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EZ2:
SERIAL: (U) IIR (b)(3):10 USC 424
PASS: (U) (b)(3):10 USC 424,(b)(3):50 USC 403-1(i).
COUNTRY: (U) CHINA (CH); ISRAEL (IS); IRAN (IR); JORDAN (JO); IRAQ (IZ).
SUBJECT: IIR (b)(3):10 USC 424 /CHINESE ARMS SALES (U)
WARNING: (U) THIS IS AN INFORMATION REPORT, NOT FINALLY EVALUATED INTELLIGENCE. [redacted]

DEPARTMENT OF DEFENSE

DOI: (U) 880315
REQS: (U) (b)(3):10 USC 424

8800330197

15

MSGNO 5 (MIIR) RSB *22/03/88* *05:09*

(b)(3):10 USC 424

SOURCE: (U) (b)(3):10 USC 424,(b)(3):50 USC 403-1(i)

SUMMARY: (U) THIS IIR FORWARDS A COPY OF AN UNPUBLISHED RESEARCH PAPER TITLED "THE YEAR OF THE SILKWORMS-- CHINA'S ARMS TRANSACTIONS, 1987." IT IS AN IN-DEPTH STUDY OF CHINESE ARMS SALES. THE PAPER COVERS HISTORICAL DEVELOPMENTS, INTERNATIONAL CUSTOMERS, INTERNAL CHINESE CORPORATE PLAYERS, SPECIFIC ARMS TRADED, AND FOREIGN POLICY RAMIFICATIONS. ENCLOSURE.

(b)(3):10 USC 424

TEXT: 1. (U) A COPY OF A PAPER PRESENTED TO THE WORKSHOP ON PLA AFFAIRS AT THE ((SUN)) YAT SEN CENTER FOR POLICY STUDIES, KAOHSIUNG, TAIWAN, 4-6 MARCH, 1988. THE PAPER HAS NOT YET BEEN PUBLISHED BUT MAY SOON BE. IT REPRESENTS RESEARCH

(b)(3):10 USC 424

OVER SEVERAL YEARS OF EXTENSIVE

(b)(3):10 USC 424; (b)(3):50 USC 403-1 (i)

STUDY. WHEN ASKED, THAT THE RESEARCH WAS BASED MOSTLY ON OPENLY PUBLISHED PRESS REPORTS FROM BOTH WESTERN AND ARAB SOURCES. THE FOLLOWING IS A SYNOPSIS OF THE MAJOR POINTS CONTAINED IN THE PAPER--

2. (U) INTRODUCTION - CHINA'S FOREIGN POLICY DECISIONS REGARDING ARMS TRANSFERS BEGAN HAVING INTERNATIONAL IMPACT BY THE MID 1980'S.
A. ARMS TRANSFERS-- AFTER MANY YEARS OF SUPPLYING ARMS FREE OF CHARGE TO ITS THREE ASIAN BUFFER STATES (KN, VM, PK), CHINA ENTERED THE INTERNATIONAL ARMS MARKET IN 1979 AND BY 1986 HAD BECOME THE WORLDS FIFTH LARGEST ARMS MERCHANT (BEHIND UR, US, FR, UK IN THAT ORDER). WHAT IS MISLEADING, IS THAT THESE FIGURES ARE BASED ON MONEY AND THE TRUE DIMENSION OF THESE ARMS SALES IS DIFFICULT TO GAUGE BECAUSE CHINESE MILITARY HARDWARE IS VERY CHEAP.
B. IN THE PERIOD FORM 1980 TO 1985 CHINA'S SALES TO THE MIYPLE EAST 83 10!;9YQ80@ND8CENT FF HIQQ QRTFLQRMS EXP$ORES. QXAMPLE A INCLUDE F-7 FIGHTERS TO 3&605, B-6 BOMBERS TO IRAQ, AND FIELD ARTILLERY TO IRAN. IN THE PAST, THESE SHIPMENTS HAD BEEN PRIMARILY TO EAST AND SOUTHEAST ASIA (E.G., TANK SALES TO THAILAND).
C. NOTWITHSTANDING ITS CONSTANT DENIALS, BEIJING HAS BECOME ONE OF IRAN'S MAJOR ARMS SUPPLIERS. IN ADDITION, CHINA WAS SAID TO HAVE OFFERED IRAN TECH ASSISTANCE AND EXPERTISE TO LICENSE-PRODUCE CHINESE SURFACE TO SURFACE MISSILES (FROG AND SCUD VERSIONS). ALL DEALS ARE MADE WITH THE PASDARAN (ISLAMIC REVOLUTIONARY GUARD CORPS).

3. (U) SUPPLY ROUTES-- FIVE DIFFERENT METHODS OF ACQUIRING CHINESE EQUIP--
A. DIRECT DELEVERY- SIMPLEST BUT ONLY USED IF THE CUSTOMER IS NOT AT WAR (KN, EG, PK, TH).
END OF MESSAGE [redacted]

*******<<<< SECTION 2 >>>>>***

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MSGNO 5 (MIIR) RSB *22/03/88* *23:09*
SERIAL: (U)
PASS: (U)
COUNTRY: (U) CHINA (CH); ISRAEL (IS); IRAN (IR);
JORDAN (JO); IRAQ (IZ).
SUBJECT: IIR (b)(3):10 USC 424 /CHINESE ARMS SALES (U);
B. INDIRECT DELIVERY - INTERMEDIARIES (EG, SA, JO)
OR MIDDLE MAN BUSINESSES IN HONG KONG AND SINGAPORE.
SYRIA, LIBYA, AND PARTICULARLY JORDAN HAVE BEEN USED
AS CONDUITS FOR SSM SHIPMENTS TO IRAN AND IRAQ.
NORTH KOREA HAS BECOME A USEFUL AND CONVENIENT
TRANSSHIPMENT AGENT TO FURTHER DISTANCE CHINA FROM
ITS ULTIMATE CUSTOMERS.
C. ASSEMBLED LOCALLY - SSMS, SILKWORMS, ARTILLERY,
AND BASIC MUNITIONS. CHINESE TECHNICIANS SERVE IN
MIDDLE EASTERN FACTORIES AS CONSULTANTS.
D. PRODUCED LOCALLY - IRAN CLAIMS TO HAVE PRODUCED
A GREAT DEAL OF ITS OWN MUNITIONS, DEVELOPED ITS
OWN ANTI-SHIP MISSILE AND EVEN TO HAVE MODIFIED
AN F-7 FIGHTER.
E. CAPTURED - IRAN CLAIMS TO HAVE CAPTURED MUCH
OF ITS CHINESE EQUIPMENT FROM IRAQ (INCLUDING SILKWORM).

4. (U) SUPPLIERS--NORINCO, GREAT WALL, CPMIEC,
POLYTECHNOLOGIES, CITIC ARE ALL HIGHLIGHTED WITH
THEIR INTERWOVEN ARRANGEMENTS AND COMPETITIVE
INFIGHTING. SOURCE DESCRIBES THE NATURE OF THE
INTERNAL ARMS COMPETITIVENESS BY PROVIDING AN
EXAMPLE FROM THE ASIANDEX 86 SHOW IN BEIJING--
A PRC INDUSTRY REP ADMITTED HIS COMPANY HAD TO
PRODUCE EQUIPMENT AT JUST 30 PERCENT OF ITS MARKET
VALUE TO BE INTERNALLY COMPETITIVE, ONLY TO SEE THE
SAME EQUIPMENT RE-SOLD TO FOREIGN CUSTOMERS AT THE
FULL MARKET RATE.

5. (U) DOMESTIC IMPLICATIONS--
ARMS TRANSFERS NOW PLAY A VITAL ROLE IN CHINA'S
MILITARY MODERNIZATION EFFORTS. ACCORDED THE LOWEST
PRIORITY AMONG THE FOUR MODERNIZATIONS, DEFENSE
CAN NO LONGER COUNT ON WHOLESALE GOVERNMENTAL
EXPENDITURES, LET ALONE FOREIGN EXCHANGE. INSTEAD,
THE MILITARY INDUSTRIAL COMPLEX HAS BEEN TOLD TO
EARN ITS OWN KEEP. THE BIG QUESTION IS STILL
WHERE THE MONEY GOES AFTER IT IS EARNED. I.E.,
HOW MUCH OF THE FOREIGN EXCHANGE EARNED BY DEFENSE
INDUSTRIES STAYS WITH THE COMPANY MAKING THE SALE?

6. (U) INTERNATIONAL IMPLICATIONS.
A. CHINA'S ARMS DEALS HAVE COMPLICATED THEIR OWN
FOREIGN POLICY OBJECTIVES IN SEVERAL LOCALIZED
SITUATIONS (TANK DEAL WITH THAILAND CITED AS CAUSING
GREATER FRICTION WITH VIETNAM IN KAMPUCHEAN
IMBROGLIO).
B. CHINA'S SALES OF SILKWORMS TO IRAN HAVE COMPLICATED
ITS TIES WITH THE US AND OTHER MIDDLE EASTERN
CUSTOMERS. ALTHOUGH COMPLICATING SOME OF ITS OWN
ARRANGEMENTS, WHAT ITS ARMS DEALS HAVE DONE FOR
CHINA IS THRUST IT INTO THE ROLE OF MAJOR INTERNATIONAL
PLAYER. CHINA IS NOW HAVING IMPACT ON THE INTERNATIONAL
FOREIGN POLICY SCENE. THIS IS A ROLE PREVIOUSLY NOT
POSSIBLE UNDER THE ISOLATIONIST POLICIES OF ((MAO))
AND HIS RED GUARD ZEALOTS.

MSGNO 5 (MIIR) RSB ♦22/03/88♦ ♦05:09♦
COMMENTS: 1. ~~(C)~~ (b)(1),(b)(3):10 USC 424,1.4 (c)

2. ~~(C/NF)~~ (b)(1),1.4 (c)
END OF MESSAGE ~~CONFIDENTIAL~~

~~********~~ SECTION 3 ~~>>>>>>>~~
SERIAL: (U) IIR (b)(3):10 USC 424
PASS: (U) (b)(3):10 USC 424,(b)(3):50 USC 403-1(i)
COUNTRY: (U) CHINA (CH); ISRAEL (IS); IRAN (IR);
JORDAN (JO); IRAQ (IZ).
SUBJECT: IIR (b)(3):10 USC 424 CHINESE ARMS SALES (U)

(b)(1),(b)(3):10 USC 424,1.4 (c)

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//COMSOB (b)(3):10 USC 424
PROJ:
INSTR:
PREP:
ENCL: (U) 1 ENCLOSURE TO FOLLOW. PAPER TITLED "THE YEAR OF THE SILKWORMS, CHINA'S ARMS TRANSACTIONS," 1987, IN ENGLISH, 57 PAGES (U).
ACQ: (U) (b)(3):10 USC 424,(b)(3):50 USC 403-1(i)
DISSEM: (U)

SENT TO: DEFENSE INTELLIGENCE AGENCY, ATTN: (b)(3):10 USC 424 (b)(3):10 USC 424 (W/ ENCL).
WARNING: REPORT ~~CLASSIFIED C O N F I D E N T I A L~~ --
COMMENTS PARA 2 ~~NOT RELEASABLE TO FOREIGN NATIONALS.~~
DECL: ~~OADR~~
END OF MESSAGE ~~CONFIDENTIAL~~
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ADDENDA

(b)(3):10 USC 424

UNCLASSIFIED

THE YEAR OF THE SILKWORMS:
CHINA'S ARMS TRANSACTIONS, 1987

Encl 1 to
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(b)(3):10 USC 424

Yitzhak Shichor
Department of East Asian Studies
Department of Political Science

The Harry S. Truman Research Institute
for the Advancement of Peace

The Hebrew Unniversity of Jerusalem

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UNCLASSIFIED

Paper presented to the Workshop on PLA Affairs in 1987

Sun Yat-sen Center for Policy Studies
National Sun Yat-sen University
Kaohsiung, Taiwan, March 4-6, 1988

(b)(3):10 USC 424

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THE YEAR OF THE SILKWORMS: CHINA'S ARMS TRANSACTIONS, 1987

Yitzhak Shichor

After almost a decade of concealed yet dramatic expansion, China's arms transfer program reached its climax in 1987, not so much in terms of actual deliveries but much more in terms of international exposure and impact. Implementing decisions reached as early as December 1978, this program had already gathered momentum by the mid-1980s, only to be given a further boost since late 1986. By 1987, the results of this newly launched arms export drive have been in evidence. China negotiated new arms deals while honoring previous commitments, notwithstanding some international protests; increased its participation in international arms exhibitions; and unveiled newly designed or upgraded military equipment based, for the first time, on joint projects with foreign companies and on international co-operation.

Arms Transfers

After years of providing arms free of charge, mostly to its three Asian buffer states (North Korea, North Vietnam and Pakistan) the Chinese tentatively began to sell arms in 1979. Motivated more by economic and technological considerations and much less by ideological or strategic ones, China's pragmatic post-Mao leaders used the eruption of the Iran-Iraq war, in September 1980, to enter the international arms market.[1] By 1985 China had already become the sixth most important military exporter in terms of value (Table 1), reaching the fifth position in 1986. For the period 197[illegible]

value of these exports is estimated at US$ 7 billion, perhaps more (Table 2).

These figures, however, do not reflect the actual dimensions of China's arms transfer program not only because precise figures are hard to come by, but primarily because Chinese military hardware is so much cheaper. Thus, for certain items China occupies a higher position on the scale of major arms suppliers. In 1981-85, for example, China was the fourth supplier of supersonic combat aircraft and armored personnel carriers; the third supplier of field artillery; and the second supplier of tanks, missile attack boats, submarines and anti-air artillery (Table 3). In addition to that, China supplied huge amounts of ammunition, spare parts, explosives and light weapons, as well as overhauling and maintenance services - all of which are very difficult to evaluate.

In the past, most of these weapons had been delivered to East, South and Southeast Asia. Since the early 1980s, however, China's arms export drive has been directed primarily, though not only, at the practically insatiable Middle Eastern markets. In 1981-1985, the share of the Middle East in China's arms transfers was nearly 80% (and that of Iraq alone, 57%). Of China's seven best clients, five are Middle Eastern and six are Islamic (see Table 4 and Table 5). This trend has continued in 1986 and 1987, though the Chinese have tried to diversify their arms markets.

It was Premier Zhao Ziyang himself who signalled the importance of China's future arms transactions. Speaking on 7 November 1986 at the international military exhibition, held for the first time in

Beijing, he stressed, also for the first time, that while developing weapons and technology through self-reliance, the PRC will increase its arms trade with foreign countries.[2] Indeed, in the following months a number of negotiations, transactions and actual deliveries have been reported, not all of the same significance.

In late 1986, for example, 20 Chinese experts were sent to Egypt to supervise the construction, based on Chinese designs, of three production lines for Soviet-modelled military equipment and spare parts, mainly for tanks and armored vehicles.[3] In early 1987, Brazil confirmed that its Air Force was considering the acquisition of Chinese F-7M Airguard fighters (see Figure 1). Whereas XINHUA reported later that negotiations were progressing smoothly, Brazilian pilots who tested and evaluated the aircraft have been more cautious.[4] Chile also revealed an interest in buying about 25 Chinese F-7 (J-7) fighters. Negotiations, which had been under way for some time, reaching their climax in October 1987, centered on a barter arrangement.[5] In May it was reported that China had sold Libya military equipment valued at US$ 12 million in the past year. At a weekly press briefing China's Foreign Affairs Ministry Spokesman could not deny the deal, saying: "I am not clear about this matter."[6] Throughout 1987, however, the Chinese did firmly deny selling arms to Iraq. Yet, reports published in June 1987 said that over the past few months Iraq had received a number of Chinese arms shipments, which completed a "large order". The last shipment allegedly included four B-6 (Hong-6) bombers (Figure 2), as well as 30 "Silkworm air-launched missiles".[7] These, however, have been rather small transactions. Of a different magnitude, and

wider implications, have been China's arms transfers to Thailand, and even more so to Iran.

China's most publicised, though least profitable, arms deal in 1987 was signed with Thailand on 1 May.[8] Allegedly made two years earlier, the offer was now renewed by Yang Deshi, then China People's Liberation Army (PLA) Chief of the General Staff, during his visit to Bangkok in mid-January 1987. The deal covered 50-60 Type-69II main battle tanks (MBTs), manufactured in a modern, computer-controlled series of seven factories near Baotou, in Nei-Monggol, where they undergo lengthy and severe tests. According to Wetsern officials Thailand would buy 30 for immediate delivery, keeping an option of 70 more, 100 altogether (Figure 3). Also included in the deal was an unspecified number of 130mm Type-59 Field Guns (18 had already been given as a gift, Figure 4) as well artillery shells, and "large numbers" of 37mm Twin Anti-Aircraft Automatic Guns (?Type-65, Figure 5). Reportedly, Thailand was also interested in Chinese HN-5 portable shoulder-fired low-altitude heat-seeking anti-aircraft missiles (modelled on the Soviet SAM-7, Figure 6), as well as in bridgelayers (Figure 7) and 400 Armored Personnel Carriers (APCs), probably Type YW531H (Figure 8).

For a change, China's arms sales to Thailand had little to do with economics, but much to do with strategy. These arms supplies were to be deployed, as in the past, to buttress the Thai defences along the eastern border with Kampuchea, and to be operated mainly against Vietnamese troops, not necessarily by Thailand. To gain such an advantage, China agreed to sell its arms to Thailand at "friendship prices". Valued at US$ 77 million (according to other

sources, 90). the deal was cut-priced Baht 238 million, less than US$ 10 million. Moreover, Bangkok was given a 10-year grace period before repayment, in instalments, was to begin. Some sources even said that no money would be paid at all as the arms would probably be bartered against rice. Allegedly, the Chinese also agreed to withdraw their support from Communist insurgents operating against the Thai Government.

Bent on cutting down defence expenditures and diversifying its sources of military supply - in the face of Vietnamese hostility - the Thai Government could not but welcome the Chinese deal as an irresistible bargain. And a prompt one too. By September the first delivery has already been received. Neither government has had any reason to hide the deal, something which cannot be said about the Sino-Iranian transactions.

Notwithstanding its consistent denials, Beijing has become one of Iran's major arms suppliers. Started as early as 1981, on a relatively modest scale, these supplies were given a boost in 1984. In March (or May), the PRC and Iran signed a US$ 1.6 billion deal with another US$ 1.5 billion deal signed in early 1986, summed up at no less than US$ 3.1 billion.[9] The estimated value of Chinese military hardware delivered to Iran was in excess of US$ 1 billion in 1986, with additional US$ 400 million in the first seven months of 1987 (some 40% of Iran's annual arms acquisition bill).[10]

The first deal provided for 200 (much less according to other sources) F-6 (J-6) fighters (Figure 9), 200 Type-59 tanks (Figure 10) as well as unspecified numbers of field artillery and shells (122mm and 130mm, Figures 11, 4), multiple 107mm and 122mm rocket

launchers (Figures 12-13), and surface-to-air missiles. The second deal included some 180 F-7 (J-7) fighters (Figure 14), 180 Type-69 tanks, and the notorious Silkworm missiles.[11] Known in China as HY-2 (Hai Ying, or Sea Eagle), this version is a surface-to-ship missile modelled on the Soviet Styx family (Figure 15).[12] China was said to have supplied Iran also with about 100 C-801 surface-to-surface and anti-ship missiles;[13] with 36 "fishing" boats, used for interfering with the shipping in the Gulf;[14] and with four munitions and artillery plants, worth US$ 750 million.[15] In addition, China was said to have offered Iran technological assistance and expertise to licence-produce Chinese surface-to-surface missiles, the 40-miles range version (a modified Soviet Frog), and the 180-miles range version (a modified Soviet Scud B).[16] The pick of these weapons has been controlled and operated by the Pasdaran - the elite Islamic Revolutionary Guards Corps.[17]

Supply Routes

Chinese military equipment have usually reached foreign customers in five different ways, sometimes combined. Depending on the case, weapons could have been delivered directly, delivered indirectly, assembled locally, produced locally, or captured.

Direct deliveries are the simplest way, as long as the clients are not at war with each other. Thus, Chinese military supplies to North Korea, Egypt, Pakistan, and recently to Thailand, have been shipped directly by freighters. On the other hand, arms sales to countries at war, particularly Iran and Iraq, have been firmly and

consistently denied by the Chinese. None the less, a good deal of evidence, mostly from American and Arab sources, suggests that the Chinese have delivered arms directly to countries involved in war. Iran provides the best example. China's two main destinations of direct arms shipments to Iran have been the principal naval base of Bandar-e 'Abbas, in the Strait of Hormuz, and the port of Chah Bahar, some 80km from the Pakistani border (see Map 1).[18]

Indirect deliveries are more complicated and elusive. China as well as Iran and Iraq have reiterated that Chinese arms have been acquired - if at all - through third parties. Ma Yuzhen, China's Foreign Ministry spokesman firmly denied that China had sold arms to Iran or Iraq, but added: "the international arms market is very complicated. Therefore, we have no way of finding out how other countries procure their weapons from this market." However, he declined to comment on whether China would take action to prevent Chinese-made weapons from reaching Iran (or Iraq) through indirect channels.[19] Other Foreign Ministry officials frequently repeated these explanations, which to a certain degree represent the truth, though not the whole truth. Small amounts of Chinese weapons could have indeed been procured from non-Chinese sources without China's knowledge, let alone approval. Yet the evidence suggests that, in view of the quantities and sophistication of the weapons involved, Beijing had not only prefigured the final destinations of its arms deliveries, but must have negotiated with possible "third parties" either on its own initiative, or on their's.

Pertinent examples have been Egypt, Saudi Arabia, and particularly Jordan, all of which provided channels - and perhaps funds -

for Chinese military equipment delivered to their ally - Iraq. In October 1980, barely a month after the outbreak of the Iran-Iraq war, press reports said that Aqaba was being used to offload arms supplies to Iraq. Disclaiming these reports, Jordanian authorities made it clear, however, they had no objection to Iraq importing arms through Jordan. Indeed, it was later reported that Chinese military hardware had been shipped to Iraq through Aqaba and that at least 30 F-6 (J-6) fighters (apparently from Egypt) were being assembled at the King Faysal Air Base, near al-Jafr, in southern Jordan.[20] An additional indication for the Jordanian link is the incredible swell of Chinese exports to Jordan. Since 1981 Jordan has become Beijing's fourth largest market (following Hong Kong, Japan and the United States), and since 1984, the fifth (outranked by Singapore). The massive difference between the dramatically-increased volume of exports to Jordan, as reported by China, and the considerably smaller volume of imports from China, as reported by Jordan, indicates that a good deal of China's exports have been re-exported to a third country, most likely Iraq.

Similar methods, though different intermediaries, have been used by the Chinese for supplying arms to Iran. To begin with, China might have been using foreign flagged ships or, according to Western diplomatic sources, companies or businessmen in Hong Kong and even Singapore.[21] Other possible intermediaries, perhaps for surface-to-surface missiles, might have been Syria and Libya.[22] Further, on 28 October 1987, Pakistan signed an agreement allowing Iran to use Karachi and Port Qasim (about 50km west of Karachi) to import up to 2 million tonnes of goods. Additional arrangements

were made to operate a rail service between Teheran and Quetta, as well as to speed up the establishment of the joint Iran-Pakistan Shipping Company. And, the Turkish Minister of State was quoted by Iran's official Islamic Republic News Agency as saying his country would not agree to any US-led sanctions against Iran: "Not only will Turkey not join the embargo, but it will always share in solving Iran's problems because we are neighbours and have special, long-lasting relations."[23] But China's most important channel for providing arms to Iran has been North Korea (see Map 2).

Having launched large-scale military transfers to Baghdad, the Chinese seemed reluctant at first to deal with Iran, least of all directly. China's reluctance, and perhaps advice, turned the Iranians to North Korea. Since 1981 they have been supplied with large arms deliveries from Pyongyang, including 150 T-62 tanks, 400 artillery pieces, 1000 mortars, 600 anti-aircraft batteries, 12,000 machine guns and rifles, as well as ammunition. The value of this equipment is estimated at more than US$ 1 billion, with arms worth US$ 250 million delivered in the first seven months of 1987. These deliveries account for 25% of Iran's arms acquisition bill, making North Korea Iran's second largest supplier.[24]

Although an arms manufacturer itself, North Korea could have hardly spared such quantities of military hardware out of its own reserves.[25] More likely, at least part of these supplies had inevitably originated in other countries, obviously the Soviet Union and even more so - the PRC. To begin with, China permitted Iranian transporters carrying military supplies from North Korea to make a stopover on its territory or use its air space. Furthermore, since

1982 Beijing began accelerating its arms shipments to North Korea, possibly to meet its commitments to Iran. Yet, Pyongyang's growing profits made Beijing rethink the situation and by 1983 China began to deal directly with Teheran. Nevertheless, both US and Arab misgivings forced the Chinese to re-activate the North Korean intermediary. Thus, in January 1988 it was reported that US intelligence officials were monitoring an Iranian freighter that left North Korea, carrying a shipment of Chinese-made Silkworm missiles.[26]

To be sure, while firmly denying having received these weapons from China, Iranian officials did not deny having them. They have reiterated that Chinese-made Silkworms had been captured from Iraq (probably during the occupation of the Faw Peninsula, on 9 January 1986), and then reproduced and even "modified".[27] Other Chinese weapons have reportedly been reproduced or assembled in Iran (some at least, with Chinese approval if not actual assistance). These might include surface-to-surface missiles, artillery and munitions (see above), and even a "modified version" of China's F-7 fighter, "successfully test-flown".[28]

Suppliers

These deals have been signed by a number of agencies, rather than by the government directly. The structure and organization of the Chinese military industries have undergone a number of modifications since the late 1970s.[29] By 1987, however, a new system had already been running for half a decade, though with some friction. Supervised and co-ordinated by the respective ministries, commis-

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sions or companies, all military exports (and imports) are being handled mainly by eight organizations.

The best known, NORINCO (China North Industries Corporation), is a large, comprehensive industrial enterprise combining military and civilian production, manufacturing as well as trade. Under its headquarters in Beijing it has seven branches in Guangzhou, Shenzhen, Shanghai, Dalian, Xiamen and Zhangjiang, as well as several offices and subsidiaries abroad. NORINCO has hundreds of factories located all over China and dozens of research institutes and universities. Its products fall into four categories: mechanical products; chemical products; high precision machinery and optical-electronic products; and armament. Armament includes tanks and armored vehicles; artillery guns; firearms; amunitions; fire control systems; laser, infra-red and visible light equipment for military use; military engineering equipments; and other military products.[30]

The other organizations dealing with military exports include CPMIEC (China Precision Machinery Import-Export Corporation), for tactical missiles; CGWIC (China Great Wall Industry Corporation), for strategic missiles, satellites, special vehicles, etc.; CATIC (China Aviation Technology Import-Export Corporation), for various types of aircraft; CSSC (China State Shipbuilding Corporation) for naval vessels; CEIEC (China Electronic Import-Export Corporation), for electronic devices; and CNEIC (China Nuclear Energy Industrial Corporation), for nuclear weapons. Finally, one of the prominent arms transactions organizations is POLY Technologies Inc. Created in late 1983, it is the exclusive agent for marketing surplus PLA

equipment abroad. Taken from existing reserve stocks, most of this equipment is brand new and includes all military models offered by the other corporations.[31]

Originally more strictly supervised, all these organisations now proclaim to be independent. Indeed, by 1987 they reached their highest degree of autonomy, irritating not only their supervising bureaucracies but Foreign Ministry-spokesmen as well. China Xinshidai ("New Era") Company provides an example. Set up in 1980, it was intended to plan and co-ordinate the import and export (though not manufacturing) activities of all the other corporations.[32] Its authority and responsibilities, however, have not been clearly defined. Therefore, although it acts on behalf of the National Defense Science, Technology, and Industry Commission - China's top military procurement organization - its relations with the "supervised" corporations have always been sensitive, and have recently become strained. For one reason, Xinshidai is a political control and surveillance mechanism, aimed at demarcating the liberties and restraining the enthusiasm often displayed by its supervised corporations. For another, Xinshidai is ideally suited for marketing package deals offering equipment which is produced and can be sold separately. It would much like to play a role of a State Holding Company, Western style. "But the corporations do not necessarily share this goal; being now responsible for their own financial results and for the welfare of millions of employees, they see litte need for a bureaucratic control organism above their heads."[33] Put differently, they still prefer to market their products independently and, of course, pocket the profits.

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A tendency toward greater independence is also evident in the corporations' relations with their supervising ministries. Here, NORINCO provides a good example. From May 1982 to December 1988 it was controlled by the Ministry of Ordnance Industry (before that, by its predecessor, named the Fifth Ministry of Machine Building). Zou Jiahua, the Minister,[34] and his Deputy Tang Zhongwen, have simultaneously been NORINCO's Chairman and Vice-Chairman, both elected full members of the Chinese Communist Party's 12th Central Committee. In December 1988, the Ministry of Ordnance Industry as well as the Ministry of Machine Building Industry, were abolished. Zou Jiahua was made Minister in charge of the new Machine Building Industry Commission which now controls not only NORINCO but also CMIIEC (China Mechanical Industry Import-Export Corporation). "It appears that the new structure is intended to produce better co-ordination of defence and civil industrial activities within the mechanical industry as a whole, as well as a better harmonization of defence and civil programmes within NORINCO."[35] Zou was re-elected to the 13th Central Committee in early November 1987.

For other examples, the Ministry of Shipbuilding Industry has also been dissolved, thus making the CSSC not only a Western-style state-owned concern but, moreover, a ministry-level structure.[36] It is possible that more ministries will disappear following the re-organization expected during the forthcoming National People's Congress (NPC), according to the decisions adopted by the 13th CCP Congress. Though different in its conception, POLY enjoys similar or even greater autonomy. Officially, it is a subsidiary of CITIC (the giant China International Trust and Investment Corporation),

with its offices located at the CITIC Building, 19, Jian Guo Men Wai Street, Beijing. Unofficially, it reports to the PLA Deputy Chief of the General Staff Department.[37] In its four years of existence, POLY quickly and easily managed to gain an advantageous position as a military exporter, outmanoeuvring the other corporations.

Friction among the older corporations has so far been minimal. Since each was deliberately organized to have total authority and responsibility within its own field, for manufacturing as well as marketing, "the current structure is remarkable for the total lack of overlapping and internal competition."[38] That much, however, cannot be said about the relations between these corporations and the recently established POLY, whose arrogant self-confidence is clearly based on its military power base.[39]

> It is easy to understand why the corporations do not particularly love Polytech: the latter is competing with them on the same markets and virtually with the same products. Additionally, Polytech - which counts on exisiting stocks which have already been paid for - can (and often does) underbid the corporations by offering lower prices and shorter delivery times... Although officially Polytech should be engaged only in selling surplus equipment, it appears that it is expanding its activities. If a potential customer approaches Polytech with a requirement for a product which is not available as surplus, he is not always advised to contact the appropriate corporation; rather, the PLA would order the

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equipment from the corporation (at a price it dictates, and prying for it in Chinese money), declare it "surplus" and make it available to Polytech - which will clinch the deal at market prices, and cash the hard currency. Polytech maintains that "this is not the-standard procedure", but admits that "it could happen in special cases".[40]

At the ASIANDEX international defense show, held in Beijing in November 1986, PRC industry representatives admitted they have had to produce equipment at only 30 percent of its market value, only to see the same equipment re-sold to foreign customers by POLY, at the full market rate. Furthermore, at a POLY reception held mainly for Western guests, a Deputy Chief of the General Staff attempted to disrupt direct co-operation between foreign military firms and China's industrial corporations. He actually said that all foreign companies hoping to do business in China in the future should work through the "open window" of POLY Technologies. The next day, an influential Chinese industry official refuted the statement.[41]

One result of this competition is that the other corporations, particularly NORINCO, began to diversify their arms production, introducing new or modified equipment for export only. Competition from POLY in such equipment is unlikely because it is deliberately designed to be incompatible with the PLA's and, therefore, cannot be ordered for POLY which can market only PLA surplus and cannot produce arms. "Needless to say, this diversification is not only areaction to Polytech, but also a very important tool to boost ex-exports and explore new marketing possibilities."[42] (Figure 16).

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Domestic Implications

Underestimated until recent months, China's arms transactions program should be treated by now as much more significant not only domestically, but also internationally. Domestically, arms transactions have come to play a vital role in the Chinese military modernization effort, in terms of money as well as R&D. Accorded the lowest priority among the Four Modernizations, defense can no more count on wholesale governmental expenditures, let alone in foreign exchange. Instead, the military-industrial complex has been told to earn at least part of its own development budgets - through the sale of its products, both military and civilian, both at home and abroad.

This policy of forcing the industry to become more responsible for its own profits, and losses, gives us a clue - though not the complete clarification - as to the final destination of arms sales income. Whereas in the past all income went to the government for re-distribution according to its own planning and priorities, now the government receives only part. But what part? One view is that the largest part of hard currency payments cashed by a corporation goes to the government. "However, the corporation is allowed to deposit a given percentage (dependent on the amount of the sale and on the product[s] involved, but in general somewhere between 5 and 15 per cent) in a special-hard currency reserve account at the the bank of China, available to the corporation to pursue its own projects."[43] Xinshidai Company is then used to channel funds to other corporations to finance their projects.

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Somehow, this scheme does not seem plausible. For one reason, it does not conform to the industrial reform, announced in October 1984, according to which plants have been allowed to keep their profits after paying income tax. Since both military and civilian manufacturing and marketing are carried out by the same plants and corporations, it is unlikely that they could keep most income from civilian goods - but not from military. For another, it does not conform to the fierce competition among the trade corporations and between them and POLY. A 5 to 15 percent reserve account is not a sufficient incentive for a corporation to exert itself, let alone that the income could finance a competitor's project.

A more plausible scheme would be for the corporations to keep most of their earnings, except for 5 to 15 percent tax or overhead which is paid to the government. Such a scheme would go a long way in explaining the competition, the autonomy and, moreover, the inability, or rather the unwillingness, to plug or even cut down the outflow of military equipment, despite external criticism and even warnings echoed by uneasiness at home. China's defence modernization simply depends on these transactions.

And not merely in terms of money. Arms transfers also provide Beijing with invaluable experience through the testing of its weapons under battlefield conditions, an essential input for R&D that cannot be obtained otherwise. Moreover, in return for its military supplies, China managed to receive samples of more advanced models - primarily from Egypt. These models include not only Soviet-made weapons (like MiG-23 fighters, T-62 tanks, BMP-1 infantry combat vehicles and some tactical missiles), but also Western-made ones.

According to the press, Washington protested to President Mubarak that American military equipment sold to Egypt, was later re-sold to China (as well as to Jordan and to Turkey).[44] Whatever the details, there can be little doubt that arms transfers exposed the Chinese to more advanced military technologies abroad and offered unprecedented opportunities for the retrofitting and the upgrading of their own weapons.

Indeed, it is precisely for this purpose that the Chinese have signed a number of joint projects with Western corporations, since 1986. These projects are closely related to the issue of military transfers: some of them have been mediated through China's clients while most of them are geared to export. It is for this reason, in fact, that foreign companies have been interested in collaboration with China. The combination between China's low wages and Western high technology, makes co-operation programs aimed at export much more promising than projects intended for the PLA itself.[45]

Projects aimed at exports were signed by CATIC with GEC (for improving the avionics of the F-7M Airguard fighter), with Lucas Aerospace (for marketing the F-7M) and with Aeritalia (for the development of a new A-5M ground attack fighter).[46] NORINCO signed joint programs with Vickers Defence Systems (for the development of the NVH-1 [NORINCO-Vickers H-1] infantry fighting vehicle, see Figure 17), with the Ordnance Division of FMC (for the development of the NFV-1 [NORINCO-Ford V-1] infantry fighting vehicle, see Figure 18) and with Rex International Development of Hong Kong (for marketing explosives and explosive devices).[47] Another agreement was signed between CSSC (through its trading company) with Racal

Marine Systems. As the Ships Weapons Systems Authority, Racal will be responsible for the total weapon and electronic outfitting of a number of vessels and will combine design, procurement, integration, installation and commissioning of systems - from sources world-wide. This agreement, emphasized Racal's Managing Director, "will provide the world's navies with the ability to purchase highly reliable and very effective warships at a most competitive price."[48]

In some of these joint projects, China's own clients have been instrumental. Though Egypt's China-made F-6 and F-7 fighters have not yet undergone a substantial retrofit (for lack of funds), they have been adapted (jointly with Ford Aerospace) to carry an AIM-9A Sidewinder missile, which enhanced their capability considerably. Also, the F-6s have been equiped with an American F-18 type ejection seat, and the prototype of the new NFV-1 infantry fighting vehicle (just mentioned) was displayed, for the first time, at the military exhibition held in Cairo in November 1987.[49]

Even more so, Pakistan is emerging as China's chief surrogate for armamant production and export, aimed primarily at the Islamic markets. As one of China's main arms customers, Pakistan now feels the need to upgrade its Chinese equipment. China shares this need and both now realize that any further and essential improvement is beyond their capabilities. Consequently, Grumman was commissioned to study a comprehensive upgrade of China's F-7M Airguard fighter. Although the contract was signed with the Chinese Chengdu Aircraft Corporation, the study has been done on behalf of the Pakistanis; their first F-7Ms have been scheduled for delivery in 1987, to be

licence-produced starting 1989 at Kamra, in northwestern Pakistan, where the China-made F-6 fighters (of which Pakistan has more than 170) are being overhauled. This tripartite transaction would not only give the Chinese access to American technology, otherwise inaccessible, but would also earn the PRC (as well as Pakistan) hard currency through increased exports.[50] A similar arrangement has been attempted for updating the Chinese-made Type-59 MBT (of which Pakistan has some 1,100). In January 1987, it was confirmed that Pakistan had transferred five Type-59s to five Western tank manufacturers for upgrading and modernization. The companies have been told to deliver the updated tanks for competitive trials in Pakistan by the summer, so that orders could be placed with one of them for further collaboration and production. They have also been told that the approach had been made on behalf of NORINCO as well. With due Chinese assistance, the Pakistanis have already established a heavy rebuild factory at Taxila, for work on the Type-59 MBTs.[51]

International Implications

Forcing its way into the international arms trade market to become the fifth most important supplier, China must have trespassed into territories once monopolized by the superpowers and their allies. Also, shipping arms almost indiscriminately, even to zones of war, must have irritated both friends and foes in the Third World. Yet, oddly enough, China's extensive arms sales program entailed little reaction from other governments, and none from the superpowers - until 1987. This oversight had not derived from a lack of intelli-

gence. Though arms deals are usually signed in secret, deliveries are difficult to keep concealed. Both have often been reported by the media - with a varying degree of accuracy. If they were dismissed, it was mainly because the Chinese and the quality of their military hardware were not taken too seriously.

This scornful attitude began to change through 1987. For one reason, China managed to upgrade a good deal of its military hardware, though not yet up to the most advanced international levels. China's 1987 weapons, and defence system in general, can no longer be equated with those of 1979, the year of the Vietnam "lesson". For another reason, and more important, Chinese supplies have demonstrated that under particular circumstances, so-called obsolete weapons of even small quantities can be decisive on the battlefield and threaten more technologically advanced powers. Although this has led to some friction in China's foreign relations system, China's profile in world affairs has been enhanced, in regional as well as international terms.

Arms supplies have undoubtedly cemented China's relations with Iran, Pakistan and Thailand but at the same time stimulated misgivings among their neighbors. Vietnam, for example, charged that a Sino-Thai military alliance had been formed, undermining regional stability. Also concerned has been Indonesia, ill at ease that the deal could lead Thailand to over-reliance on China, draw the PRC into Southeast Asian affairs and complicate attempts to untie the Kampuchea imbroglio.[52] Further concern has been caused by China not so much because of the Thai deal, but much more because of the Silkworms deal with Iran, which attracted attention and criticism.

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US intelligence had already known about Iran's decision to buy Chinese Silkworms since mid-1986. In early 1987, while the US was urging China to stop selling them, the first shipment arrived. By March, at least two batteries of three to six missiles each had been deployed along the Strait of Hormuz - one by the major naval base of Bandar-e 'Abbas and the other at Kuhestak, further to the east. Both could easily cork up the narrow bend of the strait, one of the world's heaviest and most sensitive oil traffic routes.[53] A third battery was spotted on the Faw peninsula, seized from Iraq in January 1986 (see Maps 1, 3 & 4). A second shipment arrived in May 1987 and by June it was tested off Bandar-e 'Abbas and scored a hit.

It was also in early June that high US officials firmly warned Iran not to deploy the missiles, least of all activate them. The US National Security Adviser, Frank Carlucci, put it bluntly: "We obviously are displeased that the Chinese are selling these kinds of weapons."[54] This concern was reflected in an interview with Admiral Ronald J. Hays, US Commander-in-Chief, Pacific. He said:

> I'm very worried about the Silkworm. In the hands of the Iranians whose actions are unpredictable, it is a tremendous threat. The Iranians from all indications, are intent upon arraying those Silkworm missiles in a fashion that will make anything afloat a target in all of the Strait of Hormuz and spilling out a little bit into the Persian Gulf as well as the Gulf of Oman. So the Silkworm missile is potentially a very serious escalation in the Iran-Iraq war.[55]

This prophecy was soon to be fulfilled.

A single Silkworm missile, fired from the Iranian-occupied Faw peninsula on 22 October 1987, scored a direct hit on Kuwait's 16km offshore Sea Island oil terminal. Connected to Kuwait's main oil refinery and export center at Mina al-Ahmadi (40km south of Kuwait city), these two deep-water floating berths have been loading one third of Kuwait's total crude export, up to 600,000 barrels a day. This strike was the third in seven days and followed three in September.[56] (See Map 4).

Startled by the Silkworms' "deadly accuracy", the US tried to devise defence measures to shoot them down. Obviously, the Reagan administration was under increasing pressure from congressmen to penalize China by halting US military sales. After the first Silkworms hit US ships, the Senate passed a resolution that called on the administration to review all transfers to China of military-related technology and warn Beijing that its continued selling of missiles may "seriously jeopardize US-China relations". Unfortunately, at the same time another group was ready to liberalize a new technology package to be sold to the PRC. This new offer was now suspended. The State Department announced that "during this period of rising tensions in the Gulf, we have decided not to proceed for now with the review of certain liberlizations of high-technology export controls on the PRC."[57]

While repeatedly denying supplying arms to Iran, China nevertheless told Michael Armacost, US Under Secretary of States, that measures have been taken to prevent Chinese-made missiles entering

the arms market.[58] Whatever these measures, Washington's outcry and penalties have apparently not been too powerful, or convincing enough. China was not offered a substitute for the loss of income, crucial for its defence modernization. Even worse, treated by the US in a magisterial way, Beijing "lost face" in public, something Washington should not have done. Small wonder that by early 1988, arms shipments to Iran have reportedly resumed, adding friction to US-China relations.

China's military supplies to Iran also added more friction to Sino-Arab relations. Egypt, Jordan and Kuwait, Iraq's main Middle Eastern allies, warned China that the Silkworm affair could "turn out to be a setback to the traditionally excellent Arab-Chinese equation". They said that China's denials of the deal lacked the vigor and authority that might have been expected:

> "What really passes comprehension is the apparent equanimity with which [Beijing] ignores these reports and the possible Arab dismay over them... What may well be a sizeable deal of a billion dollars more or less cannot be explained away with a shrug of shoulders, or mere silence with a touch of innocence... An explanation as to how this happened and an assurance it won't happen again, are clearly the minimum called for."[59]

Yet, it has happened again. The resumption of China's arms deliveries to Iran implied that Arab pressure has also failed. As in the American case, the "pressure" has not been overwhelming in the first place. Because of their economic and military relations with China, there are limits to the distance the Arab countries can go

against China. After all, Iraq has also been supplied with Chinese weapons.

In sum, despite some anxiety in the US and the Arab countries, in Vietnam, Indonesia and perhaps India, Beijing's "Great Leap" into the international arms market has paid, literally speaking. Income cannot, however, be measured only in terms of hard currency. Also, and of greater importance, has been China's increasing impact on international affairs. Following years of Maoist self-imposed isolation, and a few years of post-Mao hesitation and reluctance, the Chinese seem to have made up their mind to begin and play the role of a self-confident great power that can no longer be ignored.

NOTES

1 For a background survey and analysis see Yitzhak Shichor, "The Middle East," in: Gerald Segal and William T. Tow (Eds.), Chinese Defence Policy (London: Macmillan, 1984), pp. 263-278; Yitzhak Shichor, "Chinese Arms Sales: Some Domestic and International Implications," unpublished paper delivered at the 20th European Conference, International Peace Science society, University of Kent, September 1985. See also Anne Gilks and Gerald Segal, China and the Arms Trade (London: Croom Helm, 1985).

2 XINHUA, 7 November 1986, in Foreign Broadcast Information Service, Daily Report-China (FBIS-CHI), 10 November 1986, p. K 13.

3 Al-Ra'y al-'Amm (Kuwait), 13 January 1987, based on sources in the Egyptian Defence Ministry.

4 Jane's Defence Weekly (JDW), 28 February 1987, p. 309; XINHUA, 8 April 1987, in FBIS-CHI, 9 April 1987, p. J 3; Aviation Week and Space Technology (AWST), 20 April 1987, p. 13.

5 "Chile Set to Purchase Chinese F-7s," JDW, 28 November 1987, p. 1248.

6 Washington Post, 3 May 1987 and al-Musawwar (Cairo), 15 May 1987. For the Chinese reaction: AFP (Hong Kong), 6 May 1987, in FBIS-CHI, 6 May 1987, p. A 1.

7 Washington Post, 25 June 1987. The aircraft is probably the newly developed B-6D (essentially a Tu-16 bomber known in the West as Badger), equipped with two anti-ship missiles, an aiming control system, an automatic navigation bombing system and a new type radar. XINHUA, 12 January 1987, in FBIS-CHI, 14 January 1987, p. K 9. It is built, rather slowly, at the Xian Aircraft Company and its WP8 engine--at the Xian Engine Company. "Plant Expansions Underscore China's Aviation Commitment," AWST, 21 December 1987, p. 55. The missiles reported could be the HY-4 (Hai-Ying, or Sea Eagle, known in the West as Silkworm). The more recent HY-4 is basically similar to the HY-2, but can be air launched and has some significant differences. In fact, the B-6D is known to carry two C-601 Air-to-Surface missiles, available for export. For details see, Jim Bussert "Chinese Missile Designs Increasing," JDW, 8 November 1986, p. 1098; Christopher F. Foss, "Missile Developments in the Chinese Army," JDW, 17 January 1987, p. 69.

8 Information about the Sino-Thai deal is based on the following: "China-Thai Armour Deal," JDW, 7 February 1987, p. 180; "'Friendship' Arms Sales," Far Eastern Economic Review (FEER), 19 March 1987, pp. 15-16; "Thai Army in Chinese Tank Deal," JDW, 21 March 1987, p. 467; "Thailand and China Sign

Arms Agreement," JDW, 16 May 1987, p. 930; "Full of Eastern Promise," International Defense Review (IDR), 5 (1987), p. 663; Pacific Defence Reporter (PDR), May 1987, p. 30; "Thailand Cuts Deal on Chinese Weapons," IDR, 6 (1987), p. 715; Michael Richardson, "Thailand's Bargain Buy, but Indonesians Wonder Why," PDR, August 1987, pp. 5-7; "Thailand's Chinese Arms," JDW, 19 September 1987, p. 578.

9 Thalif Deen, "Iran - Meeting Its Arms Requirements," JDW, 28 November 1987, pp. 1276-1277. Richard Harewood and Don Oberdorfer, "China Is Iran's Chief Source of Weapons, U.S. Officials Say," International Herald tribune (IHT), 27 August 1986.

10 PDR, November 1987, p. 38; Middle East Economic Digest (MEED), 15 August 1987, p. 9; China's anual military supply to Iran is estimated at more than US$ 1 billion, out of Iran's estimated annual military spendings of US$ 2.1 billion. "China's Sales to Iran," JDW, 7 November 1987, p. 1043.

11 FEER, 5 November 1987, p. 34; James Bruce, "Iran Steps Up Cover of Hormuz with Chinese-Supplied Styx," JDW, 20 March 1987, p. 531; AFP, 27 May 1987; Jim Bussert, "Iran's Silkworm in the Gulf," JDW, 6 June 1987, p. 1113;

12 Manufactured by the China Precision Machinery Import and Export Corporation, the Silkworm has been exported only since 1984. According to a [illegible] brochure, the 7.48m mis-ile is powered by a liquid rocket motor, carrying a 380kg warhead with an effective range of 20 to 95km, flight height of 100-300m and speed of 306m/sec.

13 "Iran Has 100 Chinese C-801 Missiles," JDW, 7 November 1987, p. 1024; al-Ittihad (UAE), 18 December 1987.

14 Keyhan (London), 18 December 1987.

15 Al-Musawwar (Cairo), 3 July 1987.

16 The Observer (London), 29 March 1987; Vahe Petrossian, "Iran Stocks Up Its Armoury," MEED, 2 May 1987, p. 11; IDR, June 1987, p. 715; Thalif Deen, op. cit., p. 1277.

17 James Bruce, "IRGC - Iran's Shock Troops," JDW, 24 October 1987, p. 960.

18 For example, al-Qabas (Kuwait), 30 May 1987 said that Iran's Silkworm missiles had been received directly from China. See also, REUTER (Washington), 12 January 1988; AP (Washington), 13 January 1988; New York Times, 13 January 1988; "China's Sales to Iran," JDW, 7 November 1987, p.

19 AFP (Hong Kong), 5 August 1987, in FBIS-CHI, 6 August 1987, p. A 2. In an NBC interview, Premier Zhao Ziyang did not concede that Iran has acquired Chinese weapons, either directly or indirectly. "Up to now", he said, "I still do not believe that the missiles Iran has are Chinese missiles... acquired through other channels." But he then added: "If a country has the money and is willing to offer a high price, there will be no difficulty for this country to find channels in which it can acquire weapons." Washington Post, 27 September 1987.

20 William Lee, "Aqaba Copes with Increased Traffic," MEED, 10 October 1980, p. 20. Washington Post, 13 January 1983; al-'Alam (London), 27 August 1987; Clarence A. Robinson, Jr., "Iraq, Iran Acquiring Chinese-Built Fighters," AWST, 11 April 1983, p. 16.

21 Al-Jazira (Riyad), 15 May 1987; AP (Beijing), 17 June 1987; Bengt Albons, "We Are Not Selling 'Silkworms'" (Interview with PRC Deputy Foreign Minister Qi Huaiyuan), Dagens Nyheter (Stockholm), 15 November 1987, p. 1, in FBIS-CHI, 19 November 1987, p. 1.

22 Keyhan (London), 3 October 1985, pp. 1, 14, in Joint Publications Research Service, Near East and Africa Report (Washington), 19 December 1985, p. 193. This report conforms with a sudden jump in Chinese exports to Syria from US$ 72 million in 1982 to 166 in 1983, and to 343 in 1984. Chinese exports to

Libya also jumped from US$ 50 million in 1980, to 126 in 1981, and to 168 in 1982.

23 MEED, 7 November 1987, pp. 25, 36. China's exports to Turkey jumped from US$ 2 million in 1984 to 70 in 1985.

24 Thalif Deen, op.cit., pp. 1276-1277; MEED, 15 August 1987, p. 9; Jack Anderson, "North Korea Helps Iran Prepare for Terrorist Attacks on Free World," Florida Today, 3 February 1986, p. 9A; Bradley Hahn, "Dilemma for the Mavericks of Pyongyang," PDR, July 1987, p. 19. See also, Husain Haqqani, "Comrade 40%: Pyongyang Arms for Iran," Arabia, The Islamic World Review, No. 30 (February 1984), p. 17.

25 See, Paek Hwan-gi, "The Armament Industry of North Korea," Vantage Point (Seoul), Vol. V, No. 3 (March 1982), pp. 1-10, and No. 4 (April 1982), pp. 1-11; Joseph Bermudez, "New North Korean Weapon Systems," JDW, 7 November 1987, pp. 1059-1061.

26 MEED, 9 January 1988, p. 16; New York Times, 13 January 1988. REUTER, AP, AFP (Washington), 13 January 1988.

27 For example, Alaedin Broujerdi, Iran's Ambassador to Beijing, AFP (Hong Kong), 14 August 1987, and Ali Mohammed Besharati, Iran's First Deputy Foreign Minister, REUTER (Beijing) 13 September 1987. Needless to [illegible] officials categorically denied these allegations.

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28 The Independent (London), 7 November 1987; "Iran Test-Flies F-7 Fighter," JDW, 14 November 1987, p. 1097. See also note 15, 18 above.

29 For earlier surveys see: Harlan Jencks, "The Chinese 'Military-Industrial Complex' and Defense Modernization," Asian Survey, Vol. XX, No. 10 (October 1980). Sydney Jammes, "China," in: Nicole Ball and Milton Leitenberg (Eds.), The Structure of Defense Industry (London: Croom Helm, 1983); Sydney Jammes, "Military Industry," in: Segal and Tow, Chinese Defence Policy, pp. 117-132.

30 From a brochure, NORINCO, Brief Introduction.

31 Bai Si Yeng, "Understanding the Chinese Defence Industry," Military Technology, No. 3 (1987), p. 47. Iran reportedly bought much of its Chinese military equipmet from POLY. See Wen Yixiao, "How China Sold Weapons to Iran," Cheng Ming (Hong Kong), No. 122 (1 December 1987), p. 17, in FBIS-CHI-87-229 (30 November 1987), p. 8. Poly's appropriate Chinese name is Baoli ("protect the interests"). See also, AWST, 13 July 1987, p. 112.

32 Xu Mingzhen, "China Xinshidai Company," China's Foreign Trade, No. 12 (1984), p. 12.

33 Bai, p. 43.

34 Zou Jiahua was Deputy Director of the National Defense Industry Office since September 1974, and after the National Defence Science, Technology, and Industry Commission was created in August 1982, he became its Vice Chairman.

35 Bai, p. 42.

36 CSSC has more than 26 shipyards and dockyards, 60 marine equipment factories and 30 research and design institutes. It produces and trades in military and civil ships, offshore exploration equipment, electronics and other products. JDW, 12 September 1987.

37 Bai, p. 47.

38 Ibid., p. 42.

39 For example, China's Ministry of Foreign Affairs did not agree with POLY's arms deals with Iran, but the company ignored this objection. Wen Yixiao, "How China Sold Weapons to Iran."

40 Ibid., pp. 47, 49.

41 Bob Furlong, "ASIANDEX Part 1 - China Launches Defense Export Drive," IDR, No. 1 (1987), p. 25.

42 Bai, p. 49. One example is NORINCO's new towed 155mm gun/howitzer, designated Type WAC 21, which is not a standard Chinese calibre and was originally intended only for export. More details in Christopher F. Foss, "China Develops 155 mm Towed Artillery," JDM, 4 October 1986, p. 707, and IDR, January 1987, p. 24.

43 Ibid., pp. 43-44.

44 Al-Ra'i al-'Am (Kuwait), 16 December 1986. For details about China's acquisition of advanced Soviet models through Egypt see, Shichor, "The Middle East," pp. 271-272.

45 Roger N. Sullivan, "The Sale of Defence Products to China: An Appraisal," Military Technology, July 1986, pp. 81, 83.

46 For details see, Military Technology, November 1986, p. 125; Mike Howarth, "Combat Aircraft Upgrades for Smaller Air Forces," IDR, February 1987, p. 164; "The Sino-Italian A-5M," IDR, August 1987, p. 1050; Bob Furlong, "The Dragon Takes Off, Slowly. An Assessment of the Chinese Air Force," IDR, September 1987, pp. 1066-1068; Nick Cook, "Ultimate Upgrades," JDM, 19 December 1987, pp. 1429-1433.

47 For details see, Wehrtechnik (Bonn), April 1986, p. 57; Sunday Morning Post (Hong Kong), 19 October 1986; Military Technology, November 1986, pp. 11, 12; IDR, January 1987, p. 24;

Christopher F. Foss, "China's Light Armoured Vehicles," JDW, 18 April 1987, pp. 720-721; JDW, 31 October 1987, p. 995.

48 Tony Banks, "Racal Signs SWSA Agreement with China," JDW, 12 September 1987, p. 499. See also, "China's Shipbuilding Export Potential," JDW, 17 October 1987, p. 879.

49 Nick Cook, "Egypt Aiming at Arab Arms Market," JDW, 28 November 1987, p. 1255; "NFV-1 Prototype in Egypt for Mobility and Firing Trials," JDW, 31 October 1987, p. 995; Middle East News Agency, 10 July 1987.

50 "Pakistan Shows Way to Western Arms Market," South China Morning Post, 4 February 1987, p. 5; Mark Daly, "Upgrade Study of F-7M for Pakistan," JDW, 7 February 1987, p. 167.

51 "Pakistan Shows Way"; Selcuk Emre, "Pakistan and Turkey in Tank Modernization Deal," JDW, 19 December 1987, p. 1412; and "Updating Armour World-Wide," ibid., p. 1434.

52 See note 8 above.

53 The US derives 6% of its oil from the Gulf, Japan 61%, Italy 47%, France 32%, Britain 13% and West Germany 8%. PDR, August 1987. In 1985, the Republic of China received 55% of it oil imports from Kuwait (18%) and Saudi Arabia (37%).

54 Washington Post, 7 June 1987.

55 PDR, August 1987, pp. 9, 10, 30.

56 "Missiles in the Gulf," MEED, 24 October 1987, p. 1; Jonathan Crusoe, "Coping with Silkworm Diplomacy," MEED, 31 October 1987, p. 19.

57 "US Team to Combat Silkworm Menace," South China Morning Post, 28 October 1987, p. 19; "Technology Cocooned, US Retaliates against China's Sale of Silkworm Missiles," FEER, 5 November 1987, p. 34.

58 "China Halts Arms to Iran," JDW, 28 November 1987, p. 1257.

59 Kuwait Times, 18 June 1987. See also, October (Cairo), 31 May 1987; al-Ra'y al-'Amm (Kuwait), 11 August 1987.

TABLES

Table 1

Value of Arms Transfers, 1981-1985

(by major suppliers, in millions of current dollars)

Supplier	Value	Share
1. Soviet Union	55,790	29.6%
2. United States	49,270	26.2%
3. France	19,265	10.2%
4. United Kingdom	8,765	4.7%
5. West Germany	7,810	4.0%
6. China	5,470	2.9%
7. Italy	4,925	2.6%
8. Poland	3,905	2.1%
9. Czechoslovakia	3,255	1.7%
10. Others	29,975	15.9%
Total	188,230	100.0%

Source for all tables: on U.S. Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers 1986 (Washington, April 1987), p. 43, 143, 151.

Table 2

The Growth of China's Arms Transfers, 1979-86
(in millions of current dollars and in per cent)

Year	Value	Annual Growth	Share in Export
1979	130		0.95%
1980	270	107.7%	1.49%
1981	420	55.5%	1.96%
1982	1,100	161.9%	5.00%
1983	1,600	54.5%	7.20%
1984	1,900	18.7%	7.65%
1985	450	-76.3%	1.65%
1986*	1,000+	122.2%	3.50%
Total	6870		3.67%

* Estimated

Table 3

China's Share in Arms Transfers, 1981-1985

(by number, types and suppliers)

Type	Supplier	Number	Share
Tanks	1. Soviet Union	4,395	31.9%
	2. China	2,180	15.8%
	3. United States	1,624	11.8%
Anti-Air Artillery	1. Soviet Union	1,965	32.9%
	2. China	1,455	24.3%
	3. United States	122	2.0%
Armored Personnel Carrier	1. Soviet Union	6,760	36.2%
	2. United States	4,009	21.5%
	3. France	1,510	8.1%
	4. China	1,000	5.4%
Supersonic Aircraft	1. Soviet Union	1,620	57.0%
	2. United States	394	13.9%
	3. France	215	7.6%
	4. China	200	7.0%
Missile Attack Boats	1. Soviet Union	28	26.3%
	2. China	22	22.2%
	3. France	13	13.1%

Table 4

China's Main Arms Customers, 1981-1985

(in millions of current dollars and per cent)

A. By Region

Region	Value	% of PRC	% of Total	PRC Rank
Middle East	4,325	79.1	5.68	5
Africa	505	9.2	1.84	7
South Asia	420	7.7	4.18	5
East Asia	220	4.0	1.16	7
Total	5,470	100.0	2.90	6

B. By Country

Country	Value	% of PRC (by Region)	% of PRC (of Total)	% of Total	PRC Rank
1. Iraq	3,100	71.7	56.7	12.96	3
2. Iran	575	13.3	10.5	8.94	1
3. Egypt	525	12.1	9.6	7.37	3
4. Pakistan	350	83.3	6.4	15.98	2
5. Libya	320	63.4	5.9	3.10	5
6. North Korea	210	95.5	[illegible]	[illegible]	2
7. Syria	110	2.5	2.0	1.20	3
Total	5,190		94.9		

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Table 5

China's Arms Deliveries, 1976-1985

(by types, numbers and regions)

Types	Numbers			Middle East			Africa		South Asia		East Asia	
	76-80	81-85	76-85	76-80	81-85	Share	76-80	81-85	76-80	81-85	76-80	81-85
Tanks	730	2,180	2,910	-	2,000	92%	65	140	410	40	255	-
Anti-Air Artillery	630	1,455	2,085	65	1,310	90%	235	115	155	30	175	-
Field Artillery	490	780	1,270	45	845	83%	265	80	55	-	125	55
Armored Personnel Carriers	5	1,000	1,005	-	995	99%	-	5	-	-	5	-
Major Surface Vessels	-	2	2	-	2	100%	-	-	-	-	-	-
Other Surface vessels	24	22	46	-	12	55%	6	-	10	10	6	-
Submarines	-	4	4	-	4	100%	-	-	-	-	-	-
Missile Attack Boats	-	22	22	-	6	27%	-	-	-	12	-	4
Supersonic Combat Aircraft	275	200	475	90	95	48%	40	25	85	40	80	40
Subsonic Combat Aircraft	10	-	10	-	-	-	-	-	5	-	5	-
Other Aircraft	180	105	285	-	-	-	10	10	30	80	140	15
Helicopters	10	-	10	-	-	-	10	-	-	-	-	-
Surface-to-Air Missiles	-	100	100	-	30	30%	-	-	-	80	-	20

Source: Based on Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers 1971-1980 (Washington, March 1983), pp. 121-123; and Idem, 1988 (Washington, April 1987), pp. 152-154.

Table 8

The Share of Arms Transfers in China's Export, 1981-85

(in millions of US dollars and by region)

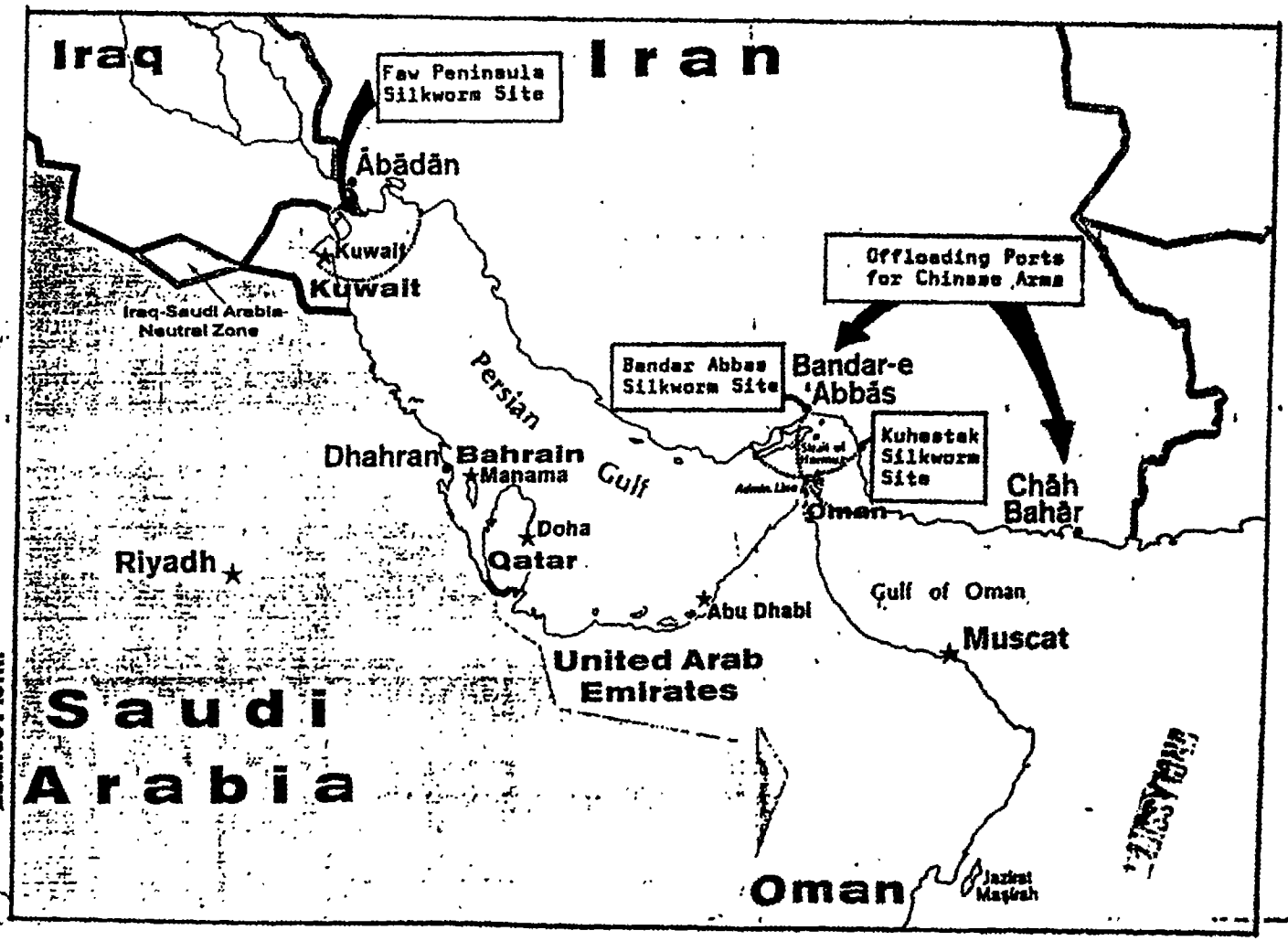
Region	Total Exports	Arms Transfers	Share (%)
Third World [1]	59,637	5,470	9.17
Third World [2]	23,149	5,470	23.63
Middle East [3]	11,914	4,325	36.30
Middle East [4]	12,934	4,725	36.53
Africa [3]	1,908	105	5.50
Africa [4]	2,926	505	17.25
Asia [2]	5,870	460	7.84
Asia [1]	42,358	460	1.08

1 Including Hong Kong, Singapore, Macao.

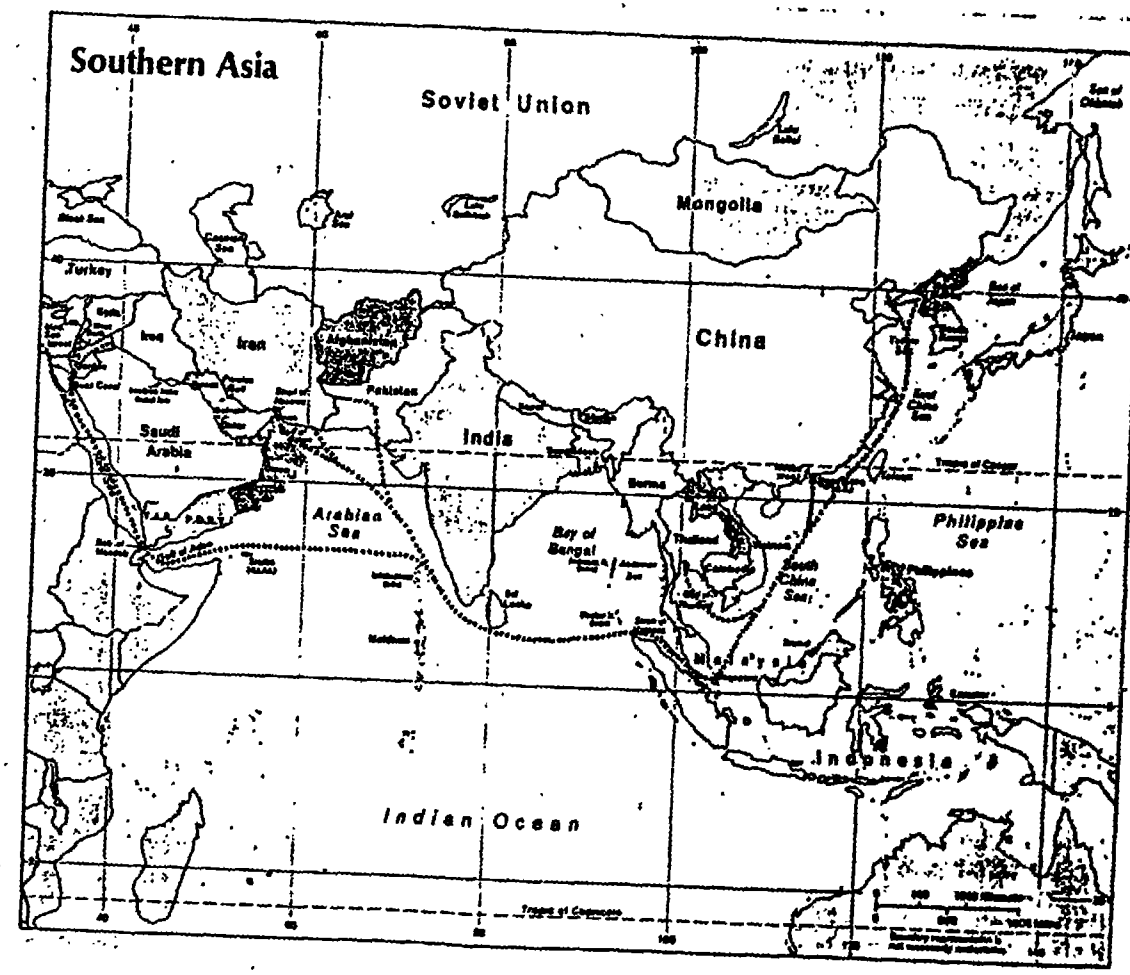
2 Excluding Hong Kong, Singapore, Macao.

3 Excluding Algeria, Morocco, Tunisia, Sudan.

4 Including Algeria, Morocco, Tunisia, Sudan.



Map 1: The Persian Gulf and the Strait of Hormuz - Missile Sites and Arms Unloading Ports.



Map 2: Chinese Arms Supply Routes.

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Map 3: Control of the Strait of Hormuz by Silkworm Missiles.

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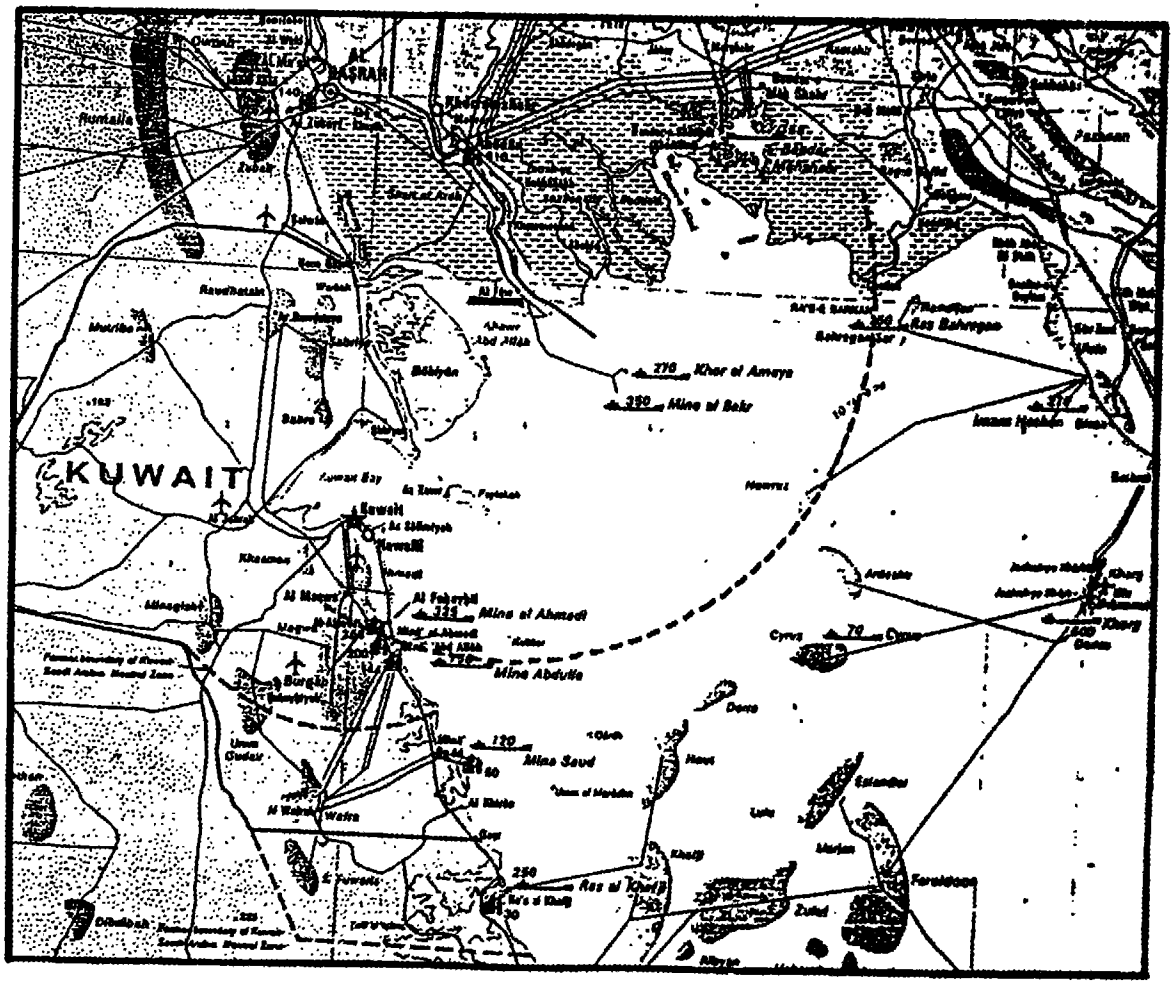
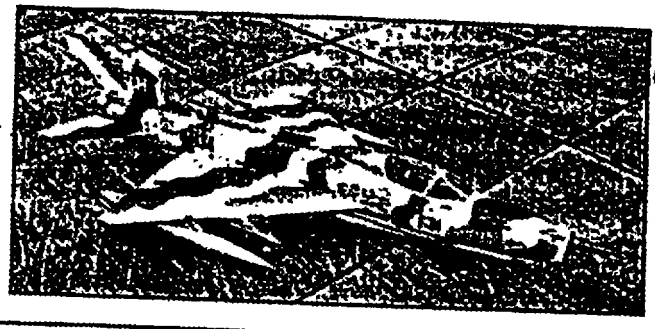


Map 4: Control of Kuwait by Silkworm Missiles from Faw Peninsula.



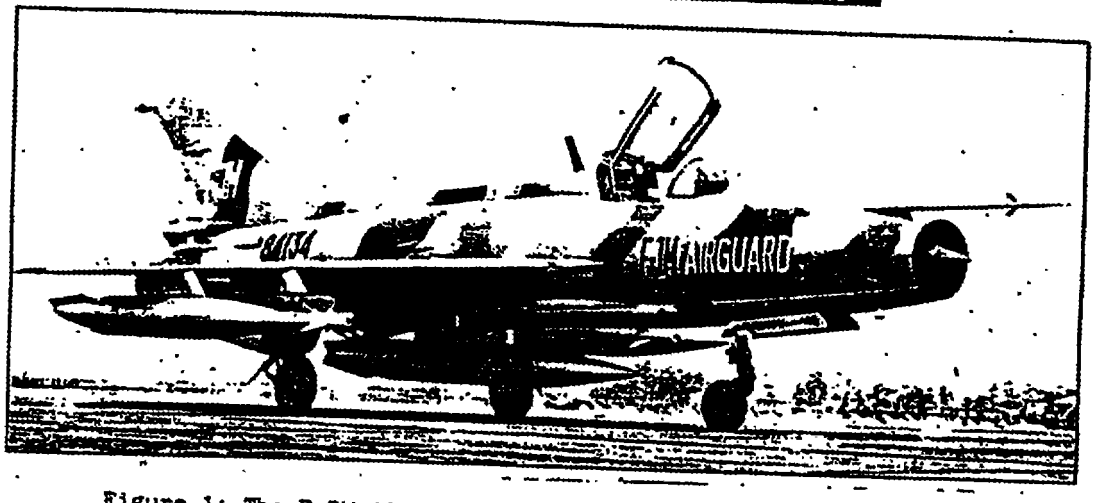


Figure 1: The F-7M Airguard fighter, export version of the Xian J-7, based on the Soviet MiG-21.

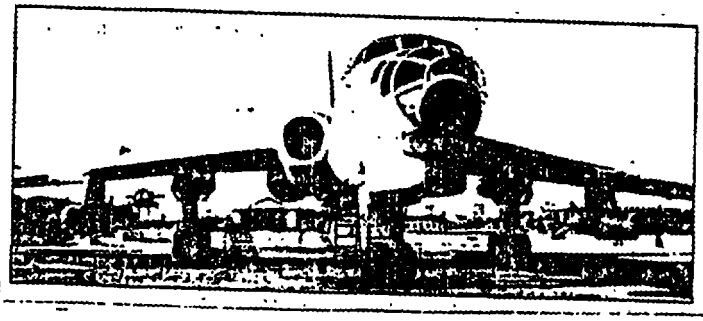
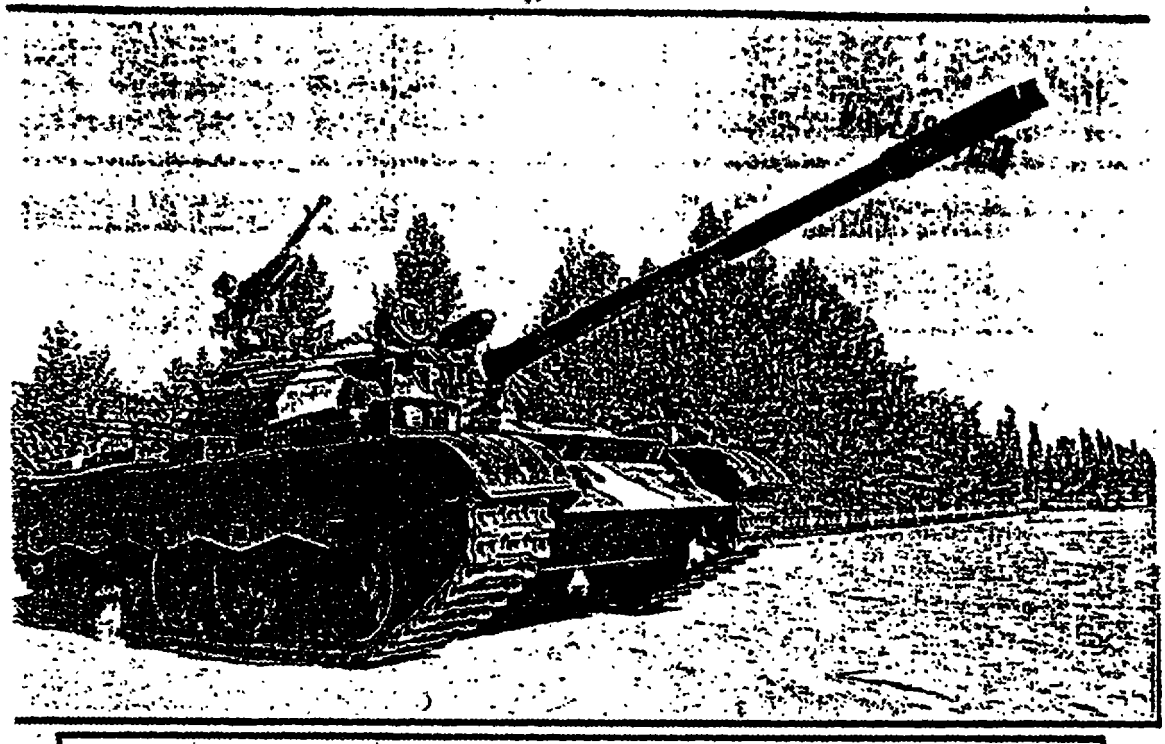


Figure 2: The B-6D medium bomber (known as Hong-6) with two C-601 Air-to-Surface Missiles, based the Soviet TU-16.



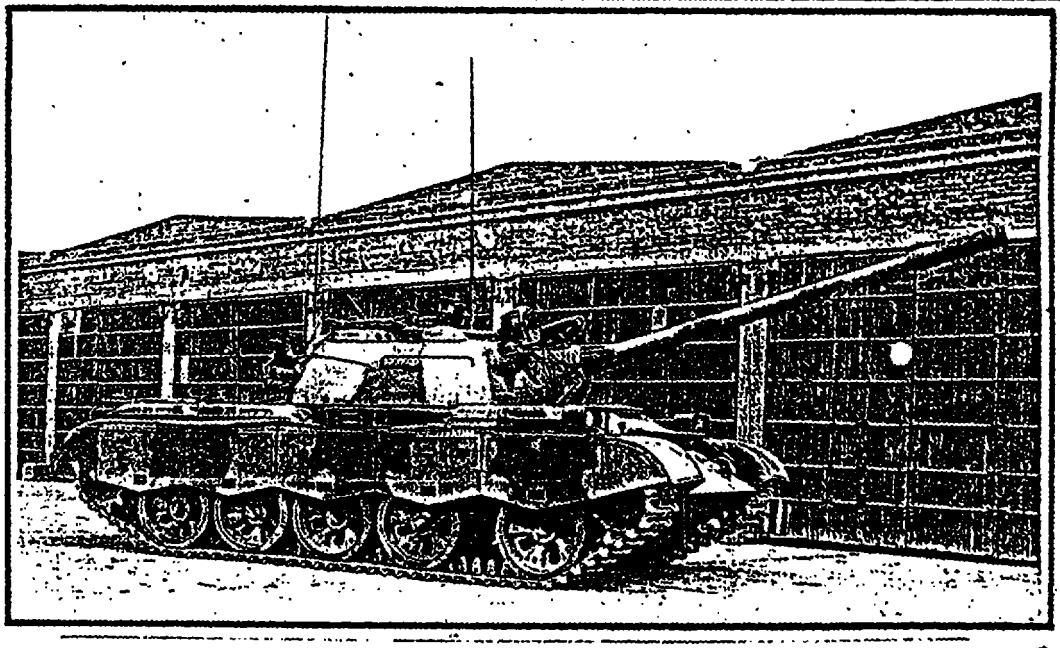


Figure 3: Type 69-II Main Battle Tank and a Command Tank.

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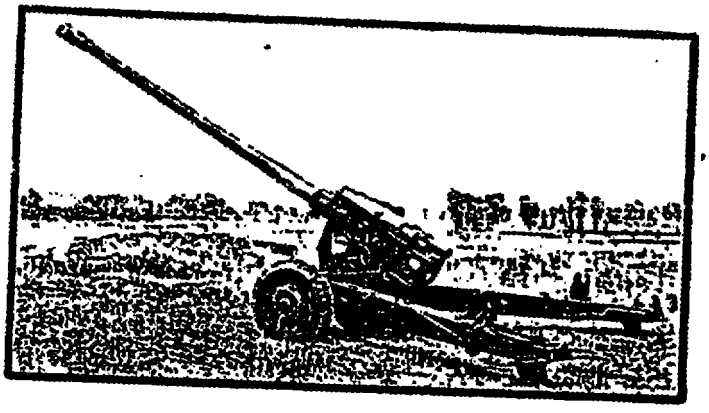

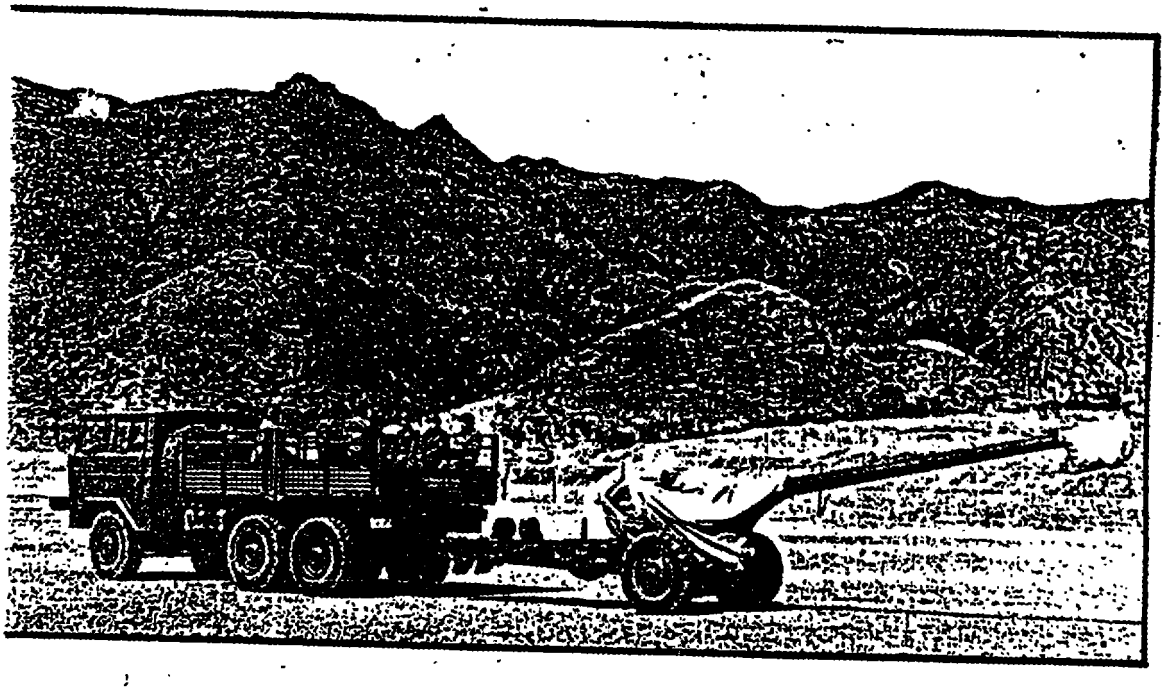

Figure 4: 130-mm Gun, Type 59-1.

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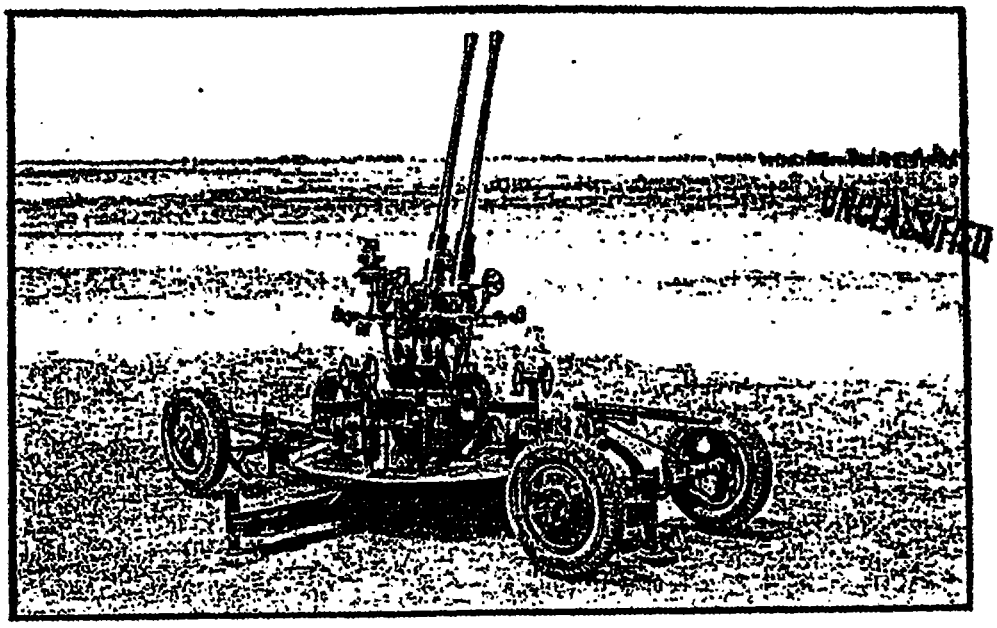


Figure 5: 37-mm Twin Anti-Aircraft Automatic Gun, Type 65.

Figure 6: HN-5 shoulder-fired low-altitude air defence missile, based on the Soviet SAM-7.

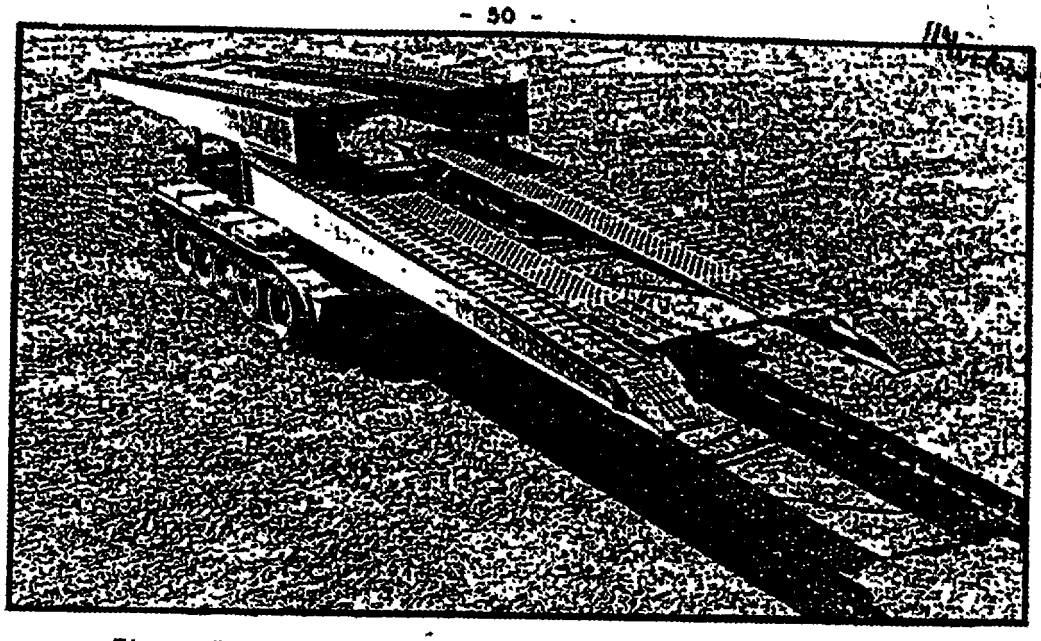


Figure 7: Type 84 Armoured Bridglayer, based on the hull of Type 69 MBT.

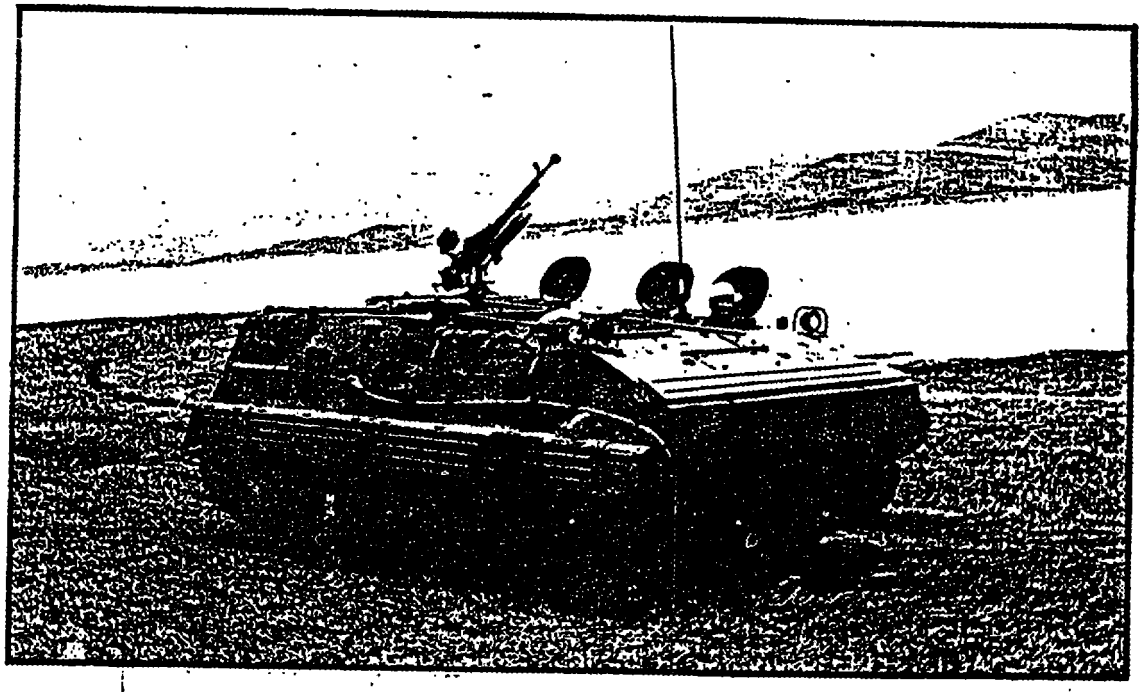
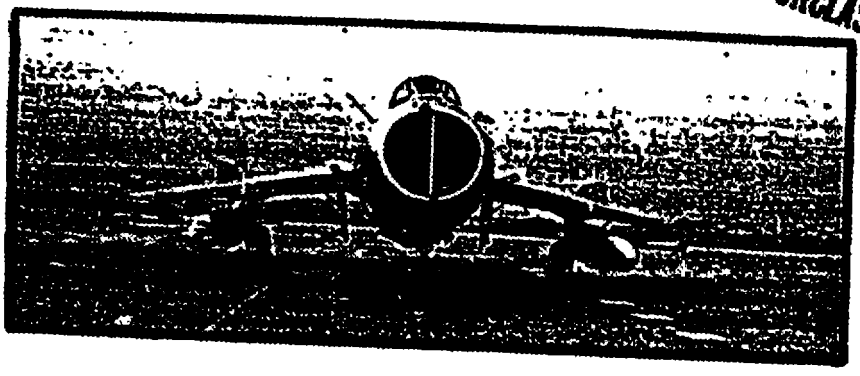
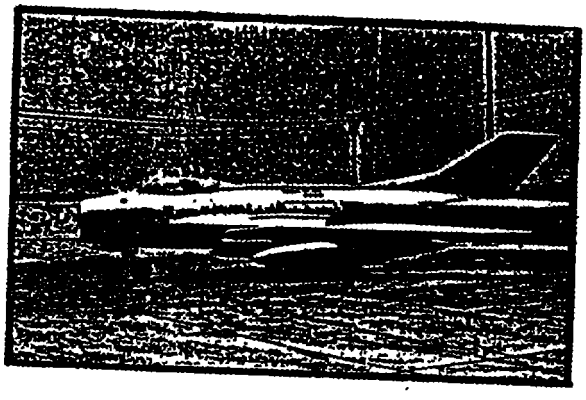
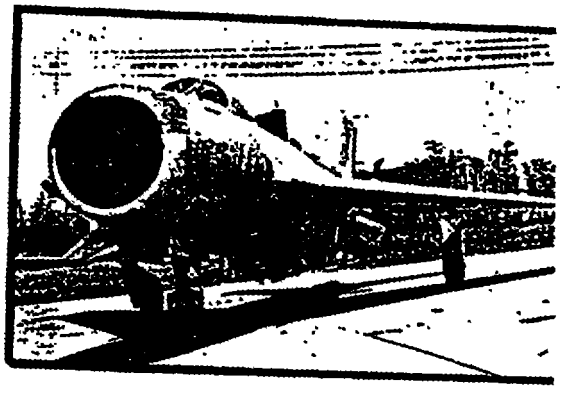


Figure 8: Tracked Armoured Personnel Carrier Type YW531.







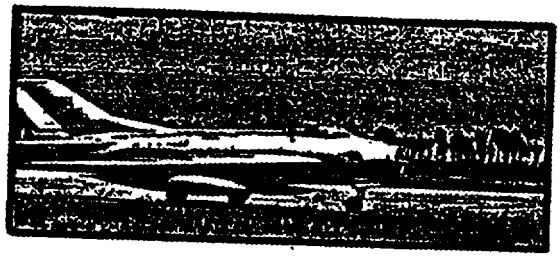


Figure 9: The F-6 (J-6) fighter-interceptor, based on the Soviet MiG-19.

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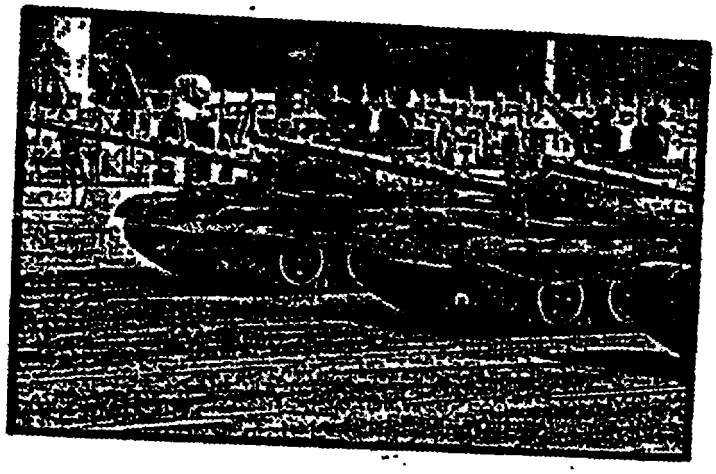

Figure 10: Type-59 Main Battle Tank, retrofitted with the L7/M68 105-mm gun.

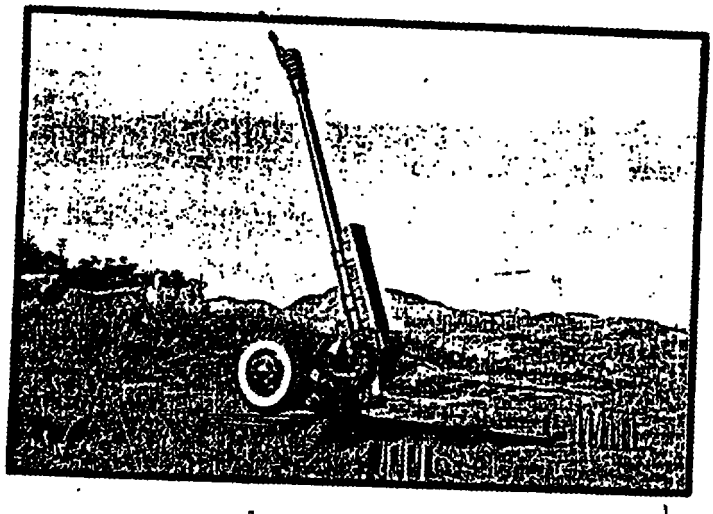

Figure 11: Type 83 122-mm Howitzer.

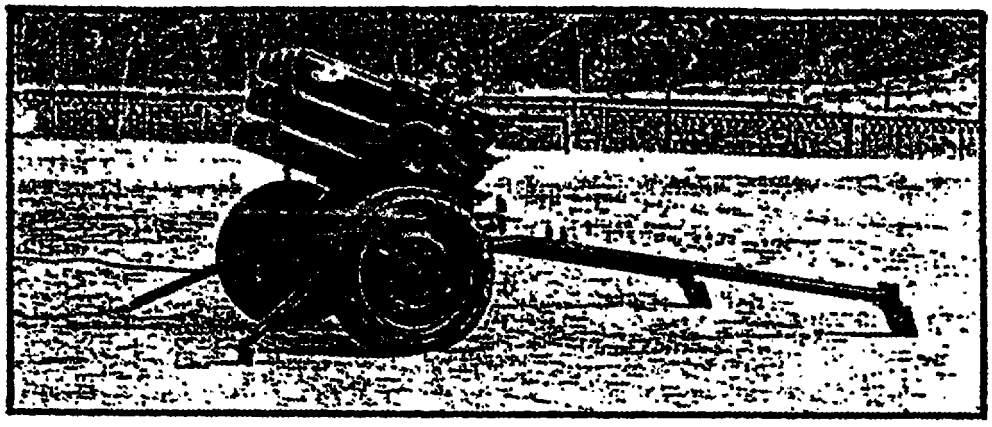

Figure 12: Type 63 107-mm Multiple Rocket Launcher.

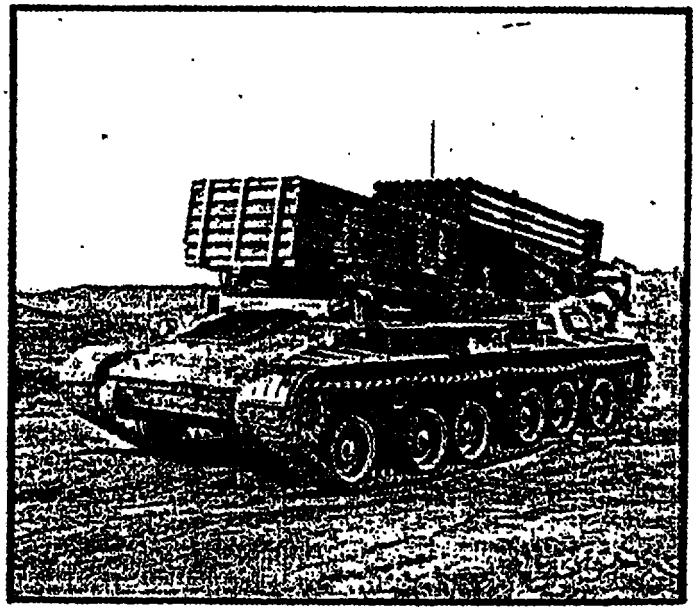

Figure 13: Type 81 122-mm-Multiple Artillery Rocket Launcher, with 40 launch tubes which can be fired in 20 seconds.

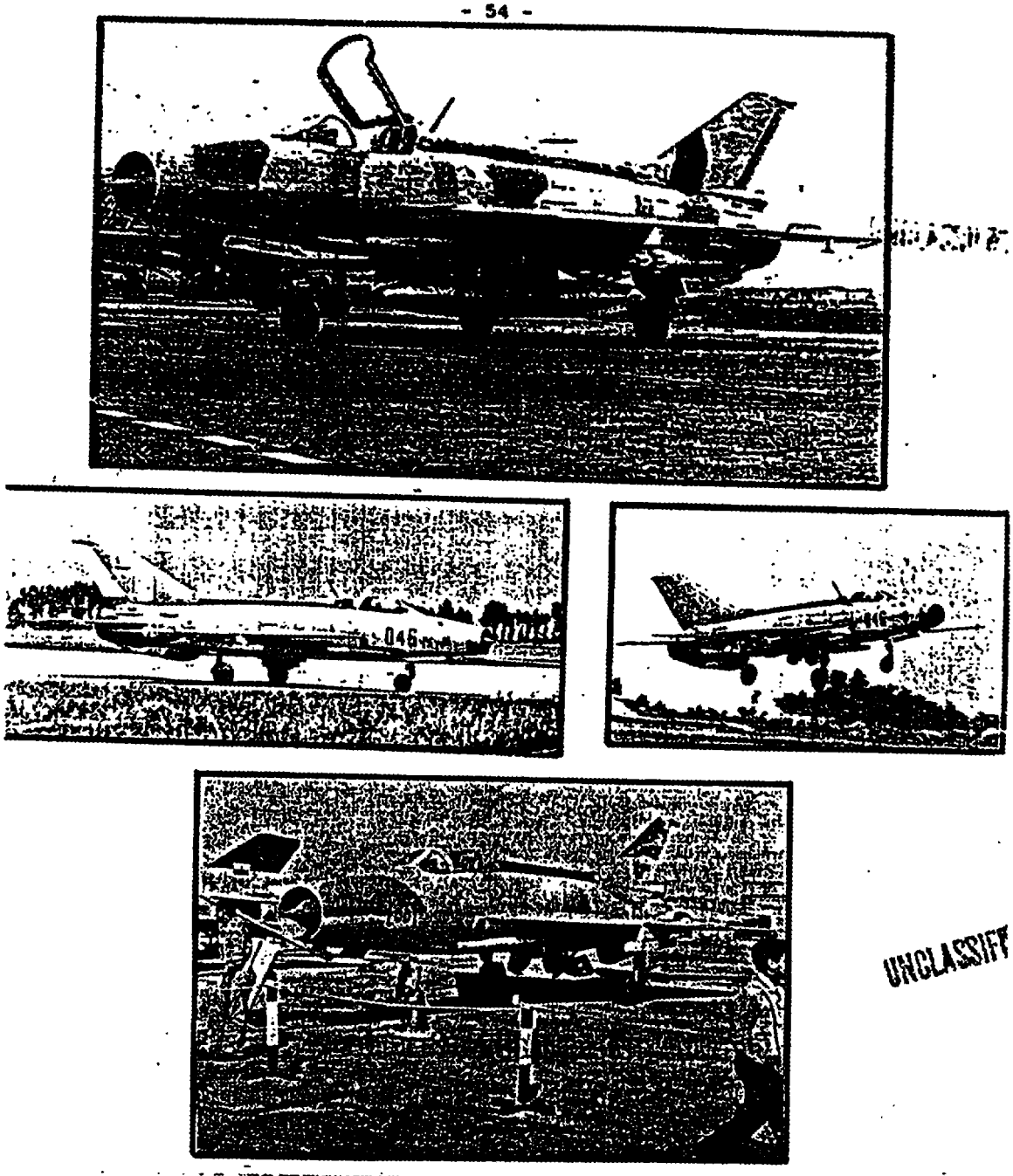

Figure 14: The F-7 (J-7) air superiority fighter, based on the Soviet MiG-21. (Also an Egyptian example).

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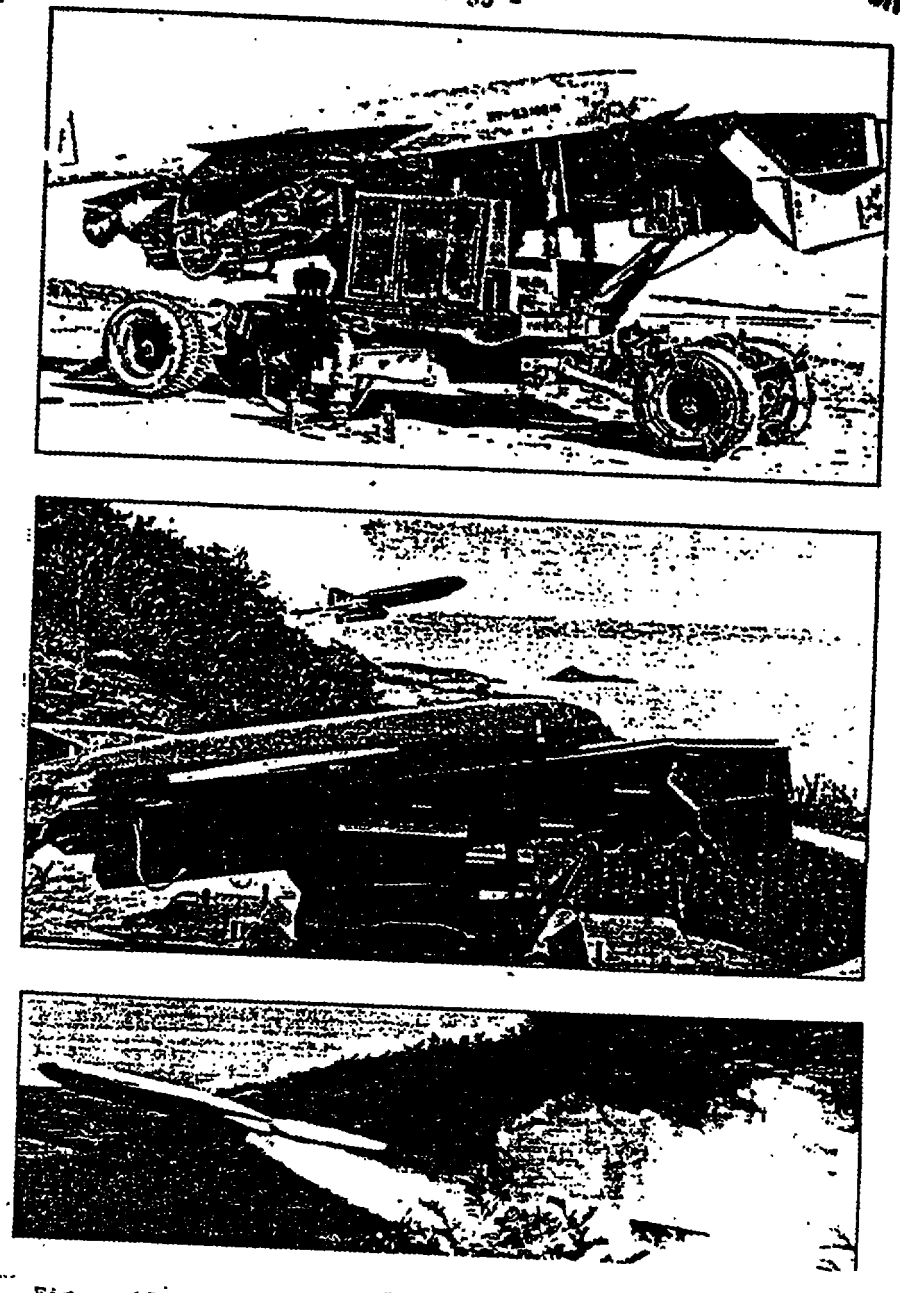

Figure 15: The HY-2 (Haiying) Surface-to-Surface Tactical Anti-Ship Missile, known as Silkworm.

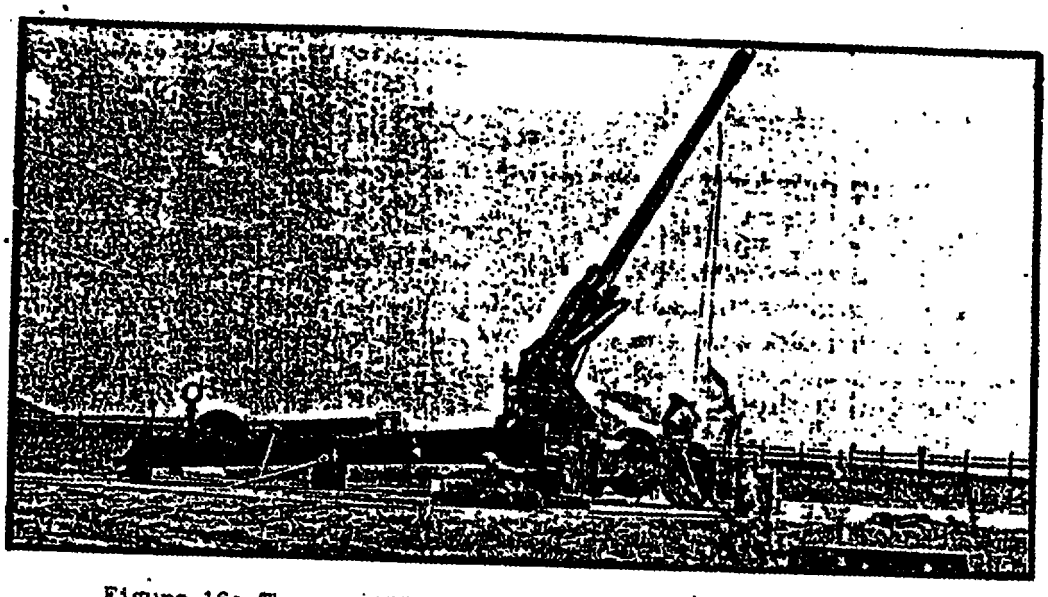

Figure 16: The new 155/45-mm Gun/Howitzer, offers a maximum range of 39-km. Incompatible with PLA standards.

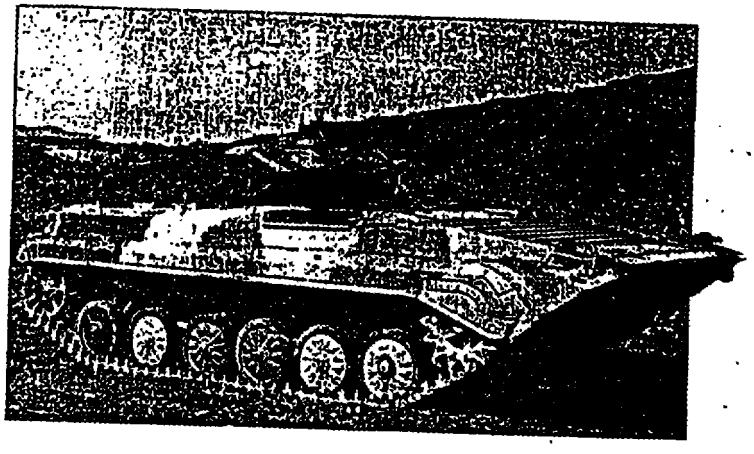

Figure 18: Prototype of the NORINCO/FMC NFV-1 Infantry Fighting Vehicle, based on WZ501, a copy of the Soviet BMP-1.

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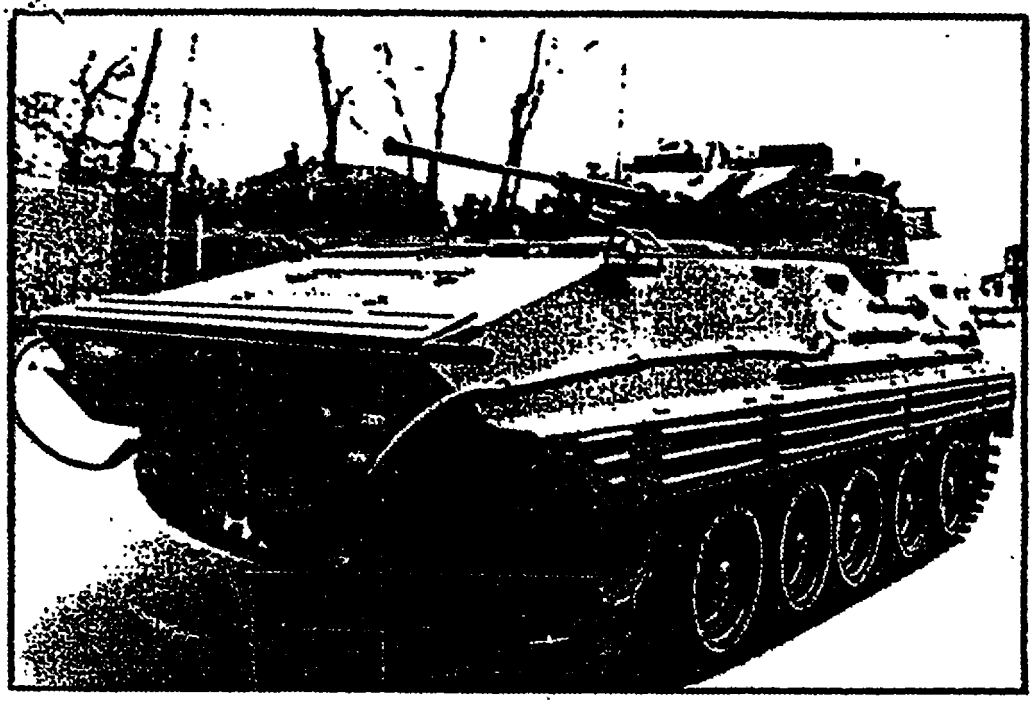

Figure 17: The NORINCO/Vickers NVH-1 Infantry Fighting Vehicle, based on the YW531H APC (see Figure 8).

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