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South Korea: Military Production and Exports

A Research Paper

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South Korea: Military Production and Exports

A Research Paper

This paper was prepared by Korea Branch, Office of East Asian Analysis. Comments and queries are welcome and may be addressed to the Chief, Northeast Asia Division, OEA.

This paper has been coordinated with the National Intelligence Council.
South Korea has made significant progress toward greater self-sufficiency in defense production since the early 1970s. Seoul can now produce most basic military equipment for its infantry and artillery forces and builds naval combatants of up to frigate size. This year it has begun to coproduce jet fighters.

By expanding its defense industry, Seoul has gained a much-needed capacity for emergency military production, but more remains to be done if Seoul is to counter the qualitative and quantitative improvements projected for North Korean military forces in the 1980s. South Korean planners and researchers are now looking to a new series of indigenously designed products to help fill mobility and firepower requirements. But Seoul will remain dependent on technology from the United States and other foreign sources for production of modern tanks and other advanced military items during most of the 1980s.

The defense plant expansion of the 1970s was undertaken in the expectation that a combination of domestic arms procurement and exports would make the defense industry economically viable. But oil shocks, world recession, overoptimism regarding exports, and a decline in US Foreign Military Sales credits have left Seoul’s defense firms with greatly underutilized productive capacity and rising overhead. In an effort to shore up the industry, President Chun Doo Hwan recently instituted a program of consolidation, subsidies, tax relief, and other measures. This program holds promise for a gradual revival of the industry and improved competitiveness.

The South Koreans also see an aggressive overseas sales campaign as a way to relieve financial pressure on the industry. Arms export is likely to become an increasing point of friction between Washington and Seoul since many of the most attractive South Korean military export items are manufactured under US license:

- South Korean officials have requested blanket export approval for many US-licensed goods. In response the US Government has streamlined the approval process but retains the right to review sales on a case-by-case basis.
South Korea is also seeking to free itself from US control by designing its own line of weapons. But we expect Seoul will be reluctant to carry its arms diversification program to the point of significantly affecting the interoperability of South Korean and US military equipment.
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South Korea: Military Production and Exports

Production

Government Objectives and Policy
Defense production—a relatively young industry in South Korea—is an important element in Seoul’s overall plan to meet the North’s military challenge. Following the Korean war, US aid and defense commitments enabled Seoul to channel its economic resources into agriculture and civilian industry. By the early 1970s Seoul began to map out a program for indigenous defense production, a result of the growth of the North’s military capability, US encouragement of increased military self-sufficiency among its allies, and the withdrawal of one of the two US Army infantry divisions in South Korea. Rapid economic growth through most of the 1970s allowed South Korea to assume more of the financial burden for its own defense. With US guidance, South Korea established its own modest research and development program in 1971, and by 1973 it was coproducing small arms, ammunition, and repair parts under licenses with US firms.1

The growing realization in the mid-1970s that North Korea was carrying out an aggressive program to improve its military capability led Seoul to formulate a program for strengthening its defenses, the Force Improvement Plan (FIP I). In 1977 President Park Chung Hee pledged that by 1980 South Korea would be mass-producing all its own arms except advanced electronics, combat aircraft, and nuclear weapons. Park’s program espoused a number of goals:
- Modernization of the South Korean armed forces.
- Acquisition and diffusion of technological skills to the private sector.
- Reduction in dependence on US support.
- Extension of the lifetime of systems for which US replacement parts were no longer available.

To get the program under way, the South Korean Government provided substantial incentives to firms designated “defense industries”:
- Low-interest loans from the Ministry of Commerce and Industry.
- Guarantees of 10-percent tax-free profit on defense contracts.
- No import duty on raw materials for military production.
- Draft exemptions for engineers and other professionals.

No company, however, was to devote more than 30 percent of its output to defense production.

Today, there are 81 designated defense companies. A few large corporations dominate the industry, acting as prime contractors, making some parts, and carrying out the final assembly and testing of products. Manufacturers of uniforms, boots, and most other quartermaster items are not officially designated defense companies and receive no special benefits.

Government and business work closely together on military production.25X1 contracts are awarded on the basis of the Ministry of National Defense’s (MND25X1 judgment of a company’s technical capability to produce an item rather than on competitive bidding. We do not believe that corruption and nepotism are major factors in defense procurement, although a longstanding and close relationship exists between MND and the handful of major defense producers.

After the MND determines a need for a new item, the Agency for Defense Development (ADD) conducts the developmental research—often using US technical data—and selects a company to build and test a prototype. If the testing is successful, a production contract is staffed through MND’s Defense Industries Bureau and the Defense Industries Committee—the
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senior policymaking body composed of the President and several Cabinet members. Once approved, the Defense Procurement Agency administers production and purchase contracts. The Ministry for Commerce and Industry loans investment capital to designated companies at concessionary interest rates with repayments stretched over three years and a two-year grace period.

Progress and Problems

The defense industry program has facilitated the modernization of many aspects of the armed forces through domestic production rather than imports. It also has given the country a production capability for times of emergency. In addition, the manufacture of spare parts in South Korea is extending the life of many weapons no longer in the US inventory. Moreover, most new defense factories have been built at the Changwon Industrial Center, away from Seoul and near Masan in the south. This substantially improves the security of South Korea’s military production base.

South Korea now manufactures most of its basic military equipment, especially ground forces items. It can overhaul and maintain nearly all weapons systems in its inventory, including tanks, armed personnel carriers, surface-to-air and air-to-air missiles, and jet engines. It can build all its own naval combatants of frigate size and smaller, although the weapons and propulsion systems are imported. In addition, this year it began to coproduce jet fighters with the United States.2

Imports, which consist chiefly of US Foreign Military Sales and grant aid, have declined as a result of increased self-sufficiency, reductions in US credits, and the depreciation of the won. As a result, import deliveries peaked at about $530 million in 1979 and fell to about $260 million in 1981 (see figure 2). South Korea has concentrated its military imports on aircraft, missiles, and other systems that have either been beyond Korean technical capability or too expensive to produce domestically.

In our judgment, by pushing rapid expansion in the mid-1970s, Seoul overestimated the country’s ability to support an indigenous arms industry through domestic procurement and overseas sales. As a result, the defense industry now faces serious economic problems. The government was eager to involve private industry heavily in defense to get the maximum technological benefit for the civilian economy. Industrialists, too, were overly optimistic about future economic growth, government arms procurement, and the prospects for military exports.

By the end of 1980 Seoul had met its immediate needs for most of its defense products, and government orders fell. Economic reversals brought on by the

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2 North Korea, by comparison, is able to meet its own needs for all but the most sophisticated weapons systems and produces several types of military equipment that are beyond current South Korean capabilities, including tanks, armored personnel carriers, surface-to-air missiles, and wire-guided antitank missiles. Pyongyang remains dependent on China and Poland for its supply of aircraft and helicopters.
worldwide recession, high domestic inflation, and the decline in US Foreign Military Sales credits forced Seoul to cut such purchases from its own defense factories as had been planned. When Park was assassinated in October 1979, the defense industry lost its most important backer, and the political uncertainty that followed contributed to the delayed recovery of the economy.

Expanding overseas sales partially compensated for the decline in government procurement, and total military output has probably remained constant or risen gradually. Not all industries have fared equally well in the transition to more export-oriented sales, however; exports of ships and patrol boats have grown, but sales of most ground forces items have lagged well below production capacity.

The new government under President Chun has been reluctant to bail out the defense industry. Chun was highly concerned that the nation’s economic problems would lead to domestic instability, which North Korea might use to undermine South Korea’s security. As a result, Chun agreed to maintain an austere, anti-inflationary national budget that limited aid to any industry, including defense. Squeezed by slow sales and high overhead, several defense firms went bankrupt.

Despite the low production levels and a cutback in government purchases, the Defense Ministry has required companies to keep production lines open and to continue paying skilled workers. More important is the fact that defense firms are having difficulty repaying large government loans on their new plants and equipment—they still owe $960 million on the investment in military production made between 1972 and 1980. Industrywide, principal and interest payments on this debt will run to $56 million in 1982 and will increase to $88 million a year for 1984-86.

In May 1982 President Chun approved a proposal to shore up defense companies. This departure from Chun’s previous policy seems to have come after Seoul realized that the US Government would not surrender its right to review third-country sales, The new plan recognizes Seoul’s responsibility to the defense firms and proposes extensive support under the aegis of the Ministry of Commerce and Industry:

- Consolidation of producers into one or two primary manufacturers for each item.
- Government subsidies and rescheduling of loans.
- Tax relief, special procurement contracts, and exemptions from military service for employees.
- Promotion of commercial sales of goods derived from military products, such as trucks, communications equipment, and aircraft parts.

The Industrial Policy Coordination Committee is to implement the plan, focusing on eight defense firms that are in the most serious financial difficulty.

If the plan is fully implemented, we believe it will ease the defense industry’s financial difficulties. Some small defense firms will probably be allowed to fold quietly, and total military production capacity may decline somewhat in the next two to three years. Plants that produce older, obsolescent items are the most probable candidates for closure.

South Korea has also had problems with quality control in its defense industry. An aggressive program, begun in 1979, has largely corrected deficiencies for items now in production. In our opinion, however, South Korean companies developing new products will probably continue to have difficulties.

South Korea is likely to remain a good market for US equipment, especially advanced aircraft and electronics, during most of the 1980s. The most recent figures
that Seoul has provided to the US Government indicate planned procurement from the United States of $400 million in 1982, rising to more than $800 million in 1986. We expect some downward adjustment in imports, however, as a result of gradual erosion in the value of the won.

Current Production
Fully aware that ground combat will be the most important arena in event of a conflict with the North, Seoul has stressed production of ground forces equipment. This equipment also lends itself best to production in South Korea because of its relative simplicity and the large quantities needed. The output from South Korea's plants has enabled that nation to modernize most of the weapons and equipment in its active Army units and to begin on its reserve units.

Successful aircraft maintenance and helicopter assembly programs during the 1970s prepared Seoul for its first jet aircraft coproduction project; the first two F-5F fighters produced in South Korea entered service in September 1982. The program will significantly expand the defense industry's knowledge of material fabrication technology.

South Korean shipyards, two of which are among the newest and largest in East Asia, produce frigates, amphibious craft, patrol ships, and fast patrol boats using modified US designs. They are fitted with weapons, engines, and electronic systems procured from US and European manufacturers. These faster and better equipped ships are being used to supplement the fleet of World War II–vintage destroyers, frigates, and support craft bought or transferred from the United States.

The most notable continuing Army, Air Force, and Navy projects are summarized in tables 1, 2, and 3, respectively. Engineering development has been completed on several new items, a number of them incorporating US technology, and we expect production to begin this year. Table 4 lists these products for the three sponsoring services.

Research and Development
The Ministry of National Defense conducts an extensive R&D program to facilitate the growth of the nation's defense industry. The Research and Development Bureau (J-7) of the Joint Chiefs of Staff is

Table 1
South Korea:
Major Production Programs
for Ground Forces Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td>Artillery</td>
<td>Light (105-mm) and medium (155-mm) howitzers and Vulcan rapid-fire air defense guns have been manufactured since 1977; production of multiple rocket launchers (MRLs) began this year. Although some direct and indirect US technical assistance was provided, the MRL is the first indigenously designed weapons system to be manufactured and deployed in South Korea.</td>
</tr>
<tr>
<td>Armor</td>
<td>Under the upgrading program, 421 M-48 tanks have been converted from gasoline to diesel engines using kits bought from the United States; 180 M-48s also will be fitted with larger main guns. Seoul is overhauling its M-47 tanks and will begin refurbishing the M-113 APCs in the ROK Army inventory when it completes the overhaul of US Army APCs in Korea in 1984-85.</td>
</tr>
<tr>
<td>Tactical vehicles</td>
<td>South Korea produces cargo trucks, jeeps, wreckers, and other nonarmored vehicles for its ground forces.</td>
</tr>
<tr>
<td>Small arms and crew-served weapons</td>
<td>South Korea turns out a full line of M-16 rifles, M-60 machineguns, 40-mm grenade launchers, 60-mm, 81-mm, and 4.2-inch mortars, and 90-mm and 106-mm recoilless rifles, as well as the ammunition for these weapons. It also makes handgrenades and antitank and antipersonnel mines. In 1980-81 Seoul began producing a submachinegun of indigenous design, the K-1, which fires the same round as the M-16 rifle. Fairly reliable sources report that so far about 3,500 K-1s have been produced.</td>
</tr>
<tr>
<td>Communications</td>
<td>South Korea manufactures the majority of its tactical radios and all of its field telephones and switchboards.</td>
</tr>
</tbody>
</table>

* South Korea makes the Fiat 6614 wheeled APC under Italian license, but the light armor and limited off-road mobility of this vehicle restrict it to rear area security and riot control roles.
Table 2
South Korea:
Major Production Programs for Air Force Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Comment</th>
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<tbody>
<tr>
<td>F-5E/F jet fighter</td>
<td>Under an agreement with US manufacturers running through 1986, South Korean firms will produce many of the airframe and engine parts and complete the assembly of 68 F-5E/F fighters with US-made electronics and weapons systems. This will increase the ROK Air Force’s inventory of F-5 fighters by nearly 50 percent.</td>
</tr>
<tr>
<td>500 MD helicopter</td>
<td>Korean Air Lines has assembled over 100 Hughes 500 MD helicopters from kits purchased from the United States. The ROK Army and Navy use 500 MDs as lightly armed scout aircraft and for VIP transport.</td>
</tr>
</tbody>
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responsible for planning and approving military research, while the Agency for Defense Development (ADD) carries out the research. Defense companies supplement government facilities in production-related engineering and fabrication of prototypes. 25X1

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ADD was first established in 1972, following extensive consultations with US specialists in military research. Since that time, ADD has relied on the United States for technical assistance in nearly all military production projects. 25X1

The Research and Development Bureau determines South Korea’s research program based on information provided by the armed services and the ADD. The Army, Navy, and Air Force submit their requests for new projects to the Bureau, which passes them to ADD for study of the time, cost, and technical skill required for each one. The Bureau reviews ADD’s study results, selects new projects to be initiated, and compiles the overall research plan and budget into the annual Joint R&D Objective Document. This is submitted to the Joint Chiefs of Staff and MND for final approval. 25X1

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Table 3
South Korea:
Major Naval Construction Programs

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Displacement</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frigate</td>
<td>1,940 tons</td>
<td>The South Korean frigate Ulsan carries US Harpoon ship-to-ship missiles; budget constraints and technical problems are delaying the start of three additional frigates.</td>
</tr>
<tr>
<td>Amphibious ships</td>
<td>1,800 tons</td>
<td>The Navy is considering buying two tank landing ships (LSTs) similar to the four that South Korean shipyards delivered to Indonesia in 1981. The LSTs are of US design modified to accommodate Exocet missiles and a helicopter platform. The ROK Navy has halted procurement of additional 380-ton utility landing craft (LCU) since construction of three in 1980.</td>
</tr>
<tr>
<td>Patrol ship</td>
<td>1,000 tons</td>
<td>One patrol ship capable of 21-knot speeds and mounting three 20-mm guns was delivered to the Maritime Police this year. Seoul plans to construct additional police ships, although we do not know how many.</td>
</tr>
<tr>
<td>Corvette</td>
<td>920 tons</td>
<td>The ROK Navy regards these vessels as more cost effective than frigates. Four corvettes, capable of 38-knot speeds and armed with Harpoon missiles, will be built by 1983, with the possibility of 16 more during the 1980s.</td>
</tr>
<tr>
<td>Fast-attack craft</td>
<td>80 to 500 tons</td>
<td>At least six classes are built for the Navy and Maritime Police; some carry Harpoon or Exocet missiles.</td>
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Change of Direction Under Chun
Defense officials appointed by President Chun reorganized the components of the research community in 1980. 25X1

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During the Park administration, both the Research and Development Bureau and ADD tended to
Table 4
South Korea:
Newly Developed Items To Enter Production in 1982

<table>
<thead>
<tr>
<th>Army</th>
<th>Ammunition: mortar, artillery, and tank gun</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Night observation device</td>
</tr>
<tr>
<td></td>
<td>2.5-ton tanker truck</td>
</tr>
<tr>
<td></td>
<td>Artillery binoculars</td>
</tr>
<tr>
<td></td>
<td>Two types of gas masks</td>
</tr>
<tr>
<td>Air Force</td>
<td>Aircraft radio</td>
</tr>
<tr>
<td></td>
<td>Runway damage repair kit</td>
</tr>
<tr>
<td></td>
<td>Aircraft revetment material</td>
</tr>
<tr>
<td>Navy</td>
<td>Electronic countermeasures equipment</td>
</tr>
<tr>
<td></td>
<td>Depth finder for antisubmarine warfare</td>
</tr>
</tbody>
</table>

rubberstamp proposals from the services. Since the reorganization, the Bureau has reviewed projects much more critically and has canceled or disapproved a number of proposals.  

The new director of ADD, Dr. So Jung Uck, reorganized that agency and has refocused the ADD's effort more toward supporting the tactical needs of South Korean combat forces. For example, the ADD is increasing its work on adapting imported items to Korean needs and improving the performance of older equipment still in service.

The Defense Ministry has recently directed a 50-percent cut in ADD's budget and manpower. Programs and personnel are likely to be transferred to industry, while ADD will concentrate on basic research. We do not yet know which projects will continue at ADD, which will go to industry, or which may be eliminated altogether.

Although the cutback is part of a broad program to streamline the defense personnel structure, we believe cuts fell especially heavily on ADD to reduce further the Agency's traditional autonomy and to increase the Defense Industry Bureau's control over research and development.

The Role of US Assistance
US assistance to the South Korean research effort ranges from release of hardware samples and technical information to joint development of a few projects of mutual interest. Performance specifications for many US military systems are passed to Seoul through data exchange agreements. Technical data packages bought from the United States entitle ADD to study an item, fabricate a prototype, and produce spare parts. ADD scientists and engineers receive on-the-job training at US research centers as part of the Scientist-Engineer Exchange Program. Seoul also receives advice from US technical personnel visiting or stationed in South Korea as members of the Joint US Military Advisory Group–Korea.

In addition to contributing to the self-sufficiency and technological capability of an important ally, this sharing contributes to US security interests in other ways. It enhances the interoperability of US and South Korean equipment and allows friendly third countries—and even US forces—to procure US-designed equipment now out of production in this country.

Although South Korean researchers are showing more openness toward their US counterparts than they did under the Park administration, South Korea continues to deny Americans access to programs not receiving direct US assistance. US personnel have been given little or no information about the Nike-Hercules surface-to-surface missile program, for example.

1 US Government approval and a separate coproduction contract are required for mass production of complete items.
Secret

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Seoul provides little or no information through official channels on at least 20 other projects we are aware of, including multiple rocket launchers, armored personnel carriers, improved mortars and artillery, and several small arms projects.

Research Outlook

South Korea has established a substantial base of production engineering and a growing capability for indigenous, if somewhat derivative, military research. Seoul appears to be focusing its future research and development (R&D) efforts on weapons and equipment that are advanced enough to provide a quality advantage over the North.

We think the prospects are good that South Korea's R&D capability will continue to improve, despite the reduction in work within the government. Although the full effects of the ADD cutback are not yet known, the concept appears to be to keep the total effort—government and private—at a fairly constant level. The proposed transfer of development activity to the private sector may increase the efficiency and practicality of the work—if funding is provided through Defense Industry Bureau channels, for example.

A successful research program will be necessary if Seoul is to replace the many items in its inventory that are based on 1960s US technology and are gradually becoming obsolete. To meet the North Korean threat in artillery, for example, the Army requires extended-range, self-propelled howitzers rather than the older versions now being produced domestically. Based on South Korea's past record, we believe that relying on indigenous research rather than imported technology will delay initial production of new items by two to five years, although such research is likely to increase Seoul's long-term self-sufficiency.

The desire to develop military equipment for export provides a strong impetus to the research program.

Military Exports

Export Policy and "Military Diplomacy"

During the 1970s as the nation's defense industry grew, South Korea cautiously expanded its military exports to offset the mounting costs of domestic production and to earn foreign exchange. The government concentrated on sales of nonlethal items and avoided arms exports to countries that might threaten states friendly to South Korea.

In this study we consider "military exports" to include nonlethal as well as lethal items bought and used by the armed forces of a country; hence, we include communications equipment, quartermaster items (uniforms, boots, tents, field packs, and so forth), and tactical vehicles. By "arms" we mean weapons, ammunition, mines, or other lethal devices. In contrast to the DIA series, Foreign Military Assistance, we exclude overseas military construction because this is a service, not an exported good, and because information is usually inadequate to separate civilian from military projects.
In the late 1970s Seoul shifted to a more aggressive military export program in response to market opportunities abroad and pressures at home. Immediate domestic requirements for many items had been satisfied, leaving many defense plants underutilized. MND procurement cuts resulting from economic reversals also increased the pressure to relieve endangered manufacturers through increased overseas sales. Many government officials, as well as business executives, saw exports as the salvation of the nation’s defense industry.

Seoul has also gradually realized that military exports can help advance relations with Third World countries and has made such sales a central aspect of its recently announced policy of “military diplomacy.” South Korea has shown strong interest in cementing relations with resource-rich countries; Saudi Arabia and Indonesia were its first large customers, buying quartermaster items and patrol boats, respectively, in 1976. The main objective of military diplomacy, however, is to use strengthened bilateral military cooperation to offset North Korea’s influence in such international forums as the Nonaligned Movement. The program takes a variety of forms:

- Joint committees on defense issues: a formal government-to-government channel for handling contract negotiations and VIP visits.
- Sales of military goods: besides promoting its own exports, Seoul is interested in buying military equipment from Third World countries.
- Military construction: South Korean military personnel may act as on-site advisers on South Korean construction work.
- Maintenance of aircraft and other military equipment: revenues from this work are limited, but Seoul believes it demonstrates technical competence.
- Defense industry technical assistance: many countries are eager to set up their own defense industries, and Seoul seems willing to provide some assistance, but is constrained by US licensing agreements covering most of its current production facilities.

Export Procedures and the Role of Government

Military exports require close coordination, at home and abroad, among South Korean defense industries, the Ministries of National Defense and Foreign Affairs, and the Agency for National Security Planning (NSP—formerly the K CIA). The oversight role of government agencies is increased because of the requirement for US approval for many items. Only 25 designated “Defense Trading Companies” may engage in overseas marketing of military goods. To prevent excessive competition between domestic companies, the government often specifies one or two firms, known as export windows, as the primary trading agents in one country. MND’s Defense Industry Bureau issues a preliminary export license to a firm only after confirming the proposed sale with the buying country, receiving an end-user certificate pledging that the goods will not be transferred to another country, and coordinating the sale with the Ministry of Foreign Affairs. When a contract is signed and a letter of credit opened, copies of thes
documents are submitted to the Bureau, which, if US-origin items are involved, is supposed to request US approval through diplomatic channels. If Washington concurs, MND issues an export license and the sale can proceed.

Sales and Markets
Through the end of 1981 South Korea had recorded military sales to 53 countries and has since negotiated with six more potential customers. By our estimate sales last year totaled at least $375 million, and negotiations for roughly $170 million were reported during the first quarter of 1982 (see figure 3).

East Asia. Asian countries are South Korea’s most important arms clients, and the region generally acts as a trial market for new products and policy initiatives.

Indonesia is South Korea’s best customer, and the relationship appears to exemplify Chun’s defense cooperation objectives.

Malaysia also has bought large amounts of ammunition and a number of ships and boats from South Korea.  Pakistan and the Philippines buy ammunition and fast patrol boats. Singapore, Burma, and Sri Lanka recently closed arms deals with Seoul for the first time.
Figure 3
South Korea: Military Export Agreements*  

Million US $  

500  

400  

300  

200  

100  

0 1976 77 78 79 80 81  

*Figures include both lethal and nonlethal items but exclude military construction projects.

Venezuela will take delivery of 60-mm and 81-mm mortars this year, has shown strong interest in tactical vehicles, and recently signed a contract for four amphibious ships. In addition, Venezuela has initiated discussions on joint ammunition manufacture with Seoul. Panama, Peru, Chile, and Honduras are negotiating on possible purchases of military goods this year.

Africa. North Korea's nonaligned image and its willingness to provide concessionary terms have long made military assistance from P'yongyang more acceptable to many African states than South Korean aid. Ethiopia and Nigeria, however, have been steady customers for the South's quartermaster goods.

Export Policy in the 1980s
We anticipate that South Korean military exports will expand reasonably well in the 1980s and that they are likely to remain competitive in cost, sophistication, and quality. As the strength of current demand already shows, South Korean products fill the needs of many Third World nations for lower cost alternatives to more advanced systems offered by Western arms producers. Several other countries such as Brazil, Taiwan, and South Africa, however, are emerging as strong competitors for the same market.

Prospects look bright for sales of naval equipment and, over the next several years, for most types of ground forces equipment now produced. We believe...
that Seoul’s new line of indigenously designed weapons and equipment has excellent prospects for meeting the rising foreign demand for intermediate technology goods; exports of most South Korean–designed items will begin between 1983 and 1985. Buyers are expressing strong interest in Seoul’s multiple rocket launcher, upgraded artillery, modified amphibious ships, and ship-to-ship missile. Given the increased worldwide interest in sophisticated weapons systems in the wake of the recent Falkland Islands and Middle East conflicts, Seoul may attempt to step up selected missile and electronics programs, emphasizing tactically useful and cost-effective systems.

South Korea is also likely to enter the market for turnkey arms plants in the middle-to-late 1980s. Demand for these projects is growing rapidly, and shift most of the financial burden of maintaining excess capacity to the government, but pressure to step up exports will continue

Looking ahead three to five years, Seoul sees the indigenous design program as the most promising means of increasing its export independence. Some indigenously designed products may be based on American technical data, but we do not have enough information on these projects to determine whether US firms or the US Government are entitled to royalties or control over their use and sale. Products copied directly from US-controlled items would naturally compete against US manufactures, but, through the 1980s, most indigenously designed goods will be at a lower technological level and more likely to be complementary to US arms exports.

At the same time, as part of the attempt to reduce US regulation of military exports, South Korea has been expanding its efforts to gain technical aid—including possible joint production—from non-US sources. But we expect Seoul will be reluctant to carry its arms diversification program to the point of significantly affecting the interoperability of South Korean and US military equipment.

Seoul will probably expand the scope of its military diplomacy as it tries to turn its expertise in defense research and production to advantage in broader international affairs. While continuing to increase its market in the Middle East and East Asia, we believe South Korea is likely to give more attention to Africa than in the past. In the process, Seoul may be compelled to step up grant aid—previously quite rare—to selected African states.

The plan to shore up the defense industry will