India's Security in the 1990's *

PROF K R SINGH **

India's security in the coming decade will be influenced by anticipated changes in several variables at global, regional and sub-regional levels. One of the variables representing change at global level and likely to affect India's security is the New Detente between the two Super Powers. It has given a new thrust to nuclear disarmament as represented by the INF treaty. Also, there are pointers towards disarmament at the level of conventional weapons also. Will some of these weapons, both with conventional and nuclear warheads, be destroyed or transferred to other states, and what effect would that have on regional peace and security needs to be examined with care. It should be kept in mind that some of the Chinese IRBMs, without their nuclear warheads, have already been transferred to Saudi Arabia. Parts of India come within the range of those missiles.

Another facet of the New Detente is the understanding among great powers to resolve regional problems. Momentum for the resolution of long-drawn conflicts, as in Namibia, Cambodia, and to some extent, in the Gulf, reflects that trend. The impact of new developments in the Asia-Pacific region, especially the new turn in the Sino-Soviet relations, also needs to be analysed in the context of its possible impact upon India and the neighbourhood. Detente in Sino-Soviet relations, among other things, has relieved military pressure on the northern and western borders of China. Whether that leads to a redeployment of Chinese forces in the south or to an overall reduction in the Chinese force-level is still undecided.

These global changes, among other things, are the contribution of basic changes in the domestic and world view of leadership both in the USSR and also in China. *Glasnost* and *perestroika* represent a 'real politik' view rather than an 'ideological' view of the Soviet policy. What impact that change will have on the Soviet policy towards the developing countries will have a far reaching impact on India's security also.

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** Professor K. R. Singh is the Director of National Security Programme at the School of International Studies, Jawaharlal Nehru University, New Delhi.

Like the Soviets, Chinese society was also opening up. But struggle between two forces, the so-called hardliners and the reformists, came out openly during the May-June 1989 demonstrations and responses of sections of Chinese ruling elite. At the moment, it seems that the so-called hardliners have an upper hand but the student demonstration has unfolded a new facet of Chinese domestic policy that is bound to have its impact on China's foreign policy as well. These forces of continuity and change in Chinese society need to be carefully evaluated because of the likely impact on the future of nascent detente between India and China.

Not only changes at the global level but also at regional level need to be analysed in depth. South-East Asia has been long neglected in India with the result that events have overtaken our policy in that region. For a long time, the Cambodian question had polarised forces in South-East Asia. That polarization, with the Indo-Chinese states and USSR(along with India) on one hand, and the ASEAN states, the west, Japan and China on the other, will hopefully end soon. Vietnam has announced the decision to withdraw its troops from Cambodia by September 1989. Also, the USSR has conceded to China on the Cambodian question. The settlement of the Cambodian question on terms favourable to China and growing Chinese presence, both on the land frontiers of South-East Asia and in the South China Sea, is likely to lead to new equations in that region. A correct appreciation of these developments in India's eastern flank is essential to assess the impact of the new strategic equation, that is likely to emerge in South-East Asia, on India's security in the coming decade.

India's security was always influenced by events on its western flank. Three major factors will continue to dominate the scene there; the Arab-Israeli question, Islamic reassertion, and the future of oil. These three factors not only influence India's foreign policy but also domestic policy and hence, need careful assessment.

India has been deeply involved, both politically and emotionally, in the Arab-Israeli question since the last six decades if not more. Today, that question has been reduced to two major issues; the Israeli withdrawal from the occupied territories, including the Golan Heights, and restoring their legitimate rights to the Palestinian people. Unlike the past decades when Arabs had rejected the very concept of negotiated settlement with the Jews, today Arabs are on a diplomatic offensive and are almost challenging the ruling elite of Israel to come to a negotiated settlement. While the Arabs, including the PLO leaders, have changed their stance, Indian policy still has to reflect that changing mood *vis-a-vis* the basic Arab-Israeli question. An up-dated appreciation of Arab-Israeli relations becomes essential if India has to frame its West Asia policy on a sound footing and not act as the last of the 'radical Arab' states.

Religious reassertion, that periodically sweeps the Islamic world, will continue to have its impact on the West Asian scene for some time to come, both at the level of domestic as well as foreign policies. Whether the Iranian system of the dominance of religious elite is strengthened or not will have great relevance in the context of religious revivalism in other Islamic states where politicised religion poses a great challenge to the existing secular state structure. Islamic reassertion has its foreign policy implications also and influences the 'Pan-Islamic' trends. Both these dimensions of religious reassertion in the Islamic world influence not only the domestic but also the external security environment of India.

The Third factor that is and will continue to influence West Asia in general and the Gulf in particular is the question of oil. The relative importance of the Gulf in global oil equation has been undergoing major changes as seen from table 1. In 1988, out of the total oil production of 3,025 million tons (metric), West Asia and North Africa produced about 825 mn tons. Of that, the Gulf accounted for 687.5 mn tons. Thus, the Gulf oil accounted for about 23% of the world's total. Though it is almost half of the 1973 percentage, it is very important in terms of the sustained economic development of the free market economy countries of the North.

TABLE 1

Oil Production (in mn tons metric)

	1973		1980		1988	
	Production	% of world	Production	% of world	Production	% of world
World	2.277		2,979		3,025	
WANA	1,204	52	1,084	36	827	28
Gulf	1,016	44	912	30	687	23
Saudi Arabia and Kuwait only	541	23	580	20	324	11

Since the last few years, Gulf oil has lost its previous edge as a 'weapon'. However, despite what is generally called as the 'reverse oil shock', the Gulf oil is, and will remain an item of crucial strategic importance to the industrialised North. Firstly, the North still depends heavily upon the Gulf oil. But, the real value of the Gulf is in term of the proven and commercially exploitable oil reserves that are available there. (For details see table 2) Undoubtedly, more and more oil reserves are being found but even a glance at table 2 reveals

some important trends. It reveals that the USA has very limited reserves. Though more oil has been discovered in Mexico and Venezuela in Latin America the total oil reserves of these three major oil producing states do not amount to even one third that of the Gulf. In fact Kuwait and Saudi Arabia alone have reserves of about 225 bn. bls which is double that of these three important oil producing states and almost one third of the world's total proven oil reserves. The second major trend is that the North Sea oil which has proved to be a crucial alternate source of oil for the members of the EEC is also fast getting exhausted and is not likely to last for more than a decade at the current rate of exploitation. Thus, the Gulf which accounts for almost 50% of World's proven oil reserves, will be of strategic importance to the North in the years to come. No wonder, the Rapid Deployment Force and the CENTCOM strategy has the Gulf oil as its main focus.

TABLE 2

Oil Reserves
(estimated in billion barrels)

	1976	1987
World total	658.6	703.1
USA	33.0	32.5
Mexico	9.5	54.7
Venezuela	17.7	25.0
Nigeria	20.2	16.0
North Sea (UK and Norway only)	23.0	15.8
USSR and East Europe	83.4	60.9
China	20.0	18.4
Arab Africa	38.5	35.5
Arab Asia	304.3	303.9
Iran	64.5	48.2
Gulf total	368.8	364.5

According to estimates, RDF/CENTCOM strategy will involve following force: three aircraft carrier battle groups, one amphibious ready group, ten tactical fighter wings, each consisting of about 72 aircraft, two Marine amphibious forces, each consisting of a ground combat division, a tactical fighter wing

and sustaining support, and five Army combat divisions. In all, 440,000 personnel along with their weapons and other equipment are earmarked. Several roll-on roll-off ships loaded with equipment for a Marine Amphibious Brigade (approximately 16,000 men) and supplies for Air Force and Army units are located aboard several chartered ships of the Near Term Prepositioning Force located at Diego Garcia. Several similar ships are also located at other ports near the Gulf.

The RDF/CENTCOM strategy depends upon active cooperation of atleast some of the regional powers including those in and around the Gulf. That explains the systematic links between USA on one hand and the Gulf Cooperation Council states and Pakistan on the other. If Pakistan has to play a meaningful role in the US strategy in the Gulf then, in all probability Pakistan's air-sea capability will be further strengthened by the USA and the Gulf states. In the past, 40 F-16 planes were reportedly funded by Saudi Arabia. Even now, Pakistan has been assured the funding for additional 60 F-16 planes from similar source. Also, USA had transferred to Paksitan six destroyers in the past decade. Six to eight frigates, with modern anti-submarine equipment have been promised to be supplied to Pakistan on lease. It is also likely that Pakistan might receive Orion anti-submarine and maritime reconnaissance aircraft from the USA to buttress that capability. These are the indicators of the continuing linkages between Pakistan, USA and major Arab oil producing states in the Gulf. As noted earlier, that equation will have long-term security implications for India.

In South Asian sub-system, the perennial question of equilibrium between centripetal and centrifugal forces will continue to dominate the question of regional security. These forces will continue to influence India's relations with its immediate neighbours. Over the years,number of irritants have increased even with those states with which India had cordial relations in the past; like with Nepal, Sri Lanka and Bangladesh. How valid is the charge of Indian 'hegemony' or is it only a diversion from the growing domestic discontent in these countries, needs to be examined. On the positive side, centripetal force has been strengthened by the formation of the SAARC. Can that force be strengthened? It is time that India and other members of the SAARC evolve, among themselves, common denominators that would help to strengthen stability in each of the states in South Asia, so as to strengthen these centripetal forces at the level of the SAARC.

Changing strategic environment at global and regional levels will have its military implications for India. This aspect of India's security needs to be analysed under three main heads; forces of destabilization operating through domestic elements, external forces influencing region's military balance, and

the new trends in weapon systems that are likely to affect India's security in the coming decade.

Though India had always faced the question of insurgency, mostly in the North-East, terrorism is a recent phenomenon. Like insurgency, terrorism too depends upon foreign bases and support. However, unlike insurgency, whose targets are generally those that represent state apparatus, terrorism does not discriminate between targets. Soon terrorism, especially in the Punjab, got hooked on to the increasing drug trafficking.

Drugs produced in certain areas of Afghanistan, especially those that are not under direct control of the central authority in Kabul, and also in parts of North West Frontier Province of Pakistan, began to be routed *via* India. According to the *News Week* of 6 October 1986, Afghanistan grew enough opium to produce about 60 tons of heroin. Since the ratio of opium to heroin is about 10:1, production of raw opium would have amounted to about 600 tons per year. It is reported that opium production has increased considerably in that area. Drug produced there is sold in the West. Reportedly one-third of the total drug supplied in the USA originates from this so-called Golden Crescent. Much of that passes through India. Drug trafficking supplies money as well as arms to the terrorists and, according to some, political protection in South Asia and economic, political and legal support in countries where that drug is finally sold.

This parallel regional and international nexus of drug trafficking not only poses a serious threat to domestic peace, security and stability but also leads to heavy expenditure in peace-keeping and anti-terrorist operations. According to the *Military Balance* of 1986-87, India's para-military forces include about 90,000 in the Border Security Force, 37,000 in Assam Rifles, 14,000 in Indo-Tibetan Border Police and about 112,000 in other national security forces like the CRPF etc. Thus, India has about 250,000 strong para-military force besides the police and armed forces. This number has been increasing over years. When one discusses defence expenditure, one tends to ignore the cost of these forces which are under the Home Ministry. These forces, basically entrusted with anti-insurgency and anti-terrorist operations in sensitive areas on the eastern as well as the western sectors, impose heavy financial burden on the nation.

Not only India but its neighbours in South Asia have been hurt by the nexus of drug and internal instability due to terrorism. SAARC has come to some understanding on the question of terrorism but no practical policy has been evolved at the SAARC level so far on that question. The question of controlling drug trafficking is also under serious considerations, especially at

the bilateral level between India and Pakistan. Both, terrorism and drug, can become useful common denominators for a SAARC approach to regional security.

Military threat to India's security can be analysed under three heads; those arising from China, Pakistan and from forces operating in the Indian Ocean. While India faces individual challenges from each of these forces, they also tend to reinforce each other's capability through political and strategic linkages, military and economic aid and arms transfer. Often, this cumulative threat to India's security is not adequately assessed by several Indian and foreign commentators on the subject.

China and India are two major developing powers in Asia. While India had envisaged an environment of Asian solidarity as the basis of Sino-Indian relations, regional and international events contributed to the emergence of a competitive relationship, often verging on active hostilities. Though there has been no direct serious armed conflict between the two since 1962, possibility of military confrontation remains the dominant factor in their relationship even today, despite the recent attempt at detente.

Chinese adopted a two-pronged strategy towards India; the one of direct confrontation across the Himalayas, and the indirect confrontation through arms transfer to states in South Asia. Both these facets of Chinese policy need to be analysed together for a correct appreciation of Chinese military strategy *vis-a-vis* India.

Direct military confrontation across the Himalayas in Ladakh and Tibet forced India to strengthen its defences on the northern borders by building bases, constructing roads and other means of communication in very difficult and inhospitable terrain, as well as to raise about eleven specialised mountain divisions. Air defence for those sectors had also to be strengthened not only by stationing more aircraft in support of those sectors but also by creating an integrated air defence environment system consisting of radar and communication network as well as computerized data analysis system.

Chinese can, however, pose only a limited conventional military threat from the north because of logistic difficulties and also because of inhospitable terrain which is not suitable for effective operation of heavy weapons like the main battle tank. Hence, Chinese adopted an indirect method of confronting India by transferring large quantities of sophisticated arms to India's neighbours in South Asia.

Pakistan is the largest recipient of Chinese military aid to South Asian states. Reportedly, of the total tank strength of 1600, 1200 are of Chinese

origin. Its airforce has more than 250 Chinese jets out of a total of about 400 frontline aircraft. Its navy operates eight missile boats and 20 petrol boats of Chinese origin. Bangladesh has 90 tanks in operation. Of them 60 are of Chinese origin. All its frontline aircraft are Chinese. Its navy operates four missile boats and eighteen patrol boats of Chinese origin. Sri Lanka also operates similar patrol boats. Nepal is the latest recipient of Chinese arms. Reportedly, these arms are sufficient to equip two infantry divisions. How Nepal hopes to get extra funds to almost double its armed forces is not clear. May be, Chinese might offer military-related economic aid to Nepal which will further complicate the situation. Till date, China has transferred to South Asian states about 1,250 main battle tanks, besides light tanks, armoured troop carriers, medium artillery, more than 325 frontline jet fighters, 12 missile boats, 44 partol boats beside large quantities of small arms.

These weapons pose as much a threat to India as if they were deployed by Chinese themselves. But, Chinese, by their strategy of indirect approach, not only do not have to spend any money on their use but in fact earn some profit through these deals. Even if these arms are sold at a very low price they do bring financial benefits to China. Moreover, the cost of integrating them into fighting units is borne by the country concerned and not by China. Also, the arms race generated by the induction of Chinese arms in South Asia tends to make these states further dependent upon China. Thus, the direct and indirect approach of Chinese military strategy towards South Asia, without even taking into account Chinese nuclear weapon capability, poses a serious security challenge to India. Despite the new trend towards detente between India and China and the visit of Rajiv Gandhi to China, there does not seem to be a change in that policy.

India's military environment is closely influenced by its relations with Pakistan. Unfortunately, Indo-Pak relations, at least at official levels, have been marked by varying degree of hostility, and even armed conflict. Today, there is a move towards detente and some tentative steps are being taken like official-level meetings and joint commissions at various levels, to remove misunderstanding and even to workout a framework of cooperation as in the case of action being contemplated in the suppression of terrorism and drug trafficking. But, these measures have not yet built mutual confidence and hence, long-term framework of competition if not confrontation is likely to influence mutual military equation in the coming decade. Thus, India will look at Pakistan's military capability with apprehension. Pakistan too will reciprocate.

Pakistan's military capability is not based on its intrinsic national capacity but reflects its strategic links with the USA, China and states of the Gulf.

Between the middle fifties and early sixties, US-Pak equation in the context of the Baghdad Pact and the CENTO got Pakistan not only advanced US weapons like the Sabre jets, Patton tanks, and submarine but also economic and military aid. US interest in Pakistan declined rapidly following the shift in the US strategy of land-based confrontation in the northern tier to the naval strategy in the Indian Ocean with its focus on the Gulf. Iran became the focal point of US strategy in the region. Pakistan had, therefore, to switch over to China for augmenting its military capability. The Sino-Indian conflict and China's policy of indirect confrontation with India in South Asia helped to forge that strategic link between China and Pakistan. The link is sustained by both of them even today. In the seventies, Pakistan took the help of Gulf states in its military modernization programme. Reportedly, some of the Mirage III and 5 planes, acquired by Pakistan during that period, were funded by Arab states of the Gulf. During these years, Pakistan had limited military help from the USA.

In the eighties, Pakistan once again acquired a strategic role in the context of US strategy in South-West Asia. Despite the earlier rejection of US aid offer of $ 400 mn as pea-nuts by President Zia during the Carter regime, Pakistan was able to get $ 3.2 bn aid package for five years. Half of that was military aid. Pakistan continues to be of strategic importance to the USA as is seen from the new six-year $ 4 bn aid package of which nearly half is military aid. (For details of US aid see Table 3)

TABLE 3

US Military Aid to Pakistan

Period	Total Aid	Average per year
1953-1961	$ 508.2 mn	$ 62.5 mn
1962-1981	$ 208.0 mn	$ 10.4 mn
1982-1987	$ 1600.0 mn	$ 320.0 mn
1988-1994 (proposed)	$ 2000.0 mn	$ 333.0 mn

The pattern of military aid also got reflected in arms transfer from USA to Pakistan (See table 4)

TABLE 4

US Arms Transfer to Pakistan

Period	Armour	Aircraft	Ships
1953-65	600 MBT, (200) light tanks, 50 APCs	32 B-57 light bombers, 120 Sabrejets, 14 Starfighters	1 Submarine, 6 destroyers (MAP British make), 6 minesweepers
1966-77	300 APC, 100 MBT (Patton) through third party transfer from West Germany *via* Iran	90 Sabrejets through third party transfer from West Germany *via* Iran	Nil
1978-1987	135 MBT, 110 APC, 40 203 mm self-propelled howitzer (SPH), (100) 155 mm SPH	40 F-16 (Reportedly Saudi Arabian funding), 24 Huey Cobra Helicopter gun-ships.	6 destroyers
1988 onwards transferred or proposed	M-60 MBT	60 F-16, 3 Orion maritime reconnaissance aircraft, 3 E-2/3 AWACS, Modern attack helicopters	6-8 frigates

Pakistan's military programme will aim both at modernization and expansion of its armed forces and equipment. However, both will be limited due to economic constraints. These constraints would be of two types. Firstly, the cost of new weapons is many times that of the old. That high cost is due to inflation and also increased sophistication of the systems. Therefore, Pakistan cannot afford to replace all its old weapons with new and more sophisticated weapons. Hence, it will have to aim at a mix of quality and quantity. For quality, it will look towards the USA and for quantity it will continue to depend upon China.

The second constraint arises from the fact that Pakistan has already reached more than the optimum in its defence expenditure. Its defence expenditure amounts to about 6% of its GNP. Like many developing states,

Pakistan is also facing the debt problem. While in 1984-85 its GDP was $ 31.3 bn, it had a debt burden of $ 14 bn. It must have increased by now. Thus, Pakistan can, at best, increase its defence expenditure by only a narrow margin which would probably take care of the inflation and the increased pay and allowance of its armed forces. Even though Pakistan is trying to collaborate with some Islamic states to manufacture and sell modern weapons, it is too early for it either to earn sufficient profit or to attain self-sufficiency. Thus, in all likelihood Pakistan's force-level is not expected to increase greatly. Also its modernization programme will be limited unless large funds are made available by some oil rich states in the Gulf. In the context of such a stalemate in the field of conventional warfare, developments in the field of missiles and nuclear technology will deserve special attention in the years to come.

Maritime threat to India's security is often overlooked because of the absence of direct and visually identified threats. But it needs to be correctly assessed so that appropriate counter-measures can be planned. The fact that there has been a sustained militarization of the Indian Ocean *per se*, in naval terms, since the last two decades, is often ignored. Not only regional powers but also great powers have enhanced their naval capability in the area. Moreover, threat to use force, overtly or covertly, in pursuance of their national interest has also multiplied since the dispatch of the taskforce headed by the *Enterprise* in 1971. Beside the Super Power naval rivalry at global level, the Indian Ocean is also the target of regional strategy of these powers. USA has reinforced the concept of rapid deployment force (RDF) in the Gulf region. The CENTCOM is geared to the RDF strategy. The Gulf has also witnessed, during the second half of the Iraq-Iran War, an active naval involvement by the NATO powers, especially in the context of escorting merchant vessels and minehunting operations. US ships and the AWACS were even actively participating in the war operations. Enhanced naval presence and willingness not only to deploy but also to employ that force poses long-term challenges to India's maritime security.

The strategic equation of USA, some Gulf states especially those of the GCC, Pakistan and China, which poses a security challenge to India on its land frontier, is equally valid for India's naval security. Not only does USA operate its taskforce, equipped with nuclear weapon capability, in the Indian Ocean but Chinese are also planning to enhance their naval power and to demonstrate a willingness to play a great power role in South and South-East Asia which is India's immediate neighbourhood. Chinese have transferred large quantities of naval equipment to India's neighbours as seen earlier. India, on the other hand, has been working for the creation of a peace zone in the Indian Ocean since 1964, but it has met with no success. Rather, Indian Ocean has been further militarized since 1971 when the UN gave a call for the creation of a Peace Zone in the Indian Ocean.

India today faces the challenge of meeting enhanced maritime threat almost alone. Moreover, under the new law of the sea, it has acquired economic stakes in the living and non-living resources in its exclusive economic zone and continental-shelf. They will need added protection both in times of peace and also in times of war. These factors give a new perspective to India's maritime strategy. Today, India possesses a naval force (see table 5), which is modest in relation to those of comparable powers like China or medium powers of Europe like Britain, France or Italy. It should also be noted that not only do these European Powers have a substantial naval capability, both conventional and nuclear but most of them have grouped together under the NATO for greater protection. India, on the contrary, is a non-aligned state and has, therefore, to depend upon its own capability for its defence.

TABLE 5

India's Naval Capability: Major Fighting Ships

Type of ships	1988	Projection 1990's
Submarine (Nuclear Powered)	1	3
Submarine (Conventional)	13	10[1]
Aircraft carriers	2	2[2]
Destroyers	5	6
Frigates	24	24
Corvettes	5	8-10
Missile boats	13	8-10
Minesweepers	17	20
Amphibious ships	18	20

1. Four Foxtrot submarines in use today might be deleted or kept in reserves or used for training.

2. The new one being planned might replace the Vikrant.

The study of table 5 shows that there will be only a marginal enhancement in the force-level and also in the sophistication of naval weapons. Yet, India's naval capability has been criticised by others. Two weapon systems have come under specific criticisms. They are the recently acquired nuclear-powered submarine and the aircraft carrier. It should not be forgotten that in the sixties India's quest for even conventional submarine was opposed by the

West when not only China but even Pakistan and Indonesia on India's two flanks had acquired them. Today, when nuclear-powered submarines are operating in and around the Indian Ocean, India's attempt to acquire them is being vehemently opposed.

None can deny that nuclear powered submarines pose a qualitatively different type of threat than the conventional submarines because of their capability to remain submerged for a longer time and also because of their ability to maintain a high speed even when submerged for a long time. India cannot even learn anti-submarine operations, relating to the nuclear-powered submarines, unless it has its own nuclear-powered submarine. Today, China possesses about seven nuclear-powered submarines besides more than hundred conventional submarines. Moreover, nuclear-powered submarines of great powers are reportedly operating in the Indian Ocean. It is interesting that those who criticize India for acquiring even a limited capability in that field, have very little to say about Chinese nuclear submarines with SLBM capability or those of the great powers operating in the Indian Ocean.

The other weapon system that has come under constant criticism is the aircraft carrier. Some even give it the capability of an 'attack' carrier. That is a highly exaggerated view of the modest capability of the carriers being operated by India. At best, they are light fleet carriers. They have a reasonably good anti-submarine warfare (ASW) capability because of the Sea King helicopters on board. They have a very limited attack or interception capability because of the limitations of *Sea Harrier* jump jets, both in terms of weapons load and speed which is less than super-sonic. These aircraft carriers, however, are capable of providing the Navy with crucial air and ASW support when and where it is actually needed on the high seas even away from the shore bases. India not only has a vast coastline and dispersed island groups to defend but also has to keep open vital sea lanes. It cannot provide airbases and assign aircraft all along the coast and in these islands. Light fleet aircraft carriers, therefore, fulfil a crucial role in that context. India, in fact, is seeking to enter the difficult and challenging field of carrier construction. No developing country has attempted that so far.

It can be reasonably assumed that the coming decade will witness the induction of new weapon systems even in the developing world. There are several reasons for that assumption. Firstly, conventional weapons in use like tanks, aircraft, self-propelled artillery etc are increasingly becoming more and more expensive, and are pricing themselves beyond the reach of small and even medium powers in the South. Earlier, jet fighters like the *Gnat* cost less than Rupees one crore. Its replacement, MIG-21, cost about Rs. 2.7 crores. Now, Mirage 2000 costs about Rs. 25 crores each. Almost the same

ratio applies to other weapon systems also. Secondly, these weapons are becoming vulnerable to counter-measures like guided missiles and electronic counter-measures (ECM). Thirdly, these advanced weapons are increasingly becoming difficult to acquire because of political, economic and strategic considerations involved in arms transfer.

Conventional warfare, as was known till recently, is, therefore going to lose its "deterrence" value. That is true not only of the wars fought between the developing countries like Iran and Iraq which reached a military stalemate even after years of fighting but also of wars in which Great powers had confronted a determined opponent in the South, as in the Vietnam and the Afghanistan conflicts. However, since deterrence *per se* would remain a crucial variable in international relations, some alternative to these conventional weapons will be found.

Missile technology is likely to provide such an alternative. Though missiles *per se* are sophisticated systems, like all other weapon systems, there are degrees of sophistication even in missile technology. These are determined by different variables. Weight of the warhead is one such crucial factor. Also the warhead can be commonly used high explosive, or exotic fuel-air explosive, precision-guided sub-munitions etc, as well as nuclear, chemical or bacteriological. The other important variable is the type of fuel used (solid or liquid fuel), guidance system etc. Range and precision will also play a crucial role in determining the operational role of that missile.

It is of interest to note that, of late, several developing states have begun to acquire missile technology. They have started at the lowest rung of sophistication and have progressively increased the range, payload and accuracy. Undoubtedly, the degree of sophistication will depend not only upon the level of technology of that state but also upon the availability of that technology on transfer. Increasing hurdles are being placed in technology transfer in the field of missiles. But these hurdles are being overcome. In that connection, the massive use of short-range surface-to-surface missile (SSM) during the Iraq-Iran War and the ability of both these powers to locally improve upon their performance is of great significance. Other developing states that have acquired an independent missile technology are Argentina, Egypt, India, Israel etc. Pakistan has also made considerable progress in its missile technology and has successfully launched two SSMs. The first, called *Haft I* has a short range of 50 km. The other *Haft II,* has a range of 300 km. Undoubtedly, Pakistan will, over the years, increase the range, payload and accuracy of its missiles.

Debate has started among the strategic thinkers in the South on the

feasibility of tactical use of SSMs with conventional warheads. Some argue that in the face of growing anti-aircraft defence and the rising cost of modern aircraft, SSMs would provide a cheaper mode for the delivery even of high explosives. Others argue that ballistic missiles cannot provide the degree of precision for effective use of conventional high explosive warheads. Few developing countries have succeeded in producing their own precision-guided sub-munitions that can be fitted as warheads to these SSMs. Even India has not reached that stage as yet.

These SSMs, with high explosive warheads will have limited effectivity vis-a-vis military targets. Long-range cruise missiles will have greater precision. But they are very modern systems that need satellite mapping, sophisticated mini computers and such other systems that few medium powers are capable of acquiring in the near future. Because of these constraints, SSMs used in the Iraq-Iran War had big civilian centres as their target. Such anti-people weapons not only have limited military value but prove counter-productive by increasing mutual bitterness.

In the absence of desired precision guidance, the SSMs in the South are likely to be armed with 'unconventional' warheads. Chemical weapons have been widely used during the Iraq-Iran War. Also, nuclear Warheads become obvious choice for these first generation short and medium range SSMs.

Though Pakistan has officially denied the existence of nuclear bombs, even responsible US officials, including the CIA Chief, have testified about Pakistan's nuclear weapon capability. Hence, logically, one can argue that missile technology and nuclear weapon technology will have a greater chance of teaming up as complementary systems. Thus, in the light of new thrust in missile technology, possibility of nuclear weapons becoming a viable instrument of 'deterrence' even in the South cannot be ruled out.

India has, over the years, evolved a strategy of confronting its actual or potential adversaries in terms of conventional warfare. However, it has, as yet, not evolved a viable strategy of neutralizing a nuclear threat. One fears that India's nuclear diplomacy in that field might also end up the way its Indian Ocean Peace Zone diplomacy has. Not only has the maritime threat to Indian security increased over the years but India is also getting increasingly isolated politically when confronted with diplomatic moves like the creation of a nuclear-weapon free zone or the balanced force reduction in South Asia. It is time that India evolves either a warfighting doctrine in the context of nuclear weapons or an effective diplomacy tailored to the requirement of nuclear weapons in the immediate neighbourhood, lest India is unilaterally forced to enter into a costly nuclear missile programme.