

FILE COPY

CIRCULATING COPY
TO BE RETURNED TO REPORTS DESK

DOCUMENT OF INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

Not For Public Use

Report No. P-1358-KO

REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
TO
THE REPUBLIC OF KOREA
FOR A
SECOND HIGHWAY PROJECT.

December 20, 1973

East Asia and Pacific Department

This report was prepared for official use only by the Bank Group. It may not be published, quoted or cited without Bank Group authorization. The Bank Group does not accept responsibility for the accuracy or completeness of the report.

Currency Unit = Won

U.S. \$1.00 = Won 400

Won 1,000 = U.S. \$2.50

Won 1,000,000 = U.S. \$2,500

Fiscal Year = January 1 - December 31

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN
TO THE REPUBLIC OF KOREA FOR A SECOND HIGHWAY PROJECT

1. I submit the following report and recommendation on a proposed loan to the Republic of Korea for the equivalent of US\$47.0 million to help finance a second highways project. The loan would have a term of 25 years, including seven years of grace, with interest at 7-1/4 percent per annum.

PART I - THE ECONOMY

2. The latest economic report ("Economic Situation and Prospects of the Republic of Korea" EAP-33a) was distributed under cover of R72-243, dated November 9, 1972. The Country Data Sheet is attached as Annex I. An Economic Mission was in the field during September-October 1973, and is now preparing its report.

3. Korea's economic record during the last decade has undoubtedly been one of the most impressive among the developing countries. The GNP growth, in constant 1970 prices, averaged 9.5 percent per annum during 1963-72 and average per capita income during 1972 at around \$300 was in real terms more than double the level of ten years ago. The unusually rapid increase in per capita income was, of course, mainly due to the large gains in output but it was facilitated by a sharp decline in the rate of population growth from nearly three percent in the early sixties to less than two percent at present. A key element in the rapid expansion of the Korean economy has been the growth of manufactured goods exports from less than \$10 million in 1962 to \$1,365 million in 1972. Manufactured exports which provide 85 percent of merchandise exports, now constitute about 25 percent of manufactured output. The structural change in the Korean economy is also highlighted by the sharp rise in the ratio of manufacturing output to GNP which now stands at 26 percent and exceeds the share of agriculture. Under the impetus of sharply rising manufactured goods exports, the ratio of exports to GNP rose steadily to 22 percent in 1972 as compared to less than 4 percent a decade earlier. At the same time real investment has shown phenomenal growth; the ratio of fixed capital investment formation to GNP which was only around 9 percent during 1960-62 rose to an average of about 23 percent during 1970-72.

4. The rapid growth which has transformed the Korean economy from the sluggish agricultural-rural pattern of the post-Korean war years to the dynamic semi-industrialized pattern of the present has not, however, been without its problems. Korea began to face serious resource management problems toward the end of the sixties because the heavy investment required to sustain rapid economic growth was well beyond her own saving capability. The savings-investment gap, which was quite large to begin with (foreign savings averaged 7-8 percent of GNP during 1964-66), widened towards the

end of the sixties to 11-12 percent of GNP. Even though the marginal savings rate during the last decade was close to 25 percent, the deficits on the goods and services account expanded rapidly and had to be financed by large external borrowings. The ratio of debt service payments to foreign exchange receipts increased rather sharply during the sixties to reach a peak of 19.4 percent in 1971 due, in part, to excessive reliance on suppliers' credits during 1965-70. During 1970-72, the Government took a number of measures to reduce the rate of increase of investment, to curb further expansion in foreign capital requirements and to improve generally the balance of payments. These measures included the gradual adjustment of the exchange rate from around 300 Won per US dollar in the beginning of 1970 to 400 Won per US dollar by the middle of 1972, restrictions on suppliers' credits and limitations on the expansion of domestic credit. They produced a definite slowdown in the economy; the GNP growth averaged only 8 percent per annum during 1970-72 compared with nearly 12 percent per annum in the preceding three years. Real investment stagnated during 1970-72 and the ratio of fixed investment dropped sharply from 27 percent of GNP in 1969 to 21 percent in 1972. The general economic slowdown did not, however, result in an abatement of inflationary pressures and the Government therefore took a series of further measures to check inflation and, at the same time, to moderate the disruptive financial impact of the economic slowdown on the business sector.

5. The impact of these stabilization measures on reducing inflation as well as on business attitudes about future price levels has been very considerable. External factors have also played a crucial role during the last twelve months in mitigating the financial strains of the past few years.

6. Even by Korean standards, 1973 promises to be an exceptional year and may rival 1969 in setting new records of growth rates in GNP, exports and investments. According to the Economic Mission's provisional estimates real GNP growth during 1973 may be as high as 15 percent. The major factors in the sharp upturn of economic activity since the second half of 1972 have been an unprecedented growth in exports, and more recently, a marked revival in fixed investment. Merchandise exports during 1973 may rise by 65-75 percent compared to last year. It seems that at least one third of the gain in the value of exports in 1973 is due to higher prices reflecting both worldwide inflation and further decline in the value of the US dollar. But the gain in export volume may be as much as 50 percent. Exports to Japan in the first half of 1973 were nearly three times those in the corresponding period of 1972. Exports to Europe have also expanded very fast since 1971 and exports to the US have grown as well. Real fixed investment, which showed very little increase during the last three years, will probably increase by 30 percent this year. The national saving rate, which had dropped to about 15 percent in 1972, is also likely to recover to around 17-18 percent, the level reached in 1969. Even though the steep rise in import prices of foodgrains, raw materials and fuels and a sharp expansion in machinery imports, will result in an unparalleled import growth of 65 percent during 1973, the goods and services

account deficit will be only in the order of 6 percent of GNP compared with 11 percent in 1970-71.

7. It is noteworthy that record economic expansion has been achieved with less inflation than in 1970-72. Wholesale prices, according to official statistics, were in September 1973 about 6 percent higher than a year ago. However, in view of the extensive price controls, official price indices understate the extent of price pressures. Furthermore, since August the price increases have accelerated and for the calendar year 1973 a rise in the wholesale price index of 8 percent is likely. But the upheaval in the world commodity markets in the first half of 1973 and the persistence -- even acceleration -- of price pressures in the U.S. and Japan, Korea's major trade partners, have resulted in considerable imported inflation in Korea. These developments could not have been foreseen when the target of limiting price increase to 3 percent was adopted last year.

8. The remarkable performance of the economy in 1973 has quite evidently increased the confidence both in business and Government with which the future is viewed. At least before the energy crisis developed, the Government planned to pursue vigorously its long-term targets of \$1,000 per capita income and \$10 billion exports by the early 1980s. The long-term strategy envisaged is essentially an extension of the growth path Korea has so successfully followed in the past decade. The overall growth rate of GNP of about 10 percent, achieved during the sixties, is to be maintained over the next ten years. This is to be achieved, as in the past, through a more rapid expansion of exports than that of GNP. The ratio of exports to GNP is projected to rise to 30 percent by 1981 compared to less than 17 percent in 1972. The manufacturing sector which is expected to provide the bulk of the increment of exports is expected to contribute 40 percent of the increment of total output between 1972-1981 (compared to less than 25 percent during 1962-72) and will also absorb 40 percent of the total fixed investment (compared to about 20 percent in the past).

9. There are, however, two notable differences from the past pattern. The strategy aims at major shifts both in the structure of manufacturing output and exports. Major expansion of shipbuilding, steel, petrochemical and electronic industries is planned and the exports of these products (amounting to less than \$250 million in 1972 of which more than half was in electronics) are expected to rise to about \$5 billion by 1981. In addition, substantial expansion in exports of industrial machinery, motor cars as well as of the presently dominant exports, such as textiles, plywood and footwear, is also planned. The other major difference in the strategy compared to the past, is the aim to reduce sharply the dependence on net inflows from abroad. This is in sharp contrast to recent trends; during 1968-72 foreign savings financed over 40 percent of total investment.

10. The Economic Mission's tentative view is that the general thrust of Korea's development strategy is correct. The overall export expansion which is planned does not appear unrealistic, given past performance, current competitiveness and Japanese business' interest in shifting some

industries abroad. In general, the shift to heavy and chemical industries also appears to be justified though the priorities within the program need to be defined more sharply. The developments during the current year also suggest that the potential expansion of light industry exports may have been underestimated.

11. The Economic Mission was in the field before the recent developments affecting oil supplies took place. The availability of oil and the prices at which Korea can obtain it during the next few years will obviously have crucial implications for the prospects of achieving the growth targets mentioned in paragraph 8 above; however, the Mission has not, as yet, been able to form a judgment on the likely effects of oil shortages, and higher oil prices, on the Korean economy over the next few years. It should be noted, however, that Korea's dependence on imported fuels is extremely heavy and that less than 10 percent of its energy requirements are met from domestic sources. Korea will have to spend considerably more than in the past for the oil it requires leading almost certainly to a substantial deterioration in the terms of trade. Korea will also inevitably be affected by any slowdown of the economic activity experienced by its two largest trading partners, Japan and the USA, as a result of the uncertain world fuel supply situation.

12. The external capital requirements of the long-term program (1973-81) appear to have been greatly underestimated by the Government. Even on the assumption that the marginal savings rate will improve sharply during the seventies compared with the sixties, Korea cannot hope to close the resource gap by 1981 while pursuing high rates of growth of GNP. The external resource requirements would be particularly heavy for the period 1974-1978. The gross borrowing requirements during this period might turn out to be in the neighborhood of \$1.5 billion annually compared with the earlier estimates of \$900 million. But even with higher requirements and higher external borrowing, the debt service ratio which is likely to come down to 12-13 percent during 1973 is not likely to exceed 15 percent in the remaining period of the seventies, provided exports rise as expected.

13. In conclusion, the magnitude and strategy of Korea's development program for the 1973-81 period is regarded as being appropriate and worthy of support from the Bank Group and other official lenders. The success of the Government's development efforts will depend to a great extent on its being able to borrow larger amounts than it has in recent years from abroad in order to finance the investment program which has been sizably increased since the 1972-76 Third Development Plan was formulated. The Government is intensifying its efforts to prepare projects suitable for external official finance especially in the fields of infrastructure, agriculture and regional development. The foreign exchange component of such projects is low. This is partly due to the fact that many projects of this kind involve large expenditures on civil works which have a large proportion of local costs, especially as Korea's construction industry wins an overwhelming proportion of the contracts since it is efficient and well organized; moreover the construction industry's dependence on imports is expected to lessen in the future. The country's external resource

requirements are therefore unlikely to be met if official lenders confine themselves to financing only the foreign exchange costs of high-priority projects. It is for this reason that the Bank should generally be prepared to cover up to 50 percent of the total cost of the projects it finances whenever the foreign exchange component is less than this amount.

PART II - BANK GROUP OPERATIONS IN KOREA

14. As of November 30, 1973, Korea had received 12 Bank loans and 8 IDA credits, amounting in total to US\$417.5 million in loans and US\$107.0 million in credits (taking into account cancellations and the refinancing of one IDA credit in a subsequent Bank loan).

15. About one-half of the total has been for the transport sector - US\$119.7 million for railways, US\$54.5 million for highways and US\$80 million for ports. US\$117.5 million has gone to agricultural projects - US\$93 million for irrigation projects, US\$7 million for livestock development, US\$10.5 million for the provision of medium - and long-term credit through the National Agricultural Cooperative Federation and US\$7 million for seeds production. The Korean Development Finance Corporation (KDFC) has received US\$95 million in Bank loans for relending to private industry. The balance of US\$57.8 million was for two education projects.

16. IFC has made four investments in Korea and its commitments amount to US\$3.4 million in loans and shares. ^{1/} IFC made its first equity investment in KDFC, of US\$0.7 million or 14 percent of KDFC's paid-in capital, at the time the Bank made its first loan to KDFC. A loan of US\$1.4 million to, and an equity investment of US\$0.3 million in, the Homan Silk Co. was made in 1969. In 1971, IFC purchased US\$0.6 million of the shares of the Korea Investment and Finance Corporation - a new institution whose function is to assist in the development of the capital and money markets. The Executive Directors approved on July 24, 1973 the exercise of preemptive rights to purchase at par about US\$355,000 equivalent of KDFC's common stock. Prospects for further IFC investments in Korea are good.

17. Of total Bank and IDA lending, about US\$338 million remained undisbursed as at November 30, 1973. This is mainly due to the fact that withdrawals have not yet commenced under several large loans made within the past year.

18. Annex II contains a summary statement of Bank Loans, IDA credits, and IFC investments as at November 30, 1973 and notes on the execution of

^{1/} A fifth investment in the Atlas Paper Co. amounting to US\$5 million was cancelled at the request of the Company.

ongoing projects. As indicated in the notes, progress on project implementation is generally satisfactory, although difficulties have been encountered with some projects and most seriously with the Pyongtaek-Kumgang Irrigation Project (Loan 600-KO).

19. The Bank's program for FY 1974 tentatively includes five projects. Of these, a loan to help finance the expansion of seed production was approved in October and a loan for tourism development earlier this month. An integrated agricultural products processing project and a secondary cities development project have just been appraised. These projects are in accord with a major objective of the current Third Plan viz, the narrowing of the income gap between the urban sector and the rural sector through increased agricultural investments and of developing the smaller cities to prevent greater economic concentration in the major cities. The proposed agricultural products processing project will aim at increasing on-farm and processed production of agricultural commodities through the provision of credit to farmers, packers and processors. The proposed secondary cities project will assist in the development of the Gwangju area, which is a poor, agricultural region in the southwest of the country. Bank assistance for the development of this area has so far focused on agriculture through the Yong San Gang river basin project (Loan 795/Credit 283-KO) and on transport development through completion of sections of the Jeonju-Busan national highway linking Gwangju and Suncheon with the national primary highway system. The secondary cities project will assist in the implementation of the next stage of the Government's regional strategy involving investments in industrial estates, urban infrastructure, housing and recreational facilities with a view to developing regional alternatives to the already overcrowded major cities of Seoul and Busan. The project now under consideration will also help regional development by improving communications between several relatively isolated areas and large urban centers.

20. The emphasis on agricultural and rural development will be reflected in the operations program for the succeeding years FY1975 and FY1976. The report of the agriculture sector mission, which has recently been discussed with the Government, should provide the basis for developing additional high priority agricultural projects. A second livestock project, an agriculture credit project, a forestry project and the second stage of the Yong San Gang Irrigation Project have already been identified.

21. The other major emphasis in Korea's Third Plan, which is supported by the Bank's economic analysis, is the transition from light to heavy industrial development. The Bank's lending to industry in Korea has been through the KDFC; the possibility of Bank lending to another financial intermediary, the Korean Development Bank (KDB), is under active consideration.

22. The development of the industrial and agricultural sectors will require concurrent infrastructure development. Although the transport sector will be given less emphasis than in the past, the investments required are large and thus there is considerable support for this sector in the program.

23. The share of the Bank Group in Korea's total external debt (disbursed) outstanding at the end of 1971 was 3.8 percent, and the share in the debt service was 0.6 percent in the same period. If the Bank Group's average annual rate of the lending of the past three years continues (US\$115-120 million), its share in the total amount of external debt outstanding will increase to about 11 percent by 1978 and its share of debt service to around 7 percent.

24. The Consultative Group continues to be active. Bilateral assistance to Korea increased from \$71 million in 1966 to \$281 million in 1971, with the U.S. and Japan being the principal donors providing some 97 percent of the total bilateral assistance of \$898 million during the 1966-71 period.

PART III - THE TRANSPORT SECTOR

25. The development of the transport sector in Korea is seen most clearly when viewed in the context of the remarkable growth and structural change experienced by the economy during recent years. Manufacturing output grew at an annual average rate of 17 percent in the 1960-71 period. The proportion of manufactured goods exported to total exports rose from about 13 percent to over 70 percent between 1960 and 1971. This rapid expansion of production and exports placed a severe strain on the transport sector, mainly because relatively modest amounts were invested in the enlargement of its capacity during the First Development Plan Period (1962-1966).

26. During the Second Plan (1967-71) period, the demand for transport facilities has increased at an even faster pace than many of the indicators of economic growth, of which it is a function. Domestic passenger traffic, in terms of passenger kilometers, increased at the annual average rate of 11 percent and freight traffic, in ton-kilometers, at 19 percent; international traffic handled through the ports rose by 22 percent a year. The Government realized that the further growth of the dynamic private sector could be seriously impeded by the growing bottlenecks in transport infrastructure. Accordingly, the allocation for investment in transport was raised from 17 percent of the Government's capital expenditure in the First Plan period to 27 percent for the Second Plan. During this period, over 240 billion Won were committed for the improvement of the railways, the construction of new and maintenance of existing roads and the expansion of port and airport capacity. During the Third Plan (1972-76), the Government intends to invest about 490 billion Won (US\$1.25 billion equivalent) in transport infrastructure; this amount will approximate to about 26 percent of total Governmental capital expenditure during the Plan period.

27. The Bank Group's association with the Government's efforts to modernize and expand the transport sector in Korea dates back to 1962 when a \$14.0 million credit was made to help finance the first railway project. The railroad system, which had been rehabilitated following the Korean War, was at that time the only means for the large-scale movement of goods and

passengers since the country had a very small network of paved roads and few motor vehicles. The rapid economic progress of the succeeding years indicated the need for a wider range of transport services. In 1965, the Bank made a technical assistance grant for a comprehensive survey of land transportation modes, which was carried out by consultants. Their report, which was completed in late 1966, contained three major conclusions: (a) that on account of locational factors, the railways could be expected to handle most of the country's freight traffic, of which a large proportion consisted of moving bulk commodities (such as coal, ore, oil, fertilizer and cement) over relatively long distances; (b) that the lack of adequate roads needed urgent attention, and that Government should emphasize highway improvement in its development programs; and (c) that an organization to coordinate transport policy was needed in order to ensure that investment proposals were scrutinized with a view to minimizing the possibility of mis-allocation of resources among the various modes and to develop regulations and pricing measures to maximize the economic benefits from the large-scale expenditures, which the Government intended to make for the improvement and expansion of transport facilities. In 1968, the Association extended a US\$3.5 million technical assistance Credit (Cr. S-4-KO) to help finance feasibility and detailed engineering studies to improve the highway network and a study on transport coordination. A UNDP-financed port development study was initiated in 1971 with the Bank acting as the Executing Agency. The UNDP study recommended an investment plan for Korea's 17 first-class ports.

28. The Bank Group's lending operations have been directed towards assisting the program of investments, which stemmed from a review of the recommendations of the various studies referred to in the previous paragraph. The Korean National Railways (KNR) has continued to receive Bank Group support to improve and expand its services. To date, KNR has received nearly \$120 million in the form of loans and credits to help finance four projects. In June 1973, the Bank made an \$80 million loan to support the expansion of two ports -- Busan and Mukho. Following the studies financed from the proceeds of the technical assistance Credit (S-4-KO, mentioned in paragraph 27), a Bank loan (769-KO) of US\$54.5 million was made in 1971 to finance the construction of about 400 kilometers of national highways, feasibility and detailed engineering studies (covering 900 additional kilometers of priority roads), a highway maintenance study and the purchase of equipment and spare parts for a pilot highway maintenance program. The construction program undertaken as part of the Project is on schedule, the feasibility and detailed engineering studies resulted in the identification and preparation of the road construction and paving components of the project now under consideration; the highway maintenance study and the experience gained under the pilot program provided the basis for expanding the maintenance organization to cover the entire country under the proposed project.

29. The Government has made efforts to improve transport coordination, as recommended by the consultants who carried out the 1965 land transportation survey. A more detailed study of transport coordination needs was made by consultants retained under the 1968 technical assistance Credit referred to

in paragraph 27. Following extensive discussions between the various Government agencies involved and the Bank, a Transportation Planning Office (TPO) was set up under the jurisdiction of the Ministry of Transportation (MOT) in 1970. Its main functions are to collect data, assist in the assessment of major investment proposals and make technical and economic recommendations in the field of long-term transport planning. TPO is controlled by, and reports to, a Transport Coordination Ministers Conference (TCMC) consisting of the eight cabinet members whose ministries are most concerned with transport matters. TPO's work is supervised by a Transport Coordination Working Group (TCWG -- a Civil Service Committee on which the same ministries are represented). TPO encountered a series of teething troubles, especially insofar as the recruitment of adequately qualified staff was concerned. The Government is, reviewing TPO's work program for the next three years with a view to taking measures to make it more effective. TPO's future role was discussed further during negotiations for the proposed project in the light of the findings of recent supervision missions and the Government's plans for strengthening it. It was agreed that the Government would submit a status report on TPO's performance and staffing within three months of the approval of the proposed loan with a view to discussing with the Bank, by mid-1974, TPO's work program and the implementation of measures to enable it to accomplish the tasks assigned to it.

30. The development of the various transport modes in Korea has been influenced by the nature of the terrain (about two-thirds of the land surface is hilly); the concentration of economic activity and population around the Seoul-Incheon and Busan areas; the location of domestic natural resources, e.g. coal, iron ore and limestone, in the north, northeast and center of the country; a long coastline with increasing industrial activity; and the economic dependence on exports of manufactured goods and imports of bulk raw materials.

31. Railways. The Government's Korean National Railways (KNR) has 3,085 route-km, all standard gauge, of which 528 km are double track. Electrification of 350 km of industrial lines (carrying chiefly mineral traffic) is scheduled for completion in 1974. Also in progress and scheduled for completion in 1974 are the electrification of a further 108 km of suburban lines and the construction of a subway, for mass transit in the Seoul area. Of the rail freight traffic, over 80 percent consists of bulk commodities: 40 percent coal, 17 percent cement, 10 percent petroleum products, 6 percent ore, 6 percent grain and 5 percent fertilizer. The railway is expected to retain, or increase, its share of this traffic in line with its increased capacity resulting from electrification and improvements in rolling stock. The railway is also expected to retain a significant percentage of general freight and passenger traffic.

32. Ports and Shipping. Freight traffic through the ports has increased from about 7.5 million tons in 1962 to 51 million tons in 1971. This sharp increase has occurred both in foreign trade and coastal shipping. To meet the resulting port capacity problems, the port facilities are being expanded, chiefly at Busan, Incheon, and Mukho, with the help of loans from

the Asian Development Bank and the Bank. In addition, a new port is being constructed at Pohang for the steel mill. The share of Korean vessels has averaged only 20-25 percent of the total tonnage of its foreign trade, slightly decreasing in recent years; attempts are being made to increase this percentage through such measures as the building of shipyards and the provision of finance to shipping companies. The expansion in coastal shipping is largely due to the development of industry at Pohang, Ulsan, Masan and other coastal sites.

33. Aviation. Domestic passenger traffic carried by air is growing rapidly, but still amounts to only about one percent of the total. Domestic air freight traffic is negligible. Internal routes are served by the privately-owned Korean Airlines, which also provides an international service. There are two international airports: Seoul, which is presently being expanded, and Busan.

34. Highways. The road network in Korea consists of about 8,800 kms. of national highways, approximately 10,800 kms. of provincial highways and roughly 21,000 kms of city and country roads. The major road arteries are shown on the attached map. Only about 3,000 kms of the nationally administered highways and about 2,800 kms of other roads are paved representing some 15 percent of the total network. The greater part of the highway system, which, in 1971, carried 70 percent of the country's passenger traffic (in terms of passenger km) and about 20 percent of its freight (measured in ton km) is in poor condition with roads being badly aligned, narrow and poorly drained. This reflects the under-investment in road facilities in the past. Until 1967, the amounts allocated to the highway system were grossly inadequate even for maintenance needs. In the period 1968-70, the bulk of the funds invested in the highways network was used to finance the construction of two toll expressways (Seoul-Busan, 428 kms, and Seoul-Incheon, 30 kms). This resulted in a shortage of funds for the improvement of road communications between many other areas of high economic activity.

35. The rapidly rising demand for road transport resulting from the quickening pace of economic development in Korea urgently requires the extensive improvement and expansion of the highway network. During the 1967-71 period the highways absorbed nearly all the increase in passenger traffic, which has grown at an average annual rate of 18 percent. During the same period, highway freight traffic has increased at an annual average rate of 49 percent -- well over twice the rate for freight carried by all modes (19 percent). Projections of the increase in road traffic made by the Government and the Bank for the Third Plan period (1972-76) indicate that the highways will continue to absorb all the increase in inter-city passenger traffic and that the growth of freight traffic on them will continue to rise but at a slower pace than witnessed during the last few years.

36. The Government, in response to the present and anticipated needs for improving the highway system, has allocated about 227 billion Won (\$568 million equivalent) for highway construction and maintenance, for

the 1972-76 plan period, (this is only slightly less than the total allocation for all transport modes, 240 billion Won, during the 1967-71 Plan period). Some 165 billion Won (\$412 million equivalent) is to be spent on national highways for: (a) the construction of 1,000 kms. of new highways and (b) the paving/betterment of 4,000 kms. of roads along existing alignments. The remaining 62 billion Won (\$156 million equivalent) is to be expended on paving about 3,500 kms of local and provincial roads. The concept of paving and making minor improvements to existing road alignments as a considerably cheaper alternative to undertaking new construction of roads to higher standards has been a subject of discussion between the Government, its consultants and the Bank over the last few years. The Bank concurs with the Government's decision to undertake a relatively large paving program and opting for construction of new road lengths only in cases where traffic levels and the anticipated benefits justify it.

37. The Government has become increasingly aware during recent years of the necessity to improve the maintenance of highways. Financial allocations for maintenance were extremely low in relation to needs, the maintenance agencies had inadequate staff and equipment and most roads, with the exception of expressways, were in a state of disrepair. Accordingly, funds were provided from the proceeds of the loan financing the First Highway Project (769-KO) to set up a pilot maintenance unit to cover one province around Seoul and for a Highway Maintenance Study to be undertaken by consultants. The pilot maintenance organization began operations in September 1972. Its performance during the last few months has been encouraging. The consultant study has also been completed and its findings and recommendations reviewed by the Bank and the Government. These include proposals, which the Government has accepted and with which the Bank concurs, to expand the maintenance organization to cover the remaining eight provinces thus enabling it to serve the entire national highway network. Agreement was reached during negotiations that the maintenance organization would be fully functional by January 1, 1976. In the interim, the Korea Highway Corporation which has efficiently maintained the Seoul-Busan and Seoul-Incheon Expressways, will have the responsibility for the maintenance of roads constructed as part of the Bank-financed First Highway Project and other important national highways.

PART IV - THE PROJECT

38. The proposed project forms part of the Government's 1972-76 road construction and paving program (described in paragraph 36 above) and includes the expansion of the road maintenance organization mentioned in the previous paragraph. An appraisal mission visited Korea in March, 1973; its report (No. 264a-KO) is being circulated separately. Negotiations were held in Washington from November 26-30, 1973 with a Government team led by Mr. J.S. Chung, Vice-Minister, Ministry of Construction. A Loan and Project Summary is attached as Annex III. The proposed project consists of:

- (a) the construction of national highways from Saemal to Gangreung (97 km) and Gangreung to Mukho (33 km) in northeast Korea (see map). Feasibility and detailed engineering studies of the roads were made by consultants retained under the Technical Assistance Credit (S-4-KO) and the First Highway Project (769-KO).
- (b) the paving and improvement of nine national highways totalling about 634 km, chiefly on present alignments (see map). Four of the roads to be paved were selected on the basis of feasibility studies financed from the proceeds of the Loan made for the First Highway Project. The remainder were chosen on the basis of a road-paving program developed by the Government with the assistance of consultants also financed from the proceeds of same Loan.
- (c) feasibility studies by consultants of about 1,000 km. of national and provincial roads, to be followed by detailed engineering if found justified; and
- (d) the procurement of highway maintenance equipment for the extension of the national highway maintenance organization from a pilot province to the remainder of the country.

Cost Estimates

39. The proposed loan of US\$47 million would cover about half of the estimated total project cost of US\$94 million. The foreign exchange component of the project has been estimated at roughly US\$39 million based on the assumption, deemed most likely, that 80 percent of the civil works contracts will be won by local construction firms; the proposed loan is, therefore, expected to involve local cost financing of about US\$8 million. However, since Korea has a competitive and well-organized construction industry, it is conceivable that local firms might win all the construction contracts; in that event, the foreign exchange component of the project would be US\$36 million and the proposed loan would finance US\$11.0 of local costs. Detailed cost estimates are given in Annex III.

Execution

40. As in the case of the First Highway Project, the Korean Ministry of Construction (MOC) will be responsible for the execution of the proposed project through its Bureau of Public Roads (BPR). Consultants will assist in the supervision of the construction and paving of the highways included in the project. Consultants will also help the BPR in carrying out feasibility and detailed engineering studies of the roughly 1,000 kms of roads some of which will be selected for construction and paving in the future. The enlargement of the road maintenance organization, which also falls under the jurisdiction of the MOC, has been planned and will be implemented with the help of consultants whose services are being financed from the proceeds of the First Highway Loan (769-KO). The national highway maintenance

organization would consist of 19 field sections. Each field section will have a depot, an office and a workshop and be provided with equipment appropriate to maintain the roads for which it is responsible. The provision and training of staff for this field organization is already being planned. This will be accomplished partly by transfers from other departments of the MOC and partly by recruitment. The staff of the maintenance organization will be trained at the Ministry's training center and by attachment to the maintenance field sections already in operation. A schedule for the installation of the maintenance organization was discussed and agreed upon during negotiations.

Procurement

41. Contracts for highway construction and paving will be awarded on the basis of international competitive bidding among pre-qualified firms, in accordance with the Bank's Guidelines for Procurement. Highway maintenance equipment will be procured after international competitive bidding in accordance with the Bank's Guidelines. A margin of preference will be allowed to domestic bidders equal to the customs duty for the relevant item or 15 percent, whichever is lower. The Government has given assurances that no restrictions will be placed on the import of equipment required for the project.

Disbursements

42. Disbursements from the proceeds of the loan will be made on the basis of:

- (a) 45 percent of the total expenditure on construction and paving;
- (b) 100 percent of the foreign exchange expenditure on consulting services;
- (c) 100 percent of the c.i.f. cost of imported highway maintenance equipment, or of the ex-factory price of such locally manufactured equipment, or 75 percent of the total cost of locally-purchased imported equipment (i.e. excluding local taxes). A schedule of disbursements is included in Annex III.

Benefits and Economic Return

43. The proposed project will assist the Government in improving and modernizing a substantial portion of the national highway network (the roads selected for construction and paving constitute nearly 9 percent of the entire national road system). Further, it will help in the establishment of an urgently needed maintenance system to prevent further neglect of roads and protect the large investments already made and contemplated for the highways sub-sector. The project will reduce the present high road transport costs by lowering vehicle operating costs and by saving passengers' travel time and provide year-round access to, and within,

several relatively isolated areas. By doing so it will help the Government's regional development efforts.

44. The two roads chosen for construction (Saemal-Gangreung and Gangreung-Mukho) are located in a relatively isolated part of northeastern Korea. Both highway sections pass through difficult mountainous terrain and have poor alignments with steep gradients. Travel speeds average 30 kms per hour at most even during dry weather. The area which has important resources such as fisheries, forestry, mineral deposits and cement plants is isolated by poor road conditions from the Seoul area. It now takes over eight hours to travel by road from Seoul to Gangreung -- a distance of about 230 kms. The construction of the two road sections will reduce this travel time significantly and stimulate economic activity in the north-eastern coastal area.

45. The road sections which have been selected for paving serve largely regional interest by linking towns and villages to major arteries. The roads are narrow, many sections are inadequately drained and maintenance is poor. Their improvement will substantially assist the development of the densely populated regions they serve and which at present depend essentially upon agriculture. The improvement of communications in these areas may also attract new industry.

46. The urgent need to establish a road maintenance organization for Korea has already been mentioned in this report. The setting up of the national highway maintenance organization is expected to yield considerable savings in vehicle operating costs. Furthermore, it will reduce the investments which otherwise would have to be made to undertake major reconstruction of roads which would fall into extreme disrepair.

47. The economic rate of return for each of the two roads to be constructed is estimated to be of the order of 25 percent. Insofar as the paving program is concerned, the economic analysis shows that the estimated economic rate of return would fall in the range of 22-45 percent. The economic rate of return on the maintenance element of the project is expected to be substantial. Sensitivity tests assuming substantial increases in construction cost and a similar decrease in benefit have shown that, even under the most pessimistic assumptions the rates of return for the construction, paving and maintenance component of the project would still remain acceptable.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

48. The draft Loan Agreement between the Republic of Korea and the Bank, the Report of the Committee provided for in Article III, Section 4 (iii) of the Articles of Agreement and the text of a Resolution approving the proposed loan are being distributed to the Executive Directors

separately. The draft Loan Agreement follows the general pattern of loan agreements relating to highway projects.

49. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI- RECOMMENDATION

50. I recommend that the Executive Directors approve the proposed loan.

Attachments

Robert S. McNamara
President

December 20, 1973

COUNTRY DATA - KOREA

AREA	POPULATION	DENSITY
95,127 km ²	32.4 million (mid-1972) Rate of Growth: 1.8 (from 1970 to 72)	32 per km ² 725 per km ² of arable land

POPULATION CHARACTERISTICS (1970)

Crude Birth Rate (per 1,000)	28.0
Crude Death Rate (per 1,000)	8.0
Infant Mortality (per 1,000 live births)	..

HEALTH (1972)

Population per physician	1,870
Population per hospital bed	1,851

INCOME DISTRIBUTION (1971)^{4/}

% of national income, highest quintile	36.0
lowest quintile	8.0

DISTRIBUTION OF LAND OWNERSHIP (1971)

% owned by top 10% of owners	33
% owned by smallest 10% of owners	4

ACCESS TO PIPED WATER (1972)

% of population - urban	60.0
- rural	7.0

ACCESS TO ELECTRICITY (1972)

% of population - urban	80%
- rural	10%

NUTRITION (year)

Calorie intake as % of requirements	
Per capita protein intake	

EDUCATION (1972)

Adult literacy rate %	92
Primary school enrollment %	97.5

GNP PER CAPITA in 1971^{1/}: US \$290

GROSS NATIONAL PRODUCT IN 1972

	US \$ Mln.	%
GNP at Market Prices	9,550	100.0
Gross Domestic Investment	2,024	20.9
Gross National Savings	1,643	17.1
Current Account Balance	- 371	3.8
Exports of Goods, NFS	2,206	22.9
Imports of Goods, NFS	2,607	27.0

ANNUAL RATE OF GROWTH (% constant 1970 market prices)

	1960-65	1965-70	1971	1972
GNP at Market Prices	6.3	10.6	9.2	7.1
Gross Domestic Investment	18.4	25.1	6.3	-10.8
Gross National Savings	34.1	24.3	3.0	10.7
Exports of Goods, NFS	24.5	35.5	20.5	39.0
Imports of Goods, NFS	10.0	31.0	20.4	6.2

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1972

	Value Added		Labor Force ^{2/}		V. A. Per Worker	
	US \$ Mln.	%	Mln.	%	US \$	%
Agriculture	2,758	28.6	5.3	51.0	520	57
Industry	2,965	30.8	1.5	14.0	1,977	215
Services	3,917	40.6	3.7	35.0	1,059	115
Unallocated						
Total/Average	9,640	100.0	10.5	100.0	918	100.0

GOVERNMENT FINANCE

	General Government ^{3/}			Central Government		
	(W. Bln.)	% of GDP		(W. Bln.)	% of GDP	
	1972	1972	1969-72	1972	1972	1969-72
Current Receipts	594.1	18.0	16.0	618.3	16.0	15.0
Current Expenditure	526.9	13.7	10.9	505.4	13.4	11.0
Current Surplus	167.2	4.3	5.1	112.9	3.0	2.0
Capital Expenditures	486.7	12.6	12.6	316.6	8.2	5.0
External Assistance (net)	28.4	0.7	0.3	16.0	0.4	0.0

1/ The Per Capita GNP estimate is at 1971 market prices. All other conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

2/ Total labor force; unemployed are allocated to sector of their normal occupation. "Unallocated" consists mainly of unemployed workers seeking their first job.

3/ All levels of Government.

.. not available
. not applicable

4/ Based on distribution of household income of wages and salary earners in all cities.

COUNTRY DATA - KOREA

ANNUAL CREDIT and PRICES

	1965	1969	1970	1971	1972	1973
		(Billion	outstanding end period)			
Money and Quasi Money	97.1	670.7	890.8	1,037.6	1,439.9	1,672.1
Bank Credit to Public Sector	47.2	46.4	49.6	41.0	138.3	185.1
Bank Credit to Private Sector	75.0	640.6	861.1	1,124.4	1,382.9	156.1

(Percentages or Index Numbers)

Money and Quasi Money as % of GDP	12.2	32.6	34.6	34.0	37.3	-
General Price Index (1963 = 100) ^{1/}	56.0	86.2	100.0	113.5	126.8	129.6 ^{2/}
Annual percentage changes in:						
General Price Index	13.6	12.5	16.0	13.5	11.7	-
Bank credit to Public Sector	39.6	14.6	6.9	17.3	337.0	-
Bank credit to Private Sector	35.1	64.5	34.4	30.6	23.0	-

BALANCE OF PAYMENTS

	1970	1971	1972	1973 ^{3/}
	(Millions US \$)			
Exports of Goods, NFS	1,341	1,587	2,206	1,730
Imports of Goods, NFS	2,107	2,515	2,607	1,974
Resource Gap (deficit = -)	-766	-928	-401	-244
Interest Payments (net)	-61	-91	-93	..
Workers' Remittances	-	-	-	-
Other Factor Payments (net)	24	0.0	-47	-74
Net Transfers	180	171	170	105
Balance on Current Account	-623	-848	-371	-213
Direct Foreign Investment	38	56	47	110
Net MLT Borrowing	(185)	(377)	(428)	(279)
Disbursements	422	593	721	410
Amortization	237	-216	-293	-131
Subtotal	223	433	475	389
Capital Grants	173	235	230	172
Other Capital (net)	122	135	-16	66
Other items n.e.i	-16	18	41	-43
Increase in Reserves (+)	-57	+39	-169	-162
Gross Reserves (end year)	610	571	740	902
Net Reserves (end year)				

MERCHANDISE EXPORTS (AVERAGE 1970-72)

	US \$ Min	%
Textiles	453	38.6
Plywood	124	10.6
Wigs	83	7.1
Electric Products	112	9.5
Metal Products	92	7.8
All other commodities	311	26.4
Total	1,175	100.0

EXTERNAL DEBT, DECEMBER 31, 1972

	US \$ Min
Public Debt, incl. guaranteed	3,616
Non-Guaranteed Private Debt	244
Total outstanding & Disbursed	3,860
DEBT SERVICE RATIO for 1972 ^{4/}	17.5%
Public Debt, incl. guaranteed	
Non-Guaranteed Private Debt	
Total outstanding & Disbursed	

RATE OF EXCHANGE

Through June 1972	
US \$ 1.00 = 370 Won	
Won 1.00 = US \$.0027	
Since June 1972	
US \$ 1.00 = 400 Won	
Won 1.00 = US \$.0025	

IBRD/IDA LENDING, (November 30, 1973) (Million US \$):

	IBRD	IDA
Outstanding & Disbursed	132.3	48.8
Undisbursed	280.0	58.0
Outstanding incl. Undisbursed	412.3	106.8

^{1/} Consumer's Price Index for all cities

^{2/} May, 1973

^{3/} For the first half of 1973 . . . not available

^{4/} Ratio of Debt Service to Exports of Goods and Non-Factor Services. . . not applicable

THE STATUS OF BANK GROUP OPERATIONS IN THE REPUBLIC OF KOREA

A. STATEMENT OF BANK LOANS AND IDA CREDITS (as at November 30, 1973)

Loan or Credit Number	Year	Borrower	Purpose	US \$ Million		
				Amount Bank	(less cancellations) IDA	Undisbursed
Four loans and credits fully disbursed.				5.0	39.7	-
600	1969	ADC	Irrigation	45.0		27.4
151	1969	Republic of Korea	Education		14.8	10.8
622	1969	KDFC	Dev. Fin. Co.	20.0		0.9
669	1970	Republic of Korea	Railway	40.0		3.1
234	1971	Republic of Korea	Livestock		7.0	3.3
735	1971	KDFC	Dev. Fin. Co.	30.0		8.9
769	1971	Republic of Korea	Highway	54.5		17.1
283	1972	Republic of Korea	Irrigation		15.0	14.0
795	1972	ADC	Irrigation	33.0		32.6
335	1972	Republic of Korea	Agricultural Cr.		10.5	9.9
863	1972	Republic of Korea	Railway	40.0		40.0
905	1973	KDFC	Dev. Fin. Co.	40.0		40.0
906 & 394	1973	Republic of Korea	Education II	23.0	20.0	43.0
917	1973	Republic of Korea	Ports	80.0		80.0
942*	1973	Republic of Korea	Seed Production	<u>7.0</u>		<u>7.0</u>
Total				417.5	107.0	338.0
of which has been repaid				<u>5.2</u>	<u>0.2</u>	
Total now outstanding				412.3	106.8	
Amount sold				2.0		
of which has been repaid				<u>-</u>	<u>2.0</u>	
Total now held by Bank and IDA (prior to exchange adjustment)				<u>410.3</u>	<u>106.8</u>	
Total undisbursed				<u>280.0</u>	<u>58.0</u>	<u>338.0</u>

* Signed but not yet effective.

E. STATEMENT OF IFC INVESTMENTS (as at November 30, 1973)

<u>Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Amount in US\$ million</u>		
			<u>Loan</u>	<u>Equity</u>	<u>Total</u>
1968	KDFC	Development financing	-	0.7	0.7
1969	Honam Silk Co.	Textiles	1.4	0.3	1.7
1970	Atlas Paper Co.	Pulp and Paper	4.5	0.5	5.0*
1971	Korea Investment and Finance Corp.	Money and Capital Markets	-	0.6	0.6
1973	KDFC	Development financing	-	0.4	0.4
	Total gross commitments		5.9	2.5	8.4
	less cancellations, terminations, repayments and sales		4.5	0.5	5.0
	Total commitments now held by IFC		1.4	2.0	3.4
	Total undisbursed		0.1	-	0.1

* Cancelled at the request of the Company.

PROJECTS IN EXECUTION ^{1/}

1. Loan No. 600 Pyongtaek-Kumgang Irrigation Project;
 US\$45.0 million Loan of May 23, 1969
 Closing Date: June 30, 1975

This is the first major irrigation project constructed in Korea. It was expected at appraisal that it would irrigate about 35,000 ha. of land improve drainage and roads, consolidate all paddy fields, bench upland and reclaim tidal land. The start of construction was postponed by a major reorganization of the executing agency and delay in hiring consultants; the project is now one year behind schedule. Detailed designs for the farm distribution system and land development disclosed that certain areas included in the project are not suitable for gravity irrigation. The net irrigable area now appears to be around 28,000 ha. Project costs are expected to be higher than appraised, mainly due to higher unit prices. Re-examination of the economic analysis indicates a reduction in the rate of return from 14 percent to 11 percent using revised rice prices and around 7 percent if prices expected during appraisal are used. Disbursement is 58 percent behind even when a one-year postponement is applied to the appraisal report schedule. Construction, however, is now progressing satisfactorily, and all work is scheduled for completion by the end of 1975. This will necessitate an extension of the Closing Date.

2. Credit No. 151 First Education Project; US\$14.8 million
 Credit of June 4, 1969
 Closing Date: December 31, 1974

This project comprises: (a) the expansion and equipment of 27 technical high schools, 5 post secondary technical schools and 4 university teacher training departments; and (b) 26 man-years of technical assistance, 20 man-years of overseas fellowships to support the development of agricultural and/or technical education and to assist educational planning.

Project implementation is about 18 months behind schedule because, in its initial stage, delays occurred in the establishment of the project unit, the selection and appointment of architects and the formulation of equipment procurement procedures. The project is now progressing satisfactorily, but it is expected that because of the initial delays, it will be completed about one year later than estimated at appraisal. This may require a postponement of the Closing Date by six months to June 30, 1975.

^{1/} These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense, and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

3. Loan No. 669 Third Railway Project; US\$40.0 million Loan
Credit No. 783 and \$15.0 million Credit of May 14, 1970
Closing Date: December 31, 1975

The bulk of the Loan and Credit was earmarked for the purchase of specific equipment required, namely, freight cars, diesel locomotives, telecommunications and track maintenance equipment. Progress is generally satisfactory except for delays in the procurement of some microwave equipment which caused the Closing Date of the Loan to be postponed from August 31, 1973 to December 31, 1975.

4. Credit No. 234 Integrated Dairy Beef Development Project
US\$7.0 million Credit of February 11, 1971
Closing Date: March 31, 1977

The development of about 700 small and medium-size dairy farms by providing long-term loans and the construction and operation of two dairy products processing plants are the principal components of the project which also includes management and technical services related to these activities. The project is progressing satisfactorily. To date, nearly 200 Korean farmers have participated. Following international competitive bidding, 1,500 dairy heifers have been purchased and a contract for the supply of dairy processing equipment awarded; planning and construction of civil works for the two dairy processing plants are well underway; technical services are being strengthened; and applied research for livestock production is bringing significant results.

5. Loan No. 622 & Second and Third KDFC Projects; US\$20.0
Loan No. 735 million and US\$30.0 million Loans of
June 26, 1969 and May 17, 1971 respectively
Closing Dates: December 31, 1973 and
August 31, 1975 respectively

These projects are progressing satisfactorily. Both Loans are fully committed.

6. Loan No. 769 First Highway Project; US\$54.5 million
Loan of June 29, 1971
Closing Date: November 30, 1975

The project includes the construction of approximately 230 miles of primary national highways between Chonju and Busan; feasibility studies of about 870 miles; and detailed engineering of an additional 680 miles. A highway maintenance study is also being undertaken and a national highway maintenance organization established on a pilot basis in one of the provinces. Construction is on schedule and within cost estimates.

KOREA - SECOND HIGHWAY PROJECT
LOAN AND PROJECT SUMMARY

Borrower: Republic of Korea

Amount: US\$47.0 million equivalent

Project Description: The proposed project would consist of:

- (a) The construction of national highways from Saemal to Gangreung (97 km) and Gangreung to Mukho (33 km) in northeast Korea (see map).
- (b) The paving and improvement of nine national highways totalling about 634 km., chiefly on present alignments (see map).
- (c) The conduct of feasibility studies by consultants of about 1,000 kms of national and provincial roads, to be followed by detailed engineering if found justified; and
- (d) the procurement of highway maintenance equipment for the extension of the national highway maintenance organization from a pilot province to the remainder of the country.

Estimated Cost: See attached table.

Estimated Disbursements:

US\$ Million

<u>Bank Fiscal Year</u>	<u>Annual</u>	<u>Cumulative</u>
1974	2.4	2.4
1975	21.8	24.2
1976	17.8	42.0
1977	4.6	46.6
1978	0.4	47.0

Procurement Arrangements: Contracts for highway construction and paving will be awarded on the basis of international competitive bidding among pre-qualified firms, in accordance with the Bank's Guidelines for Procurement. Highway maintenance equipment

will be procured after international competitive bidding in accordance with the Bank's Guidelines, with domestic suppliers being accorded a preference equal to the customs duty for the relevant item or 15 percent whichever is lower.

Consultants:

Consultants will be engaged to (a) supervise the construction and paving components of the proposed project; (b) carry out the feasibility and detailed engineering studies of some 1,000 kms of national highways; and (c) help in the expansion of the national highway maintenance organization.

Rate of Return:

- (a) Road construction -- 25-28 percent.
- (b) Paving -- 22-45 percent.
- (c) Highway maintenance -- 53 percent.

Appraisal Report: 264a-KO, dated December 13, 1973.

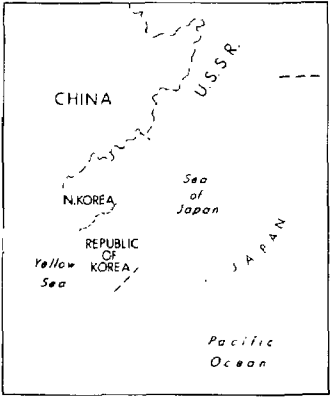
Estimated Cost:

<u>Project Element</u>	<u>Won (million)</u>			<u>US\$ (million)</u>			<u>% Foreign Exchange Component</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
I. Construction of two Highways	7,590	4,090	11,680	19.0	10.2	29.2	35
II. Paving of nine Highways	<u>9,620</u>	<u>5,180</u>	<u>14,800</u>	<u>24.0</u>	<u>13.0</u>	<u>37.0</u>	35
Subtotal I & II	<u>17,210</u>	<u>9,270</u>	<u>26,480</u>	<u>43.0</u>	<u>23.2</u>	<u>66.2</u>	35
III. Consulting Services:							
(a) Supervision I & II	720	720	1,440	1.8	1.8	3.6	50
(b) Feasibility Studies & Detailed Engineering	<u>280</u>	<u>280</u>	<u>560</u>	<u>0.7</u>	<u>0.7</u>	<u>1.4</u>	50
Subtotal III	1,000	1,000	2,000	2.5	2.5	5.0	50
IV. Maintenance Equipment	<u>1/</u>	3,000	3,000	<u>1/</u>	7.5	7.5	100
V. Contingency Allowances:							
(a) Physical ^{2/}	1,820	1,330	3,150	4.6	3.3	7.9	
(b) Price ^{3/}	<u>2,060</u>	<u>920</u>	<u>2,980</u>	<u>5.2</u>	<u>2.2</u>	<u>7.4</u>	
Subtotal V	<u>3,880</u>	<u>2,250</u>	<u>6,130</u>	<u>9.8</u>	<u>5.5</u>	<u>15.3</u>	
TOTAL PROJECT COST	<u>22,090</u>	<u>15,520</u>	<u>37,610</u>	<u>55.3</u>	<u>38.7</u>	<u>94.0</u>	41

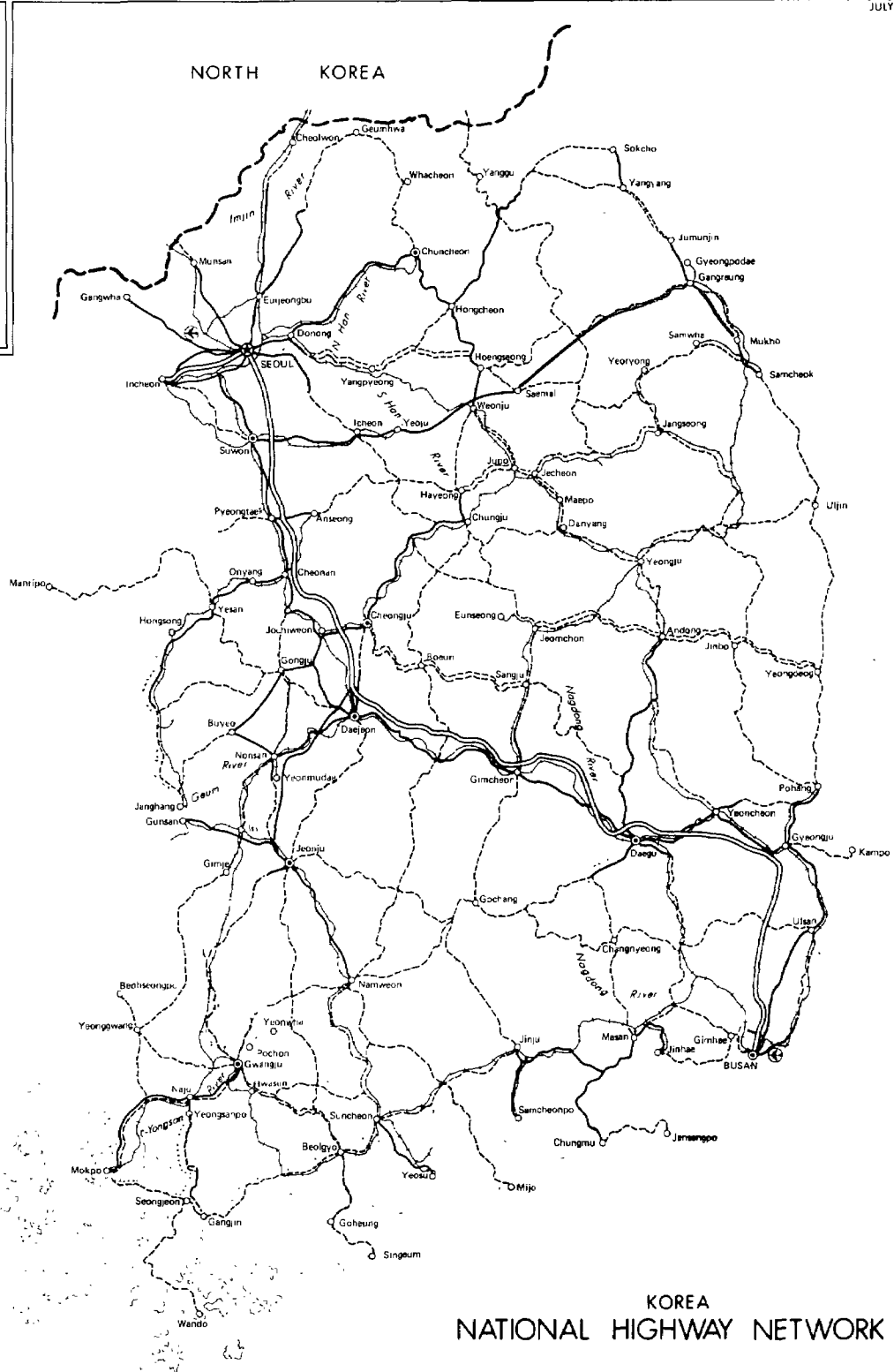
1/ Small amount for local handling, assembly and transport of imported equipment; also possibly a small amount for local manufacture/assembly, if domestic suppliers submit successful bids for part of the equipment. The total local cost is unlikely to exceed about 15% of the foreign cost of equipment and will probably be under 10%.

2/ 10% on all items.

3/ 12% on local and 10% on foreign cost of construction and paving.



The boundaries shown on this map do not imply endorsement or approval by the World Bank and its affiliates.



KOREA NATIONAL HIGHWAY NETWORK

- EXISTING NATIONAL HIGHWAYS
- ==== EXPRESSWAY (FOUR LANE TOLL)
- ===== NATIONAL HIGHWAYS (PAVED)
- - - - NATIONAL HIGHWAYS (UNPAVED)
- PROJECT HIGHWAYS
- FEASIBILITY STUDY AND ENGINEERING (TECHNICAL ASSISTANCE CR 54-KO)
- CONSTRUCTION AND IMPROVEMENT (FIRST PROJECT LOAN 769-KO)
- CONSTRUCTION AND IMPROVEMENT (SECOND PROJECT)
- - - - PAVING
- RAILWAYS
- ⊕ AIRPORTS (INTERNATIONAL)
- ⊙ PROVINCIAL CAPITALS
- - - - INTERNATIONAL BOUNDARIES

