

### **III. THE STRENGTHS AND WEAKNESSES, ECONOMIC FACTORS, FORCE STRENGTHS, AND OTHER MILITARY FACTORS THAT SHAPED THE COURSE OF THE WAR**

The historical factors that shaped the initial course of the Iran-Iraq War have already been described. There were, however, a number of strategic and military factors that played a powerful role in shaping the course of the fighting once the war began. These factors include the strengths and weaknesses of each side, the relative economic power of Iran and Iraq, each nation's ability to buy arms, each nation's ability to mobilize their respective manpower, and the initial structure and capability of their forces.

#### ***3.0 The Strengths and Weaknesses of Each Side***

Iran and Iraq began the war with a very different mix of advantages and disadvantages. These advantages and disadvantages shaped each nation's approach to war, and led each side to take a different approach to tactics and technology, and helped shape its management of the war.

##### **3.0.1 Iran's Mix of Advantages and Disadvantages**

In spite of its political and military instability, Iran began the war with a number of significant advantages. These advantages included:

- Strategic depth: Iran's main cities and most critical oil facilities were a considerable distance from the Iran-Iraq border area.:
- The existence of a large pre-revolutionary military structure which still had a significant numbers of troops, first line U.S. and other weapons systems, and large stockpiles of supplies. While the efficiency of this military machine was severely damaged during the convulsions following the Shah's fall, the stockpiled weapons and trained cadres were decisive in Iran's initial ability to defend.
- The existence of a rising force of armed and semi-trained militiamen who had been assembled before the war as Baseej, Hezbollah and Revolutionary Guards. These forces existed to safeguard the revolution, as members of Khomeini's local defense and security force, and as the "Army of Twenty Million," which was originally formed to meet a possible U.S. invasion following the seizure of American hostages.
- A revolutionary fervor which helped to maintain the morale of Iranian troops because of a perceived threat to the survival and expansion of the Islamic Revolution.
- Possession of some of the most advanced conventional technology which the U.S. was capable of providing. This was the result of a 1972 decision by President Nixon to provide Iran with weapons that would enable it to serve as the "policeman" of the Gulf.
- Large cash reserves and continuing oil revenues.
- At the same time, the Iranian military (and especially the army) faced a number of disadvantages at the outset of the war. These disadvantages included:

- Estrangement from the U.S., Iran's principal supplier of weapons and support, and spare parts and from virtually all the other nations in the Gulf area and in much of the Arab world. Iran's revolutionary ideology, and attacks on the superpowers and more moderate and conservative Arab states, isolated it from other nations and drove them to support Iraq both before and during the conflict.
- Constant ideological and political interference in the management of the regular forces, including the creation of a whole new class of religious commissars. Once the war began, this was followed by religious and political at every level from grand strategy to tactics and supply, often forcing the wrong tactics and strategy on Iranian forces.
- Continuing rivalry at every level between the regular armed forces, the emerging Pasdaran, and the various rivals for power around Khomeini. This feuding affected every aspect of Iranian operations from late 1980 onwards.
- A shortage of officers and NCOs because of at least two major purges which had eliminated at least 12,000 personnel (10,000 of whom were from the army), by the beginning of the war. These purges led to a fragmented and dysfunctional command structure in the army, although the navy and air force command structures remained relatively intact.
- A weak logistics system which denied Iran the ability to use much of its stocks. Iran had created the shell of a computerized logistics system, but never the software to retrieve stored items. Iranian forces had to rely on squads which individually hunted down key stocks and had no central system for ordering, allocating, and distributing its stocks.
- Pre-war dependence on foreign technical support personnel in many critical areas -- such as maintenance, technical advice, training, tactical and procurement planning. Most of this technical support which left Iran following the Shah's fall, and much of the remainder had left when Iran seized the U.S. embassy.
- A decline in proficiency in regard to a variety of military skills. This decline has been particularly important since 1981, when the Iranian military school and training system collapsed and was replaced by ideological and infantry training.
- A large number of desertions. These reached about 60 percent of the Shah's army by July 1980, although the Khomeini Regime was able to recover much of this manpower once the war began.
- Continuing internal security problems with various ethnic minorities and Marxist groups like the People's Mujahideen.

### **3.0.2 Iraq: Advantages and Disadvantages**

The Iraqis had a different set of advantages and disadvantages. Iraq's main advantages included:

- Far greater political and military stability during the period before the war. Iraq's leadership was united under a single active autocrat, and its military forces were firmly under his control. While there were some divisions within the armed forces because of the existence of a Ba'ath controlled "Popular Army", and both the intelligence service and the Ba'ath

maintained a second channel of political control over the armed forces, the Iraqi military never experienced anything remotely approaching the degree of disruption that affected the Iranian military.

- Friendly relations with neighboring states which have begun to develop in the mid-1970s, when Iraq largely halted its attempts to overthrow the regimes of its wealthy conservative neighbors and open trade ties with Western Europe. Iraq was able to sustain these relations throughout the course of the war.
- Continuing access to a diversified supply of modern weapons, with most advanced weapons systems being French- or Soviet-made. While multiple sources of supply can create significant problems in terms of standardization and training, they also are a substitute for limited, but less reliable, sources of supply. Iraq used France to obtain arms during the period the USSR flirted with Iran, and afterwards in playing both nations off against each other to obtain key arms and technologies. Iraq also got weapons and spare parts from Italy, Bulgaria and Poland, and Egypt sold Iraq about \$1 billion in hardware following the initial stages of the war.
- Iraq had never placed as high reliance on foreign technical support as Iran. It could not operate or maintain its equipment as well as Iran before the Shah's fall and the expulsion of Western technicians, but it had a relatively effective national logistics, combat and service support system and could operate its forces, major equipment, and support systems on its own. While its individual weapons were less capable than those of Iran, they also were easier to maintain and operate.
- Large financial reserves and excellent credit at the beginning of the war.
- A relatively mature revolution with steadily rising living standards, well planned economic developments, and improving conditions for potentially disaffected Shi'ite and Kurdish groups, mixed with a far more secular history and social structure than Iran.
- Financial backing from the GCC states, and limited military backing from Egypt and Jordan.
- Like Iran, however, Iraq faced major disadvantages. These not only helped ensure that its initial offensive against Iran did not succeed, they severely limited the effectiveness of its defense against Iran's counteroffensives.
- Iraq's leaders suffered from a combination of strategic illusions and impossible ambitions. They saw Iran as weak and divided. They accepted Pan-Arab myths regarding the willingness of the "Arab" population of southwestern Iran to shift its allegiance to Iraq, and they saw the war as a quick means of asserting leadership over the Gulf and the Arab world.
- Iraq lacked strategic depth, and its oil exports were dependent on access to a narrow stretch of the Gulf, and pipelines through Syria and Turkey that were subject to political interdiction and sabotage.
- Iraq had a heavily politicized military which had been subjected to repeated pre-war purging. This purging was designed to ensure the rise of

officers who were loyal to the Ba'ath and then to Saddam Hussein. The Iraqis had only sent limited numbers of their officers to receive training abroad because the most likely source of this training was the Soviet Union. It was feared that officers trained there might become subversives. The net result was that the Iraqi officer and NCO Corps had little real readiness for offensive combat. This politicization of the officer corps forced new reassignments and purges during the early years of the war to improve the effectiveness of Iraqi forces. As many as 300 generals and other high ranking officers were reported to have been relieved by the government as of mid-1982 because of dereliction of duty and incompetence, and 15 generals seem to have been shot. Saddam Hussein may also have hoped to deflect blame for the war's disasters and prevent a major coup attempt by disgruntled officers.

- Many senior officers were Sunni Muslims from Mosul and Takrit, while the majority of troops were Shi'ite. These divisions did not weaken the willingness of Iraqi forces to fight, but they put religion, regionalism, and politics before military professionalism in shaping the selection and operations of Iraq's command structure.
- Iraq's forces lacked an adequate training and technical base. Iraq had many first line weapons systems, but few advanced C3I targeting, munitions, training, and support systems.
- When the war began, Iraq was in the process of shifting from reliance on Soviet arms to a mix of Western and Soviet arms. The USSR had transferred weapons, but not training and technology. France and other European suppliers had not had any major impact in terms of Iraqi training, tactics, and support. Iraq had virtually no Navy, and its Air Force lacked any real concept of operations or training for large scale war.
- Iraq had an unsophisticated and highly politicized intelligence system which was almost solely reliant on high ideological HUMINT resources. Iraq had minimal SIGINT capabilities and minimal skills in using reconnaissance aircraft and PHOTINT. Iraqi intelligence did as much to provide political and military misinformation as information.
- A lack of sophisticated and integrated C3I IBM capability. Iraq's AC&W system was technically weak and its SAM forces lacked effective warning, battle management, and C3 capability.
- Considerable initial tension with the USSR, which dated back to Iraq's struggle with the Kurds and Iraqi Communist Party, compounded by a strong Soviet interest in improved ties with Iran.
- Serious tension between Iraq's Sunni dominated Ba'ath government, its Shi'ite majority, and Kurdish minority, and increasing military activity by Kurdish liberation groups from 1984 onwards.

### **3.1 The Impact of Economics**

Iran and Iraq's relative ability to mobilize their economy and oil wealth, was a major factor shaping the entire course of the war. The detailed military economics of the Iran-Iraq War are shown in Figure 3.1 below. These data are often highly uncertain, but it seems clear that the disorder following the Iranian revolution gave Iraq great economic advantages, and that Iraq's access

to friendly states was often decisive in giving it the resources to continue fighting once the war began.

The relative trends in Iraqi and Iranian military expenditures during 1975 to 1985, in constant 1984 dollars, are a particularly important indicator. It is clear from these figures that Iraq was able to shift from a 3:1 inferiority in total defense spending relative to Iran in 1974 -- the period just before the Algiers accord -- to a significant superiority by the time of the Shah's fall.

It also clear that Iraq was able to maintain this superiority during the course of the rest of the war. This superiority, however, was due far more to Iraq's access to support from its neighbors in the Southern Gulf than to any planning on Iraq's part. As the oil production in Figure 3.1 show, Iraq proved highly vulnerable to Iran's attack on its oil export facilities in the Gulf, and then to Syria's willingness to cutoff Iraqi oil exports through Syria.

It seems likely from the history of the war during 1980-1983, that if Iraq had not had access to massive external aid, and Iran's military forces and economy had not been crippled by the revolution and Iran's willingness to alienate the Soviet Union and the West, Iran would probably have won the war. Iraq's ability to survive was as dependent upon Kuwait, Saudi Arabia and other friendly states as on its military forces, and its ability to achieve superior military strength at the front was dependent upon some \$35 to \$45 billion in cash aid and loans.

The CIA estimates which shape the data in Figure 3.1 may understate the scale of the Iranian military spending and total Iranian military manpower once the war began. Some working estimates by private experts indicate that Iran has spent far more of its resources on the war. Even so, the CIA figures seem to be broadly correct in indicating that Iran has had considerable difficulty in mobilizing its economy and government spending both during the critical period before the war and then during the years that followed.

It also is clear from virtually all the data available on the economics of the war that the conflict rapidly strained both nations to their limits. This strain was compounded by both the "oil war" each side conducted against the other side's ability to export and by the crash in world oil prices in early 1985. While both Iran and Iraq still had the financial resources to continue fighting, both sides faced a growing strain their economy, and both sides increasingly had to give up more "butter" for "guns".

The importance of economics in any enduring conflict is another critical lesson of the war, as is the vulnerability of Iran and Iraq to strikes on their economy and strategic exports. The war has set a precedent for economic warfare that many other Third World states are likely to follow, both to try to defeat their opponent and to force external action or support for their cause.

**Figure 3.1:**

**Iranian and Iraqi Military Efforts: 1979-1986 - Part One**

Year	Military						Military					
Arms												
Imports	Manpower						Expenditures					
	(1,000s) a											
Current \$M	Constant '84 \$M						Current \$M	Constant '84 \$M				
Iran	Iraq	Iraq	Iran	Iran	Iran	Iran	Iraq	Iraq	Iran	Iran	Iraq	Iraq
1973	105	285	1486	3112	-	-	625	525	-	-		
1974	110	310	3037	8955	-	-	625	1000	-	-		
1975	155	385	3286	13440		5969	24410	750	1200	-	-	
1976	190	420	3876	14720		6621	25140	1000	2000	-	-	
1977	140	350	4736	11910		7583	19060	1900	2600	3028	4143	
1978	362	350	6145	14460		9168	21610	2400	2200	3552	3256	
1979	444	415	6967	9058	9553	12420	3000	1500	4100	2050		
1980	430	305	12160		7725	15280	9708	2500	410	3118	511	
1981	392	260	15100		8519	17320	9768	4300	1000	4955	1152	
1982	404	240	15380		9593	16750	10330		6400	1600	6900	1725
1983	434	240	15160		8376	15730	8688	6800	925	7025	956	
1984	788	335	15920		11690	15920	11690		9500	2400	9500	2400
1985	788	345	(12866)		(14091)	-	-	4000	1700	3860	1645	
1986	(845)		(705)		(11579)	(6110)	-	-	4900	1800	4614	1695
-												
1987	(1000)		(654)		(13990)	(5900)	-	-	-	-	-	-
1988	(1000)		(605)		-	(8960)	-	-	-	-	-	-

**Figure 3.1**

**Iranian and Iraqi Military Efforts: 1979-1986 - Part Twp**

Year	Military								Military
Arms	Average Annual								Spending
as Imports as	Spending as								% of CGE
% of Total Exports	Oil Exports in								
	% of GNP				MMBD				
Iraq	Iraq		Iran		Iraq		Iran		
	Iran						Iran		
1973	25.5	8.3	57.7	30.2	69.9	15.4	2.02	5.86	
1974	21.6	13.8	45.1	33.9	26.3	18.4	1.97	6.02	
1975	17.4	17.6	29.8	31.9	17.8	11.6	2.26	5.35	
1976	17.2	15.6	37.5	37.1	28.8	15.5	2.42	5.89	
1977	18.1	11.9	40.6	26.5	48.7	17.8	2.35	5.67	
1978	19.2	16.6	28.0	37.4	57.0	16.2	2.56	5.24	
1979	14.9	8.2	24.9	25.1	41.8	15.4	3.48	3.17	
1980	22.5	6.6	26.9	19.7	17.9	3.3	2.51	1.67	
1981	45.1	6.8	43.9	20.7	20.7	8.0	0.99	1.38	
1982	44.8	6.7	50.8	21.7	29.7	13.4	0.97	2.28	
1983	44.3	5.2	NA	18.6	55.9	5.0	0.92	2.49	
1984	42.5	7.2	NA	29.9	85.8	15.6	1.20	2.19	
1985	-	-	-	-	37.9	14.6	1.44	2.26	
1986	-	-	-	-	52.7	17.4	1.73	1.93	
1987	-	-	-	-	-	-	2.08	2.45	
1988	-	-	-	-	-	-	2.50	2.20	

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a. Figures for Iran do not include Revolutionary Guards.

Source: Many of the data are adjusted by the author. Economic and manpower data for 1973-1986 are taken from ACDA, World Military Expenditures and Arms Transfers: 1987, Washington, GPO, 1988, pp. 62-63 and 105. Note that major

fluctuations are made in the entire series of CIA estimates used in each edition of the ACDA document and that the figures shown are highly uncertain. The figures shown in parenthesis come from the annual edition of the IISS Military Balance, and are in current dollars when applicable. The oil production estimates were furnished separately by the CIA. They include total production, rather than exports. Gas production is excluded.



### **3.2 The Impact of Arms Imports and Technology Transfer**

Iraq was consistently able to benefit from superior access to arms imports and superior technology transfer both just before and during the war. If one looks at the five year period between 1974 and 1978, one finds that Iran imported a total of roughly \$8.7 billion dollars, of which nearly \$6.7 billion came from the U.S. Virtually all of the rest came from high technology exporters, and only about \$500 million came from nations who export relatively technology systems. In contrast, Iraq imported a total of roughly \$5.3 billion dollars worth of arms, of which less than \$800 million came from high technology exporters.

These trends reversed rapidly, however, after the fall of the Shah. In the mid 1970s, the Shah was spending 50% to 100% more on arms imports per year than Iran. By 1978, Iraq had achieved near equity, and in 1979, Iran was spending twice as much on arms imports as Iran. Iraq had a more than 5:1 lead in 1980, and a more than 5:1 lead in 1981, in spite of the fact the USSR suspended most of its arms shipments to Iraq. Iraq was also able to obtain more than half its arms from sources outside the Soviet-bloc and nearly one-third from relatively high technology suppliers in Western Europe. This Iraqi lead in spending and access to high technology arms continued throughout the war, although its advantage was greater during the first three years of the war than during the period from 1986 to 1988.

The detailed patterns in the total flow of arms to Iran and Iraq are shown in Figure 3.2. Other estimates by the CIA and Congressional Research Service reflect the following trends:

- During 1980-1987, Iraq and Iran collectively spent over \$64 billion on new arms agreements, or more than one-fifth of all the arms transfers to the Third World;
- The Soviet Union alone accounted for 29% of all arms agreements with Iran and Iraq, the PRC accounted for 12%, all other-non-Communist states accounted for 16%, European Non-Communist states accounted for 31%, and all other non-communist states accounted for 11%;
- During 1980-1987, the USSR made 37% of all new arms agreements with Iraq, versus 10% for China, and 12% for other communist countries. European non-Communist states made 30% of new agreements and other non-Communist states made 12%. European non-Communist sales agreements were dominated by France. Other Communist country sales came from Eastern Europe, and initially, North Korea;
- During 1980-1987, the PRC made 21% of all new arms sales agreements with Iran, versus 2% for the USSR, and 31% for other Communist countries. European non-Communist countries made 33% of these agreements, and all other non-communist countries made 31%. European non-Communist sales agreements were from a wide mix of states. Other Communist country sales came largely from North Korea;
- During 1980-1987, Iraq and Iran collectively received over \$55.3 billion in new arms deliveries, or roughly one-fifth of all the arms transfers to the Third World;

- The Soviet Union alone accounted for 38% of all arms deliveries to Iran and Iraq, the PRC accounted for 11%, all other-non-Communist states accounted for 17%, European Non-Communist states accounted for 25%, and all other non-communist states accounted for 9%;
- During 1980-1987, the USSR made 47% of all new arms deliveries to Iraq, versus 10% for China, and 13% for other communist countries. European non-Communist states made 7% of new deliveries. European non-Communist deliveries were dominated by France. Other Communist country sales came from Eastern Europe, and initially, North Korea;
- During 1980-1987, the PRC made 15% of all new arms sales deliveries to Iran, versus 5% for the USSR, and 33% for other Communist countries. European non-Communist countries made 30% of these deliveries, and all other non-communist countries made 16%. European non-Communist deliveries were from a wide mix of states. Other Communist country sales came largely from North Korea;
- The patterns in sales versus agreements reflect Iran's shift to the PRC as a major supplier, and the fact that European states are much slower in making major deliveries -- largely because of lower production capacity -- than Communist states.
- The Soviet Union has consistently been Iraq's largest arms supplier. It has sold some \$18.5 billion to Iraq since the war began, and \$10.3 billion worth during 1984-1987. It has been closely matched by its East European allies. They sold \$10.4 billion worth of arms during 1980-1983, and \$4.7 billion worth during 1984-1987. These patterns are interesting because they show East Europe provided massive arms supplies to Iraq during a period that the USSR was publicly claiming to be reducing supply. Further, these sales patterns do not reflect major Iraqi problems in obtaining Soviet-bloc arms during the period Iraq was having the most difficulty in maintaining its oil revenues.
- Iraq got \$20.3 billion worth of deliveries from the USSR during 1980-1987, with \$8.8 billion worth during 1980-1983, and \$11.5 billion worth during 1984-1987. In spite of a major increase in PRC arms transfers to Iran, the PRC delivered \$1.6 billion worth of arms to Iraq during 1980-1983, and \$2.6 billion worth during 1984-1987. Western European countries delivered \$5.7 billion worth of arms to Iraq during 1980-1983, and \$4.6 billion worth during 1984-1987.
- The PRC has gradually emerged as Iran's largest arms supplier, although North Korea has been a strong rival, and both Western and Eastern Europe have made major sales. The PRC made \$3,040 worth of all new arms sales agreements to Iran during 1980-1987. It made \$505 worth of all new arms sales agreements to Iran during 1980-1983, but \$2,535 worth of all new arms sales agreements to Iran during 1984-1987. The PRC made 15% of all new arms deliveries to Iran during 1980-1987. It made 6% of all new arms deliveries to Iran during 1980-1983, but 20% of all new arms deliveries to Iran during 1984-1987.
- The Soviet Union made \$615 million worth of arms delivers to Iran during 1980-1983, but only \$5 million worth during 1984-1987. Nevertheless,

Eastern Europe sold \$3.3 billion dollars worth of arms to Iran during 1984-1987.

- Western Europe has profiteered from sales to both sides. It sold \$3.6 billion worth of arms to Iran during 1980-1987, and \$10.3 billion worth to Iraq. The patterns in sales to Iran are particularly interesting because virtually all of the sellers were denying such sales took place. Western Europe delivered \$590 million worth of arms to Iran during 1980-1983, but \$2,995 million worth during 1984-1987.

These sales patterns reflect the lesson that the competition for world arms sales, and rivalries between major arms exporters, are a key factor sustaining modern wars. These sales patterns also show that applying the term "low level conflict" to every in the the Third World is inherently ridiculous. The volume of arms shipments to Iran and-Iraq before and during the war show it has been an intense conflict by any standard.

**Figure 3.2: Part One**

**Iranian and Iraqi Access to Foreign Supplies of Arms: 1980-1987**

( New Arms Sales Agreements in \$Current Millions)

Supplier		Iraq					
Iran							
		1980-1983		1984-1987		1980-1987	
1987	1980-1987	1980-1983		1984-1987		1980-1987	
USSR	8,820	11,450	20,270	615	5	620	
China	1,610	2,575	4,185	225	1,590	1,815	
Other Communist	2,980	2,690	5,670	1,330	2,565	3,895	
Total Communist	13,410	16,715	30,125	2,170	4,160	6,330	
European Non-Communist	5,710	4,580	10,290	590	2,995	3,585	
U.S.*	0	0	0	0*	0*		
Other Non-Communist	1,195	1,915	3,110	1,120	775	1,895	
Total Non-Communist	6,905	6,495	13,400	1,710	3,770	5,480	
GRAND TOTAL	20,315	23,210	43,525	3,880	7,930	11,810	
Iraq as % of Iran		524%	293%	369%	-	-	-
Iran as % of Iraq		-	-	-	19%	34%	27%

\* Does not include covert U.S. Arms Sales

Source: Adapted from Richard F. Grimmett, "Trends in Conventional Arms Transfers to the Third World By Major Supplier," Congressional Research Service, Report Number 888-352, May 9, 1988.

**Figure 3.2: Part Two**

**Iranian and Iraqi Access to Foreign Supplies of Arms: 1980-1987**

( New Arms Sales Agreements in \$Current Millions)

Supplier		Iraq					
Iran		1980-1983		1984-1987		1980-1987	
1987	1980-1987	1980-1983		1984-1987		1980-1987	
USSR	8,820	11,450	20,270	615	5	620	
China	1,610	2,575	4,185	225	1,590	1,815	
Other Communist	2,980	2,690	5,670	1,330	2,565	3,895	
Total Communist	13,410	16,715	30,125	2,170	4,160	6,330	
European Non-Communist	5,710	4,580	10,290	590	2,995	3,585	
U.S.*	0	0*	0*	0	0	0	
Other Non-Communist	1,195	1,915	3,110	1,120	775	1,895	
Total Non-Communist	6,905	6,495	13,400	1,710	3,770	5,480	
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Iraq as % of Iran		524%	293%	369%	-	-	-
Iran as % of Iraq		-	-	-	19%	34%	27%

\* Does not include covert U.S. Arms Sales

Source: Adapted from Richard F. Grimmett, "Trends in Conventional Arms Transfers to the Third World By Major Supplier," Congressional Research Service, Report Number 888-352, May 9, 1988.

It is important to stress, however, that technology transfer was as important as the imbalance in the total value of arms shipments. Figure 3.3 provides further data on the arms transfers to both sides and shows that Iran alienated both its Western and Soviet Bloc arms suppliers, while Iraq was able to buy arms from France and the USSR with comparative freedom. The Iranians also largely rejected or alienated Western and Soviet bloc sources of aid in training and technology transfer, while Iraq was able to buy access to such support.

The data in Figures 3.2 and 3.3 also understate Iran's problems in making effective arms purchases, because Iran was forced to buy from far more diverse sources than these tables can itemize, and to buy many of its critical supplies and munitions for its Western supplied equipment on the equivalent of the "black market". This kind of purchasing often led to gross inefficiencies, outright fraud, long delays, and shortages in key parts and munitions. The need Third World country's have for a reliable source of arms imports, as well as for continued supplies of spare parts and munitions, is another critical lesson of the war.

Even Iraq generally did a poor job of absorbing advanced military technology and using it effectively. The reasons for this failure have been discussed in the previous history, but the primary factor was the politisation of the military and military decision making. Iraq was educationally advanced enough to have done a far better job of absorbing arms and technology than its politics and government permitted.

This brings up a point of major importance in evaluating Third World military forces. Sheer numbers and the size of the order of battle are rarely relevant measures of military power. It is generally necessary to evaluate each major weapons technology on a case by case basis, and often by unit.

In some cases, technology transfer can be remarkably successful and may be coupled to an adaptation to local conditions that can make Third World forces more effective than those of the West. In other cases, politisation, buying arms for prestige or glitter, a tendency to ignore service and sustainability requirements, serious problems in education and training, and weaknesses throughout the command and control system can deprive a force of most of its effectiveness. The ability to understand this situation on a country by country basis is critical to appraising the true military strength of potential threat and friendly force.

Both the Iraqis and Iranians felt that they had far more effective support in technology transfer and training from the West than they received from the Soviet bloc, North Korea, the People's Republic of China, and other Third World arms suppliers. In most cases, the Western effort at superior training, at ensuring servicability, and in providing the munitions and supplies for sustainability proved to be a comparatively cheap "force multiplier." This too is a major lesson of the war.

**Figure 3.3**

**Iranian and Iraqi Access to Foreign Supplies of Arms: 1982-1986**

(\$Current Millions)

Supplier Nation		Sales to	
Iraq		Iran	
U.S.	0	10	
France	4,500	40	
U.K.	70	80	
FRG	625	0	
USSR	15,300	240	
Poland	525	20	
Czechoslovakia	410	30	
China	3,300	1,200	
Other	7,010	6,785	
Total	31,740	8,405	

Source: Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, 1987, Washington, GPO, 1988, p.129.

### **3.3 The Impact of Manpower and Demographics**

The struggle each side went through to mobilize its manpower is as important as the struggle it went through to mobilize its economy and to obtain arms. Once again, Iraq won this struggle both in the period immediately before the war and during the conflict. It again did so largely because of the chaos in Iran's military manpower caused by the Iranian revolution.

By every normal demographic standard, Iran should have had an immense advantage over Iraq. If one adjusts for current population growth rates, and uses CIA estimates, one gets the manpower data shown in Figure 3.4. There are considerable uncertainties in these estimates, and Iraq was better able to substitute imports and foreign labor for its own military manpower and work force, and this helped it overcome Iran's advantage in total population. Nevertheless, the Iran-Iraq War is a lesson in the fact that it is military organization and not total population that counts.

Iraq started the war with a decisive advantage because of the disarray in Iran's forces. It lost this advantage in 1981-1984 because of the revolutionary and nationalist fervor that allow Iran to rapidly increase its manpower. After some false starts, however, Iraq built up a steadily expanding permanent professional army. This eventually allowed Iraq to build up a standing force of nearly one million men and to recapture its advantage over Iran.

Iran relied heavily on rapid temporary mobilization of manpower with short periods of training to achieve much of its manpower, and then let much of this manpower go back to civilian life. Even during 1981-1984, Iraq often had more manpower on the front than Iran, and it virtually always had more trained manpower. Iran also lacked the mix of combined arms, the logistic and supply systems, and wealth to use its manpower numbers effectively. Iran was forced to rely on training and equipping most of its manpower for light infantry roles. Even when Iran did call-up masses of volunteers for particular offensives, these call ups were often at least partial failures because of internal political battles within the government over how mobilization should be accomplished and over who should control the recruiting and training base.

As a result, Iran had severe difficulties in using such volunteers to do more than score short term gains near the front. A successful offensive requires mobility and firepower, and Iran needs far more armor, artillery, air defenses, and logistic support than it now possesses to exploit its potential lead in manpower with full effectiveness. Iran also took high casualties among its combat-trained Revolutionary Guards forces, while other Pasdaran cadres tend to have become institutionalized in urban and rural security roles or in Iran's new emerging power elite. Poor medical care sometimes increased the death to wound ratio, while erratic mobilization campaigns have rotated volunteer manpower in and out of service that needed more training and experience to become properly effective. This has limited Iran's ability to absorb popular reserves and use them effectively.

A combination of age and political upheaval meant that Iran continued to lose the trained personnel that served under the Shah in the regular armed forces. Recruiting for the regular forces was erratic from 1978 onwards, and the regular forces never rebuilt their training base. Further, the bulk of Iran's regular forces were kept in the border area that guard the traditional invasion route. They had little refresher training and most not been heavily committed to battle since 1984.



This mix of manpower, equipment, and economic problems helps to explain why Iran proved unable to launch more than one or two major offensive thrusts at a time, in spite of the fact that Iran's best strategy for exploiting its superiority in manpower would be to attack simultaneously on several fronts. Such a simultaneous attack strategy might have denied Iraq the ability to reinforce its defenses against any given thrust by drawing on manpower in other parts of the front and to match a single major Iranian thrust with an equivalent mix of Iraqi manpower and technology.

Iraq also had manpower problems. It began the war with only limited mobilization. It then managed to mobilize a large part of its male population by stripping its domestic labor force to the bone, but only at cost of forced call ups and often forced recruiting sweeps in its major cities. Iraq did provide better training -- and better equipment, support, living conditions, and medical services -- for its troops than Iran. Yet, Iraq also had to use much of its manpower to secure its Kurdish regions, and was forced it to commit significant military manpower to this diversionary effort. Iraq also continued to substitute ideology for effective training and leadership until very late in the war, and this deprived its manpower of much of its potential military effectiveness..

**Figure 3.4**  
**Iranian and Iraqi Military Manpower**

In Early 1988				In 1980			
Category							
Iran	Iraq			Iran	Iraq		Iran Times Iraq
(millions)	(millions)			(millions)	(millions)		
Total Population	39.1	13.6	2.9	50.4	17.0	3.0	
Annual Growth Rate	2.9	3.5	.82	3.3%	3.6%	.91	
Ethnic Divisions							
Persian	63	-	-	63	-	-	
Other Iranian	13	-	-	13	-	-	
Arabs and Other							
Semitic	1	70.9	-	3	75	-	
Kurds	3	18.3	-	3	15-20	-	
Assyrians	-	2.4	-	-	-	-	
Turkic/Turkoman	18	2.4	-	18	-	-	
Turkoman, Assyrian, and Other	-	-	-	-	5-10	-	
Other	-	7.7	-	-	-	-	
Religion							
Shi'ite	95	50	-	93	60-65	-	
Sunni	2	40	-	5	32-37	-	
Christian	-	8	-	-	-	-	
Other	3	2	-	2	3	-	
Work Force							
Native	12.0	3.1	3.9	14.9	4.4	3.5	
Foreign	(?)	(?)	-	(a)	1.0	-	
Total	12.0	(3.1)		3.9	14.9	5.4	2.9
Military Manpower							
Males Ages 15-49		8.6	3.0	2.9	11.5	3.8	3.0
Militarily Fit	5.1	1.7	3.0	6.8	2.2	2.1	
Annual Total Reaching Military Age (Age 21)		0.383		0.146		2.6	0.54 0.18 2.7

Source: Projected by the author from the Central Intelligence Agency, The World Factbook, 1981, pp 92-94 and 1987, Washington, CIA, GPO, 1986, pp. 117-118.  
(a) Data on Afghan workers are not available.

### **3.4 Shifts in the Structure and Capability of Iranian and Iraqi Forces**

The broad trends in Iran and Iraq's military forces in the period between the Algiers Accord and the start of the Iran-Iraq War are shown in Figure 3.5. These trends clearly reflect the size of the arms race on each side during the five year period between the Algiers Accord of 1975, and the beginning of the war. They also show that Iran tended to emphasize force quality while Iraq invested in force quantity: Both because of its limited access to advanced Western arms during the before before 1978, and because of its effort to achieve at least numerical parity with Iran.

It is important to note, however, that any estimates of the forces each side could make combat effective at the time the war began are very uncertain. It is equally important to note that both sides began the war with major limitations on their ability to use their forces effectively.

Some of these limitations are roughly comparable, and provide important lessons as to why intelligence on Third World forces cannot be limited to data like force strength and orders of battle, and must carefully examine a range of qualitative and political factors that are often of far greater practical military importance:

- **Neither side had an effective high command structure. The Shah had constantly overruled his high command, arbitrarily dismissed commanders who disagreed with his orders and force expansion plans, and had surround himself with political survivors that often pandered to his authority.** The fall of the Shah had disrupted even this fragile basis for command and control, and the revolution had produced a rapid succession of senior commanders and major purges throughout the top of the Iranian officer corps. At the time the war began, a struggle for power had already begun between the new secular leaders like Bani-Sadr and the new religious leaders like Rafsanjani that was to dominate Iran's high command for the first year of the war, and a similar struggle had broken out between the regular forces and the emerging Revolutionary Guards.
- Iraq had undergone similar purges, and its high command had undergone such purges each year from 1977 to the beginning of the war. The high command structure had effectively become Saddam Hussein and his political supporters, none of which had practical military experience and training, staffed by a military high command whose survival was dependent on its support of, and responsiveness to, Saddam Hussein. Much of the high command was chosen more for loyalty than competence, and no real planning or command staff existed in an operational sense. The Iraqi high command administrated and provided intelligence, rather than commanded.
- **Intelligence on both sides was highly ideological and decoupled from objective observation, reporting, and analysis.** The political struggles between Iran and Iraq, and the highly political character of each regime, created intelligence branches that spent more time on internal security than external intelligence functions. Little attention was paid to modern technical intelligence, or to military intelligence functions like reconnaissance and target acquisition. The diverse intelligence branches of each side competed to show their loyalty and responded to the preconceptions and ideological beliefs of the leaders of their

states, rather than examined the military situation, the true nature of the support and opposition to the regime of the opposing state, and the host of details necessary to effectively plan and conduct modern war.

- **Neither side had any clear grand strategy or understanding of the risk and cost of war.** While Khomeini and Saddam Hussein believed in very different things, both regimes had a belief structure that led them to take victory largely for granted. They did not articulate a clear and detailed set of objectives in starting their campaigns against each other, or determine a clear strategy for reaching those objectives. Neither regime seems to have had any idea of how costly a war could be, or of the true nature of its political, economic, and military vulnerability. The price of this was to become brutally apparent during the first weeks of the conflict.
- **Neither side had any clear concept of operations.** Even before the Shah fell, Iran had built up its forces without creating a clear concept for how it would employ them in war. Ironically, it did have a fairly clear set of well-exercised plans for naval combat against a Western/Soviet style force, but it had no clear plans for attacking Iraq's naval forces. Iran was transitioning to a force structure that mixed highly mobile armored forces with attack helicopters, but it had acquired equipment it still lacked the training, plans, and operation exercise experience to use -- particularly without massive amounts of Western support and advice. It had effective individual squadrons but nothing approaching an effective air staff that could plan large scale attack operations, or which could effectively organize a regional air defense.
- Iraq was still organized largely along Soviet lines, although it is important to stress that it was not trained along Soviet lines, and did not exercise in the manner of Soviet forces. Iraq had no concept of naval operations and was in the midst of acquiring new Western ships it had bought for technical reasons and which it would have had to integrate into a concept of operation which would have been developed after their delivery. Iraq's land forces were organized largely for defense, and "stovepiped" in the sense they lacked effective training and organization to cooperate with each other. They emphasized mass and firepower, rather than maneuver and exploitation, and their only practical experience was that of hammering away at largely undefended Kurdish villages. Iraqi airpower was little more than a sick joke. Even the best squadrons were really collections of good individual pilots that lacked realistic combat training and an effective concept of operations as the squadron, much less the force level. There was no real concept of offensive operations except for the outline of ideas borrowed from other forces, and air defense consisted of large numbers of air and land based elements that were not integrated into anything approaching an effective overall concept of operations.
- **Neither side had a balanced and integrated force structure, and a clear concept of combined arms and combined operations.** Iran's forces were split between regular and revolutionary forces. While Iran had held some combined arms and combined operations exercises, these were largely set piece executions of U.S. planned exercises and Iran was largely incapable of conducting such operations on its own even before most of the key personnel involved were purged or fled the revolution. Iran's

regular infantry and armor could cooperate defensively before the revolution, but lacked offensive training and exercise experience. Artillery cooperation with armor and infantry was poor. Air operations were largely compartmented away from land operations, and were more oriented towards area air defense than the support of land operations. Fighter air defense and surface-to-air missile defense were very poorly coordinated and awaited the completion of an air C3I/BM system that was not operational before the revolution but a halt to any real progress.

- Iraq's forces were being organized into two basic groups" Regular forces and a Ba'ath dominated Popular Army that was to remain corrupt, politicized, and often incompetent through the entire war and even after the cease-fire. Iraq's "stove piping" created virtually all of the separation between branches of the land forces and air forces that has just be described for Iran, with the added complications that the elite Republican Guards were used more as a security force than as combat forces, and that armor was poorly coordinated with infantry. Iraq's equivalent of Iran's religious "commissars" consisted of Ba'ath Party supervisors and informers, and two competing intelligence services. These encouraged the separation between the branches of the land forces and air forces, and a natural tendency to refer every decision upwards and to refuse to take decisions on anything approaching a timely basis at the appropriate level of command.
- **Lack of consistency within the order of battle and within a given service. Both sides had units within radically different levels of individual proficiency and this made it very difficult to organize a large group of forces to perform effectively.** In the case of Iran, the Shah had often attempted modernization through something approaching a rule of terror. Commanders were rapidly and arbitrarily demoted for failing to meet the Shah's expectations. This reached the point where one of the senior U.S. advisors attempting to train and organize Iran to use its attack helicopters had the equivalent of a nervous breakdown, and where the Iranian command was so frightened of the Shah that when he demanded that all armored divisions be brought up to the proficiency of the best division, they faked the improvement by transferring officers and technicians from the best division into the worst.
- At the same time, the constant turbulence within given units from the Shah's flood of arms orders -- many of which were placed in spite of the direct opposition of senior commanders who felt they could not be absorbed at anything like the rate the Shah demand -- meant that even the best equipped units were often poorly trained and could not operate without Western contractor support. The revolution then made a bad situation far worse.
- Iraq's near compartmentation of its combat units meant that virtually every force element had different levels of proficiency, and these problems were compounded by a lack of anything approaching standardized unit equipment and training. Iraq also suffered from the same turbulence in terms of constant rapid equipment changes as Iran, and from the kind of rapid force expansion that meant that trained and skilled officers, NCOs, and technicians lacked stability in their units, rotated too rapidly to create effective units, and were diluted among far too large a force structure.

These problems shaped much of the behavior of Iranian and Iraqi military forces throughout the war. It is extraordinarily difficult to change the basic organization and competence of military forces while they are engaged in combat. At the same time, Iran and Iraq during the course of the war was that each nation faced very different pressures to change this situation and responded accordingly.

Iran's forces were so disorganized at the start of the war that they had to innovate simply to mobilize and deploy. This meant that they were initially more flexible to responding to the military conditions they had to face, and evolved a mix of regular and "revolutionary" war that served them well during the period where they had to first defend and then expel Iraq from Iranian territory.

This same success in innovation then, however, turned into a liability. It is clear that Iran's religious leadership came to feel that Iran's success during the first two to three years of the war to validated ideological approach to war that stressed revolutionary forces and popular warfare. Iran's ability to drive Iraq out of its territory, and successful offensives against Iraq, gave Iran's leadership little reason to correct the weaknesses that resulted from its "revolutionary" approach to war. In the long run, this led this leadership to make miscalculations that crippled its ability execute the war and to make effective judgments about the situation it faced.

If Iraq began badly, Iraq had the advantage of a more secular ideology, and one which was determined by a single autocrat who led and managed the state, rather than acted as a spiritual leader. Saddam Hussein and his supporters rapidly learned they faced a very different reality than the one they believed in when they started the war. When Iran successfully went on the offensive, Iraq's leaders were forced to make a steady series of corrections to the problems in their command structure, intelligence, concept of operations, training, and a host of other aspects of their war fighting capability that allowed them to survive and eventually gave them victory. This process of growing realism, innovation, and adaptation was scarcely quick or efficient, but in the long run, it gave Iraq a significant edge over Iran.

### **3.4.1 Trends in Iranian Forces**

The key difference between Iran and Iraq in the before before the war was that the Iran revolution cost Iran much of its military forces, and ability to make use of the Shah's massive arms build-up, during the two years before the war began. It is also important to note that Iran's forces had only token military experience, and that that experience was limited to supporting Oman in suppressing its poor armed Dhofar rebels under conditions where the British and Omanis did most of the fighting.

In early 1979, and before the Shah began to encounter massive political opposition, Iran had about 415,000 million men under arms, although only about one thirds of this force had anything approaching realistic military training. The Iranian army had about 285,000 men, including some 300,000 active reserves, but most of this force lacked the training needed to operated modern weapons in any kind of offensive combat. Only one of its three armored divisions, and two of its three infantry divisions, were effectively organized for modern combat. Iran had about 10 division equivalents in its force structure, including its reserve brigades, but many of these units existed only as cadre formations and had little military effectiveness.

The Iraqi Army had a total of some 1,735 main battle tanks, including 875 Chieftains, 400 M-47/M-48s, and 460 M-60A1s. The 875 Chieftains had recurrent reliability and service problems and were undercooled and underengined for the terrain and climate. The M-47s and M-48s were often not properly maintained. The Iranian army also had about 250 Scorpion light tanks, and 825 armored infantry fighting vehicles (AIFVs) including some 500 Soviet-made BTR-50, BTR-60, and BTR-152s and 325 M-113 armored personnel carriers (APCs) .

The army had roughly 700 major artillery pieces -- depending on what calibers were counted and whether the total included weapons in reserve or storage. These included 75mm pack howitzers, 330 M-101 105mm towed weapons and Soviet D-20 130mm towed guns, 112 M-114 towed 155mm howitzers, 14 M-115 203mm towed howitzers, 440 self-propelled M-109 155mm howitzers, 38 M-107 self-propelled 175mm guns, and 14 M-110 203mm self-propelled howitzers. Iran also had 72 BM-21 122mm multiple rocket launchers. It had large stocks of TOW, Dragon, SS-11, SS-12 and ENTAC anti-tank guided missiles.

The Iranian Army's land based air defense weapons strength consisted of some 1,800 anti-aircraft guns, including 100 ZSU-23-4 radar guided 23 mm self-propelled guns, 20 mm guns, M-1939 37 mm guns, 40 mm guns, and 85 mm cannon. Its major surface-to-air missile strength included Hawk surface to air missiles.

The Iranian Air Force had a strength of roughly 100,000 men. It had 447 combat aircraft, including 10 fighter-ground attack squadrons with 190 F-4D/Es and eight fighter-ground attack squadrons with 166 F-5E/Fs. It had four interceptor squadrons with a total of roughly 77 F-14As, and one reconnaissance squadron with 14 RF-4Es. Iran had modern ordnance for all these aircraft, including Maverick air-to-surface missiles and the latest air-to-air missiles, such as the long range all-weather Phoenix missile.

The Iraqi Army Aviation Command added round 70 fixed wing light reconnaissance and support aircraft to this force, plus well over 200 armed helicopters, including 205 AH-1Js, and some of its 285 Bell 214As. It had 50 AB-205As, 20 AB-206A, and 90 CH-47C transport helicopters. Iran's transport aircraft included two tanker/transport squadrons with 13 B-707s and 9 B-747s, and four transport squadrons with 54 C-130E/Hs. It had some 84 helicopters and 25 small utility jets and turboprops. It also had five Rapier squadrons and 25 Tigercat surface-to-air missile launchers for air base defense.

Iran's 30,000 man navy had moderate effectiveness. Iran had one ex-U.S. Tang submarine. It had three destroyers with Standard surface-to-surface missiles, four Saam-class frigates with Seakiller and Seacat missiles, and four ex-U.S. PF-103 corvettes. It had six large Kaman class missile patrol boats with Harpoon missiles, and seven large patrol boats without missile systems. It had five small mine vessels, one landing-ship logistic (LSL), one landing craft utility (LCU), \* SRN-6 and 6 BH-7 Hovercraft, and three support ships. It had modern naval bases at Bandar Abbas, Busheer, Kharg Island, Korramshar, Shah Bahar, and Bandar Pahlavi. Iran also had a 74,000 man Gendarmerie with Cessna 195/310 aircraft, 32 AB-205/206 helicopters, and 32 patrol craft.

The Shah's military forces, however, were scarcely the ones Iran went to war with. As has been discussed earlier, Iran repeatedly purged its senior command and officer corps beginning in February, 1979 -- and often added the problem of terror in terms of executions and arbitrary arrests. At the same time, the revolution caused major problems at every level. Khomeini called for large scale desertions in late January, 1979, and most conscripts did desert. The Army dropped from roughly 260,000-285,000 men to 90,000 to 150,000. The Air



Force dropped from about 90,000 to 100,000 to 60,000-65,000, and the Navy from 25,000-28,000 to 20,000-23,000. The Gendarmerie and other paramilitary forces virtually collapsed and dropped from around 74,000 men to roughly one-third of their original strength.

By February, 1979, this had reached the point where the new Khomeini government had to appeal for personnel to return and the creation of an Islamic officer corps. At the same time, however, the new "Islamic" commanders selected by the government found themselves with little authority and presiding over a hollow force. Further, the new Minister of Defense and commander of the Navy, Admiral Ahmad Madani, was forced to cut the Iranian defense budget by another third, reduce the conscription period to 12 months and allow conscripts to serve in their home provinces -- a concession that ensured that Iran's units in the forward area could not get even a proper proportion of the limited number of conscripts that actually showed up under the new system.

It seems likely that Iran would have let its military capabilities decline even further if the various separatist movements in Iran had not become increasing more violent once they saw that the revolution was very definitely Persian dominated. However, the Kurds began to challenge the new government as early as March, 1979. This led to the almost immediate use of the army, and to new shake-ups in the command of the regular land forces as the result of the fact the army fired on the Kurds. These military problems became much more serious in April and May, 1979 when Iranian troops had to be used against Arab separatists in Khuzistan.

The government's response was to blame the regular armed forces for both an excessive use of force, and an inability to deal with popular uprisings. Largely as the result of the efforts of Ibrahim Yazdi and Sadiq Ghotbzadeh, Khomeini's ruling Islamic Revolutionary Council decided to merge the small revolutionary militias that were being set up by various supporters of Khomeini into a popular army. This decision was taken after some debate over how to create such during May and June, 1979, and over who should be in charge and the role the Islamic clergy should play in the leadership of the new force. The result was a decree of June 16, 1979, that set up the Pasdaran e-Inqilab e-Islam, or Revolutionary Guards as a body that was under Khomeini's direct political control, and which had religious as well as civil leadership. Khomeini also agreed to establish the Hezbollah as a separate force under the Islamic Revolutionary Party and to use the popular volunteers or Baseej as a recruiting base for the Pasdaran and as a substitute for conscription which further hurt the intake to the regular forces.

The Air Force also continued to experience continuing command shake-ups at every level, as well as the loss or purging of more of its critical personnel. Moreover, it began to suffer badly from logistic and support problems. The computerized logistic system that the U.S. was helping the Shah's government set up had only reached the point where stocks were computer coded and logged, and the computers were installed. Most of the software necessary to operate the system was not in place when the Shah fell, and critical types of spare parts were still awaiting delivery. (Advanced combat fighters have over 20,000 critical parts per aircraft).

By August, 1979, most of Iran's combat aircraft were no longer operational, and all 80 of its F-14 aircraft had been sabotaged to make it impossible for them to use their Phoenix long-range air to air missiles. Most of Iran's helicopter force was inoperable, and plans already existed to cannibalize half of the force for spare parts. The situation was also only

marginally better in the case of the ground forces. Only about one-third of Iran's Chieftain tanks were operational and no more than 60-70% of its M-60s. Iran had had to cancel plans for a tank repair base at Dorud, and its armored warfare parts and ammunition factory near Isfahan was being converted to civil production. Months before the seizure of the U.S. Embassy in Tehran on November, 4, 1979, the Iranian Air Force and Army were experiencing critical spare parts problems,

Commanders continued to come and go, and the military forces continued to lose key personnel, between June and September, 1979. It was only after Iran seized the U.S. Embassy, that the Khomeini government began to mobilize. It then focused on the threat of an American invasion rather than on the threat from Iraq. While Khomeini had called earlier for the regular armed forces to be reorganized as the "protectors of Islam", it was the embassy crisis that led his government to authorized rebuilding the army to its pre-revolutionary strength and raising the Pasdaran from roughly 6,000 to 26,000 men.

On December 10, 1979, Khomeini went much further and called for Iran's youth to be organized into an "Army of 20 Million". As has been discussed earlier, however, none of these measures halted the purges in the armed forces, and at least another 7,500 personnel were purged during January and February, 1980. The Khomeini government had begun to face active plotting within the military, as well as the armed opposition of initially pro-revolutionary leftist movements like the Mujahideen e-Khalq and Fedayeen e-Khalq. This simultaneously discredited the regular military while creating an even greater demand for loyal revolutionary forces.

All of these trends continued during the first five months of 1980, and the June-July, 1980 coup attempt by members of the armed forces made this situation even worse. Iranian Prime Minister Rajaur expressed the view that a popular army based on martyrdom and zeal was better than a victorious army, and the government greatly stepped up the introduction of religious commissars into the armed forces. The regular Iranian armed forces reached the point where they had lost 30-50% of the officers that were serving at the time the Shah fell. The Iranian Army had lost up to 60% of its pre-revolutionary manpower.

In spite of various government statements, no serious effort was made to rebuild the regular forces until September 20, 1980, when Bani-Sadr called for general mobilization. This did lead to the rapid mobilization of some 200,000 men, but they were split between almost immediate transfer to the Pasdaran forces already fighting at the front, and regular and Pasdaran units which required trained manpower. In spite of large scale pardons and reactivations, and even the hiring of more politically suspect officers as "consultants", Iran was almost totally unready to deal with this new flow of personnel. Most conscripts and other ranks had been poorly trained under the Shah, and the Iranian training base had collapsed.

The continuing split between the advocates of rebuilding the regular forces, and the Mullahs and others advocating popular forces, also led the decision that the Pasdaran should rapidly be built up to the same size as the regular forces. The Pasdaran not only rapidly expanded to some 150,000 men, it was given authority over the Kurdish areas, and built up a separate command of roughly 30,000 men in Northeastern Iran. Further, while Khomeini did make President Bani-Sadr the head of a seven man Supreme Defense Council on October 13, 1988, three of the seven members were Mullahs and the Mullahs and their

supporters retained control over Iran's military procurement efforts and the manpower intake to Iran's rapidly expanding armed forces.

While Bani-Sadar did succeed in revitalizing some of the command structure of the regular forces, the Mullahs continued to maintain their own separate chain of command through the various religious "commissars" in the forces and often exercised a command authority which overrode that of the regular commanders. This created a constant struggle for power between Bani-Sadar and the Mullahs, and constant divisions within the military, that were only resolved when Khomeini finally removed Bani-Sadr from any command rule on June 11, 1988.

### **3.4.2 Trends in Iraqi Forces**

In contrast to Iran, Iraq steadily strengthened its military relations with the West during the late 1970s, while preserving its ties to the USSR. As a result, it was been able to buy virtually any major weapons it has sought from the Soviet bloc or Western Europe during the last few years before the Iran-Iraq War, as well as obtain a constant flow of replacements, critical spares, and munitions to support its logistic pipeline.

Iraq did, however, experience additional military problems that affected its capability at the start of the war. The Ba'ath never fully trusted the armed forces after they seized power from the party following Brigadier Abdul Karim Kassim's "free officer" coup against the monarchy on July 15, 1958. Many senior members of the Ba'ath assumed military rank to ensure control of the armed forces, including Saddam Hussein, who was made into a general after receiving an honorary degree from Iraq's military college in 1970.

The military was subjected to a long series of limited purges during the decade before the war, although scarcely the kind of dramatic cuts common in Iran after the revolution. These included officers suspected of sympathy to the Kurds, alignment with the Iraqi Communist Party, and officers which seemed to be too closely aligned to Shi'ite factions. At the same time, military forces were often treated as political symbols. For example, an Iraqi brigade was sent to support the PLO against Jordan in 1969, although Iraq had no ability to support it in combat. During the 1973 war, Iraq deployed an armored division to aid Syria on the Golan without adequate support, air defense, or transport assets, and without an effective high command. Syria then committed the unit to combat under circumstances where it was little more than a "sacrifice pawn" and took heavy casualties.

Iraq's long war against the Kurds also did little to prepare it for war against anyone else. Only about 20-30% of Iraq's Kurds ever took part in the movement for an independent Kurdistan, but Iraq still found it could not fight a guerrilla war against the Kurds and win. Its tactics became oriented around destroying the villages and population that the Kurdish guerrillas depended upon to survive. Rather than strike quickly and surgically at enemy military forces, Iran came to depend on slow massive assaults on villages and population centers where artillery barrages would clear the advance, Iraqi forces would surround an area, artillery would largely destroy a population center, and troops would advance on the devastated result -- and then largely only if the remaining Kurds were not capable of more than minimal resistance.

While Iraq had about 225,000 million men and women under arms by late 1980, at least two-thirds of this force had limited military training. Its army had about 190,000 men, including some 250,000 active reserves, but most of this force lacked the training needed to operated modern weapons in any kind of

offensive combat. Its forces were heavily committed to securing the Kurdish areas in the northeast, and only one of its four armored divisions, and two of its six mechanized and infantry divisions, were effectively organized for modern combat. Iraq had 13 to 17 division equivalents in its force structure, including its People's Army and reserve brigades, but many of these units existed only as cadre formations and had little military effectiveness.

Iraq's political and paramilitary forces were particularly ineffective. The Popular Army was a Ba'ath militia that was founded in 1970, and which had been greatly expanded after 1975, when the Ba'ath Party leadership became convinced it still faced opposition in the regular armed forces. The Popular Army theoretically provided military training to every male party member between 18 and 45, and had a nominal strength of 250,000 trained men when the war began, but very few members of the Popular Army were in active units and many had only limited training.

Iraq did have a Vanguard force which had trained some 285,000 youths between nine and 16, but this training had far stronger political elements than military ones. In contrast, Iraq did have some good formations including two special forces brigades and a Presidential Guard force with one to two armored, and one commando brigade.

In late 1980, the Iraqi Army had some 2,700 main battle tanks. Up to 2,500 of these are Soviet supplied T-54, T-55, and T-62s; up to 100 were T-72s, about 100 were T-34s, and up to 100 were French AMX-30s. The army also had about 100 PT-76 amphibious tanks, and 2,500 armored infantry fighting vehicles (AIFVs) including some 200 Soviet-made BMP armored fighting vehicles (AFVs). The rest were largely BTR-50, BTR-60, BTR-152, OT-62, and VCR armored personnel carriers (APCs) .

The army had roughly 800 major artillery pieces -- depending on what calibers were counted and whether the total included weapons in reserve or storage. These included a wide mix of Soviet bloc towed weapons and multiple rocket launchers, and 26 Soviet FROG-7 and 12 Scud B free rocket and guided missile launchers. Iraq had large stocks of Milan, SS-11, AT-2, and AT-3 anti-tank guided missiles.

The Iraqi Army's land based air defense weapons strength consisted of some 1,200 anti-aircraft guns, including ZSU-23-4 23 mm self-propelled guns, M-1939 37 mm guns, ZSU-57-2 self-propelled 57 mm guns, and 85 mm, 100 mm, and 130 mm cannon. Its surface-to-air missile strength included SA-2 launchers, SA-3 launchers, and 25 SA-6 launchers.

The Iraqi Air Force had a strength of roughly 38,000 men, including some 10,000 air defense personnel. It had air bases at Basra, H-3, Habbaniyah, Kirkuk, Mosul, Rashid, Shaiba, and thirteen additional military air strips. These bases were due to be sheltered but this sheltering was only partially complete when the war began.

Estimates differ, but the Iraqi Air Force seems to have had 332 combat aircraft, including two bomber squadrons with 7-12 Tu-22 Blinders and 8-10 Il-28s. The Tu-22 bomber units had limited proficiency and the Il-28s were little more than obsolete sitting ducks. Iraq had 12 fighter-ground attack squadrons: Four with 80 MiG-23Bs, four squadrons with 60 Su-20s and three with 40 Su-Bs, and one with 10 Hunters. Only a few of the M-G-23 and Su-20 squadrons had a high level of operational capability. It had five interceptor squadrons with a total of roughly 115 MiG-21s. Iraq however, was only able to deploy about 60

aircraft out of these interceptor forces per day, they had poor air-to-air combat trainer and very limited export versions of Soviet radars, and they were restricted to an air-to air missile inventory which consisted largely of obsolescent Soviet-made AA-2s.

The Iraqi Army Air Corps added around 70 armed helicopters to this combat air strength, including 41 Mi-24 Hinds with AT-2 Swatter, some SA-342 Gazelles, and Mi-4s. Iraq's transport aircraft included two squadrons with nine AN-2s, eight AN-12s, eight AN-24s, two AN-26s, 12 IL-76s, 2 Tu-124s, 13 IL-14s, and two DH Herons. The Iraqi air force had large reserves of training aircraft, including MiG-15s, MiG-21s, and MiG-23Us.

Iraq's 4,250 man navy had little effectiveness. Ironically, Iraq had allowed its navy to run down before the war because it was awaiting the arrival of new frigates and corvettes, which were under construction in Italy. At the start of the war, it only had one training frigate, eight fast attack craft (FAC) armed with Styx SSMS, four FAC armed with torpedos, three large and eight coastal patrol boats, two Polnochy class-landing craft and some inshore patrol vessels. Iraq's only naval bases were small facilities at Basra and Umm Qasr -- which only had a small channel, plus docking capability and a radar at Faw.

**Figure 3.5.**

**The Trends in Iranian and Iraqi Military Forces: 1975-1980**

Force Category	1974/75			
1979/80_____				
	Iran		Iraq	
Iran			Iraq	
TOTAL ACTIVE MILITARY				
MANPOWER SUITABLE				
FOR COMBAT	238,000	112,500	240,000	535,000
LAND FORCES				
Regular Army Manpower				
Active	175,000	100,000	150,000	200,000
Reserve	300,000	250,000	400,000	256,000
Revolutionary Guards/			30,000	-
Baseej/People's Army-	-	-	75,000	650,000
Hezbollah (Home Guard)	-	-	?	-
Arab Volunteers-	-	-	6,000?	
Gendarmerie	70,000	-	?	
National Guard	-	10,000	-	
Security Forces-	5,000	-	-	
Division Equivalents				
(Divisions/Brigades)				
Armored	3/-	2/-	3/1	12+3
Mechanized	-	-	-	4
Infantry and Mountain	2/2	3/1	3/1	4
Special Forces/airborne-	2	-/2	-/2	-
Pasdaran/People's Militia	-	-	-	-
Major Combat Equipment				
Main Battle Tanks	1,160	1,390	1,735	2,750
400 M-47	1,300	T-54/55/62	400 M-47/48	50 T-72
460 M-60A1	90	T-34	460 M-60A1	100 AMX-30
300 Chieftain		875 Chieftain	2,500	T-54/55/62
		100 T-34		
Other Armored				
Fighting Vehicles	2,000	1,300	1,075	2,500
Major Artillery	664	700	1,000+	1,040
AIR FORCES				
Air Force Manpower	50,000	10,500	70,000	38,000
Combat Aircraft	216	218 445	332	
32 F-4D	8	Tu-16	188 F-4D/E12	Tu-22
64 F-4E	60	Su-7	166 F-5E/F10	Il-28
100 F-5A	20	Hunter	77 F-14A	80 MiG-23B
4 RF-4E	100	MiG-21	14 RF-4E	40 Su-7B
16 RF-5A	30	MiG-17	60	Su-20
		115 MiG-21		
		15 Hunter		

Attack Helicopters	0	0	205	AH-1S	41	Mi-24
Total Helicopters (a)	264	101	744	260		
Surface to Air Missile						
Forces	1 Hawk	SA-2, SA-3Hawk	SA-2, SA-3.			
Bn (b)	SA-6 5	Rapier Sqns	25	SA-6		
	25	Tigercat				

# NAVY

Navy Manpower	13,000	2,000	20,000	4,250
Destroyers	3	0	3	0
Frigates	4	0	4	1
Corvettes/Submarine Chasers	4	3	4	0
Missile Patrol Craft	0	3	9	12
Major Other Patrol Craft	7	0	7	-
Mine warfare vessels	6	2	5	5
Hovercraft	10	0	14	0
Landing craft and Ships	4-7	6	4	17
Maritime Patrol Aircraft	0	0	6	P-3F 0

Source: Adapted by the author from the 1974/1975 and 1980/1981 editions of the IISS Military Balance.

(a) Includes Army helicopters.

(b) Includes some Rapier and Tigercats.

### 3.5 The Terrain

The final factor that needs to be considered in understanding the conditions that existed at the start of the war, and which helped shape its course, is geography and terrain. Both these factors played a critical role in determining the conditions that shaped the war. The key features shaping their impact were (a) Iraq's lack of strategic depth (Tehran is 700 km from the border, while Baghdad is 100), (b) Iraq's lack of secure access to the Gulf, (c) the water barriers of the Tigris-Euphrates, and (d) the mountains near the border to the north. These terrain conditions are shown in in Figure 3.6.

The Iran-Iraq border is roughly 1,300 kilometers long. It begins just south of the point where Iran ceases to share a common border with Turkey, and at a latitude of approximately 37 degrees. There are roads that move across the border area in the north, but it is mountainous and easily defensible. More trafficable areas for military operations stretch from Qasr-e-Shirin, an Iranian border town northeast of Baghdad to as far south as Basra, an Iraqi port city located near the opening of the Shatt al-Arab.

In the north, the mountain areas are steep and bleak, with minimal vegetation and tree cover. Some peaks rise to around 2,700 meters and most of the land is over 1,000 meters in height. The region is largely Kurdish and is warm in summer, but cold during the rest of the year and the peaks and high plateaus are covered in snow in the winter. The direction of the mountain ridges is southeast to northwest and the ridgelines roughly parallel the border. This creates serious logistic problems, and fighting has to take place on a ridge by ridge basis, and road lines of communication are often limited and vulnerable to sabotage or ambush. Infantry can often easily outflank or bypass armor and vehicles.

Altitude was a factor in the north for both operational and climate reasons. Both Iran and Iraq had serious problems in maintaining good helicopter performance at high altitudes, and combat in the mountains in the north imposed a heavy service burden on land vehicles. In many cases, it forced both sides to rely on infantry or heliborne troops, and during several months of the year, the cold and snow made sustained combat impossible.

During Iraq's invasion and during most of the war, the major fighting concentrated along the central and southern border sectors, although significant fighting began in the north in 1984. Vehicular traffic in the central and southern border area is inhibited by both mountain and water barriers. Vehicular traffic is fair-to-good in southwestern Iran (Khuzistan), as far north as Dezful. Vehicular traffic, as well as foot mobility for large military formations, becomes extremely difficult farther north and in the Zagros Mountains.

The central sector covers the area roughly parallel to Baghdad. The border follows a broadly curving salient that thrusts into Iraq and largely follows the separation between river plain and the Iranian plateau. The Iranian side of the border consists of the Zagros mountains, which reach heights of up to 1,700 meters, although most are below 1,000 meters in height. Much of the border is disputed, including the area around Mehran and Qsar e-Shirin. Iran is vulnerable to an attack from the east in the vicinity of Qasr-e-Shirin. A successful attack in this area establishes a strong strategic position along the historic invasion route, Khanaqin and Kermanshah, leading toward Tehran. Baghdad,



however, is vulnerable to armored operations via several passes through the Zagros Mountains. The flat plain on the Iraqi side, however, offers infantry little cover and requires an Iranian force to use both armor and mobile supply lines to be effective.

There are extensive rivers and marshes on either side of the southern-central border area. The major rivers include the Euphrates, Tigris, Karun, and Shatt al-Arab. There are many marshes including the Hawaizah marshes. Precipitation can render the ground virtually impassable to military vehicles. The strategic hills around the Baghdad-Basra highway in southeastern Iraq are shielded by several marshes. There is also a belt of marsh land along the Tigris River, which flows within Iraqi territory. These marshes vary sharply in depth according to the time of year. Some are wet all year round, but many only flood during the rainy season. They tend to be filled with tall reeds and provide extensive natural cover. In contrast, the terrain outside the river plain and marshes is barren and flat, and many of the seasonally flooded areas turn into totally dry and exposed earth that is ideal for armored operations.

Flooding was equally important in the far south, in the region from roughly Dezful to the Shatt al-Arab. The area around Basra and Abandan is still prone to natural flooding. On the coastal plains, military movement is slowed considerably with the onset of the winter rains in November, although it is possible to fight comparatively easily until major flooding begins in mid-April, when the thaws in the mountains in Kurdistan raise the level of all the rivers in the area. Roads only become passable in the late Spring, after the flooding caused by melting mountain snows has subsided. Movement can remain hampered until June or July, when rising temperatures become a major factor in inhibiting combat.

Iraq and Iran built dikes that in the southern sector that turned parts of the terrain into massive water barriers. Iraq made particularly extensive use of such barriers once it was forced onto the defensive. Iraq diverted the Tigris and Euphrates to the east and north of Basra and created massive lakes and swamps. It then diverted the waters from these lakes to feed canals that flowed down the eastern shore of the Shatt al-Arab, and towards the Karun River and Khorramshahr. These created water barriers to help defend Basra.

In the far south, toward the Shatt al-Arab, the coastline is low and swampy during much of the year, and was often ill-suited for anything but amphibious or infantry combat. Rivers present a major problem even when no marsh area is present. The rivers have steep banks and when the levels fall, the shore has a sharply rising angle that infantry sometimes must climb with ladders. Alternatively, a sudden rise in river level can make its bank muddy and impassible for up to several hundred meters on both sides. The coastal terrain around Abadan Island and Faw is also surrounded by a salt marsh whose level varies with the season and sometimes with the tide. Iraq only has about a 50 mile coastline on the Persian Gulf. This coast is low, and during the flood season it is swampy and best suited to amphibious combat.

Temperatures in the southern and central sectors during May to September can range well over 100° F., and the area is virtually a no-man's land during much of the year. These environmental conditions are unsuitable for armored warfare during part of the year, and make any kind of war brutally unpleasant during much of the year. Temperatures in closed vehicles can exceed 130 degrees, and temperature and water problems can deprive infantry units of much of their effectiveness within a day of exposure on open terrain.



**FIGURE 3.6 (Old Figure 4.13)**

**MAP OF IRAN-IRAQ**

## Footnotes:

See Alvin J. Cottrell, "Iran's Armed Forces Under the Pahlavi Dynasty," in Iran Under the Pahlavis, George Lenczowski, ed. (Stanford: Hoover Institution Press, 1978).

R. K. Ramazani, The United States and Iran (New York: Praeger, 1982), p. 44.

The one professional grouping that seems to have suffered somewhat less than the others were the less technical senior NCOs. This group was mostly anti-monarchist due to the Shah's policy of educating these people while refusing to grant them privileges commensurate with those enjoyed by commissioned officers. The data on Iranian military purges are complex and uncertain, but Nikola B. Schhgaldian provides an excellent analysis in The Iranian Military Under the Islamic Republic, Santa Monica, RAND R-3473-USDP, March, 1987.

The Military Balance, 1979-1980 (London: International Institute for Strategic Studies, 1979), p. 39.

During the beginning of the war, Saddam Hussein went so far as to blame the superiority of Iran's American weapons for Iraq's slow advance; see "Iraq Covets Opponents' Weaponry," Middle East Economic Digest (October 27, 1980).

"The Avengers of Karbala," The Economist (July 17, 1982), p. 29.

Jordan supplied volunteers, food, medicine and trained troops for the use of Western technology; served as a supply route; and provided its air bases as refuge for the Iraqi Air Force and civil air fleet. Iraq, however, often failed to pay its bills to Jordan after 1983. Wallace A. Terrill, Jr., "Saddam's Closest Ally: Jordan and the Gulf War," Journal of South Asian and Middle Eastern Studies (Winter 1986) Vol. IX, No. 2.

Daniel Southerland, "Iraq-Iran War: Neither Seems Able to Win, But Have Both Lost Enough to Negotiate?", Christian Science Monitor (November 5, 1980), p. 1.

Thomas W. Miller, "Will Saddam outlast the Iran-Iraq War?", Middle East Insight (April/May 1984), p. 33

ACDA, World Military Expenditures and Arms Transfers, 1969-1978, p. 160.

This analysis draws heavily on Richard F. Grimmett, "Trends in Conventional Arms Transfers to the Third World By Major Supplier," Congressional Research Service, Report Number 888-352, May 9, 1988.

The armored or mechanized divisions all differed in structure. A nominal armored division had two armored and one mechanized brigade.

Many of these estimates are based upon Nikola B. Schhgaldian, The Iranian Military Under the Islamic Republic, Santa Monica, RAND R-3473-USDP, March, 1987; Edgar O'Ballance, The Gulf War, London, Brassey's, 1988, pp. 20-24; Sepher Zabih, The Iranian Military in Revolution and War, London, Routledge, 1988; and Shahram Chubin and Charles Tripp, Iran and Iraq at War, Boulder, Westview, 1988, pp.21, 33-35.

Madani was also governor of Khuzistan and could only devote a limited amount of time to the problems the regular services then faced.

These purges included the assassination of some officers in exile, including General Hardan al-Takriti.

The armored or mechanized divisions all differed in structure. A nominal armored division had two armored and one mechanized brigade.

This estimate is based largely on the IISS, Military Balance, 190-1981, pp. 40-42.

Water use often exceeds two gallons per day per man.

