme, the development of Tumen River area, and the investment of large amounts of funds, a rapid development may appear



Map 9.2 International cities in Tumen River development area

in this area. Therefore we can construct a concept for the future development. The entire concept can entail large-scale development beginning from the year of 1996 as the premise.

At first, the population in this area must be greatly increased as it becomes a new center of Northeast Asia. At this time, the cities or city group in East Asia with a population of more than 10 million are: Tokyo, Seoul, Shanghai, and Beijing—Tianjin. If the Tumen River area wants to be a new center of Northeast Asia, the population must be up to 10 million. At that time there would be 4 central cities in Northeast Asia: Tokyo, Seoul, Greater Shenyang, and Tumen River area. If there is not enough population, the new center of Northeast Asia would be impossible.

The population of TEDA in 1990 is 3 million. If the population increases to 10 million by the year of 2020, that will include the natural increase (presumed at 1.3 percent per year) to 4.42 million in the year of 2020, along with 4.93 million who are newly immigrated from outside. In Shenzhen special zone almost 1 million were immigrated from outside within 10 years. The TEDA will be a big project handled by UNDP. There will be far more investments than Shenzhen. The attraction would also be bigger than Shenzhen, so this immigration scale is possible to reach. The population of Shenzhen is 1 million, among whom 60 percent are temporary and 0.4 million are permanent. The situation of the TEDA area may be the same. Part of the newly immigrated population can be assumed as permanent, with the other part as temporary. Thus, of the 4.93 million of immigrated population, for instance, 1.08 million would be from Russia. In the GVFEZ, the number of immigrated population by the year of 2020 will be up to 0.7 million. This is the circumstance of no assumed implementation of the TRADP. The population of Khasan will be up to 0.2 to 0.3 million. Thus, by the year of 2020, it would be possible to have 1.08 million immigrants from outside. We can assume that the immigrated population of DPRK would be 1.5 million, according to the plan of DPRK. Chongjin—Sonbong alone will have immigration of 0.83 million from outside within 20 years. For the immigration from outside into Chongjin and the international city, the duration is not 20 years but 30 years, so the 1.5 million increase is possible. China has a large population of 1,100 million; consequently, to immigrate 2.26 million immigrants can be no problem. In regard to immigration rate, China is the lowest. (This is illustrated in Table 9.1.)

Local immigration, for Russia, means from the Far East Region, but for China, it means from the northeast China region. From Table 9.1 you will find out that it is possible to realize the immigration for China, because of its lowest immigration ratio. As for this region, especially for the newly built international city, the immigration of population is not restricted by the nation itself, for a great deal of population may be immigrated from foreign countries.

TEDA population development will be as follows. If the labor force is half of the total population, up to the year of 2000, the labor force will increase to 0.655 million within 10 years. Up to the year of 2010, the labor force will increase by 0.985 million more. Up to the year 2020, again the force will increase by 1.86 million more. As a result, in 30 years, the labor force will increase to 3.5 million.

According to the World Bank standard, one increased employee needs an investment of US \$80,000. We can assume, in the international city, one increased

Table 9.1 Annual immigration rate to TEDA

	From Local	From Nationwide
Russia	14.20%	0.65%
DPR Korea	—	7.50%
China	2.00%	0.20%

employee needs US \$80,000. In satellite towns, one needs US \$40,000. For base cities, one needs US \$20,000. In other areas, one needs US \$10,000. Among those investments, half would be used for the basic facilities that include transportation, communication, city construction, water supply, electricity supply, and residence and residential management, with the other half used for the construction of factories, shops, banks, government buildings, schools, and research units. Based on this we can make an estimation of the amount of necessary investments.

This means that the TEDA area will need a total investment of US \$171.6 billion in 30 years. Of this amount, US \$85.8 billion will be needed for basic facilities. If this investment can be recovered in 10 years and other investment can be recovered in 5 years, we can calculate the added investment which is needed.

Basic facilities will need an investment of US \$13.4 billion between 1990—2000, 2000—2010 an additional investment of US \$8.6 billion, and 2010—2020 again are added investment of US \$15 billion. Totally basic facilities will need funds of US \$37 billion. After the year of 2020, if the increasing ratio is reduced to 2 percent, with the population increase of 2.18 million during 2020—2030, basic facilities will need an investment of US \$26.7 billion, and recovery will be US \$59.1 billion. From 2030—2040 with a population increase of 2.66 million, the basic facilities will need an investment of US \$32.6 billion. Recovery will be US \$53.2 billion. That means that, 20 years later, the investment of basic facilities will enter into better circulation of funds.

The per capita GDP in the TEDA area, such as in Russia, was almost US \$5,000 in 1990, in DPRK US \$1,000, and in China US \$400. Up to the year of 2000, the per capita GDP will increase. Russia's per capita GDP will increase to almost US \$7,000, an increase of only 16.7 percent. This must consider the effect of the disintegration of USSR upon the economy of Russia. Up to 2000, the per capita GDP of DPRK will be US \$1,500, increase by 60 percent. The per capita GDP of China will be US \$800, increased by 100 percent. After the 15 years from the starting point of UNDP project to the year of 2010, one can assume that the per capita GDP of the international city will be US \$20,000, entering into the rank of high income nations. The per capita GDP of satellite towns will be US \$10,000, entering the rank of medium but closer to higher income nations. The per capita GDP of base cities and all the other cities will be US \$5,000, joining the medium income nations.

Up to the year of 2020, the per capita GDP of the international city will be US \$40,000, joining the 15 high income nations or regions at that time. The satellite towns' per capita GDP will be US \$20,000, closer to the higher income nations at that time. The average GDP for the base cities and the remaining cities will be US \$10,000,

Table 9.2 Population scale calculator

		1990	2000	2010	2020	Increase rate
Other Area	China	26	29	33	37	1.2%
	DPR Korea	21	24	31	38	2.0%
	Russia	27	34	43	55	2.4%
	Subtotal	74	89	107	130	1.9%
Base City	Yanji	50	67	90	120	3.0%
	Qingjin	60	73	90	110	2.0%
	Vladivostok	90	111	138	170	2.1%
	Subtotal	200	251	318	400	2.3%
Satellite Towns	Hunchun	12	251	318	400	2.3%
	Posyet	13	22	36	60	5.2%
	Rajin	3	6	14	30	8.0%
	Subtotal	26	51	93	170	8.5%
International City	Jingxin	—	20	55	150	10.6%
	Ungsong	—	12	35	100	11.1%
	Ilaseng	—	8	20	50	9.6%
	Subtotal	—	40	110	300	10.6%
Total		300	431	628	1,000	4.1%

Table 9.3 Investment calculation (US \$100 million)

	1990-2000	2000-2010	2010-2020	1990-2020
Other areas	7.5	9	11.5	28
Base city	5.1	67	82.0	200
Satellite towns	50.0	84	154.0	288
International city	160.0	280	760.0	1,200
Total	268.5	440	1,007.5	1,716

entering into the rank of medium but close to the higher income nations or regions at that time. Based on these projections, we can calculate the GDP and per capita GDP.

The GDP will increase by 2,435 percent within 30 years. The GDP of Shenzhen special zone in the 80s increased at an average rate of 45 percent per year. In Zhujiang Delta, there was an average rate of 20 percent per year. In Guangdong province, there was an annual average increase of 12 percent. We think that with the large amount of funds and technology investment, the annual average increase rate of 11.2 percent within 30 years is possible.

Transportation System Engineering

To improve the accessibility of the Tumen River area, the development of transportation is a key and first thing. The transportation is a matter of system engineering. At this point, we will merely discuss the transportation system engineering because we don't have a study on the construction of transportation facilities. The object of this discussion is focused on not only the TEDA but also the entire Northeast Asia. Transportation planning in this area should lead to the construction of ports, as well as guide and promote the construction of other transportation facilities.

Table 9.4 GDP and per capita GDP projections (Unit: US \$)

	1990	2000	2010	2020
GDP (billion)	8.5	13.6	52.6	207
Per capita GDP	2,800.0	3,155.0	8,376.0	20,700

The ports that already exist are as follows: Port Vladivostok, with a yearly handling capacity of 7.6 million tons; Port Nakhodka, 11.9 million tons; Port Dong Pang, 13 million tons; and Port Posyet, 1.2 million tons. Thus Russia has a yearly handling capacity of 33.7 million tons. For Port Chongjin, the yearly handling capacity is 3 million tons, and for Port Rajin, it is 8 million tons. For DPRK, the total yearly handling capacity is 11 million tons. At present in this area, with other ports, the area already has a yearly handling capacity of more than 50 million tons. Besides the abovementioned ports, Zarubino of Russia is a prospective deep water port. DPRK is not only planning to develop the existing ports but also planning to develop Ungsang New Port, which is close to the Tumen River. China plans to build Fangchuan River Port. At present, the handling capacity of TREZ is only 10 percent of the TEDA. Accompanying the implementation of TRADP, the increase of the handling capacity of TREZ can apparently go up. By the year of 2000, it can be 25 percent more, 40 percent more by 2010, and 60 percent more by 2020. The handling capacity of the ports in TEDA will be one hundred million tons by the year of 2000 and two hundred million tons by 2010. We expect three hundred million tons by the year of 2020.

We can make estimates for the times of handling capacity of 100, 200, and 300 million tons of transportation system. (Figures 9.1, 9.2, and 9.3) The sea transportation will be mainly for Japan and Republic of Korea, along with China, Russia and DPRK, America, and the North Pacific. The biggest amount of transportation will be among Japan and the other nations in Northeast Asia; it will be 60 to 70 percent of the entire transportation. We can also estimate that 10 percent of the goods will be collected and distributed by road. Of this 15 to 20 percent will be processed locally, transported by trucks, while 70 to 75 percent will be transported by railway. In this area, there are 5 railways for collecting and distributing. They are the Siberia railway,

from Siberia to Europe, Korea railway to DPRK, Korea—Tumen—Mudanjiang—Jiamushi railway to east part of Heilongjiang Province, Tumen—Mudanjiang—Harbin—Manzhouli railway connected with the Siberia railway. After the connection of this railway it can collect and distribute the goods in the central part and the western part of Heilongjiang Province, then to Siberia. This railway will be 1,000 km shorter than Siberia railway. The 5th railway is to connect the railway of Hunchun—Yanji—Changchun—Baicheng—Arshan with the railway of Mongolia, collecting and distributing the goods in the central part and the western part of Jilin Province and the goods in Mongolia. The 6th railway is Tumen River—Helong, connecting to Erdaobaihe to Liaoning. This line can collect and distribute the goods of the southern part of China and the goods of Liaoning Province.

Map 9.3 gives the railway network in North East Asia. The biggest flow of collecting and distributing by railway is by Russia, maybe 35—45 percent as estimated. The next one will be China, maybe 25—35 percent. Then Mongolia will be 10—20 percent, and Korea and DPRK will be 10—20 percent. After the building of the Europe—Asian continental bridge, the goods from Europe will be 20 percent of the total.

At present, there are 3 airports in TEDA: Vladivostok, Yanji, and Chongjin. However, none has any international lines. Among them Vladivostok is the biggest one, with 2 runways which can be used for the Boeing 747. The passenger transportation capacity in 1990 was almost 1.04 million. Yanji and Chongjin airports can only fly feeder lines with An 24. The passenger transportation capacity for Yanji airport is 33,000 but for Chongjin, for lack of statistical data, it was estimated about 5,000 in 1990. At present, there is a plan for Vladivostok to be an international terminal. It is estimated that it will be open to the outside in 1994. The Yanji airport will be expanded next year and also plans to fly international lines with the Boeing 767 and 737.

It is planned to build an air transportation hub of Northeast Asia in Jingxin, the border area of Sino—Russia. It will be open to all over the world, and the main cities in Northeast Asia will have a flight every one or two hours. If the TRADP can be carried out successfully, there will be an international airport there, and its passenger transportation capacity will be expected to be about 20 million in the year of 2020. All three airports, Vladivostok, Yanji, and Chongjin, will be expanded by the year of 2020. The passenger transportation capacity for Vladivostok will be 8 million, for Yanji will exceed one million, and for Chongjin will be almost 0.5 million. The estimates are that, among these 30 million passengers, 50 percent will be international passengers. Sixty percent of the passengers of Jingxin airport will be international passengers; among them, 30 percent will be transit passengers, and 20 percent will be passengers who will stay at the international city for less than 3 days. Thus we should enhance the construction of service, recreation, and sightseeing facilities.

THE MODE OF DEVELOPMENT

Three Options

The author had set forth 3 options in the paper "The Development of Tumen River Region and Its Effect" in the second session of the international conference on

Figure 9.1 Port capacity and model distribution
Scenario A: 100 million tons (unit: million ton)

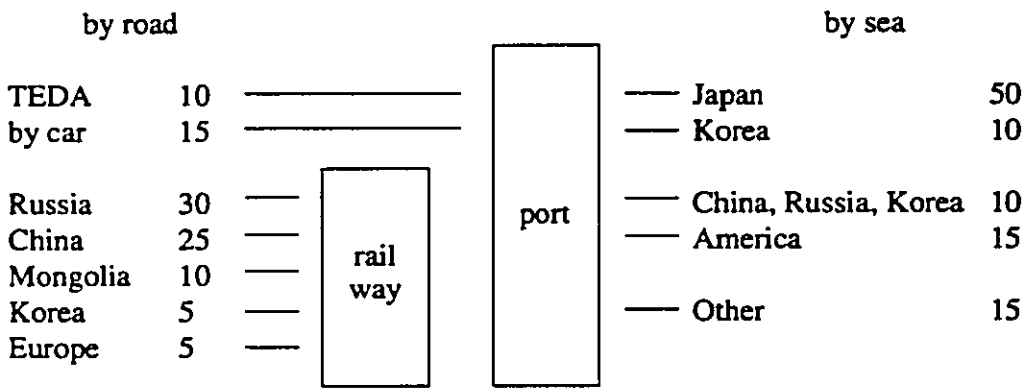


Figure 9.2 Port capacity and model distribution
Scenario B: 200 million tons (unit: million ton)

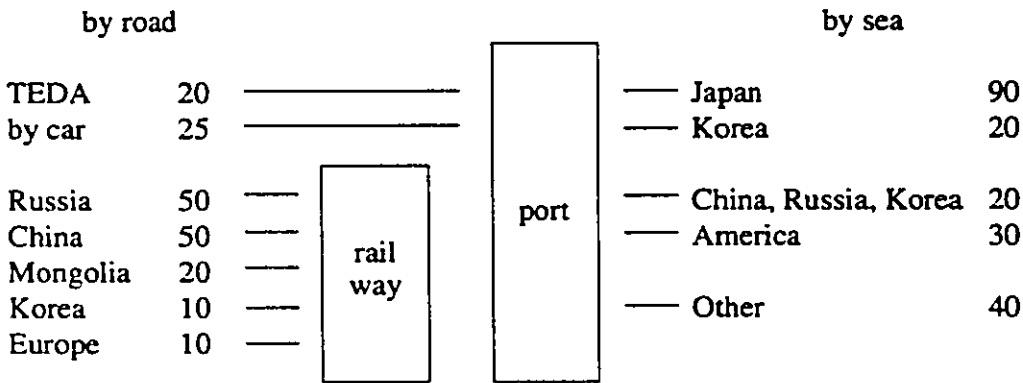
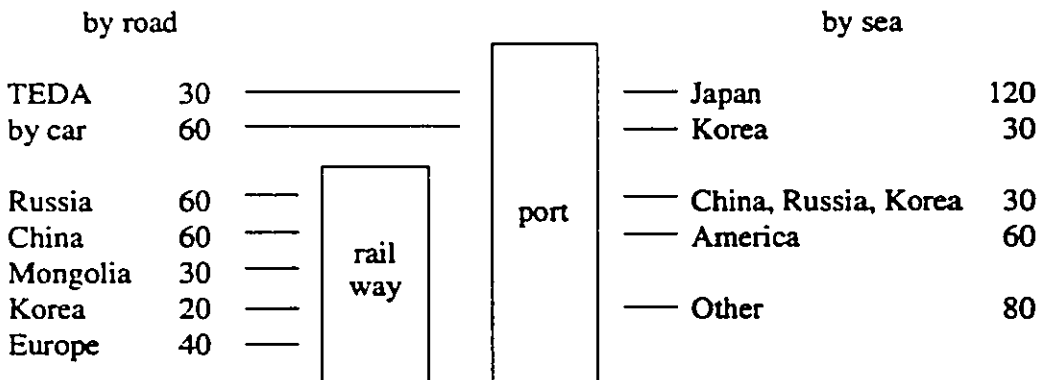
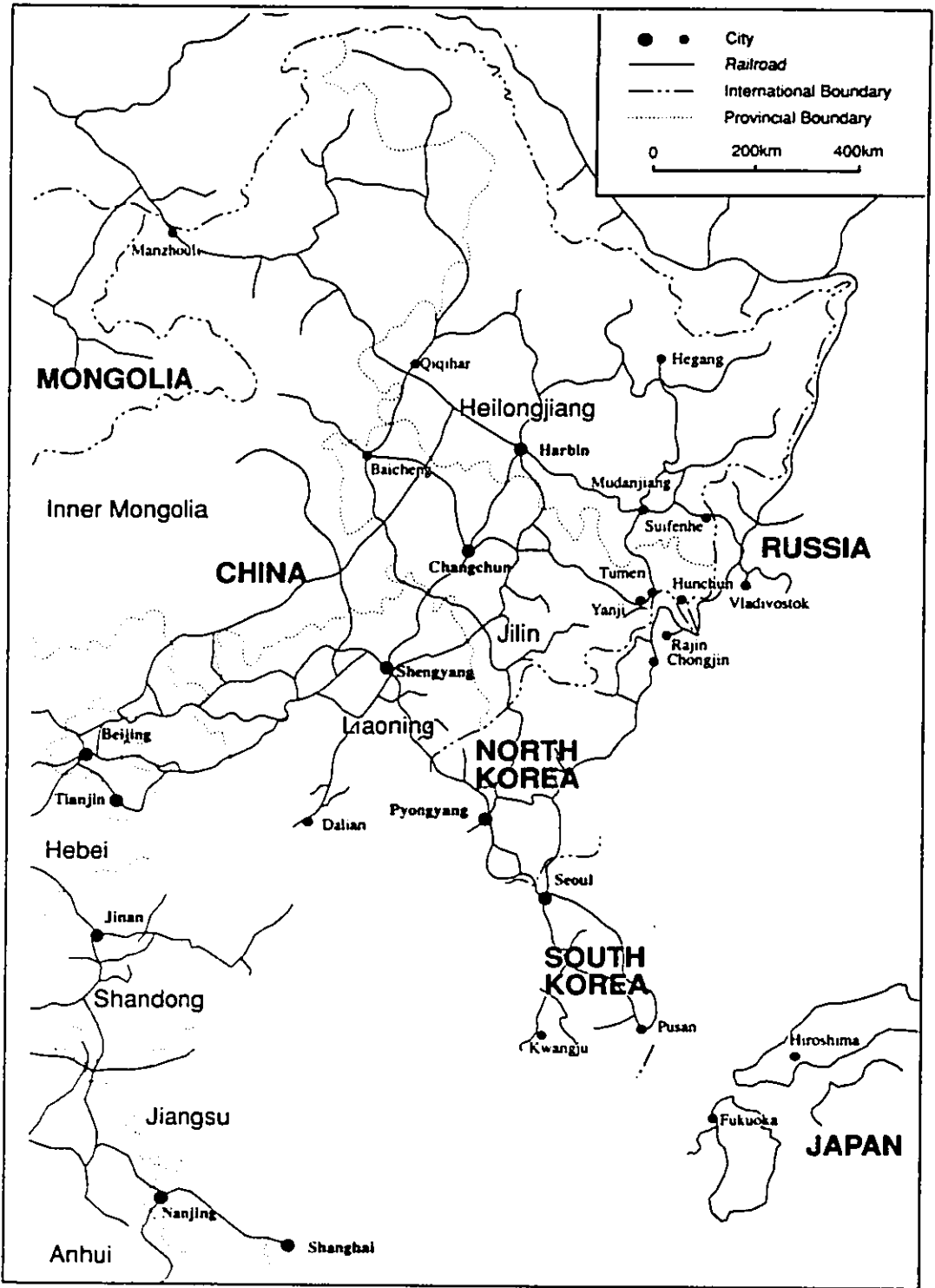


Figure 9.3 Port capacity and model distribution
Scenario C: 300 million tons (unit: million ton)





Map 9.3 Railroad Network in Northeast Asia

economic development in Northeast Asia (in Changchun). The first option is that the 3 nations of China, Russia, and Korea would separately develop one or several areas in that area. The second option is that any two nations of China, Russia, and Korea would develop one area jointly. The third option is that the 3 nations of China, Russia and Korea together would develop a neighboring area. The article pointed out, furthermore, that the best one among the 3 options is the third and that the sole location for the third option is the lower reaches of the Tumen River.

This idea of the author was accepted by the experts in China and abroad and also by UNDP. At UNDP's first TRADP conference, the experts and scholars thought options one and three would be more prospective, and named option one (loose type) as option "A," with the option three (closed type) designated as option "B." They had further discussions about options A and B at the second conference in Vladivostok from July 28 to August 6, 1992.

Option A: China, Russia, and DPRK set up individually free economic zones near the mouth of the Tumen River, and set up a coordinating organization composed of the 3 nations, carrying out coordination about the development, construction, and cooperation in this area. There will also be a planning committee under the coordinating organization to select and coordinate the plans made by the 3 nations. They also considered that there would be competition among the 3 free economic zones, and that would be beneficial to the improvement and development of the free economic zones. In the free economic zones, the cooperation will be multilateral, bilateral, and trilateral.

The advantages of this option are: first, it will not interfere with the sovereignty of the 3 nations. Second, each nation may easily improve its own free economic zone based on its own authority. Third, each government will control its own free economic zone. But the major problems and difficulties for this option are: first, it is very difficult for investors to put in large amounts of funds, especially for DPRK, because there are no diplomatic relationships between DPRK and United States, Japan, and Republic of Korea. As a result, those nations will not put large amounts of funds into DPRK. Second, because of less investment, the speed of development will be apparently slower. Third, because China, Russia and DPRK have their own viewpoints and interests for investments, it is difficult to concentrate on the same projects. The coordination among them will require great energy. Fourth, there will be several difficulties because of the differences among the 3 nations in selecting of the locations of free economic zones, working systems, regulations, and aims. Fifth, governments have to bear some risk, for they may have to make necessary concessions and guarantees in order to attract foreign investments.

Option B: China, Russia, and DPRK will individually contribute a piece of land near the mouth of the Tumen River, and set up a cross-country free economic zone together with Japan, Republic of Korea, and Mongolia. In order to attract foreign investment more efficiently and to develop the economy faster, the 3 nations can lease their land for a certain period under the prerequisite of not losing their own sovereignty. The 3 nations will set up individual city governments in the cross-country free economic zone carrying out the national sovereignty, being responsible for custom, border defense, commodity inspection, foreign affairs, judicature, public

security, transportation, fire control, industry and commerce, duty, post, finance, and management of city administration. For the building of facilities, lands, developments, transportation, telecommunications, water supply, electricity supply, heat supply, coal, gas supply, residual management, housing construction, real estate, and other development, they can give the rights to the 6 nations of Northeast Asia and the investors.

The advantage for option B is: It will easily attract investors, easily attract advanced management technology internationally, and easily and more rapidly enter into the international market. Thus the development speed must be comparatively faster. In the meantime, this option is beneficial for the stability and development of the economy in this area. The disadvantages for option B are: first, it will cost more time to negotiate and prepare, especially because it must be approved by the central governments of the 3 nations. Second, it will be difficult to determine how to differentiate the problems of sovereignty and economy. Third, there's no sample of cross-country free economic zone, as well as a lack of experience to carry out international management.

At present, DPRK insists on the loose type (option A), because it is afraid of losing its sovereignty as it has just opened its door to the outside world. Russians are inclined to accept option A. At first they advocated option A, then turned to option B, as they estimated that the local authorities would be in agreement with option B in order to speed up the development. Mongolia clearly expressed its agreement with option B, because B allows Mongolia access to sea by dealing only with Tumen River Company, instead of dealing with China, Russia, and DPRK individually. The local authorities and experts of China support option B, because it can speed up the economic development in this area, and can promote and lead the development of Northeast Asia region at the same time.

Option of Stock Company

On July 14—18, 1992, when experts from UNDP, headed by the project manager of TRADP, Mr. Whalen, paid an on-the-spot visit to Yanji and Hunchun, they discussed and put forward the share system with the Chinese side. Because of the support of this conception by the Chinese side, they named the share system the Chinese revised option at the experts' conference of UNDP in Vladivostok. We can make projections for the shares as follows.

In setting up the Tumen River Company as a stock company, the Company will issue two kinds of stocks, preferred and common. The 3 nations of China, Russia, and DPRK would rent a piece of land of about 1,000 km² within Tumen River Small Delta to the Tumen River Stock Company for about 70 years and get the preferred stock. Because the 3 nations would have the preferred stock, they also would have the voting right of deciding social affairs and have the priority to share the interest. In order to ensure the interest of China, Russia, and DPRK, the interest can be fixed. The common stocks can be issued to investors of the 6 nations of Northeast Asia, World Bank, ADB, European Renaissance Bank, and banks and banking organizations all over the world. There will be no right to vote for the social affairs for those who have common stocks, but they have the right to vote for the economic affairs of the

Company. In the meantime, they can receive fixed interest according to the management status of the Company.

In order to manage all the invested projects, the Tumen River Area Management General Company must be set up under the Tumen River Company, in charge of the public bidding for all construction projects. After the project's examination and the management of implementation are finished, there will also be several other companies to be set up, such as: shipping company, air transport company, water supply company, electric company, heat supply company, coal gas company, civil construction company, real estate company, and housing company under the management general company. These project companies can be either monopoly company, joint venture, or stock control. The management general company receives bonuses from those companies, then hands them over to Tumen River Company, and distributes to the 3 nations of China, Russia, and DPRK, who put the land into this area and also individual investors.

As a policymaking and policy-directing organization, the Tumen River Company is just like a board of directors, but the daily duties should be managed by the Tumen River Area Management General Company.

With reference to the conception of the share system, its first advantage is that there is no need for an agreement by all the governments of 6 nations. So it is easy to start. It can be started when any one of the 3 nations of China, Russia, and DPRK is not in agreement with it at the beginning and puts into its share later after the conditions are better. The second advantage is that it deals with the economic problems with an economic method, so there is no need to discuss all the problems related to the economy among all the governments in Northeast Asia. The third is that, because the investors have the right to vote on economic problems, it is easier to attract them to put in their money. Finally, the construction and management of each project can adopt modern management methods and on skills, so the projects can be expected to produce higher economic returns.

The problem of the share system is how to differentiate the sovereignty and economic problems of China, Russia, and DPRK. There is no precedent to deal with the relationship between the Tumen River Company and the city governments of 3 nations and their coordinating organizations.

Funds Collecting

The development of Tumen River area needs large amounts of funds. Based on the initial estimation, it will need US \$171.6 billion in 30 years. Considering reinvestment after recovery, the construction of basic facilities alone will need about US \$37 billion. This US \$37 billion of funds can be collected in four ways. First, the common stocks are being issued by the Tumen River Company to cover the big share of the total funds. Second, the 3 nations of China, Russia and Korea would collect funds individually to set up the base city and satellite towns. Third, China, Russia, and DPRK could strive to get interest-free or low interest loans from governments of developed nations. Fourth, China, Russia, and DPRK could collect funds from banking and industrial circles all over the world for building of basic facilities.

We have designed 3 levels of cities. The base cities and satellite towns should

be constructed and managed by China, Russia, and DPRK. The city administration of the international city should be managed by the 3 nations together. Construction and management should be charged to the investors. Thus the funds for construction can be collected from various sources.

For collecting of funds, it's necessary to develop methods apart from the above 4 channels: for instance, first, taking more comparatively open policies to attract funds; second, preparing widespread advertising to attract business; third, adopting methods to ensure that the investors will make profits, thus getting more investment; fourth, paying sufficient attention to introducing advanced technologies and management methods, to promote developments in the entire region.

It is very urgent to set up a Northeast Development Bank to support Tumen River Area development, as it will benefit the development in this area. The funds of Northeast Development Bank may be invested by World Bank, ADB, and the governments of 6 nations in northeast Asia. The Northeast Development Bank can also issue bonds, absorbing private deposits. The funds will be used mainly for the medium-term and long-term loans for the construction of basic facilities. The Bank can invest in profitable projects in order to use the funds efficiently.