

**Rainer Dormels (2014)**

**Profiles of the cities of DPR Korea – Tanchon**

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## IV.2.24. Tanchon

### In the past as an intermediate stop before crossing the Machŏn–ryŏng

Tanchon is one of the most important mining and industrial cities of North Korea. There are several lead, zinc, magnesite and apatite mines in the city. Already in 1932, the lead and zinc mine Kŏmdŏk was built. In addition the Ryongyang Mine, from which magnesite was extracted, the Taehŭng Mine (magnesite) as well as the Tongam Mine (apatite) are one of the most important mines of North Korea.

**Table Tanchon–I. Basic data**<sup>98</sup>

Population	345,875 (Rank 7)
Area	2,172 km <sup>2</sup> (Rank 1)
Population density	159 l./km <sup>2</sup> (Rank 26)
Administrative units	40 <i>dong</i> /38 <i>ri</i> (51%) (Rank 21)
“Urban” population/“rural” population	69.6%/30.4% (Rank 24)

Tanchon was developed on the road along the east coast towards the Tumen river to an important intermediate stop before crossing the mountain pass Machŏn-ryŏng. At the time of the Japanese rule over Korea, railway lines were built, which came from the highlands of North Korea and run through Tanchon on to the route that runs along the coast of the East Sea, which underpinned the favorable traffic situation of the city. At first, the industrial development of Tanchon was closely linked with the agriculture and forestry (sawmill, linen weaving, dairy), but towards the end of the Japanese rule, more and more of the city became a location of processing local minerals, mainly obtained magnetite and table salt (Saitschikow 1945, 285). Since 1937, Tanchon got more and more urban traits and turned into an industrial region. The Japanese had planned much for Tanchon. In 1943, when the city had 164,241 inhabitants, plans were made to expand Tanchon into a city for 500,000 inhabitants. Towards the end of the Second World War the construction of the port was started, but only one third was completed. Then the defeat of the Japanese also finished their plans for the expansion of the port and the city (Yi Han-sun, 1991, 126).

In the north, east and west, the terrain is very steep. High mountains alternate with deep valleys. In the north, a basaltic plateau has formed. There the Turyu-san (2,309 m), the highest mountain of the city, is located. In the east are the Anban-tŏk (1,830 m) and the

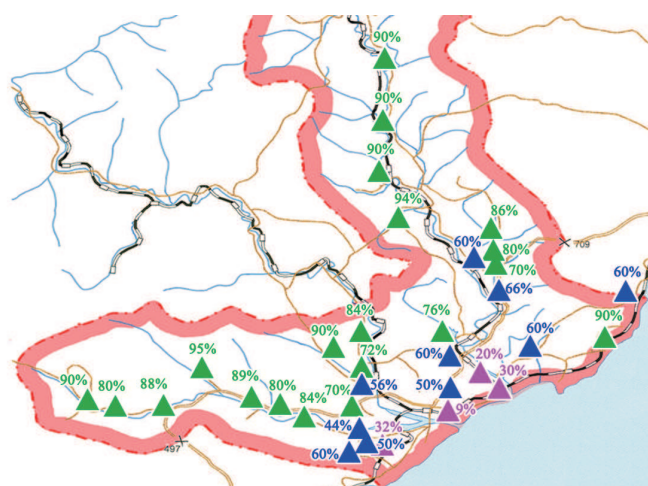
<sup>98</sup> In the IPA-12 (2003) 39 *dong* and 39 *ri* are listed. The PSC-8 (2009, 596) only lists the *ri*, but in case of the *dong* only the number is specified. The “missing” *ri* in PSC, compared to the IPA, is Tŏkju-ri, which lies in the south of the city, north of the former Tanchon-up.

Ryongyŏn-san (1,598 m). There are several mountains with a height of over 2,000 m in the West (Kŏmdŏk-san 2,151m, Manthap-san 2,012 m, Thaejo-bong 2,084 m).

**Table Tanchon-II.** Climate values

Annual average	January temperature	August temperature	Precipitation
9.2°C (17)	-3.8°C (5)	22°C (22)	672.0 mm (24)

It is noticeable that Tanchon is one of the cities with relatively mild winters for North Korean circumstances, but in the summer the temperatures do not rise as much as in other parts of the country. Also, the city has relatively low precipitation.



**Figure Tanchon-I.** Forest area in the *ri*

More than 80% of the city consists of forests, which are widespread in the North. Important forest species are, for example, pine, oak or aspen. The edible mushroom (pine mushroom) is very common. From the field acreage the rice fields account for 20%, and fruit growing makes up 10%. Main crops are rice plant, soybeans and corn. Important vegetables are cabbage, garlic, spinach and peppers. The livestock and poultry industry have an important function in the city.

Major rivers in the city are the Namdae-chŏn (176.3 km), Pukdae-chŏn (128.1 km) and the Pok-chŏn (50 km). At the lower section of the Namdae-chŏn and on the banks of Pok-chŏn, a 60 km<sup>2</sup> large Tanchon-level has formed, which represents the most important rice-growing area of the city.

The city has a 40 km long coastline. Thus, there are numerous fishing companies, whereupon the Tanchon Fishing Station is the most important one. They do both, deep-sea

fishing as well as inshore fishing. Tanchon is famous for pollack fishing. Other important fish, which are fished in Tanchon are catfish, halibut, atka mackerel, trout, etc.

### Mining Town

Tanchon is dominated by mining and by industries that process the extracted materials. Also the machinery and equipment that are required for the mining industry are produced in Tanchon. Additionally the energy industry is significant. Furthermore, there are regional companies in the textile industry and food industry.

**Table Tanchon-III.** Ranking (in parenthesis: number of industrial companies or cultural institutions)

Tanchon	KOFC	MOU	IPA	KCNA	KIET	Summary
Companies-total	17 (12)	8 (29)	14 (13)	13 (11)	10 (39)	11
Companies-important	6 (6)	5 (6)	15 (6)		11 (13)	12 (8)
Cultural institution			13 (7)			

**Table Tanchon-IV.** Ranking (Total number of companies in relation to population)

Tanchon	KOFC	MOU	IPA	KCNA	KIET	Summary
Companies-total	22	12	19-18-18	17	17-19	20-19

After evaluating all five sources, Tanchon has a lower rank in terms of numbers of industrial companies than in terms of population (Rank 7). According to the MOU source, Tanchon is stated with a lot of mines and according to KIET Tanchon has many factories in the heavy industry sector.

**Table Tanchon-V.** Specification (in parenthesis: number of industrial companies)

Tanchon	Light Industry	Heavy Industry	Mining	Energy
KOFC	22 (1)	20 (6)	4 (4)	6 (1)
MOU	26 (7)	16 (8)	2 (13)	8 (1)
IPA	24 (2)	16 (5)	2 (5)	6 (1)
KCNA	–	10 (5)	2 (5)	12 (1)
KIET	21 (13)	18 (18)	5 (6)	5 (2)

Compared with the population, there are not a lot of facilities in the field of higher education. There is no university in Tanchon, only colleges which focus on the subjects of mining, engineering and agriculture (Chosun Ilbo November 27, 1995).

Once again, the table Tanchon-V shows the embossing of Tanchon as a mining town. It is also clear that Tanchon is much more focused on heavy industry as on light industry, the latter of which only plays a minor role.

In chapter III.7.3. eight companies had been identified as important for Tanchon. These include the three most important mines, the Kōmdōk Mining Complex, the Taehŭng Youth Hero Mine and the Ryongyang Mine, as well as the Tanchon Magnesia Factory and Tanchon Smeltery for the further processing of raw materials. Also the Tanchon Mining Machine Plant is connected with the mining industry.

In Tanchon there is also the Tanchon Ship Repair Factory and as the only factory of light industry, the Kwangchōn Foodstuff Factory, which was identified in chapter III.7.3. as one of the important companies of Tanchon. In the Kwangchōn Foodstuff Factory puffed rice from corn, soy sauce and soybean paste are produced. The demand is not covered, but at least the taste is supposed to be fine (Chosun Ilbo November 27, 1995).

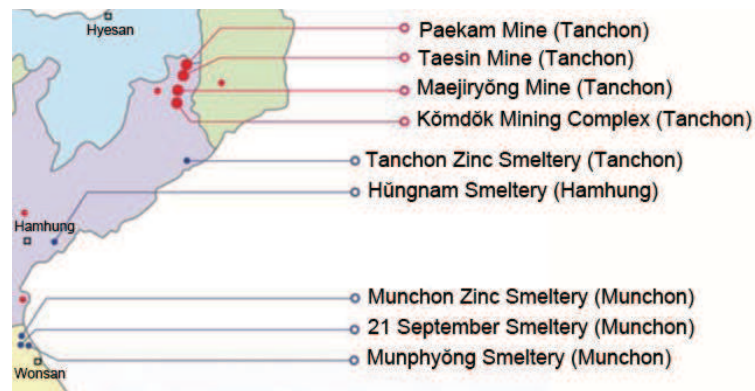
### **Mineral resources**

Tanchon is a significant mining town in the DPR Korea. In the north of the city in the areas of Taehŭng, Kōmdōk, Ryongyang and Tongam significant mines are located. The Pukdae-chōn, which flows through these regions, is an important domestic water supplier. The energy supply of most of the complexes is guaranteed through the Hōchōn-gang power plant over the Kūmgōl-network station.

Therefore, Tanchon became a potential candidate for investments from abroad and from the Republic of Korea. In the early stages of the Agreed Framework between the United States of America and the Democratic People's Republic of Korea, the DPR Korea proposed to the United States of America that it invest in two mines and a port in the Tanchon area (The Hankyoreh May 8, 2006). In 2006, Tanchon was in discussion as a "special joint resource development district" (The Hankyoreh May 8, 2006). In 2007, a South Korean delegation visited the regions of Taehŭng, Kōmdōk and Ryongyang, to investigate the areas in terms of joint projects between North and South Korea.

Located in Tanchon-si, Kūmgol-dong, is the Kōmdōk Mining Complex, a leading mineral producer of the DPR Korea. In this region, numerous mineral resources are kept. At first, silver was mined on a small scale in Kōmdōk-valley. In 1932, the Kōmdōk Mine

was put into operation. First, silver was mined, then lead and zinc (KCNA 6<sup>th</sup> April 2010). The Kōmdōk Mining Complex is one of the most important zinc mines in the world (KOFC 2010, 482). The mine is 98 km away from the port Kimchaek (Choe Kyōng-su 2011, 245). Overall, the DPRK has a total of 8% of the world reserves of zinc. (SNKECSA (2011, 33). Among the eight major zinc mines, four are in the city of Tanchon.<sup>99</sup>



**Figure Tanchon-II.** Zinc mines and zinc smelteries in Northeast-Korea (source: SNKECSA (2011, 39).

The zinc ores, which are extracted in the Kōmdōk Mining Complex, are smelted in the Tanchon Smeltery, but also in the smelteries of Munchon and Hamhung. The Tanchon Zinc Smeltery is, after the Munpyōng Smeltery, the one smeltery, which smelts the most zinc in the DPR Korea. Also gold is extracted in Kōmdōk, which is smelted in Munphyōng (SNKECSA 2011, 56).

In Tanchon are the two most important magnesite mines in the DPR Korea, the Ryongyang Mine and the Taehūng Youth Hero Mine. Magnesite is a mineral with high temperature resistance, which contains the metallic constituent magnesium. It is therefore used for the production of refractory bricks, with which, *inter alia*, smelting furnaces are lined. North Korea is after Russia and China the country with the most deposits of magnesite. According to estimates by the U.S. Geological Survey, these are 19% of the world reserves. However, the annual production is relatively low. This is connected with the fact that the further processing complexes are outdated, and that a large energy short-fall consists and the key markets are uncertain. In the 1980s, North Korea has produced over 2 million tons of magnesia per year at the Tanchon Magnesia Clinker Factory and sold to Eastern Europe. Meanwhile, the annual production dropped to only 120,000 tons. Also, it lacks the necessary cokes for the Magnesia Clinker production. For the production of cokes, bituminous coal is needed, which does not exist in North Korea and has to be im-

<sup>99</sup> The other four zinc mines are the Kyesaeng Mine (Jagang), the Sōngchōn Mine (Phyongnam), the Ūnpha Mine (Hwangbuk) and the Rakyōn Mine (Hwangnam).

ported. With the collapse of socialism in Eastern Europe and the economic crisis in North Korea the coke couldn't be imported anymore and thus the magnesia clinker - the production collapsed. With North Korean coal magnesia clinker of low quality was produced, which sold poorly. In recent years, a processing on commission is performed with Chinese institutions and Chinese capital (Choe Kyōng-su 2011, 278-281).

All major magnesite mines in the DPR Korea are in Tanchon or its surroundings.



**Figure Tanchon-III.** Magnesite Mines and Magnesia Clinker Factories in Northeast Korea (source: SNKECSA 2011, 104)

The Ryongyang Mine has an annual capacity (concentrate) of 300,000 tons (2006). In 1988, it was still at 2.5 million tons. There are two ore processing plants. Ore dressing plant no. 1 was commissioned in 1988 and ore dressing plant no. 2 in 1983 (KOFC 2010, 486).<sup>100</sup> The Taehung Youth Hero Mine was developed in the 1980s (KOFC 2010, 487).<sup>101</sup> By train the distance from the mine to the port Kimchaek are 98 km (Ryongyang Mine) or 128 km (Taehung Youth Hero Mine) (Choe Kyōng-su 2011, 280).

Magnesite is an important export good of the DPR Korea. Around 1993, magnesite was exported with a value of approximately USD \$8 million to France, Japan and Romania (Chosun Ilbo November 27, 1995).

Not only the extraction of magnesite but also the production of magnesia products is maintained in Tanchon or its surroundings.

The Tanchon Magnesia Factory produces a wide range of goods made from magnesite. Originally, this plant was built in 1942 by the Japanese and heavily destroyed during the Korean War.

In July 1954, the reconstruction was completed and the operation was resumed. In 1980, facilities from the Federal Republic of Germany and of Austria were introduced in a

<sup>100</sup> S. KCNA April 21, 2010.

<sup>101</sup> S. KCNA June 1, 2012.

**Table Tanchon-VI. Magnesia/Refractory Factories in the DPR Korea (source: SNKECSA 2011, 102)**

Magnesia/Refractory Factory	Place	Mine, from which the raw material comes	Magnesite Clinker production capacity (year)
Tanchon Magnesia Factory	Tanchon Hanggu-dong	Taehŭng, Ryongyang	2,000,000 tons
Sŏngjin Refractory Factory	Kimchaek Chŏnghak-dong	Ssangryong, Namgye, Saengjang, Taehŭng, Ryongyang	300,000 tons
Taehŭng Magnesia Factory	Tanchon Taehŭng-dong	Taehŭng	100,000 tons
Chongjin Refractory Factory	Chongjin		50,000–100,000 tons
Ryongyang Magnesia Factory	Tanchon Tonsan-dong	Ryongyang	12,000 tons

value of 66 million dollars and an annual production capacity that is estimated at 2,000,000 tons was achieved (Chosun Ilbo November 27, 1995).

A large part of the production is exported to China in the meanwhile. In 2010, the DPR Korea exported over 130,000 tons of magnesite ore and clinker worth over 21.5 million U.S. dollars to the PR China (SNKECSA 2011, 105). The Tongam Mine is by far the largest apatite mine in the DPR Korea. In 1980, they began with their development. The mine supplies the Hungnam Fertilizer Factory and the Tanchon Phosphatic Fertilizer Factory. By train to Tanchon Fertilizer Factory it is about 40 km and to Kimchaek port 70 km. The Tongam station can be reached by truck or by cableway (Choe Kyŏng-su 2011, 284).<sup>102</sup>

### Extension of the port

Until now, one was dependent on the port of Kimchaek concerning the supply of mines and factories in Tanchon with equipment from abroad as well as the removal of products by ship. In July 2009, the extension of the Tanchon port officially began. (Pyongyang Times February 26, 2011). In May 2012, the construction was officially completed.

The Japan-based North Korea-friendly Choson Sinbo made it clear that “Tanchon will become a key transit point in shipping goods to and from Russia’s Siberia, the northeastern part of China and Mongolia” (Yonhap April 25, 2013) In particular, mineral resources (e.g. processed magnesite goods) are exported to China . It was predicted that the “areas will

<sup>102</sup> S. SNKECSA (2011, 125-139).



become a new industrial zone with many new plants” (Yonhap April 25, 2013).

The importance of the construction of the harbor of Tanchon, was also made clear during the New Year speech of 2013 by Kim Jong-un, its completion particularly was mentioned next to the construction of the Huichon Power Station.

### Development before the city designation in 1982

In 1982, Tanchon was designated as a city (*si*). Tanchon-kun, of which the city was formed, has been reduced during the process of the municipal reform in 1952, in favor of the newly formed Hŏchŏn-kun, which got one *myon*, and Kwangchŏn-kun, which got three *myon*, and also for the benefit of Paekam-kun (Ryanggang province), which got four *ri*. In 1974, Kwangchŏn-kun was again merged with the Tanchon-kun. Between 1952 and 1967, six *rodongjagu* had been created in Kwangchŏn-kun. Also in 1974, Tanchon had to award three *ri* to the Riwŏn-kun, of which two of them were returned in February 1981.

Before the city designation, Tanchon already had ten urbanized areas, Tanchon-up and nine *rodongjagu*.

1952-1982 Tanchon-up (1)

1952-1982 Kwangchŏn-up (since 1974 Kwangchŏn-rodongjagu) (2)

1952-1982 Sindŏk-rodongjagu (since 1972 Kŭmdŏk-rodongjagu) (3)

1961-1982 Taehŭng-rodongjagu (4)

1961-1982 Ryongyang-rodongjagu (5)

1961-1982 Ryongdae-rodongjagu (6)

1961-1982 Tuŏn-rodongjagu (7)

1967-1982 Phogŏ-rodongjagu (8)

1967-1982 Tongam-rodongjagu (9)

1967-1982 Jikjŏl-rodongjagu (10)

From North to South, Tanchon’s major urbanization centers reveal:

- former Taehŭng-rodongjagu with the Taehŭng Youth Hero Mine (magnesite)
- former Kŭmdŏk-rodongjagu with the Kŏmdŏk Mining Complex (lead, zinc)
- former Ryongyang-rodongjagu with the Ryongyang Mine (magnesite)
- former Tongam-rodongjagu with the Tongam Mine (apatite)
- former Kwangchŏn-up: here the provincial factories are crowded, food and consumer goods are produced to supply the population of Tanchon (Chosun Ilbo November 27, 1995), e.g. Kwangchŏng Foodstuff Factory
- former Tanchon-up (administrative center of the city, Tanchon Railway Station,

Tanchon Mining Factory)

- former Tuõn-rodongjagu (Tanchon Smeltery, Tanchon Magnesia Factory, Tanchon Port)



Figure Tanchon-IV. *Dong* and former *rodongjagu* in Tanchon

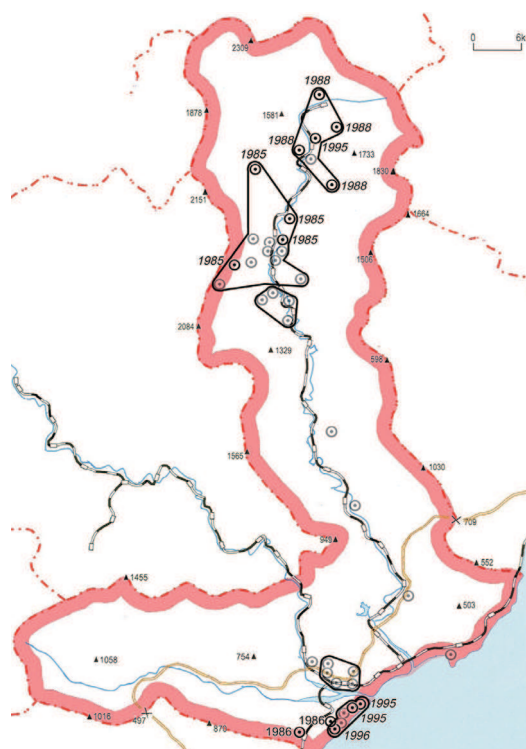


Figure Tanchon-V. New founded *dong* after designation of Tanchon as city

### Developments after the city's designation in 1982

In 1982, when the city Tanchon was founded, the *up* and the *rodongjagu* were transformed into *dong* or divided into several *dong*. Consequentially a total of 25 *dong* were formed. Until 2002, further 14 *dong* came into being. Nine of these 14 new *dong* originated in the north of the city, five in the South.

In the North, the areas of the former Kŭmdŏk-rodongjagu (four new *dong*) and Taehŭng (five new *dong*) were affected. In 1985, four new *dong* were created by separating from existing *dong* in the area of the former Kŭmdŏk-rodongjagu. In the same way, the number of *dong* in the former Taehŭng-rodongjagu increased in 1988 by four *dong* and in 1995 by another *dong*.

In the early 1980s, a new city was built in the south of the city center towards

the seashore. The area was called Sin-Tanchon (“New Tanchon”) and resembles the dimensions of multi-storey estates in Seoul. There are high-rise buildings with 10-15 floors, these are, *inter alia*, accommodations for the workers of the neighboring Tanchon Smeltery, which was also built in the 1980s. However since a business network and further community facilities did not follow, the encouragement from the population was not particularly large (Chosun Ilbo November 27, 1995). In this context, two new *dong* were created from parts of Ryongyŏn-ri in 1986. In 1982, the Tuŏn-rodongjagu was split into the Tuŏn-dong and the Hanggu-dong (dockland area). In 1985, Tuŏn-dong was renamed in Haean-dong (coast district). In 1995, the Hanggu-dong was divided into three *dong* and in 1996 the Haean-dong into two *dong*, so that between 1995 and 1996 in the territory of the former Tuŏn-rodongjagu three new *dong* emerged. The expansion of mining in the north of the city became apparent particularly in the 1980s and to a lesser extent also in the 1990s, due to these formations of the *dong*,

Also in the 1980s, Sin-Tanchon has been developed. The 1990s mainly showed an expansion of the coastal region around the harbor.

### Statistics

	<i>Dong-Formation</i>	<i>Dong-Splitting</i>
1982 (25)	-	(15)
1985 (29)	-	4
1986 (31)	2	-
1988 (35)	-	4
1995 (38)	-	3
1996 (39)	-	1

### Tanchon – mining town with new port

Tanchon is dominated by mining and the raw materials processing industry. Particularly in the 1980s, Tanchon experienced an upsurge, when numerous mining products were exported. During this time, many plants were built or expanded. Tanchon became a city, thus new city districts were developed. However from the 1990s the production and the export fell. Now the DPR Korea is trying to develop mining and processing with the help from Chinese capital. An important indication for this is the completion of the renovation of the port in 2012.