

A Stepwise Scenario for Rebuilding the North Korean Economy

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INTRODUCTION

Seoul and Washington have been presenting their respective visions of future relations with North Korea to be implemented once the nuclear crisis is resolved. South Korea has hinted at wide-ranging economic assistance, while the U.S. has suggested a so-called bold approach. As such, once North Korea starts taking practical measures to dismantle its nuclear program, global cooperation to change and rebuild the North Korean economy is quite certain to take place.

This study supposes that the resolution of the nuclear crisis would proceed in stages and it presents, by stage, the features of assistance and approximate costs, as well as the blueprint of role division among Korea, the U.S., Japan, China and others. Here the focus is placed on calculating the overall cost, especially the cost to be assumed by South Korea, required in managing and improving the inter-Korean relations in a stable manner during the stages of nuclear resolution, responding to the humanitarian crisis in North Korea and expediting internal changes and economic reconstruction.

The second chapter recalculates and estimates the current and future cost of South Korea's assistance to North Korea. The first purpose is to give a much more definite picture of the financial burden placed on the South Korean government and the private sector with regard to assistance to North Korea. The second is to estimate the future cost of staged increase of humanitarian and economic assistance to North Korea, as is declared by the South, in line with the staged resolution of the North Korean nuclear crisis. In the third chapter, the resolution process of the North Korean nuclear issue will be divided into four stages¹⁾: the first stage is the confrontational stage between North Korea and the U.S.; the second would begin when negotiations started; in the third stage, agendas for dismantling nuclear weapons development programs would be adopted and implemented; and in the fourth stage, North Korea's nuclear facilities would be totally dismantled and negotiations be completed. Grounded in the four stages scenario, the features of staged expansion of economic assistance and its costs will be estimated.²⁾

1) Deterioration of the nuclear crisis has not been considered in this study.

2) The project participants and their papers are as follows. Kim Yeon-cheol, "Rebuilding the Economic Infrastructure in North Korea"; Park Soon-seong, "A Literature Review on the Unification Cost"; Lee Gyo-deok, "Japan's Assistance to North Korea and the Plans to Utilize the Diplomatic Ties Fund"; Lim Soon-hee, "Humanitarian Assistance to North Korea"; Jeon Seong-hoon, "Compensation and Verification Issues Concerning the Nuclear Freeze and Ban on Missile Development and Export"; Park Young-kyu and Cheon Hyun-joon, "An Analysis on the Scenario of Changes in North Korea"; Choi Eui-cheol, "China's Assistance to North Korea and its Outlook"; Choi Jin-wook, "America's Assistance to North Korea and its Outlook: Policy Direction and Concrete Assistance Capacity"; Lee Woo-young, "The North Korean Escapee Issue"; Oh Seung-ryul, "The Cost of Developing and Facilitating the North Korean Special Economic Zone"; and Park Seok-sam, "An Estimate of the Size of Possible Loans to North Korea by International Financial Institutions."

RECALCULATION OF SOUTH KOREA'S ASSISTANCE TO NORTH KOREA

The most noticeable proof of the economic burden placed on South Korea due to North Korea is seen in the statistics released every year by the Ministry of Unification. However, some miscalculations can be detected in the Ministry's figures on humanitarian assistance. This study addresses that issue, and recalculates the actual burden assumed by the Korean government.

Under the new calculation method, South Korea's overall expenditures to North Korea greatly exceed the amount publicized so far. The purpose of re-computation is first, as the term indicates, to clarify the economic burden of the South in relation to North Korean assistance. Second, North Korea's economic dependence on South Korea should be identified and defined more concretely. Third, the new data could be presented when the international share of North Korean costs is negotiated during the nuclear issue resolution process. The fourth purpose is to provide unambiguous data to the domestic political debate on whether South Korea is under- or over-funding North Korea.

The Amount of Government-level Humanitarian Assistance to North Korea

The Unification Ministry's statistics overstated the assistance amount in 1995 during the Kim Young-sam administration, and since 2000, under the Kim Dae-jung government, it has understated it.

In 1995 under the Kim Young-sam presidency, the Korean government sent 150,000 tons of rice in free aid to North Korea. The cost of this rice aid amounted to 185 billion won, which included the rice purchase cost calculated in domestic price and incidental costs such as packaging and transport. The 150,000 tons of rice assistance in 1995 was followed by other shipments. This round of assistance can be described in two ways. (1) Since 2000 the Korean government has been assisting the North with 100,000 tons of corn every year through the

Table 1. South Korean Government Grain Loans to North Korea

(Unit: 100 million Won)

Year	2000	2002	2003	Total	Government Accounting	
Period	Dec-00– Mar-01	Sep-02– Jan-03	–Jul-03			
Items	-Thai rice 300,000 T -Chinese corn 200,000 T	Korean rice 400,000 T	Korean rice 400,000 T			
Loan Method	Term of redemption: Within 20 years (Within 10-year deferment, Interest rate: 1 %)					
	Purchasing Price	1,056	7,323	7,442	15,821	The Special Budget for Managing; Accounted as sales cost
A***	Appendant Expenses by MAF*	-	509	523	1,032	Hulling, packaging, etc.; Funded by the Special Budget for Grain Management
	Appendant Expenses by MOU**	24	244	356	624	Charterage, shipping, etc.; Funded by the Inter-Korean Cooperation Fund free of charge
	Total	1,080	8,076	8,321	17,477	
B****		1,056	1,266	1,267	3,589	Accounted as sales in the Special Budget for Grain Management; Loaned from the Inter-Korean Cooperation Fund
A-B		24	6,810	7,054	-	Accounted as loss in the Special Budget for Grain Management

* Ministry of Agriculture and Forestry

** Ministry of Unification

*** A: Government budget expenditure

**** B: Government announced loan

Source: Reorganized from tables of National Assemblyman Lee Hahn-koo Homepage, "The Government Share of North Korean Assistance is Under-reported by 1.3 Trillion Won," [http://member.assembly.go.kr/hahnkoo/issue/foodloan.hwp].

World Food Programme (WFP). This aid is included in the Ministry of Unification's figure on the government humanitarian assistance to North Korea. (2) the Korean government provided loans in grain to North Korea in 2000, 2002 and 2003, which were not included in the Ministry's released statistics on humanitarian aid. The South Korean government provided the North a total of 500,000 tons of imported grain in 2000—300,000 tons of rice from Thailand and 200,000 tons of corn from China—and 400,000 tons of domestic rice in loans each in 2002 and 2003. In monetary terms, the two Korean governments concluded loan contracts of \$88.36 million in 2000 and of \$160 million in both 2002 and 2003. These three figures indicate simple purchase costs of grain, processing and transportation costs excluded.

However, a substantial difference exists between the loan amount concluded with North Korea and the actual share undertaken by the South Korean government in 2002 and 2003. In 2000, because the South Korean government bought foreign grain and loaned it to the North, there has been no problem with the huge discrepancy between actual fiscal expenditure and the sum of loan contract with the North. But in case of loans to the North in 2002, and 2003, the South Korean government bought 400,000 tons home grown rice and processed and transported to North Korea. The South Korean government actually spent 807.6 billion won (\$673 million) in 2002, and 832.1 billion won (\$763 million) in 2003. However, the South Korean government concluded loan contracts of \$106 million, i.e. one sixth or seventh of actual fiscal expenditure, for both cases. It is said that the contract was concluded according to international convention of calculating humanitarian assistance, which included only the international price of the grain.

The problem of this type of convention is: firstly, the actual fiscal expenditures are not mentioned, when said about South Korean government's burden to assist North Korea, because, formally, they are commercial loans to the North. Secondly, they are not included in the statistics of humanitarian assistance to the North, because, also formally, they are commercial loan to the North. According to formal

logic, it was not wrong for the Ministry of Unification to exclude grain loans from the aid statistics since 2000. However, seen from the practical effect and reality, grain loans to the North in 2000, 2002 and 2003 are essentially not very different from the 1995 rice aid, because rice loans to North Korea are tantamount to free assistance. The loans have 1 percent annual interest rate, 20-year deferment and 10-year repayment period.

If we wish to measure South Korea's actual burden and contribution to the North, South Korea's grain loans to the North must be included in the humanitarian statistics. But, as is hinted, there are discrepancies between actual burden and real contribution, because of differences between domestic and international prices of rice. So we must compute the costs in two ways: the appropriate indicator in conducting an international comparison or gauging the effectiveness actually felt by North Korea is the amount calculated in the international price; the appropriate indicator for South Korea's economic burden to assist North Korea is the size of actual fiscal expenditure of South Korean government.

The actual burden of the South Korean government is the sum of all costs used to purchase home grown rice, process it inside the country and transport it to North Korea. In this case, the price of Korean rice becomes four times higher than the international rice price in 1995 and six times that of 2002 and 2003. When the international price is applied, the 150,000-ton rice aid to North Korea amounts to only \$58 million, merely a quarter of the \$232 million, which is computed in domestic price and registered in the statistics of humanitarian aid to the North by the Ministry of Unification. Because South Korea purchased imported grain in 2000, the fiscal expenditure of the South Korean government and the effectiveness felt by North Korea remain the same at \$88.36 million. In 2002 and 2003 the Korean government spent \$673 million and \$693.42 million, respectively, but judging from the degree of international contribution and aid effectiveness, \$106 million, only 1/6 or 1/7 of the original price tag and the amount agreed with North Korea, would be a more proper indicator.

In conclusion, the Ministry of Unification statistics on humanitarian aid to North Korea do not accurately portray the actual fiscal burden on the South Korean government, as compared to aid from the international community, or measure the actual contribution to North Korea. In order to arrive at a more accurate assessment of these elements, South Korea needs statistics that incorporate the amount of grain loans to North Korea, in which case the price of rice should be adjusted to the international level. Such statistics are more logical for an international comparison of South Korea's assistance size, and will show more accurately the effectiveness of South Korea's assistance as actually felt by North Korea.

In this regard, Table 2 marks South Korea's government assistance to North Korea in goods and their prices. Table 3 shows the amount of humanitarian aid to North Korea tabulated by the Ministry of Unification, and Table 4 calculates grain loans to North Korea in international prices, modifying the statistics of the Unification Ministry. When Table 3 with the Ministry-announced statistics was compared with Table 4 based on international price standards, the amount and the percentage of North Korean assistance from the South rose overall. The percentage of South Korean aid in the total assistance to North Korea from 1995 to 2002 in Table 2 was 28.5 percent, but it jumped to 30.3 percent in Table 3 and 44.2 percent in Table 4. During years when the aid percentage of South Korea exceeded the 50 percent mark (1995, 2000 and 2002), the commonality observed is the existence of grain aids or loans to North Korea from the South Korean government (rice loans were given in 2003 as well).

The Unification Ministry's statistics overestimated the aid amount in 1995, while the aid since 2000, when assistance to North Korea drastically increased, was underestimated. The reduced figure seems to be in response to the criticism launched against the Kim Dae-jung administration that it was "spoon-feeding" the North. According to the 2001 Ministry of Unification document outlining humanitarian aid to the North, the scale of aid to North Korea between 1998 and 2000, after the inauguration of the Kim Dae-jung government, amounted to

Table 2. Description of Government-level Assistance

Year	Billion Won	Million Dollars	Items
1995	185	232	Rice (Korean) 150,000 ton (Domestic price) Exchange rate: \$1=800 won
	46.25*	58*	International price (1/4 of domestic price)
1996	2.4	3.05	CSB 3,409 ton; powdered milk 203 tons (through WFP/ UNICEF)**; meteorological equipment \$50,000(WMO) Exchange rate: \$1=790 won
1997	24.0	26.67	CSB 17,874 ton; corn (Chinese) 50,000 ton; powdered milk 300 tons; powdered milk 781 tons (WFP); reconstructing of a medicine factory \$340,000(UNICEF) Exchange rate: \$1=900 won
1998	15.4	11	Corn 30,000 tons; flour 10,000 tons (WFP) Exchange rate: \$1=1,400 won
1999	33.9	28.25	Fertilizer 115,000 ton Exchange rate: \$1=1,200 won
2000	94.4	78.63	Fertilizer 300,000 ton Exchange rate: \$1=1,200 won
	13.2*	11*	Corn 100,000 ton (free of charge, WFP)
	108.1*	90*	Thai rice 300,000 ton; Chinese corn 200,000 ton (loan base)
2001	91.3	70.45	Fertilizer 200,000 ton; children's underwear 1,500,000 pairs; corn 100,000 ton (WFP); anti-malarial drugs (WHO) Exchange rate: \$1=1,200 won
	107.5	83.75	Fertilizer 300,000 ton; corn 100,000 ton (WFP); anti-malarial drugs (WHO) Exchange rate: \$1=1,200 won
2002	126.6*	106*	Korean rice 400,000 ton (loan, international price; processing/shipping cost not included)
	807.6*	673*	Korean rice 400,000 ton (loan, domestic price; processing/shipping cost included)
2003 (until July)	83.902	74.42	Fertilizer 200,000 ton; corn 100,000 ton (WFP); anti-malarial drugs \$660,000 (WHO); supporting vulnerable class \$500,000 (UNICEF) Exchange rate: \$1=1,200 won
	126.7*	106*	Korean rice 400,000 ton (loan, international price; processing/shipping cost not included)

832.1*	693.42*	Korean rice 400,000 ton (loan, international price; processing/shipping cost included)
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* Not included in North Korea humanitarian aid statistics announced by the Ministry of Unification.

Source: Ministry of Unification.

approximately \$120 million (annual average of \$41.6 million), not even half of that during the three-year period (1995-1997) under the Kim Young-sam administration.³⁾ According to the Ministry of Unification statistics, the Korean government gave aid in the amount of \$533.8 million over the period of 8 years from 1995 to 2002, and the assistance in 1995 alone accounted for 43.5 percent of the total amount. When the prices in Table 3 are uniformly adjusted to the international price standard and food loans are included in the government assistance amount, the 1995-1997 assistance to North Korea reaches \$87.72 million with the annual average of \$29.24 million and the 1998-2002 assistance amounts to \$218.88 million with a yearly average of \$72.96 million.

Government-level Fiscal Expenditure and Light Water Reactors

Government expenditures on assistance to North Korea largely encompasses three or four types: Expenditures related to humanitarian assistance, including loans to North Korea; expenditures from the Inter-Korean Economic Cooperation Fund under different items; expenditures for the construction of light water reactors (LWR); and expenditures to assist with the settlement of North Korean defectors.

Table 5 shows major assistance-type expenditures to North Korea from the South Korean government since 2000.

One of the key items among the assistance-type expenditures of the South Korean government is the construction cost of the light

3) Ministry of Unification, "The Truth About Humanitarian Aid to North Korea," May 24, 2001.

Table 3. Humanitarian Assistance to North Korea Since 1995

(Unit: million dollars)

	Jun-95	1996	1997	1998	1999	2000	2001	2002	Total	
South Korea	Government	232.00	3.05	26.67	11.00	28.25	78.63	70.45	83.75	533.80
	Private	0.25	1.55	20.56	20.85	18.63	35.13	64.94	51.17	213.08
	Sub-total (A)	232.25	4.60	47.23	31.85	46.88	113.76	135.39	134.92	746.88
	International Community (B)	55.65	97.65	263.50	301.99	359.88	181.77	357.25	257.27	1874.96
	Total (A+B)	287.90	102.25	310.73	333.84	406.76	295.53	492.64	392.19	2,621.84
	A/A+B (%)	80.7	4.5	15.2	9.5	11.5	38.5	27.5	34.4	28.5

Source: Humanitarian Assistance Bureau, Ministry of Unification.

Table 4. Assistance to North Korea Since 1995*

(Unit: million dollars)

	Jun-95	1996	1997	1998	1999	2000	2001	2002	Total	
South Korea	Government	58.00	3.05	26.67	11.00	28.25	179.63	70.45	189.75	566.8
	Private	0.25	1.55	20.56	20.85	18.63	35.13	64.94	51.17	213.08
	Sub-total (A)	58.25	4.60	47.23	31.85	46.88	214.76	135.39	240.92	779.88
	International Community (B)	55.65	97.65	263.50	301.99	359.88	181.77	357.25	257.27	1874.96
	Total (A+B)	113.9	102.25	310.73	333.84	406.76	396.53	492.64	498.19	2,654.84
	A/A+B (%)	51.1	4.5	15.2	9.5	11.5	54.2	27.5	48.4	27.74

* Grain loans included; in international prices.

water reactors. Of the operational funds of the Korean Peninsula Energy Development Organization (KEDO) established for the light water reactor project in North Korea, the South Korean government's share is taken directly from the government coffer. The actual construction cost is not captured as a government expenditure, however, because it is covered by the Fund for Restoration of Korean

Table 5. Major South Korean Government Expenditures in Relation to North Korea (Unit: billion won)

Year	Govern- mental Assistant ¹⁾	Inter-Korean Cooperation Fund ²⁾	LWR Project ³⁾	North Korean Defectors	Total Support	In Dollars ⁴⁾
2000	215.7	59.061	5.1	6.0	285.861	238.2175
2001	91.3	137.320	7.9	6.8	243.32	202.7667
2002	915.1	132.174	8.081	14.888	1,070.243	893.3692
2003 (Jan-Jul)	916.002	84.429	6.518	24.455	1,031.404	859.5033

1) See Table 2.

2) Ministry of Unification, "Inter-Korean Cooperation Fund Statistics," July 31, 2003. Expenditures that overlapped with private sectors are excluded.

3) Ministry of Unification, "2003 Budget and Fund Operation Plan," November 2002; Ministry of Planning and Budget, "Major Contents of 2000 Foreign and Unification Budget," March 21, 2000; MPB, "Budget by Sectors: Unification and Diplomacy," January 27, 2001.

4) Conversion to million dollars. Exchange rate: \$1=1,200 won

People's Community, which was created through the issuance of government bonds.

On August 15, 1994, just prior to the conclusion of the Geneva Agreed Framework in October, President Kim Young-sam proclaimed in his Independence Day speech that South Korea would assist with the LWR construction in the North. The estimated cost of the construction project was \$4.6 billion. It was agreed that South Korea would assume 70 percent of the actual project cost (3.542 trillion won or \$3.22 billion), Japan would give \$1 billion and the U.S. would be mainly responsible for funding any shortfall. In order to come up with the fund for the construction project, the South Korean government issued government bonds in the amount of 1.6397 trillion won from 1999 to July of 2003, out of which 304.8 billion won has been redeemed, so the net amount issued comes to 1.3449 trillion won. South Korea has been paying for construction since February 3, 2000, when the main contract between KEDO and

Korea Electric Power Corporation (KEPCO) on the construction of light water reactor went into effect. Until January of 2003 the total amount paid was \$1.11168 billion.⁴⁾ (The KEDO Board of Directors decided to 'temporarily suspend' the reactor construction for one year in early November of 2003.)

While, the expenditures related to the inter-Korean exchange and cooperation fund and the settlement of North Korean refugees in Table 5 eventually flow back into South Korean society, in a broad sense, they are included in the management costs of inter-Korean relations and division. Therefore, the money is not used directly for North Korea. As a result, Table 6 shows South Korea's direct assistance-type expenditures to North Korea, excluding the aforementioned costs.

Based on these observations, if the South Korean government and private sector maintain the level of North Korean expenditures seen in 2002 and 2003, the amount of expenditures by the South Korean government alone (fiscal expenditures and government bonds included) is expected to grow to \$1 billion annually. This translates into the annual per capita share of 21,277 won for 47 million South Koreans,⁵⁾ and accounts for 1.08 percent of the total 2003 budget of 111.4832 trillion won.

This study, however, reviewed how much had already been provided to North Korea by the South Korean government and the private sector. Conversely, the study could compute how much is needed by North Korea. According to a study by Lim Soon-hee,⁶⁾ in order to improve the humanitarian condition of North Korea to the

4) Ministry of Unification, "The Status of Progress on the North Korean Light Water Reactor Project (Feb. 2003)," February 24, 2003.

5) According to calculations of the Ministry of Unification, when the loans granted to North Korea are added to the amount of assistance given by the Korean government and private sector, the annual average assistance to North Korea comes to 160.4 billion won (\$133.67 million) in total or 3,400 won per person. Therefore, "the cost of assistance to North Korea is not as great as it is thought to be." *Yonhap News Agency*, September.11, 2003.

6) Lim Soon-hee, "Humanitarian Aid to North Korea" (*mimeo*)

Table 6. South Korea's Government/Private Direct Assistance to North Korea
(Unit: thousand dollars)

	Government Assistance*	LWR Construction	Private Sector Assistance	Total
2000	184,000	288,782.7	35,130	507,912.7
2001	82,670	232,971.5	64,940	380,581.5
2002	769,320	266,243.7	51,170	1,086,733.7
2003 (Until July)	768,770	143,060**	41,420	953,250

* Governmental expenditure on humanitarian assistance and LWR project is added and converted into dollars.

** Spending from February to July, 2003.

minimally satisfactory level, the North requires annually 500,000 tons of food, 10.8 million liters of cooking oil, 6 million kilograms of sugar, 633.6 million tons of baby formula, 500,000 tons of fertilizer and 10,000-won-per-person in health improvement costs for 3 million people. Under this calculation, \$501.15 million is needed if rice and all other types of aid are adjusted to the international price level. When rice is supplied at the domestic price and others at the international price, the amount required would be \$1.12615 billion.

Following this line of calculation, the amount of assistance would have to be increased by 1.6 to 1.8 times of the 2002 level in order to satisfy the needs of North Korea. Adding about \$200 or 300 million per year as the construction cost of light water reactors would yield the total amount that should be paid by the South Korean government and private sector in assistance. Based on the domestic price used by the government to mark the actual fiscal expenditure, the annual per capita share would rest between 27,660 won and 29,787 won.

Table 7. Quantity and Amount of Assistance to North Korea to Satisfy its Needs

Items	Billion Won	Thousand Dollars
Rice 500,000 ton	158.4*	132,500*
	1,040.125**	866,775**
Cooking Oil 10,800,000 liter	6.831216	5,692.68
Sugar 6,000,000 Kg	1.22256	1,018.8
Powdered Milk 63,360 ton	1.45728	121,440
Fertilizer 500,000 ton	162.5	139,250
Medical Team 3,000,000 people	30	25,000
Sub-total	504.681776*	424,901.48*
	1,386.40**	1,159,176.48**
LWR Construction		200,000-300,000
Total		600,000-700,000*
		1,300,000-1,400,000**

* Based on 2003 international rice price.

** Based on 2003 domestic rice price.

FOUR-STAGE RESOLUTION PROCESS AND NEEDED ASSISTANCE

This study presumes that the resolution of the North Korean nuclear issue would occur in four stages. The first stage would be confrontation between North Korea and the U.S., and the second stage, the beginning of negotiation. The third stage would involve the adoption and implementation of agendas for dismantling North Korea's nuclear programs and the fourth stage, North Korea's complete dismantlement of nuclear program and the end of negotiations. The main purpose of this study is to look at the contents and costs of assistance and how types of aid would be funded in the context of "expanding economic cooperation and assistance, as well as

humanitarian aid to North Korea during the process of scrapping nuclear program in North Korea”⁷⁾ as outlined by the South Korean government. The main contents of these four stages have been summarized in Table 8.

Stage I: U.S.-North Korea Confrontation

Since the North Korea nuclear threat emerged in October 2002, it is difficult to determine its impact on the outside assistance to North Korea for the same year. According to the statistics released by the Ministry of Unification, South Korea’s assistance to North Korea in 2002, private and public combined, fell by 0.35 percent from the previous year, while the aid from the international community declined by 28 percent. For South Korea, private-sector aid declined by 21 percent. In the case of the international community, the 28 percent reduction was largely due to Japan, which stopped assistance in 2002 (it provided 500,000 tons of rice in 2001), reflecting domestic politics and public opinion regarding Pyongyang’s abduction of Japanese, etc.⁸⁾

For 2003, assistance from the international community seems to have fallen until around September of that year, by which time the nuclear threat remained unresolved and no clear breakthroughs had taken place. On the contrary, South Korea’s assistance increased. Assistance from the global community amounted to \$184.61 million in 2002 up until September, compared to \$151.27 million in 2003 up until the same month, which is a 81-percent level of 2002. In the case of South Korea, as of mid-October, 2003, government-level assistance, provided or promised, amounted to \$205.92 million, recording an approximate 9 percent increase from the figure for the entire year of 2002 (\$1.89752 billion). In 2002, the South Korean government

7) *Yonhap News Agency*, July 28, 2003.

8) Humanitarian Assistance Bureau, Ministry of Unification, “Humanitarian Assistance to North Korea in 2002,” January 2003, pp. 1 and 7.

Table 8. Four-Stage Resolution of North Korean Nuclear Crisis

	U.S.-N. Korea Relations	North Korea	Inter-Korean Relations	N. Korea-Japan Relations	International Organization
Stage I	The U.S. Coercive diplomacy by both sides No Economic sanctions; humanitarian assistance	Restrain nuclear activities	Separating nuclear issue and inter-Korean relations; stalled inter-Korean ministerial-level talks; inter-Korean railway, Gaesong/Ceumgang project; reunion of families; Humanitarian; assistance	Cease talks for diplomatic ties; cease humanitarian assistance	Humanitarian assistance
US-N.Korea Confrontation					
Stage II	Contact Begins No further tension escalation; exploratory contact begins; bilateral contact maintains		Continued humanitarian assistance maintain general relations		
Negotiation begins	Negotiations Begin Express non-aggression/ regime security Resume heavy oil supply	Freeze nuclear/ missile activities Rejoin NPT; resume IAEA monitor	Expand humanitarian assistance; realize special economic zones; expand general relations; relocate USFK	Resume normalization talks; humanitarian assistance	Continue humanitarian assistance
Stage III	Guarantee national security; remove from list of terrorist supporting nations; expand economic assistance	Verify dismantlement of nuclear program; resume missile talks	More reconciliatory relations; activate special economic zones; bold economic aid; 2nd inter-Korean summit; improve N.Korean economy; resume reform/opening	Resolve abduction issue; expand humanitarian assistance economy	Join international financial organization; plan for UN task force for North Korea
Agenda Setting/ Implementation					
Stage IV	Bold app.; - Completion of LWR/energy supply Discussing Korean peninsula peace regime	Full nuclear dismantlement; abandon missile program; preserve human rights	Confidence building/arms reduction; reduction and backward deployment; full-scale reform/opening; establish peace regime; implement Basic Agreement	Normalization; compensation payment	Establish a Northeast Asia Bank for North Korea development
Nuclear Dissolution/ Negotiation Ends					

supplied 300,000 tons of chemical fertilizer, 100,000 tons of corn (via WFP), malaria treatment (via World Health Organization) free of charge, and it provided 400,000 tons of rice (homegrown) in the form of loan. In 2003, it provided or planned to provide 200,000 tons of chemical fertilizer, 100,000 tons of corn (via WFP), USD 660,000 of malaria treatment (via WHO), \$500,000 for children (via UN Children's Fund), as well as 400,000 tons of homegrown rice (loan). On October 13, Seoul also decided to assist Pyongyang with additional 100,000 tons of chemical fertilizer. The cost of purchasing and transporting the chemical fertilizer amounted to 30.6 billion won (\$25.5 million). Private sector aid also seems to be growing. For instance, total private assistance for North Korea stood at 64.1 billion won in 2002, while the figure for 2002 until September was 60 billion won or \$50 million,⁹⁾ which is 98 percent of all aid for 2002.

Given the trend, if the nuclear threat does not aggravate and if confrontation is not prolonged, South Korea is likely to continue to offer \$200-300 million in government and private assistance to North Korea (400,000 tons of homegrown rice translates into \$ 700-800 million in real expenditure). The international community is also expected to continue to provide \$200-300 million aid, the level of the previous year, while China, for its part, is likely to maintain its 'aid' trade with North Korea amounting to annual \$300-500 million.¹⁰⁾

Besides South Korean humanitarian assistance, there are a number of projects under way between the two Koreas including construction of Gaesong Industrial Complex, connection of Seoul-Shin'uiju and Donghae (East Coast) Railways, and construction of the light water reactors. The first stage of the Gaesong project (1 million pyong) was

9) Humanitarian Assistance Bureau, Ministry of Unification, "Internal/External Assistance to North Korea in July, August, September 2003," August 13 2003; "Internal/External Assistance to North Korea in First Half of 2003," July 11 2003

10) Ahn Hyo-seung, "Current Circumstances and Prospect of Economic Cooperation between China and North Korea," Institute of Foreign Affairs and National Security, *Analysis of Major International Issues* (2003-31), p. 5.

launched on June 30, 2003, to be completed within a year at the cost of \$251.33 million. Reconnection of Seoul-Shinuiju and Donghae Lines is also in progress for a total cost of \$333.83 million.

Construction of the light water reactors was halted from December, 2002 following a resolution by an unofficial executive committee of KEDO to halt the project temporarily for about a year unless North Korea's nuclear crisis made progress. The US will not take part in the light water reactor project even if the nuclear threat is resolved, but will provide thermal power or natural gas instead.¹¹⁾ A permanent halt to the project will not only mean a waste of all the expenses born by South Korea so far, but it will also oblige South Korea to pay the \$300-500 million penalty. Furthermore, it is highly likely that there will be additional burden for South Korea: providing the North with non-nuclear energy (For assistance at each stage, see Table 9).

Stage II: U.S.-North Korea Negotiation Begins

In this stage, escalation of nuclear tension would stop and a basis would be established for full-fledged negotiations through six-party talks, etc. North Korea would declare freeze of nuclear and missile activities and the US, in turn, would announce a non-aggression pact and the guarantee the security of the North Korean regime. Furthermore, Pyongyang would re-join the Non Proliferation Treaty (NPT), receive IAEA officials back into the country, and the US would resume the supply of heavy oil to Pyongyang. This would tentatively restore the 1994 Basic Agreement.

These developments would lift nuclear tension and uncertainties in general. South Korea expands humanitarian assistance to the North and the prospect brightens for full-swing development of Gaesong Industrial Complex, etc. The two Koreas would enjoy broader exchanges on the government, humanitarian, economic, and social

11) *Chosun Ilbo*, November 16, 2003.

levels. Pyongyang would start talks with Japan on re-establishment of diplomatic relationship and Japan resumes providing humanitarian aid to North Korea.

This period is expected to see the following economic dynamics towards North Korea. First, Seoul's humanitarian aid to the North will go up to \$300-400 million from the \$200-300 million of the previous stage (assuming Seoul supplies over 400,000 tons of homegrown rice, its real expenditure will amount to \$900-1,000 million). Aid from the international community is also expected to increase from \$200-300 million to \$300-400 million. The first part of the Gaesong Industrial Complex project (1 million pyong) will be in the completion stage, and discussions will be launched on supply of electricity and communication technology, which are estimated to cost \$36.77 million and \$33.33 million respectively. The Seoul-Shinuiju and Donghae railway projects will have been completed and new projects to connect Seoul-Wonju and Mt. Gungang railway will start at an estimated cost of \$208.67 million. The light water reactor project will also be resumed, in which South Korea is expected to make an annual investment of \$30 million. In addition, Japan is projected to restart supplying humanitarian aid to Pyongyang with start of negotiations for rebuilding the bilateral diplomatic ties—supplying maximum 500,000 tons of rice annually and assisting for improvement of agriculture, the cost of which is estimated at \$200-300 million. The US, for its part, may resume providing 500,000 tons annually of heavy oil if the 1994 Agreement is tentatively restored, and even if is not restored at Pyongyang's request, and the cost is expected to amount to \$100 million.

Stage III: Agenda Setting and Implementation

In this stage, North Korea agrees to verifiable dismantlement of its nuclear programs and reaches consensus with related parties including the US on detailed inspection and dismantlement plans. In return, the US maps out and seeks endorsement of a multilateral

Table 9. Overall Cost for Each Stage

(Unit: million dollars)

	Stage I	Stage II	Stage III	Stage IV
	N. Korea assistance	Expanded assistance	Minimum need-sufficient support	
South Korea	200-300* (annual)	300-400* (annual)	500* (annual)	
	700-800** (annual)	900-1,000** (annual)	1,100-1,200** (annual)	
International Assistance	N. Korea assistance	Expanded assistance	Continued assistance	
	200-300 (annual)	300-400 (annual)	300-400 (annual)	
Gaesong Industrial Complex	1st Stage: 1,000,000 pyong***		2nd Stage: 1,300,000 pyong***	
	251.33		326.729	
Shinuiju Special Zone	Primary research Constructing industrial complex SOC construction			
	166.67			
Rajin-Sonbong Special Zone	Ports/roads/electric power/communications			
	166.67			
Mt. Geumgang Tourism	Jangjeon Port compensation; SOC construction			
	241.67			
Energy	Electric power supply to Gaesong complex	Recovering thermal/hydro power plants	Connection of Sakhalin gas pipeline	
	36.67	850.50	3,500	
- Communications	Communications for Gaesong complex	Mobile communication; building international communication gateway	Modernization of communications; inter-Korean communication network	
	33.33	30	1,666.67	

Railroads	Reconnecting Seoul-Shinuiju/ East Coast lines	Reconnecting Seoul-Wonju/Mt. Geumgang lines	Minor improvement in N. Korea railway system	Full improvement in N. Korea railway
	332.83	208.67	498.00	5,104.50
Industrial Modernization			Repairing and modernizing industrial facilities	
			1,000 (annual)	
Abolition of Nuclear Program			Nuclear inspection	Abolish nuclear reactor and reprocessing facilities
			10 (annual)	76
LWR	LWR construction	LWR construction		Constructing additional reactor and transmission lines
	300 (annual)	300 (annual) (total 4,600)		750
Japan		Food support (500,000 ton); agricultural improvement	Normalization cost	Normalization cost
China	Favored trade	Strengthened support in sanction mood	Support Japan's level	Support Japan's level
	300-500 (annual)	1,000-1,500 (annual)	500-1,000 (annual)	500-1,000 (annual)
The US	Supply heavy oil			
			100 (annual)	
International Financial Organizations			Raising special trust fund	Using concessionary fund; forgiving foreign debts
				2,700-4,500

* Based on international price.

** Based on domestic price.

*** 1 pyong is about 3.3058 square meters.

framework for guarantee of security of the Pyeongyang regime, while taking it off the list of terrorist supporting nations. This opens the way for North Korea to join an international financial organization. Inter-Korean relations improve and expand. In particular, as North Korea begins to scrap its nuclear programs, South Korea starts a “bold economic assistance” as it promised. Seoul also expands humanitarian assistance to the level of guaranteeing minimum standard of humanitarian environment in the North. Its investment in North Korea increases beyond the past level of pilot projects, and into the areas of social infrastructure and production facilities. South Korea starts to invest in energy, transportation, and communication facilities as well as to renovate the industrial facilities in the North. A large number of South Korean companies open office in Gaeseong complex and the complex operates in earnest, while a second-stage project starts for an additional 1.3 million pyong of land. Development of a special economic zone in Shineuijoo is launched under consultation with China and with support from South Korea. Seoul also increases investment in Rajin-Sonbong district in North Korea. Such projects and investments will be financed partly by Japan’s fund for diplomatic normalization with North Korea (annual \$500-1,000 million), special trust fund from international financial bodies, etc. This period may also see China, concerned over Japan’s expanded influence over North Korea, will increase its assistance to, and investment in North Korea.

Stage IV: Nuclear Dissolution and Negotiation Ends

North Korea completes dismantlement of nuclear programs, renounces missiles, and presents detailed plan for improvement of human rights, while the US makes an earnest progress with its “bold approach” to North Korea. The two countries make clear progress in normalization of diplomatic ties and in the US supply of energy and other economic aid. On the Korean peninsula, South Korea’s “bold economic assistance” to Pyongyang continues, while it accelerates

renovation and modernization of North Korea's energy, transportation, and communication facilities. Pyongyang's transportation system is rebuilt and communication infrastructure modernized. Construction of an inter-Korean communication network is well underway. A project is launched to route a Sakhalin gas pipe via North Korea. Light water reactors are in the completion stage, with discussions on establishment of additional power-transmission lines. These projects will be financed by Japan's fund for diplomatic normalization (annual \$500-1,000 million) and around \$2.7-4.5 billion that North Korea as a member, can borrow from international financial institutions.

CONCLUSION

As of October 2003, with the pause of the North Korea nuclear crisis, the South Korean government is holding to the principle of separating nuclear threat from the inter-Korean relations. South Korea's assistance to Pyongyang increased vis-à-vis 2002 despite the nuclear threat, while international aid fell, which makes Seoul's proportion in total assistance to North Korea larger. Looking at Seoul's humanitarian aid alone in 2002 and 2003, South Korea accounts for 40-60 percent of the total assistance to North Korea. If South Korea's public and private sectors maintain the existing level of assistance and continue with various projects including construction of the light water reactors (and assuming the supply of homegrown rice), South Korea's real expenditure will be over \$1-1.1 billion annually.

The size of the assistance and economic cooperation will increase significantly as the South Korean government promised if resolution of the nuclear crisis shows progress. Seoul will expand humanitarian support and start early stage investment in social infrastructure and production facilities in North Korea if Pyongyang declares nuclear freeze, the US guarantees non-aggression and security of the communist regime, and if the 1994 Agreement is restored. In rough

terms, assistance to, and investment in North Korea are expected to amount to \$2-3 billion during this period. With clear progress in North Korea's nuclear abandonment, such assistance and investment will increase significantly, which in turn will lead to successful reform and opening of the communist country.