For Blurb

U.S.I. JOURNAL

INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS

(Established : 1870)

PRINCIPAL CONTENTS

JANUARY-MARCH 1997

USI PUBLICATIONS

USI NATIONAL SECURITY PAPERS

Para Military Forces by Lt Gen ML Chibber, PVSM, AVSM	Price: Rs. 25.00
Defence Budgeting in India by Shri DS Nakra (Retd)	Price: Rs. 25.00
Possible Counter Measures against Satellite Reconnaissance by Air Marshal IW Sabhaney, AVSM	Price: Rs. 25.00
Higher Defence Organisation by Lt Gen SK Sinha, PVSM (Retd)	Price: Rs. 25.00
Leadership in the Indian Army During Eighties and Ninetees by Lt Gen ML Chibber, PVSM, AVSM	Price: Rs. 25.00
China's Strategic Posture in the 1980's (Revised) by Lt Gen AM Vohra, PVSM	Price: Rs. 35.00
Intra-Regional Interventions in South Asia by Prof KR Singh	Price: Rs. 50.00
A Profile of Terrorism by Maj Gen Afsir Karim, AVSM (Retd)	Price: Rs. 50.00
National Security : Integrated Approach to Policy Making by Lt Gen Hridaya Kaul, PVSM, AVSM (Retd)	Price: Rs. 50.00
India's Defence Forces : Building the Sinews of a Nation by Gen V N Sharma, PVSM, AVSM (Retd)	Price: Rs. 50.00

USI SEMINARS

Report on Armoured Personnel Carriers Chairman Maj Gen D Som Dutt (Retd)	Price: Rs. 15.00
Report on the Imposition of a Manpower Ceiling on the Army Chairman Lt Gen ML Thapan, PVSM (Retd)	Price: Rs. 15.00
Report on Recruitment into the Officer Corps of the Armed Forces Chairman Maj Gen D Som Dutt (Retd)	Price: Rs. 15.00
Report on a Seminar on Cooperation in Defence Chairman Lt Gen ML Thapan, PVSM (Retd)	Price: Rs. 15.00
Report on a Seminar on Review of the Organisation Pattern of the Indian Army Chairman Lt Gen ML Thapan, PVSM (Retd)	Price: Rs. 25.00
Report on the Military Threat in the Nineteen Eighties Chairman Lt Gen AM Vohra, PVSM (Retd)	Price: Rs. 30.00
Report on Nuclear Shadow over the Sub-Continent Chairman Maj Gen DK Palit, VrC	Price: Rs. 25.00
Relationship of Military Law and Discipline with the Judicial System of the Country Chairman Lt Gen ML Thapan, PVSM (Retd)	Price: Rs. 35.00
Naval Strategy in the Indian Ocean by Admiral S. Prakash	Price: Rs.30.00
Report on Military and Society Chairman Lt Gen AM Vohra, PVSM (Retd)	Price: Rs. 50.00
Report on Foreign and Defence Policies for India in the 1990s	Price: Rs. 50.00
The Impact of the Gulf Crisis and the New World Order on South Asia	Price: Rs. 75.00
Disintegration of the Soviet Union and its Impact Upon the International Political System with Special Reference to South Asian Security	Price: Rs. 75.00
Challenges to India's National Interests in 1995-2010 and Indian Response	Price: Rs. 75.00

USI NATIONAL SECURITY LECTURES

India's Problems of National Security in the Seventies by Gen JN Chaudhuri	Price: Rs. 50.00
India's Defence Policy and Organisation Since Independence by Shri PVR Rao, ICS (Retd)	Price: Rs. 50.00
Some Problems of India's Defence by Air Chief Marshal PC Lal, DFC (Retd)	Price: Rs. 50.00
Defence and Development by Shri HC Sarin, ICS (Retd)	Price: Rs. 50.00
The Indian Ocean & India's Maritime Security by Adm SN Kohli, PVSM (Retd)	Price: Rs. 50.00
Internal Threats and National Security by Shri Govind Narain, ICS (Retd)	Price: Rs. 50.00
National Security and Modern Technology by Dr Raja Ramanna	Price: Rs. 50.00
India, Pakistan and the USA by Shri S Nihal Singh	Price: Rs. 50.00
Higher Defence Organisation by Lt. Gen S K Sinha, PVSM	Price: Rs. 50.00
The World Power Structure in Transition by General K Sundarji PVSM (Retd)	Price: Rs. 50.00
Affordable Defence In the 1990s by Abid Hussain	Price: Rs. 50.00
USI JOURNAL CENTENARY NUMBER (OCT-DEC 1970) Contains informative and authoritative articles	Price: Rs. 50.00

(Postage & Packing extra)

Ask for your copy from:

DIRECTOR, UNITED SERVICE INSTITUTION OF INDIA

Rao Tula Ram Marg, (opposite Signals Enclave)
Post Bag No 8, Vasant Vihar PO, New Delhi-110057

ISSN 0041-77OX

63

USI

Journal

Vol. 127

Jan - Dec 1997

Complete vol. for binding

Maurya

ISSN 0041-77OX

Journal

of the

United Service Institution

of

India

Published by Authority of the Council

(Established : 1870)

Postal Address :
Rao Tula Ram Marg, (opposite Signals Enclave)
Post Bag No 8, Vasant Vihar PO, New Delhi-110057
Telephone No. 6148682
Fax : 6149773

Vol CXXVII **January-March 1997** **No. 527**

USI Journal is published Quarterly in April, July, October and January. Subscription per annum : In India Rs. 180.00. Subscription should be sent to the Director. It is supplied free to the members of the Institution. Articles, Correspondence and Books for Review should be sent to the Editor. Advertisement enquiries concerning space should be addressed to the Director.

For overseas subscriptions, trade enquiries and advertisements write to : Spantech & Lancer, Spantech House, Lagham Road, South Godstone, Surrey RH9 8HB, UK. Overseas annual subscription (By Air Mail) - £ 30 or $ 60
Tel : + 44 1342 893239 Fax : + 44 1342 892584

UNITED SERVICE INSTITUTION OF INDIA

for

the furtherance of interest and knowledge in the art, science, and literature of National Security in general and of the Defence Services in particular

Director
Lt Gen (Retd) Satish Nambiar
PVSM, AVSM, Vr.C.

Dy Director & Editor
Maj Gen (Retd) Y K Gera

CONTENTS

January-March 1997

The United Service Institution of India
Centre for Research
Board of Management

Vice Admiral (Retd) SP Govil, PVSM, AVSM	*Chairman*
Shri J N Dixit, IFS (Retd)	*Member*
Air Marshal (Retd) C V Gole, PVSM, AVSM, VM	"
Air Commodore (Retd) Jasjit Singh, AVSM, VrC, VM Director, IDSA	"
Maj Gen RPRC Naidu, AVSM, VSM Offg DGMT Army HQ Chairman JTC	"
Professor Ravinder Kumar, Director, Nehru Memorial Museum and Library	"
Dr K Santhanam, Chief Adviser (Technologies) DRDO, MOD	"
General (Retd) V N Sharma, PVSM, AVSM	"
Professor M L Sondhi, IFS (Retd) Jawaharlal Nehru University	"
Mr K Subrahmanyam, IAS (Retd)	"
Lt Gen (Retd) Satish Nambiar, PVSM, AVSM, Vr.C. Director, USI	*Member Secretary*

USI STAFF APPOINTMENTS

Director and Secretary to the Council
Lt Gen (Retd) Satish Nambiar, PVSM, AVSM, Vr.C.

Dy Director & Editor	*Dy Director (Adm)*	*Chief Instructor*
Maj. Gen. (Retd) YK Gera	Col (Retd) VK Singh, VSM	Brig (Retd) YP Dev
Asst Director (P&P)		*D S Coord*
Cdr. P S Dhupia		Col H B Singh
Librarian	*Accountant*	
Mr O S Sachdeva	Mr R C Mittal	
Research Assistant		
Dr. Sudha Raman, Ph D		

Honorary Consulting Editor
Air Cmde (Retd) Dr. N B Singh Ph D.

EDITORIAL

Evolution of the Doctrine of Regional Co-operation

Diplomacy and defence, it is said, are the two sides of the same coin. Therefore, foreign and defence policies together, perhaps, could be termed as the National Security policy of the state designed to safeguard its vital interests. Even in the earlier history of Western strategic thought, Clausewitz clearly stated that war was merely the continuation of policy by other means. From these considerations, the close linkage between diplomacy and defence comes into sharp focus.

In India, with the experience of non-violent and successful struggle for Independence 50 years ago, foreign policy of peaceful co-operation in international affairs was predicated on "Non-alignment" and "Panch-sheel". This policy served the country well in a bi-polar world dominated by the two super powers, who led the two biggest military alliances in history : the NATO, and the Warsaw Pact.

After the end of the Cold War, a uni-polar world emerged with the United States of America as the only super power. This is now transforming itself into a multi-polar system and several regional powers are emerging on the scene. The trend towards regional groupings, like the European Union and ASEAN, is clearly shaping the paradigm of the new international order.

In South Asia, SAARC established more than a decade ago, is attempting to provide a forum in which the countries of the region can combine for speedy economic development. India being the major regional power has to play a positive role; and fully support measures which can bring peace and prosperity to the peoples of the region.

In this context, the recently declared doctrine of India's foreign policy based on earlier concepts of "Non-alignment" and "Panch-sheel", and taking into consideration the other dimensions of security - internal, economic, industrial, social, science and technology - in the changing world order is a welcome development.

This new foreign policy doctrine, a synthesis of our past policies with the needs of the present and a vision of the future in the regional perspective, has been posted with a rigour of objectivity and consummate skill by our Hon'ble Foreign Minister Shri I.K. Gujral in the lead article of this Journal. The "Gujral Doctrine" is likely to provide a creative and sound foundation for our National Security policies for the 21st century and aims at transforming the present approach to a system of regional co-operation.

Security Concerns in Asia in the Early 21st Century

I. K. GUJRAL, HON'BLE MINISTER FOR EXTERNAL AFFAIRS

Mr. Chairman, Distinguished Guests, Ladies and Gentlemen,

It is a privilege for me to address you on this occasion when the United Service Institution of India is completing 125 years. This organisation, set up in 1870, has played an important role in developing a tradition of serious debate and discussion on the important issues of national security and defence. It is also a source of satisfaction that on this occasion, the USI is organising a joint seminar with the Royal United Services Institute of the United Kingdom. This tradition of cooperation is important as we face the challenges of the coming century.

The decade of the 1990s has seen a profound transformation in the international security environment. The seeds of the Cold War had already been sown when India became independent 50 years ago. In the following decades, the Cold War became the predominant motif as countries sought to pursue their national security through competing military alliances. India, which had achieved independence through a non-violent struggle, that is unique in history, was determined to protect its independence in thought and action. This search for independence led us, in a logical manner, to the concept of non-alignment. Yet, there is no doubt that with the major powers engaged in an ideological conflict, the Cold War cast a shadow on international trends and developments. Multilateral institutions set up after the Second World War to help create a democratic and equitable world order, based on collective security, were often paralysed by the rivalry between USA and former USSR.

Today, the Cold War has ended. We are no longer faced with two opposing military alliances with their gigantic nuclear arsenals in a state of high alert. The threat perceptions of North Atlantic Treaty Organisation (NATO) and Warsaw Pact forces as implacable adversaries, seen through an ideological prism, are a thing of the past. As profound changes have occurred between two former adversaries, there is hope that multilateral institutions like the UN would be revitalised to assume the mantle of collective security. New regional organisations, such as the Organisation for Security and Cooperation in Europe (OSCE) and the ASEAN Regional Forum (ARF) have emerged. Existing

Text of the Inaugural Address delivered by Shri I.K. Gujral, Hon'ble Minister for External Affairs during the Joint USI-RUSI Seminar held at New Delhi on January 23, 1997.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

organisations like North Atlantic Treaty Organisation (NATO) also are seeking to redefine their role in trying to tackle existing and future challenges. This, we hope, is reflective of a new and cooperative spirit.

It is natural that India's immediate neighbourhood should be a major priority in India's security considerations. A peaceful and constructive environment in our neighbourhood is vital for all of us, if we are to achieve accelerated development for ourselves and for the region as a whole. The South Asian region accounts for roughly one-fourth of all humanity. If this region is to establish its rightful place in the community of nations, cooperation and mutual goodwill have to be firmly established as the basis of intra-South Asian relations. Given India's size and situation, it is natural for us to take the initiative in building up confidence and establishing cooperation in all facets of our relationships.

The security of a home lies not in the bricks and mortar used in its construction but, in the ultimate analysis, depends upon the goodwill and amity of its inhabitants. India's foreign policy, specially in the neighbourhood context, reflects this simple reality.

The "Gujral doctrine", as it has come to be termed, is based on five simple principles. Firstly, with its neighbours like Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka, India does not ask for reciprocity, but gives and accommodates what it can in good faith and trust. Second, we believe that no South Asian country should allow its territory to be used against the interests of another country of the region. Third, that none should interfere in the internal affairs of another. Fourth, all South Asian countries must respect each other's territorial integrity and sovereignty. And finally, they should settle all their disputes through peaceful bilateral negotiations. These few simple ideas, if implemented, will result in a positive impact on the security situation in our region and a fundamental recasting of South Asia's regional relationships and our role in the world.

India has already established that it is ready to go the extra mile to inspire confidence and generate momentum towards a new partnership in South Asia and it is apparent that we have already achieved substantial success with this approach.

We have recently discussed and implemented new and significant initiatives with Nepal, Bhutan and Bangladesh which are steering our relations to higher levels of cooperation. The Treaty on sharing of Ganga waters has established a landmark in our relations with Bangladesh, and opened up new vistas of constructive collaboration in all areas of our interaction. It is a matter

of pride that this Treaty has been welcomed, not only in India and Bangladesh, but the world over, and is a clear demonstration of what can be achieved with sincerity and a sense of purpose. In time, we expect that the entire eastern region of the sub-continent, including Nepal, Bhutan, Bangladesh and India would see a surge of development through cooperation in the areas of transport, energy development, water management, etc.

Likewise, with Sri Lanka, from where I have just returned, we have expressed our desire to assist, without being intrusive, in an early settlement of the conflict in that country. Such an outcome would have beneficial results for India and the entire region. We would like the Palk Straits to become a gateway for peaceful commerce and communication among our people. We should dream of once again making the maritime frontier, which India and Sri Lanka share, an area of peace, and then take up collaborative ventures for advanced research and exploitation of ocean resources. Situated as we both are at the centre of the Indian Ocean, our maritime interests are close and intertwined. Together with the Maldives, our partner in the South Asia Association for Regional Co-operation (SAARC), we can explore possibilities to turn this region into a prosperous growth area. Our friendship will also provide an anchor for the security and prosperity of the Indian Ocean region.

With regard to Pakistan, you would be aware of the offer of a dialogue we made to Pakistan soon after our Government took office. Even while we are awaiting Pakistan's response, we are taking unilateral steps to improve the relationship at the people-to-people level. We are also trying to preserve a positive atmosphere, by avoiding polemic, and ignoring the occasional hostile rhetoric from across the border.

Beyond the immediate South Asian-SAARC neighbourhood, lies what I call an extended, even proximate, neighbourhood, which is of great significance to India. Central Asia, for example, is one such area. This region straddles some of the world's richest known deposits of hydrocarbon resources. We have responded to the need to build enduring partnerships with the countries of this region by setting up missions in all these countries to promote political, economic and technical cooperation. The inadequacy of direct surface access to this region is, of course, a problem, but we are addressing this through a trilateral understanding with Iran and Turkmenistan.

Developments on the security front in Central Asia, too, are a concern for us. We are watching the developments in Afghanistan, and our earnest desire is for an end to external interference in that country, followed by a return to peace.

Many of you would also be aware of the expanding relations between India and the Association of South East Asian Nations (ASEAN) countries. Our sectoral dialogue partnership was upgraded last year to Full Dialogue Partner status.

India also became a member of the ASEAN Regional Forum (ARF) on this occasion. The ARF is a post-Cold War institution where countries with different political and economic structures, varying size and military strengths, are present. This group does not reflect a military alliance but is motivated by the idea that despite the diversity, measures should be pursued collectively which will enhance the security of each one of its members, and the region as a whole. I myself had the pleasure of sensing the growing climate of collaboration and trust when I visited Jakarta in July 96 for the Post-Ministerial Conference. I was happy to see that there was a recognition of India as a key factor of stability and economic dynamism in the Asian region.

By virtue of its geographical position, India has a natural interest in maintaining the Indian Ocean as a region free from military rivalries. The Indian Ocean Rim Initiative with which we have been associated since its inception, aims at bringing together countries with a shared objective. The first meeting of the Indian Ocean Rim Association for Regional Cooperation is slated to take place in Mauritius in March this year and we hope to discuss all issues of mutual concern, especially the potential for greater economic and commercial cooperation. At present, diversity makes it difficult to consider tackling military threats to security. However, a beginning has been made by instituting dialogue and consultation, and this will give greater content to relations among the Indian Ocean Rim countries.

In this period of significant change, where we are trying to transform the politico-economic face of our region, the concept of security has to be viewed afresh. Security can no longer be visualised in narrow military terms. Today, it calls for inter-dependence among all countries in the world, to tackle non-conventional and non-military threats arising out of international terrorism, narcotics, ethnic conflicts, fundamentalism, environmental pollution, natural disasters, etc., all of which impinge upon the overall security of nations. A redefinition of old concepts requires new thinking and fresh approaches, if we are to successfully deal with the challenges posed by an uncertain future. More so, there is a growing realisation that what is needed is a collective approach, based upon cooperation rather than competition and confrontation.

Nowhere is this more valid than in the area of nuclear disarmament. We are told that the US and the Russian Federation no longer target their missiles at each other. Yet, there is a reluctance to accept the notion that elimination

of nuclear weapons is the only practical and lasting way to deal with the scourge of nuclear proliferation, as well as to enhance global security. The acceptance of the philosophy of interdependence and collective security has been successful in dealing with biological and chemical weapons, and we see no reason why it cannot be used to rid the world of the nuclear shadow.

Last year, the CTBT was concluded after two and a half years of intensive negotiations. It is a source of great disappointment to us that India, which had made the first call for ending nuclear testing in 1954, was unable to subscribe to the Treaty because of its fundamental shortcomings. The CTBT, as it has emerged, is no longer linked to the process of nuclear disarmament. Further, it only prohibits nuclear explosion testing and therefore, cannot be described as a comprehensive treaty that would ban all kinds of nuclear testing whether based on explosions or other techniques.

We are not simplistic enough to call for nuclear disarmament to be achieved overnight. Yet, we are also realistic enough to believe that the end of the Cold War offers us a unique opportunity to demonstrate our commitment to the goal of a nuclear weapon-free world. This commitment should be translated by commencing negotiations on a Nuclear Weapons Convention that would prohibit the development, deployment, production, stockpiling and transfer of nuclear weapons as also provide for their elimination within an agreed timeframe. It is heartening to note that there is a growing interest in discussing these issues, particularly, the technical aspects relating to verification. These deliberations, presently being undertaken by Non Governmental Organisations, are welcome.

Confidence Building Measures (CBMs) are another important aspect of international security and need to be strengthened in order to reduce mistrust and allay apprehensions. These measures can take different forms. To begin with, political declarations are important but in the long run, these are not enough. Means of communication and dialogue have to be established in order to substantiate the political declarations. This implies a degree of transparency. Participation in global efforts like the UN Arms Register and regional initiatives about military information sharing, cooperation in region specific issues such as maritime security are potential areas for consideration. Once the channels of communication are established and confidence has been built up, discussions on regional defence issues become feasible.

The processes that I have identified are not new. We have seen that Confidence Building Measures have been introduced and practised in Europe during the last two decades. However, there is one fundamental difference. In the post-Cold War world, these confidence-building-measures have to be

negotiated not among two alliances but among sovereign nations in a cooperative spirit. Every country will bring its own legitimate concerns to the negotiating table which will need to be addressed adequately. Unlike during the Cold War when such measures were seen in a bi-polar context, today, confidence building has to be seen as an exercise in creating a pluralistic security order.

You would no doubt be aware that India has done a lot of work on instituting CBMs with both Pakistan and China. In fact, this was carried significantly forward in the case of China when their President visited us recently. I am sure that we can all do more and build on the current achievements.

Such developments at a regional level do not diminish the emphasis on globalism which has been a cornerstone of India's foreign policy. It serves to complement the global approach in a manner that has become feasible, with the end of the Cold War. Security concerns or threats have not disappeared. But today, we have more instruments and institutions available to us in order to deal with these concerns in a manner, consistent with the traditional principles of Indian foreign policy. Perhaps, it is easier for India to engage in such a dialogue with its various interlocutors compared to some other countries which have been members of military alliances during the Cold War. For them, a post-Cold War period requires major shifts in thinking. For us, it reflects a new opportunity and continuity.

I am confident that the dialogue which will take place in the next two days between USI and the Royal United Services Institute of UK will contribute to greater understanding and further our efforts in creating a pluralistic security order. May I take this occasion to again warmly congratulate the USI which has had such a distinguished record. I look forward to your deliberations and wish you success in your endeavours.

The Impact of Decreased Defence Spending on the Indian Armed Forces

AIR CHIEF MARSHAL (RETD) O.P. MEHRA, PVSM

Mr. Chairman, erstwhile colleagues, eminent participants and friends,

I deem it an honour to be called upon to deliver the Valedictory Address. At the outset it gives me immense pleasure to congratulate the USI Council for their initiative in hosting this Seminar on a subject of consequence not only to those who are currently part of the Defence apparatus and those of us who have had the distinction of being partners in matters relating to National Security, more importantly the deliberations of this Seminar should be of interest to National Security policy framers-the political leadership and the discerning intelligentsia of the country.

Having read and heard the contents of the various papers presented and the discussions held, I have no hesitation in stating that the proceedings reflected deep study of the subject. For those who are responsible for handling expenditure on defence, there is a wealth of wisdom in the utterances. I sincerely hope that the sound views expressed during deliberations of the Seminar would not be deemed as unwarranted criticism of the powers that be, but the genuine concerns of those who hold National Security as a sacred trust. There is no denying the fact that if the views expressed by various Speakers are accepted as food for thought, if not in the immediate, but in the long run, the Armed Forces would be assured of a cost affordable infrastructure commensurate with the tasks they are expected to perform i.e. ensure security of the realm and its territorial integrity.

During the first fifteen years of Indian Independence, the country spent an average of 1.6 percent of its GDP on defence. Parliamentary debates during that period suggest that our policy makers deemed even this figure as too high and it was felt that it was retarding socio-economic growth - a totally unwarranted posture as global experience shows the reverse to be true. It was opined that since India wanted to live in peace, no one would distrub its peace. The 1962 Chinese invasion proved how wrong our policy was and national honour had been compromised by not providing adequate resources. National Security

---

Text of the Valedictory Address delivered by Air Chief Marshal O.P. Mehra, PVSM, former Chief of the Air Staff and former Governor of Maharashtra and Rajasthan during the USI National Security Seminar held at New Delhi on November 29, 1996.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

policy makers stood totally condemned and unfortunately so did the military leaders.

The Sino-Indian War marked a watershed in relation to defence expenditure. Defence expenditure experienced a massive spurt to register 3.8 percent of the GDP. It, however, fell to settle at around 3 percent of the GDP during the next quarter century.

INDIA'S GDP GROWTH AND RESOURCE ALLOCATION FOR DEFENCE

Since 1955 GDP growth and resource allocation for defence were as under.

Year	Average Growth Rate of GDP	Defence Expenditure	
	Percentage	Percentage of GDP	Percentage of Central Govt. Expenditure
1955-1959	3.49	2.03	23.50
1960-1964	5.37	2.64	25.40
1965-1969	2.97	2.96	22.55
1970-1974	2.52	2.98	21.51
1975-1979	3.86	3.03	19.05
1980-1984	6.10	2.98	17.39
1985-1989	6.11	3.35	16.02
1990-1994	4.82	2.63	14.61
1995-1996	6.80	2.35	14.13

[Sources: Economic Survey, Govt. of India, for different years, and Asian Strategic Review 1995-96, IDSA, New Delhi, 1995.]

It is pertinent to note that progressively the defence expenditure as a proportion of the Central Government expenditure has been scaled down from around 24 percent in 1955-59 to 14.13 percent during 1995-96.

Without detracting from the views expressed by various Speakers, I take it that the impact of decreased defene spending on Indian Armed Forces is and will amount to an unbalanced force structure, an ill-equipped, ill-trained and unprepared defence establishment for reasons which we ought to go into, to establish why we are again in such a sorry state of affairs.

No organisation much less the Armed Forces can function effectively and efficiently in the absence of well thought out long term plans and strategy. Unfortunately, as matters stand at Governmental level, we do not have an institutionalised structure which can evolve an integrated defence policy. This

has not been possible because National Security is erroneously deemed to be the preserve of the Ministry of Defence. The absence of an Organisation at the Apex level to undertake integrated thinking is to say the least criminal. Similarly we do not have a set up charged with the responsibility of drawing up an overall strategy evolved on broad-based deliberations after collecting, collating and digesting information covering various aspects of national existence, e.g. political (national, regional, global), economic, industrial, science and technology, socio-political, socio-geographic, socio-economic factors and more importantly involving the defence services. Unless we have agreed strategic goals, as also co-ordinated security policies backed by national consensus, we cannot but continue to drift and be victims of adhocism as is clearly evident today.

Looking at the problem in the historical perspective, the Defence Organisation which we inherited at the time of Independence in 1947 was an extension of the one that obtained during the British regime. The Whitehall functions were passed on to the Defence Ministry which was to be under a Political Executive. With the emergence of the three Services with independent identities, each Service was headed by a Commander-in-Chief. All the Cs-in-C were to perform operational planning and administrative functions in relation to their respective Service. The Chiefs of Staff Committee was expected to carry out co-ordination and integration functions. A string of Committees was instituted to provide geo-political, geo-strategic, industrial and economic inputs for structuring military capability and operational plans.

It would not be incorrect to state that the main purpose for selecting such a higher defence set-up was to affirm civilian control over the military and to ensure interservice co-ordination. As prior to Independence, no Indian had been associated with formulation of defence policies, the inheritance of the above mentioned set-up was inevitable. It must also not be forgotten that at that time all the Service Chiefs happened to be officers of the British Armed Forces. It is unfortunate that with the passage of time such Institutions as the Defence Committee of the Cabinet (DCC) and Defence Minister's Committee(DMC) which were expected to appreciate estimates of threat and the quantum of resources needed to provide the wherewithal to the Defence functioning which did exist till 1960 or so, became a casualty. The basic problem has been, and still is, that political incumbent of the Ministry of Defence have little or no experience on military matters and have relied on the advice of the chief bureaucrats in the Ministry of Defence. Without meaning disrespect, I have no hesitation in stating that these people - the civilian bureaucrats - were equally ill-equipped in matters relating to national security and the management of the defence set-up. Since Mr. J.N. Dixit has voiced eloquently on this aspect in support of my contention I quote the views ex-

pressed by late Shri H.M. Patel - one of the very senior and eminent civil servants who served a term as Defence Secretary.

"The ignorance of the Civil Servants in India about military matters is so complete that ....we may accept it as a self-evident and incontrovertible fact."

With the passage of time the situation has not changed to any appreciable degree.

It is pertinent to record that despite such a damaging assessment of the civilian bureaucrats capacity to handle National Security, little or no attempt has been made to either prepare the bureaucracy or the political leadership to shoulder the onerous task that they are expected to perform in relation to National Security.

On the contrary with the passage of time, the Defence Secretary instead of being co-ordinator in regard to some of the functions relating to the Defence Services has become an arbiter on matters beyond his comprehension. Unfortunately, the so called civilian political control has progressively degenerated into civilian bureaucratic control and this illegitimacy is naturally prejudicial to the functioning of the Services. Some Civil Servants argue that the Chiefs of Staff have the right of direct access to the Defence Minister and even the Prime Minister and hence the contention that the civilian control tantamounts to bureaucratic control, is unfair.

It is true that the Chiefs of Staff have a right of direct access to the Defence Minister and even the Prime Minister. Such right can at best serve as medicine but not as food or sustainer. It would be unwise on the part of the Chiefs of Staff to use this right of approach to get even with the civilian advisers of the Prime Minister and the Defence Minister. The Chief of Staff should rightly speaking be foremost amongst advisers on National Security and, in fact, an integral component of the organisation.

In 1967, the Administrative Reforms Commission categorically stated; 'the subordination of the Military to the Civil should be interpreted in political and not in the bureaucratic sense'. Despite this, in practice, the working as it obtains today is far from satisfactory. The Commission was at pains to record that the system in vogue contributes "little except delays".

I remember a knowledgeable Defence Minister once remarked that the existing system has led to a situation where "checks have tended to overwhelm balances". The fact remains that unless the Services become a part of

the Governmental framework, no meaningful improvement in the set-up is possible. To illustrate my point with regard to the havoc that delays can cause in preparedness, modernisation of the Services and available resources, I take the liberty of quoting the sequence of events which governed the Jaguar Aircraft Project.

Soon after assuming charge as CAS on January 15, 1973, I was asked by the then Defence Minister to submit recommendations of the Air Force in regard to the acquisition of the Deep Penetration Strike Aircraft (DPSA). The needful was done in March 1973. In its wisdom, the Ministry of Defence decided to appoint a Committee of Secretaries headed by the then Deputy Chairman of the Planning Commission and Minister of Planning to consider the recommendation of the IAF and to recommend measures to be taken to implement them. This Committee entitled 'The Apex Body' consisted of the Chairman and 17 Secretaries to the Govt. of India' comprising:

Shri D.P. Dhar, Chiefs of Staff, Cabinet Secretary, Secretary to Prime Minister, Defence Secretary, Secretary Defence Production, Secretary Defence Supplies, Scientific Adviser to the Defence Minister, Financial Adviser to Ministry of Defence, Secretary Ministry of External Affairs, Secretary Civil Aviation, Secretary Home, Secretary Research and Analysis Wing, Secretary Finance, and Secretary Science & Technology.

Fortunately, the Committee unanimously accepted the recommendation submitted by me. The machinery was set in motion only to end up in yet another Committee - Apex II - being appointed to reconsider the matter including some other requests that had since been received from the Service Headquarters. This Committee was headed by Shri P.N. Haksar, comprised of the same functionaries as the earlier Committee. This body also concurred in the recommendations made by the IAF. At this stage negotiations were undertaken by the Ministry of Defence to finalise matters. It is to the credit of our bureaucracy that nothing concrete emerged till I retired on January 31, 1976. My successor's term lasting over two and a half years also expired without any decision. The decision was finally taken during the term of Air Chief Marshal I.H. Latif - A delay of six to seven years in decision making which apart from contributing to unpreparedness of the Defence Services resulted in cost overrun amounting to several hundred crores of rupees. Air Marshal K.D. Chaddha has aptly remarked that Committees are responsible for delays and their consequential adverse effects on available resources.

Defence Planning and Five Year Defence Plans

Attempts at long term planning have been handicapped due to the absence of adequate commitment of resources, even though it is common

knowledge that projects of consequence, necessary to meet the undisputed needs of the armed forces have very long gestation periods - The Main Battle Tank and the Light Combat Aircraft amongst others are typical examples.

One is astonished at the manner in which the Five Year Defence Plans have been and continue to be handled. Cases are on record when the Five Year Plans instead of being finalised prior to commencement of the period of the plan have not seen the light of the day two to two and a half years into the five years period. Such plans are as good as no plans at all.

As the Five Year Defence Plans are not assured of any financial commitment, they are of no consequence. It is obvious that the deliberations of the Planning Commission in relation to Defence requirements do not receive the consideration that is warranted. Without any hesitation anyone with a modicum of common sense would opine that the uncertainties of committed financial outlays are a mockery of planning and have been responsbile for adhocism so evident, in force planning and implementation. Putting it briefly, one cannot help but say that we continue to react when it would be wise to act, naturally after due deliberations.

The situation, is aggravated by the fact that our defence accounting, budgeting and in consequence planning are antiquated. These are not linked to the value of money in real terms. The recently published book India's Defence Budget and Expenditure authored by Shri A.K. Ghosh who has spoken from experience over the years bears testimony to this statement.

In relation to this unhealthy situation, resources for Defence are continuously diminishing. We must examine as to how this unhealthy state of affairs can be remedied. Putting it briefly, I would say that to ensure a cost effective, affordable defence posture, it is necessary to move towards sizeable induction of service personnel in the management of defence policies, doctrines and strategy at the Ministry of Defence level. In a rapidly changing environment due to the impact of revolutionary technologies, it is a pity that while the world has moved forward in so far as the management of defence is concerned, we have regressed. We are perhaps the only democratic country in the world where higher military professionals are not an integral part of the governmental framework which is expected to undertake defence planning for future. During the stewardship of Shri V.P. Singh as the Prime Minister an attempt was made to set up a National Security Council. Despite good intention, this body remained still-born. Its major drawback was that the principal National Security Advisers - namely the Chiefs of Staff were not even expected to be the permanent invitees to the meetings of the proposed National Security Council. Inspite of revolutionary responses evident globally, we have failed to

evolve a Defence Management Structure which would be responsive. The pity is that in this particular sphere whilst the developed and in most cases even the developing countries have responded to the challenges by adopting suitable set-ups, we have taken a step backwards. Britain from whom we inherited the organisational structure, decades ago opted for independent integrated Ministries to administer each of the Services in the shape of a War Office, Admiralty and Air Ministry and there are no separate Service Headquarters. In 1954 when the Chiefs of Staff concept was introduced, the then Prime Minister Pandit Jawaharlal Nehru categorically stated on the floor of the Parliament that this step would be followed by the setting up of Integrated Board and Ministries for each of the Services and the Chiefs of Staff would be important functionaries in the Boards and Ministries. Despite a lapse of over four decades, the policy announcement so solemnly made remains burried in the archives of the Government. The powers that be, have deemed it fit to scuttle the set-up which assured, if operated wisely, reasonable framing of national security policies and strategies; by even doing away with the apex Defence Committees - a retrograde step indeed - ***This is no way to ensure civilian control over the military establishment.*** It is time the country reorganised the Higher Defence Organisation on the line of what prevails in the other democracies of the world. This could best be done in stages. Initially the Defence Committee of the Cabinet and the Defence Minister's Committee should be revived and the Defence Planning Staff should be strengthened and staffed by personnel not only from the Defence Services but such organisations as MEA, Ministry of Finance, Industry, Academics, Scientists and Technologists to act as the Think Tank and to provide secretarial services to the Defence Committee of the Cabinet, Defence Minister's Committee and the Chiefs of Staff. Simultaneously, steps should be taken to institute functional devolution of resources. Once we revamp the Higher Defence Organisation, the existing disjunctions between the Government and the Higher Military Organisation, which is currently a serious handicap, would be eliminated; the induction of professionals in the management of defence would definitely help in sound decision making and be instrumental in the Service Head-quarters eventually disappearing due to merger with respective Board and Ministries.

It is time that the Government pays attention to the wasteful expenditure that is currently in vogue. We all know that as matters stand today the expenditure on personnel in the Armed Forces is a sizeable percentage of the total Defence Bill. The fact that we have a large population of pensioners, the expenditure on pensions is high and is continuously rising.

Both these factors arise from the fact that progressively we have increased the Colour Service from what existed earlier, namely five to seven years, to much higher figures. As a consequence availability of resources are

adversely affecting the state of readiness of the services. The services can and should remedy this situation for more than one reason. It is time we reviewed the position and reverted to shorter Colour Service not exceeding a total of seven years including the training period which must commence with the recruitment age of 16 to 17 years thereby ensuring a X Class educational standard on entry and induction of trained manpower into the regular Cadres between the age of 18 to 19 years. The Colour Service would then end when the personnel are between 23 and 24 years of age. The short Colour Service should be coupled with a guarantee of continued employment upto the normal retiring age on the civil side. This can best be achieved by statutorily assuring entry into the Para-Military Forces after a span of service in the Armed Forces. Such a step would also be instrumental in saving expenditure currently incurred by Para Military Forces on training of raw manpower. The size of the Para Military Forces is so huge that if the Government were to statutorily mandate that all recruitment into the Para Military Forces would be through the Defence Services, all retirees would be suitably absorbed and in addition the following benefits would accrue:

(a) The Armed Forces will remain young and fighting fit.

(b) Para Military Forces would automatically become standing Reserves to the Armed Forces.

(c) The heavy expenditure that is incurred on training of Para Military Forces would be drastically reduced.

(d) The cost of the infrastructure such as housing, medical and so on, required to be incurred on the Armed Forces will reduce substantially; making possible greater degree of satisfaction in a reasonably short time.

What has been opined during the Seminar is sound and constructive. I would, however, like to ask where do we go from here? Without meaning any disrespect, I feel that no useful purpose is served unless our aim in holding such Seminars is clearly understood. I do hope it is not merely to "convert the converts" by bringing together people, men in uniform and defence retirees who can think, interact, speak and throw up valid suggestions. That should not be the end. Unless there is energetic follow up action on the recommendations and the consensus that such a Seminar throws up, the Organisers would be guilty of wasting the time and energy of those of you who have made it convenient to be here. I, therefore, suggest that we should evolve a machinery that will vigorously pursue the valuable suggestions that emerge from such deliberations. Prof. Karnad's suggestion that the retirees associations

should play an effective role in such matters, is welcome and sound. This will call for fundamentally changing the charters of these Associations and their role. In my view the USI and the IDSA are two Institutions which could help to form 'Think Tanks' and 'Pressure Groups' to undertake the following tasks-

(a) Suggest measures ensuring efficient handling of issues relating to National Security, beneficial for the Armed Forces and the country in general e.g. long term planning for Defence, from which should emerge the five year plans duly supported by committed resources.

(b) Make representation to the powers, that be, in respect of the main issues till these are sympathetically considered and those found acceptable, implemented.

(c) To educate those who are policy makers, namely, the political leadership.

(d) To advocate enhanced expenditure on R&D with accountability, ensuring self reliance and indigenous design and manufacturing capability within the country.

And finally, I agree that as a permanent solution, we should work for the setting up of a National Security Council and the appointment of a National Security Adviser on the lines of the U.S.A. Such a step though a major departure from the current set up will, I feel, help in effective management of the Defence set up and the availability of the requisite decision making apparatus and infrastructure, so necessary and vital for ensuring National Security, naturally within the framework of foreseeable threats and national resources.

Indian Naval Doctrine and Force Structure

VICE ADMIRAL (RETD) S MOOKERJEE, PVSM, AVSM

White papers on Defence are periodically issued by security-conscious powers. These documents provide comprehensive analysis and explanation of the country's defence policy factored on national interests, threats thereto, strategic environment, technology and finance. Tax paying public are kept informed how the nation's security is planned to be safeguarded. And more importantly, these documents convey a message to the international community.

Practice in our country has been for the Ministry of Defence to publish annually, a report which is placed on the table in our Parliament. For all practical purposes, the report catalogues acquisition or possible acquisition of defence hardware by countries in the region, China and Pakistan in particular - and planned acquisitions of hardware by our armed forces. In press interviews, top defence brass make statements about missions, arms procurement in the region and express views on adequacy or otherwise of funds to make good, perceived deficiencies in our defence preparedness. Whilst leaving doctrinal issues and preferred hardware to the service headquarters, our government exercises budgetary control on an annual basis. Resource constraints during past several years, some public statements by Defence top brass and the impending General Elections have made national security a major electoral issue. I will address myself to the naval aspect of national security.

Naval Headquarters have taken the position, supported by the Parliamentary Standing Committee on Defence that unless we have a 125 ship navy with an unspecified number of Air Defence ships and standard frigates - whatever these might be - our naval preparedness will fall below the required level by 2000 AD. In its 1995 report, the Standing Committee has urged the Government for replacement of Vikrant and placement of orders for six ships annually to reach and maintain the 125 ship level.

Navies are modelled to deter threats by having naval power appropriate to threats a nation faces. First, ship or tonnage count measurement of naval power, in vogue during centuries preceding World War II, has lost its legitimacy due to burgeoning technology since World War II. Contrary to assertion

---

Vice Admiral S. Mookerjee is a former Vice Chief of Naval Staff.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

at a high level, quantity no longer has a quality of its own. The golden rule, according to naval strategists, including late Admiral Goroshkov is to increase offensive - defensive capability of the fleet appropriate to the threat. In his classic work "Sea Power of the State" written in 1978 on the subject of air defense at sea, the great Soviet strategist was of the view that "greater part of effort should be to combat increasingly long-range missiles launched by the enemy, cutting down the efforts aimed at destroying the carriers of these weapons". It may be known that a major priority of United States Navy is setting up, onboard and ashore, an anti-ballistic missile defence system. There are several nations in our region who possess long range cruise and ballistic missiles. To claim that Air Defence Ships - euphemism for light fleet carriers - can provide missile defence at sea, is misleading the public. Equally misleading is the doctrine that Air Defence Ship - centered battle groups are answers to the impending acquisition of Agosta 90 B submarines and P 3C Orion aircraft by Pakistan. A navy built around light fleet carriers only frighten weak naval powers in the region and make us vulnerable to the charge of hegemonism. But, as navies in the region get stronger as indeed they are and submarines continue to proliferate, even this dubious reputation will become vulnerable.

Inevitable and logical question that arises is what is this Air Defence Ship centered 125 ship Navy for ? What are their missions? As stated in the Annual Report of our Ministry of Defence and repeatedly articulated in the print and electronic media, our navy's primary missions are protection of our Vast Exclusive Economic Zone (EEZ), Sea Lines of Communication (SLOC), long coastline and outlying territories. Since the ratification in 1994 of the 1982 Laws of the Seas Treaty, effective control of EEZ has undoubtedly assumed importance. But, functions involved are constabulary and squarely fall in the domain of our Coast Guard. Although, except for Pakistan and Bangladesh, maritime boundaries with other contiguous coastal states have been mutually agreed, disputes arise. Force has been applied and low key exchange of fire, in disputes over fishery rights and ownership of islets has taken place in Asia Pacific and the Atlantic. In some cases, naval posturing has been resorted to. But, full fledged naval hostilities are fought over deeper political issues.

Mahanian concept of protection of SLOC as a primary naval mission, continues to hold sway. With the end of cold war, global wars have become most unlikely but littoral wars, very likely. Such wars are of short duration and limited in scope. In none of the many conflicts including Falklands War since World War II, in which naval units have taken part, trade has been interdicted except at the terminal stage in cases of hostilities between contiguous countries. What has taken place in most cases is unilateral or multilateral sanctions by developed nations, thereby affecting availability of goods for transportation by sea.

Protection of coastline and outlying islands has been a very important naval mission for centuries. But, the end of colonialism and diffusion of power that can be brought to bear upon an invading force, makes such threats unreal.

Much is heard of the mission of sea control – a scaled down version of Mahanian philosophy of 'Command of the Seas'. Command or control to achieve what? How do ADS centered battle groups establish control over submarines or aircraft with stand off missile capability. Admiral Standfield Turner, ex Chief of Naval Operations in US Navy has gone on record saying that even the mighty United States Navy can, at best, hope to enjoy, limited sea control over limited areas for limited periods.

Our current naval doctrine, missions and force architecture lack credibility and legitimacy because of the absence of a systematic approach to national security. We continue to embrace the model we inherited from the Raj at the time of Independence. In security calculations, the bottom line is identification of own core national interests.

To define realistic threats to our national interests, strategic environment needs to be analysed. Technology and finance will then be our guide to the naval component of our national security policy.

In defining our national interests, I can do no better than focus attention on our President's message to the nation on the eve of our Independence Day, 1995. The goal of national security, he stressed, was to prevent international efforts to destabilise India and the region. He expressed deep concern at efforts by big powers to disturb peace and stability. More importantly he asserted India's unflinching opposition to discriminatory efforts to stymie our missile, space and nuclear programme. As significantly, he notified the world that, the world's largest democracy will not yield to pressure wherever it came from. Our President, in short was telling the citizens of India and adversarial big powers that India's vital interests go beyond territorial integrity and encompasses resolute opposition to coercive diplomacy, technological monopoly and destabilisation. Considering that international bossism comes mostly from extra regional powers, naval power becomes an important tool for our defence. Our defence policy must break out of the shackles of continental mindset and naval missions of World War II vintage.

The strategic balance that prevailed during the cold war, has yielded to a unipolar world, presently dominated by World's predominant military power. The other macro change has been the shift of global focus from Europe to Asia. Pursuing a policy of selective containment in Asia, USA is trying to prevent the reemergence of Balance of Power in a multipolar world to include emerging and potential bigpowers in Asia. USA's declared policy of dual containment of Iran and Iraq, expansion of its sphere of influence to control

Asian Islamic states as a potential counter to historically nationalistic and nuclear super power of Russia, have made Pakistan a frontline strategic ally of USA. USA sees China as an ally of Pakistan, as a strategic counterweight to Russia, Japan and India. Hence USA's muted stand regarding China's entry into Bay of Bengal via Myanmar and China's assistance in missile and nuclear field to Pakistan. What is very disturbing is USA's declared policy of projection of power at short notice over great distances to exercise deterrence, coercion and intervention if necessary, in two major regional disputes.

There is growing consensus in India that USA's adversarial policy towards India which commenced in 1954 with security pact with Pakistan, has intensified in recent years. There is also growing resentment in India against USA's double speak and heaping of diplomatic threats on India for her missile, space and nuclear programme. Public opinion in India is veering to the view that in Pakistan's proxy war to de-stabilise India, the smoking gun is in the hands of USA.

Arrogant antagonism of world's militarily sole superpower is bad news for India. In structuring our strategy to protect our vital national interests, we must take into account the sunny side as well. First, people and government of USA, dread the prospect of casualties in pursuit of activist role in international affairs. Routed in her Vietnam experience, fear of body bags has been attributed by US scholars to new family demographics of low birth rate, mounting socio-economic problems and resurgence of neo isolationism. This national mood is fuelled by what has come to be known as CNN Factor. This Achilles Heel of US power is good news and an important determinant of our strategy at sea, on land and in the air. Perceived ability of nations to inflict damage and casualties on US forces is an important influencer of US policy and action abroad. Secondly, post cold war ascendancy in geo-economy, change in the nature of probable future conflict from global to littoral have enhanced the role of geography in our strategy. India's central location in Indian Ocean gives her easy access to four important waterways of the world - the Atlantic, the Pacific, the Gulfs of Aden and Arabia. This geo-strategic advantage offers India a stellar role in ensuring peace, prosperity and stability in the region.

While India must continue her policy of constructive engagement with USA, Pakistan and China and deepen her friendly relations with European Union, coastal states in Indian Ocean and Asia Pacific regions, our diplomacy, to be effective, must be backed by force and visible resolve to deter interference in our sovereign right of independent decision making. A soft and militarily weak state invites coercion and aggression. In post Cold War strategic scene, deterrence of aggression on our land frontiers is not enough as the aim of our military strategy. We must have power and naval power - an important constituent of it - which is perceived to be capable and willing to impose

substantial casualties and damage to restrain attempts at coercion and intervention.

Technology will play a decisive role in profiling this power. Technology has changed the crucial offensive defensive balance of maritime forces. The balance has tilted firmly in favour of submarines, particularly in submarine friendly Indian Ocean. Submarines have become capital ships of today and in foreseeable future. Fitted with missiles and in alliance with shore based long range multi role maritime aircraft with stand-off missile capability, Indian Navy will be eminently able to exercise defensive deterrence against big power navies in Indian Ocean region. Our ability to apply power at sea will be immensely enhanced if our government permits, and provides required funding to our scientists and engineers to take our missile, space and nuclear programme to logical conclusion. Technology is a threshold phenomenon. Since this hurdle has been crossed, only colossal ignorance of our long term strategic interests by the government has bound the Prometheans. Assuming a change in policy, India's power at sea in the waters of our interest will be augmented by improved capability for surveillance and shore based long range cruise and ballistic missiles. Our submarine centered navy will also make our nuclear weapons option - should we choose to exercise it - very credible.

Technological changes in recent decades, have substantially enhanced detectability, locatability and as importantly, vulnerability of surface ships from stand off missiles and torpedoes. But surface ships will be needed for specialist functions like mine countermeasure, amphibious operations, constabulary function in EEZ, training and sea lift for selective peace keeping functions. Surface ships with what one might call second division armament, sensors will serve national interests well through flag showing visits during peace time, and naval presence or posturing in less than war situations or conditions of violent peace.

A serious disability of our naval doctrine is that it is almost exclusively hardware oriented. Most effective force-multiplier is highly motivated quality manpower. As we should have learnt by bitter experience that surfeit of quantitative manpower acts as force reducer. With progressive economic growth, armed forces will have to be severely competitive to attract talent. International trend is drastic reduction in manpower to make services lean and mean with striking power and survivability.

Finally, in formulating doctrine and force structure, a crucial issue is defence expenditure. Even the most affluent countries apply scrutiny, as across the board defence and naval capability is not affordable. There are numerous schools of thought on the issue of reasonableness of defence expenditure. The extreme anti-defence lobby holds the view that one paisa spent on defence is a loss to development. But, examples of France, South Korea in the past and

ASEAN countries in recent years, show that high defence expenditure and high economic growth rate can co-exist. Econometric studies have shown that there is no casual relationship between defence and development - adverse or otherwise. Development gets stymied by wrong economic, monetary, and fiscal policy and large scale corruption, poor productivity and quality. The second school takes an accountant's approach to reasonableness of defence expenditure. Usual yardsticks are big percentages of Gross Domestic Product or Central budget or Centre cum State budget, of population in uniform or per capita expenditure. Such yardsticks have their uses but fall flat when GDP is very high as in the case of Japan. Defence expenditure is not only reasonable but essential as long as it is anchored in well thought out strategy, doctrine and force-mix which have credible capability of safeguarding and furthering our vital national interests. Expenditure must pass the test of cost effectiveness, all avenues for economy explored. In short, money must be spent wisely. One thing for sure, increasing naval share of defence cake is not an end-in-itself. Nor does it necessarily enhance security.

In conclusion ship count approach to naval power and engineering it around light fleet carrier battle groups has become flawed due to technological changes since World War II. Our stated naval missions are also flawed against the backdrop of strategic developments since the end of Cold War. To safeguard our vital national interests, it is not enough to deter aggression on our land borders. We must, in addition have the capability to apply power at sea to raise pain threshold of adversarial extra regional powers. To achieve that power, we need a twin track strategy. The fast track is, in the submarine friendly strategic Indian Ocean, a navy centered around modern submarines in alliance with long range shore based multirole aircraft with stand off weapons. The slower track is to give our scientists a free hand to carry to logical conclusion the progress already made in missile, space and nuclear fields. Inspite of decline in survivability of surface ships, these will continue to play important roles in support of the main strength element, specialist functions and importantly in conditions of peace and violent peace. With quality hard ware, quality manpower is a force multiplier and an essential part of naval doctrine. Defence expenditure should be judged by the criteria of cost effective defence of our vital national interests. If we manage our economy better, prevent leakages of national income, explore all avenues of economy in defence expenditure and spend money wisely, funding will not be a constraint on the recommended doctrine.

Light Armour: Descendant of the Cavalry

BRIG (RETD) R D LAW

Light armour is an essential component of any modern mechanised army. Armoured forces cannot develop their full offensive power without light armour which provides them with tactical and topographical information; secures the flanks; ensures safe passage by rushing ahead to seize defiles, bottlenecks and crossing places; protects maintenance routes so that logistic requirements reach the forward troops without hinderance; keeps enemy raiding forces away from headquarters so that they can function undisturbed; in the pursuit assists in turning the enemy's withdrawal into a rout by constantly harassing him on his flanks and after outpacing the enemy cutting in on his route of withdrawal to put stops on his axis of withdrawal; mounts raids in the enemy's rear areas, covers the preparation of defences by delaying the enemy and prevents reconnaissance of the position by the enemy's mobile troops and in retrograde movement facilitates breaking of contact by the withdrawing force by holding off the enemy by offensive action. Light armour is, in short, the maid of all work and an army which does not have light armour or fails to employ it correctly finds itself at a disadvantage.

Light armour has descended from the cavalry which occupied a prominent place in the armies of yesteryear, when no army could be considered complete unless it had a good complement of cavalry on its order of battle. While all modern armies have a complement of light armour, it has for one reason or another disappeared from the Indian Army, which since independence has increased the number of armoured regiments more than tenfold while neglecting light armour to the extent that it has become extinct. The need for light armour was felt during the 1965 and 1971 Indo-Pakistan Wars, the two occasions when armoured forces were employed in some strength by both sides, but no steps have been taken in India to revive it.

While the cavalry performed all the roles which light armour now handles, its primary function was that of reconnaissance which provided information on the basis of which commanders based their plans. Reconnaissance is also the pre-eminent role of light armour. Although there are now several other means of obtaining information like tactical air reconnaissance, air photography, reconnaissance satellites and terrain evaluation based on remote sensing data, light armour is the only source which obtains tactical information

---

Brigadier R.D. Law is a former Director of Armoured Corps, Army Headquarters, New Delhi. He has written several articles on armour related subjects including two USI National Security Papers.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

by making contact with the enemy and topographical information by actually going over the ground.

This article studies the evolution of light armour, which traces its lineage to the cavalry, its employment, part played by it in some of the wars fought since the First World War until the recent Gulf War, its disappearance from the Indian Army despite there being a need for it and considers the steps that are necessary to fill the void created by its absence.

THE ANCESTRY

The cavalry was dethroned from its place of honour on the battlefield during the early years of the present century by the improvements in firearms brought about by the magazine rifle firing fixed smokeless cartridges and the emergence of the machine gun. The days of the cavalry charge over open ground with drawn sabres or lances were over. The cavalry had to seek cover afforded by the ground which was more difficult for it to utilise than for the infantry because of a horse and rider being more difficult to hide than an infantryman on the ground. The cavalry, however, still had several important functions to perform for which it was better suited than any other combat arm. Nevertheless, these roles underwent some metamorphosis as a result of the developments witnessed during the period.

The improved power of firearms placed the defender at an advantage over the attacker by reducing the chances of success of a frontal assault against defences. The attacker was compelled to manoeuvre around the enemy's flanks, threaten his flanks and force him to fight outside his chosen and prepared positions. By virtue of its mobility, the cavalry was able to undertake such operations.

The closing years of the nineteenth century and the early years of the twentieth also saw the coming of the railway and the telegraph and the development of road networks on the European continent. These gave the armies there the ability to move and maintain large forces and pass information and orders with speed hitherto not attainable by despatch riders or mounted liaison officers. These developments were not long in coming to India and some other countries, mainly those forming part of the British Empire. Protecting and threatening these facilities, depending upon whether they were one's own or the enemy's became important tasks for the cavalry.[1]

Reconnaissance ahead of the main force had always been the most important function of the cavalry. As the armies grew larger, their movement, particularly for switching from one axis to another, became more difficult and cumbersome. This made it necessary to group and dispose forces so as to

obtain the maximum tactical advantage in the first encounter with the enemy. This required correct and timely information for obtaining which mobile troops had to move ahead of the main force. As the direction of movement and the quantum and grouping of the forces to be deployed on a particular axis were dependent upon the outcome of reconnaissance carried out by the cavalry, under the then prevailing measures of time and space, it was categorised as strategic reconnaissance. Today it falls in the region of tactics and is termed medium reconnaissance. In offensive operations the cavalry employed for strategic reconnaissance tasks, after making contact with the enemy devoted itself to tactical or close reconnaissance in order to find out details of the enemy's dispositions and strengths, his weak spots, the siting of his weapons and the locations of his flanks. This also ensured that continuous contact was maintained with the enemy in order to discourage him from shifting or altering his positions. The cavalry, in other words, 'found' and 'fixed' the enemy. Tactical or close reconnaissance sometimes involved attacking the enemy so as to cause him to react and, in the process, disclose his activities and the locations of his main weapons by opening fire from them. Such reconnaissance in force called for the employment of cavalry in some strength, ie complete units or sub-units supported by horse artillery. It could also involve establishment of strong standing patrols and maintaining a constant offensive posture.[2]

Without the information provided by the cavalry, commanders could not plan and arrive at sound solutions to operational problems. The cavalry was then the only source of accurate and reliable information regarding the topography as well as enemy strengths, dispositions and movements. Although terrain conditions did not have the same impact on movement of forces at that time as they do on the movement of mechanised forces today, nevertheless information regarding obstacles, crossing places, defiles and the lay of the ground had an important bearing on operational planning. The commanders of that era did not have access to accurate and detailed maps, air photographs, tactical air reconnaissance reports, satellite images and terrain evaluation based on remote sensing.

Once a defeated enemy force started to withdraw, the cavalry prevented it from breaking contact in order to take up a new position further to the rear. The aim of the cavalry was to force the enemy to fight continuously during his withdrawal. In the pursuit the cavalry assisted the pursuing force by moving on a route parallel to the enemy's axis of withdrawal at a rate of advance higher than that of the enemy's withdrawal and appearing on his flanks to harass him or cutting in behind the enemy to establish stops on his withdrawal route and so turn his withdrawal into a rout.[3]

In defensive operations the task of the cavalry was to deploy ahead of

the defensive position under preparation as covering troops, or a part of the covering troops, to defeat attempts by the enemy's cavalry to reconnoitre and to prevent the enemy from contacting the position before it was ready. In this process the cavalry obtained early warning of the enemy's moves and gauged his strengths. The cavalry also actively interfered with the enemy's preparations for attack by mounting raids on his concentration and assembly areas, administrative units, headquarters and communications.[4]

During retrograde movement the cavalry enabled the withdrawing force to obtain a clean break by holding off the enemy and disrupting his advance by operating offensively, particularly on his flanks, to continuously harass him.[5]

While the cavalry had lost some of its glamour after it was no longer possible for it to gallop across open ground to charge enemy positions, it still had several roles of great import to perform which no other arm could do. It remained the elite arm in most armies and service in the cavalry was much sought after.

THE BOER WAR 1899 TO 1902

Shortage of cavalry was acutely felt by the British forces in South Africa during the Boer War which was fought at the time when the cavalry was thought to have lost its usefulness on the battlefield. Due to the lack of cavalry to operate as mobile troops ahead of the advancing British formations to carry out strategic and tactical reconnaissance, British troops suffered many avoidable casualties by walking into Boer positions which could not be seen until they fired at the approaching British troops at very close range. The Boers sited their positions very cleverly using unorthodox methods and camouflaged them exceptionally well. The Boer war was the first occasion when the British Army had faced an enemy which practiced fieldcraft. In fact the Boers excelled at it. The Boers, who fought as mounted infantry, based their defences on dominating features covering the axes of British advance. They built sangars and dug trenches high up on the forward slopes of the features which were deliberately not well camouflaged. In the lower ground forward of the feature, the distance varying from time to time, they prepared dug in positions which were camouflaged with great care and they could not be seen by the attacking troops until the Boers occupying them opened fire, using smokeless ammunition while those in the trenches and sangars higher up opened fire with black powder ammunition. The British artillery which was invariably ranged on the higher positions engaged them and could not shift its fire down to the lower positions due to the close proximity of their own troops to them. In the confusion that followed, the attacking troops unexpectedly coming under fire,

it took them a little time to gather their wits and locate the Boer positions. The Boers utilised this opportunity to slip around the feature and reinforce the upper positions by moving into them or to get back to their ponies kept in a laager to the rear of the feature and gallop off to the next position, having obtained a clean break. More often than not the British forces had no cavalry or other mounted troops available to follow the retreating Boers.[6]

Owing to the lack of cavalry resources for reconnaissance the British formations had no means of finding out the locations of the Boer positions and obtaining information regarding their strengths, layouts and locations of weapons until their advancing troops made contact with them. With the Boers frequently changing their tactics British troops could never be certain of what to expect on contacting a new position. Cavalry moving ahead could have saved many British casualties and made it difficult for the Boers to break contact so easily on withdrawing from one position to another. Occasionally the British sent up balloons for observation, but as they had to remain over their own lines and due to the excellence of the Boer camouflage not much worthwhile information could be gained by this method.

These difficulties led one of the British Commanders, Lord Roberts, to declare that the first duty of a commander was reconnaissance[7]. In saying this he was not so much alluding to personal reconnaissance by the commanders, but the employment of mobile troops and other means to gather information, both tactical and topographical. In this respect he and other British commanders were greatly handicapped by the inadequacy of cavalry resources in South Africa. For the shortage of cavalry the blame rested squarely on the British Government which grossly misconceived the type of fighting to be expected in South Africa against the Boers. When offers of help were received from the Colonies, the British Government conveyed it to them that infantry was most needed and cavalry the least acceptable.[8]

The British troops in Natal were somehow better provided with cavalry, but their commanders made little use of it. The cavalry was not even employed to obtain topographical information despite the non-availability of accurate maps. At Colenso the alignment of the Tugela River was incorrectly shown on the map. A loop which existed in the River was not indicated on the map. Orders for the attack were issued on the basis of the incorrect map, not taking the loop into account, although it was of material tactical significance. When the loop was encountered during the attack, the attacking troops faced avoidable difficulties. There were also occasions when positions thought to be held by the Boers, when actually attacked were found to be unoccupied.[9]

THE FIRST WORLD WAR 1914 TO 1918

In France, the main theatre of operations, there was little scope for employment of cavalry in its traditional mobile roles. The static nature of trench warfare, with the no man's land between the opposing forces swept by a heavy volume of small arms, machine gun and artillery fire, rendered it virtually impossible for the cavalry to move without suffering unacceptably heavy casualties. Cavalry regiments in France, including some Indian ones, manned trenches and fought as infantry.

In other theatres like Mesopotamia and Palestine, where the fighting took a more mobile form, the cavalry played an important and significant part. In Palestine a substantial strength of cavalry, was deployed. Full advantage was taken of the cavalry to give the fighting there a mobile form. Some Indian and Indian State Forces cavalry regiments earned laurels there operating in traditional cavalry roles, including mounted cavalry charges, even though they had become difficult and expensive to execute due to the increased lethality of firearms.

The advance to Aleppo saw the first ever use of mechanised troops in the role of mobile troops to lead an advance. For this operation the leading column which was based on a cavalry brigade of two regiments, Jodhpur Lancers and Mysore Lancers, included three batteries of armoured cars and three light car patrols, and was supported by a squadron of the Royal Flying Corps. The armoured cars led the advance over a distance of about 120 miles in five days, a remarkable achievement for those days. Having contacted the defences at Aleppo the armoured cars and the light car patrols switched over to close reconnaissance in the course of which they gained valuable information. Finally, the armoured cars took part in the attack on Aleppo with other troops. This small armoured force showed the way to the future when light armour was to completely take over the functions of the cavalry.[10]

POST WORLD WAR I YEARS

With the development of the internal combustion engine the days of the horse as a means of battlefield locomotion came to an end. The mechanisation of the cavalry and the phasing out of the horse could be clearly foreseen. The British had employed the tank during the War in France to break the deadlock of trench warfare. During the 1920s a few forward thinking British Army officers like Fuller, Martel and Liddell Hart applied themselves to the question of the shape of wars in the future. They all came to one conclusion that in future wars the tank would be the primary weapon and in tank mounted or armoured divisions the place of the cavalry would be taken by light armoured units equipped with light tanks, or tankettes as they were then called, and

armoured cars. These officers were so enthusiastic about tanks that one of them, Martel even went to the extent of privately building a one man tank in the absence of official sanction. There was strong resistance to the new ideas from the diehard British cavalry officers who held many senior positions and wielded great influence. Horse cavalry remained on the orders of battle of the British and several other armies for several years.[11]

Fuller visualised a fast moving 'swarm' of, what he described as 'motorised guerrillas', mounted in light vehicles, backed by light tanks moving ahead of and around an advancing tank force to search the areas to the front and the flanks to locate the enemy and picket important places like bridges, crossing places, defiles and other bottlenecks for movement so as to provide safe and unrestricted passage to the tank force. The 'swarm' would fight off similar 'swarms' of light forces employed by the enemy. Having contacted the enemy these 'motorised guerrillas' while maintaining the contact, would thin out to the flanks to allow the tank force to close with the enemy.[12] It will be seen later in this article that Fuller's idea was taken up by the German Army, developed further and given practical shape.

In 1927 an Experimental Armoured Force was formed in the UK to try out the ideas being propounded by the British advocates of the tank. Even though their ideas had not quite crystallised and their thinking in some respects was still somewhat woolly, it was clear that there was a future for tanks and that every tank force would require a reconnaissance element. The reconnaissance component of the Experimental Armoured Force consisted of a company of tankettes and two companies of armoured cars. A light field battery with guns mounted on half tracked lorries, which was designed for attachment to the reconnaissance element formed a part of the artillery component of the Experimental Armoured Force. The reconnaissance element, besides obtaining information by search and observation, could also fight for it.

The tasks conceived for the Experimental Armoured Force were-

(a) strategic reconnaissance in place of the cavalry;

(b) cooperation with the main force;

(c) independent tasks or missions lasting upto 48 hours.

The tasks visualised for the Experimental Armoured Force were virtually identical to those of the cavalry. The Force was built around a battalion of 48 medium tanks. These tanks weighed only around 12 tons, but had a top speed of barely 7 miles per hour which rendered them unsuitable for carrying out strategic reconnaissance by moving ahead of the main force. For this task only

the tankettes and the armoured cars had the requisite mobility. In the second role of cooperation with the main force, which was still considered to be cavalry or infantry, it was visualised that the Experimental Force would be held back and launched at an opportune moment to attack an enemy flank in coordination with the main attack. The third role could mean anything, including having to push ahead to seize an important objective such as a bridge over an obstacle, an important communication centre or a tactical feature and to hold it until the arrival of the main force. Alternatively, it could involve working around the enemy's flank to harass him by attacking his administrative units or headquarters or cutting off his rearward communications. The Force lacked a dismountable element which it required for accomplishing some of the tasks, particularly for holding the places seized by it. Allotment of infantry to the Force required provision of suitable transport to the infantry to enable it to keep up with the tanks. Such troop carrying vehicles did not exist in the British Army at that point of time.

In one of the exercises the Force successfully attacked an advancing enemy force of an infantry division and a cavalry brigade from a flank and inflicted heavy casualties on the enemy. Armour, in particular light armour, was able to successfully demonstrate that it could take over the roles of the cavalry and, in fact, perform them better. The superiority of the light armoured vehicle over the horse was clearly established.

The Experimental Armoured Force was disbanded after the trials in 1928. The trials had brought out some very valuable lessons and demonstrated an entirely new concept of mobile warfare. The ultra conservative British Army failed to develop the ideas further and capitalise on the lead which it had. The Germans, who had been closely watching the developments and digesting the thoughts put forth in the writings of British tank enthusiasts, developed the ideas further into their own concepts and doctrines.[13] They also built up an armoured force which was free from old and hidebound doctrines. This paid them handsome dividends after the outbreak of World War II. The British, who were really the pioneers of tank warfare had to relearn from the Germans after paying heavily for their neglect.

The roles visualised for armoured forces by the British thinkers after World War I were essentially those which later came to be associated with light armour. British efforts during the 1920s were essentially directed towards developing light weight tanks carrying only sufficient armour to provide protection to the crew against small arms and machine guns firing armour piercing ammunition. It was believed that such light tanks would get into enemy rear areas and play havoc there. This also led to the thinking that a tank only needs to be armed with one or more machine guns which were considered

more effective against infantry and other soft targets likely to be encountered in the rear areas; than a heavier calibre direct firing gun. Heavier tanks were not considered necessary, at least during the early stages of a war. In Britain only one experimental model was built which was fitted with a 3 pounder gun in the main turret and had four machine guns, each in its own independent turret. A medium tank (Vickers Mark II) mounting a three pounder gun in the main turret and two machine guns, again each in its separate auxiliary turret, was built. This tank weighing 12 tons had a very poor top speed.[14] A slightly heavier tank, designated close support tank, was also built. It was meant to accompany and support the light tanks. It could carry a howitzer or a mortar and had a tube for launching smoke bombs. The main armour weapon or the main battle tank of the time was the light tank and units equipped with it were given roles identical to those of the cavalry.

WORLD WAR II

The German Army, which had initially borrowed the armour concept from the British, showed the way to the rest of the world after the outbreak of World War II, particularly in France in 1940; where the numerically superior Anglo-French armoured forces were completely overwhelmed by the German Panzer forces. The German Army employed motor cycle mounted reconnaissance battalions backed up by light tanks and armoured cars to lead their panzer divisions. The motor cycle battalions moved forward rapidly and swarmed around the enemy forces, covering all routes of ingress and exit. If the enemy moved the motor cyclists also moved keeping the enemy boxed in until the German tanks came up to deal with the enemy force. Often Allied troops gave up their positions and pulled out when the German reconnaissance units engaged suspected areas with speculative fire. This German practice evidently was the practical application of the idea of employing 'swarms' of 'motorised guerrillas' ahead of armoured forces put forth by Fuller. This did not work in North Africa and later in Russia possibly due to the paucity of roads and tracks and the inability of motor cycles with side cars to move across country in difficult terrain.[15]

The US Army had converted its cavalry regiments into light armour. The former US cavalry regiments were redesignated armoured cavalry regiments. An armoured cavalry regiment in the US Army is a brigade sized organisation, its squadrons being the equivalent of our regiments, its troops corresponding to our sqadrons and platoons to our troops. An armoured cavalry regiment is allotted to each US corps and every armoured division in the US Army has an organic armoured cavalry squadron. The US Army also has an organisation for a cavalry division which in fact is a light armoured division. The US Army evidently considers reconnaissance a more important military activity than

many of the other armies. General George S Patton, one of the great exponents of armoured warfare in World War II, called reconnaissance troops the 'eyes and ears of a commander'. He urged that once reconnaissance troops gained contact with the enemy they must never lose it and report everything that they see (or do not see). He considered that light armour used at night induced the enemy to open fire and disclose his position.[17]

By World War II British Cavalry regiments had mostly been converted into reconnaissance regiments equipped with armoured cars or light tank regiments which were employed in conjunction with armoured regiments mounted in heavier cruiser tanks. After the entry of Italy in the War on Germany's side in 1940 the British faced a threat in Africa from the numerically vastly superior Italian and Italian Colonial forces in that continent. The Suez Canal, a life line for the British for communications with countries of her Empire in the East, was threatened together with some of the British colonies in East Africa. After the fall of France, Germany was in a position to spare forces to reinforce her Italian ally in Africa if needed. To counter the Italian threat the British had a small force in Egypt, which included 7 Armoured Division. While the British armour in France had been badly mauled, the small British armoured force in Egypt was able to show its mettle by a series of small offensive actions against Marshal Graziani's Italian forces which had moved up against the British troops guarding the western frontier of Egypt. The armour complement of 7 Armoured Division consisted of 11 Hussars, its reconnaissance regiment, equipped with armoured cars, two light tank regiments equipped with US supplied Stuart light tanks and two regiments equipped with heavier cruiser tanks. General Wavell, the British Commander-in-Chief, had a very large area to protect and a small force to do it with. He decided to adopt an offensive posture, but without mounting any major offensive operation as he considered that such a posture would deter the Italians from launching an offensive and yet not provoke a German reaction. 11 Hussars moved up to the border and started a series of small actions like making gaps in the Italian barbed wire fencing along the border, getting in behind some of the Italian out posts, ambushing Italian convoys and taking prisoners and even attacking some lightly held positions. One of the light tank regiments, 7 Hussars later relieved by 8 Hussars, backed up by cruiser tanks of 1 and 6 Royal Tank Regiments also undertook some operations, including an attack on Fort Capuzzo. Later when the Italians moved forward cautiously with five divisions, the small armoured force operating as covering troops inflicted considerable damage on them in the course of a number of rear guard actions. Later, when the Italian troops halted at Sidi Barani and set up a series of fortified camps, mobile patrols of 11 Hussars penetrated in between them. In the course of these actions the regiment obtained information which was to prove invaluable during later operations. These actions of British light armour have been described

as 'armoured guerrilla warfare'. Wavell in his despatches wrote of 11 Hussars ".... was continuously in the front line, and usually behind that of the enemy, during the whole period!" Of the light tank regiments he said, "The light tank regiments, first the 7 Hussars, later relieved by 8 Hussars, showed similar eagerness to take opportunities and the skill to make most of them."[18] 11 Hussars was commanded by the redoubtable Lt Col JFB Combe, who was to later earn distinction as the Commander of 'Combe Force' which after a gruelling cross country move over extremely difficult ground outflanked the withdrawing Italians and set up a block at Beda Fomm South of Benghazi on the Italian axis of withdrawal, an action which has earned a place in military history as a 'classic' amongst operations of this type.[19]

A role for light armour which emerged nearer home during World War II was support of infantry in difficult terrain where heavier tanks could not operate or where they could not be taken. During the fighting in and around the Imphal plain when the Japanese attempted to establish themselves on the crest line of Naga Hills in North Eastern India, 7 Cavalry, equipped with Stuart light tanks formed a part of 254 Indian Tank Brigade which was located in the area. The Regiment played an important part in the operations which followed the Japanese incursion and made substantial contribution to the success of XXXIII corps in throwing the Japanese out of India. 7 Cavalry was the first regiment of the Indian Armoured Corps to go to war mounted in tanks. The Regiment operated in exceedingly difficult terrain where on occasions tanks had to be winched up by D-8 tractors as the slopes were too steep for them to climb under their own power. Stuart tanks of 45 Cavalry, later relieved by armoured cars of 11 PAVO cavalry kept the Corps maintenance route from Dimapur onwards open by constant patrolling.[20]

45 Cavalry after its relief by 11 PAVO Cavalry became a part of 50 Indian Tank Brigade in Arakan where it operated in support of infantry. During the reconquest of Burma, besides 7 cavalry, three other Indian light armoured regiments, viz 16 cavalry, 11 PAVO cavalry and 8 cavalry performed a variety of tasks like reconnaissance, flank protection, establishment of blocks, clearing and patrolling of routes and support of infantry. The variety of roles which light armoured regiments were able to perform over different ground conditions illustrates the versatility of these units.[21]

POST INDEPENDENCE OPERATIONS IN INDIA

During the Kashmir Operations in 1948-49 two light armoured regiments, 7 Cavalry and CIH operated in Jammu and Kashmir, mostly in support of infantry in areas in which heavier tanks could not operate or where they could not be taken. History was made by 7 Cavalry when it took some of its tanks

up to Zoji La and participated in an attack in support of infantry to overrun enemy positions which the infantry had failed to dislodge in earlier attempts. The Battle of Zoji La, which was fought at an altitude of over 12,000 feet, established a high altitude record for tank operations. This once again demonstrated the utility of light armour in difficult terrain.

Later, during the Chinese aggression in 1962, a squadron of 63 cavalry equipped with armoured cars and a squadron of AMX-13 light tanks from 20 Lancers were air lifted into Ladakh. At that time the Indian Air Force did not have transport aircraft capable of lifting anything heavier.

1965 Indo-Pakistan War

During the 1965 Indo-Pakistan War, I Corps had launched 1 Armoured Division into Pakistan territory in the Sialkot sector with the task of securing the line of the Ravi-Marala Link Canal. The Division advanced with 1 Armoured Brigade in the lead. The Division had no light armour available for employment as mobile troops for reconnaissance or flank protection. A squadron of one of its armoured regiments, 62 Cavalry (equipped with Sherman tanks), was employed by the division to guard the Eastern flank. When the advance started on 8 September, 1 Armoured Brigade was moving two regiments up with 17 Horse on the left and 16 Cavalry on the right. Besides engaging the enemy there were some instances of tanks of the regiments of the Brigade and the flank guard engaging each other with 'friendly fire'. In one instance a medium battery of the Divisional Artillery also became the target of 'friendly fire' from one of the armoured regiments. In each case the regiment which fired as well as the one which was the target reported each other as enemy. This caused the tally of enemy armoured regiments at formation headquarters to add up to a formidable figure. Furthermore, 16 Cavalry got involved with some enemy tanks deployed in broken ground which it could not deal with by manoeuvre due to the nature of the ground. Owing to the non-availability of accurate maps and lack of reconnaissance no worthwhile topographical information was available in advance. On the left 17 Horse had been moving well and dealing effectively with the enemy encountered by it. If the advance by 17 Horse had been allowed to continue in all probability the enemy tanks opposing 16 Cavalry would have had to pull out. In the worst case 4 Horse, which was held in reserve, could have been used to outmanoeuvre them. In the event, however, commander 1 Armoured Brigade, perhaps due to the confused picture available to him and the exaggerated reports of enemy armour strength, took the unfortunate decision to halt the advance and withdraw his regiments into a defensive box in which the Brigade remained for the next forty eight hours before resuming advance on a different axis. With this decision there was no question of the Division ever reaching its original objective as the enemy had

been given ample breathing space to reinforce and redeploy his forces. Thereafter, for the remainder of the war, 1 Armoured Division occupied itself with encircling and attacking one village after another, some even more than once. While the units performed the tasks given to them with distinction and elan, the achievements at formation level were negligible.[22]

The confusion on the first day of the operation, leading to the decision of the Brigade Commander to halt the advance was, to a large extent, attributable to lack of information which an armoured formation commander must have in order to take sound and timely decisions. In armour operations the decision has to be the right one as in fast moving situations there is rarely a second chance available. If a reconnaissance regiment had been available to 1 Armoured Division and employed for medium reconnaissance and the correct tactical and topographical information available, the story could well have been different. Lt Gen KK Singh, who was commander 1 Armoured Brigade at the time writes, "If the 1 Armoured Division had been allotted a Recce unit on its ORBAT, the infructuous deployment of 8 September would well have been obviated."[23]

1971 Indo-Pakistan War

In defensive situations covering troops are deployed out in front ahead of the defensive positions to prevent the enemy from contacting them before they are ready. This task is, in a way, the opposite of reconnaissance, in that the aim is to keep the enemy's reconnaissance troops away from the positions under preparation and so prevent them from gaining information. In the process information regarding the enemy's activities is gained. During the 1971 Indo-Pakistan War, Pakistan Army had deployed covering troops consisting of a reconnaissance regiment, a regiment of tank destroyers (self-propelled anti-tank guns), and a reconnaissance and support battalion in the Shakargarh Bulge facing North. This small force was able to delay the advance of I Corps by occupying successive covering positions based on minefields. I Corps operating in this Sector started its advance on 5 December. The first contact with the Pakistani defensive position based on the Supwal Ditch and the Basantar Nullah was made eight days later on 13 December. I Corps covered a distance of about ten miles during this period achieving a rate of advance of a little over a mile a day against light opposition, a remarkable achievement for the Pakistani covering troops. The availability of a reconnaissance regiment with the Corps would have resulted in speedier advance by eliminating the need for the leading formation to deploy on contacting each delaying position. The lack of reconnaissance resources with the Corps also resulted in some non-existent enemy positions being attacked and minefields which contained no mines being laboriously cleared.[24] Apart from being unnecessarily time consuming,

attacks on positions not held by the enemy are rather disconcerting for the participating troops. Such a 'farzi' attack in war is rather akin to a Wodehousian situation in which while coming down a ladder in darkness a person puts his foot down very carefully on a non-existent rung with rather comic and, possibly, painful results!

THE GULF WAR 1991

Closer to present times, during the ground offensive of the Gulf War light armour was extensively used by the Coalition Forces. The Two US Corps, XVII Airborne Corps and VII Corps pushed out their respective armoured cavalry regiments in the lead for medium reconnaissance. In VII Corps which consisted of armoured divisions only, viz 1 US Armoured Division, 3 US Armoured Division and 1 British Armoured Division, each armoured division was led by light armour, the two US divisions by their respective armoured cavalry squadrons and the British division by its organic reconnaissance regiment. The Western flank of the Coalition Forces was guarded by 6 French Light Armoured Division. 1 US Cavalry Division strengthened by a brigade from 2 US Armoured Division, operated along Wadi Al Batin on the right of VII US Corps to carry out a feint to lead the Iraqi forces to believe that the main coalition thrust was coming along Wadi Al Batin. At the same time 1 US Cavalry Division ensured that there was no gap between the Coalition Forces operating to the west of Wadi Al Batin and those in the Kuwaiti territory to its East. A feature of light armour operations during the Gulf War was the close integration of light armour and army aviation. While US armoured cavalry units have an element of main battle tank equipped sub units, the British reconnaissance regiment was equipped with Scorpion light tanks mounting 76 mm medium velocity main armament relying on chemical energy armour defeating ammunition which has limitations against modern composite armour. As soon as the reconnaissance regiment contacted Iraqi armour; armed helicopters of the Divisional Army Air Corps Squadron came forward to take on Iraqi tanks beyond the range of 76 mm guns of the Scorpions.

The Gulf War, the conduct of which on the Coalition side was based on the US Airland Battle doctrine, amongst other things demonstrated that light armour forms a vital component of modern mechanised forces.[25]

LIGHT ARMOUR IN THE INDIAN ARMY

India has 55 armoured regiments,[26] which is a substantial force of armour, larger than the German panzer forces in 1940, but it has no light armour. The absence of light armour raises certain questions. In the event of a war, will the Indian armoured forces, once again, go blindfolded into battle? How will the

flanks be guarded? In defensive situations what will the covering troops be composed of? Who will fill the gaps between formations, particularly in open desert areas? In retrograde movement should it become necessary, who will cover the withdrawal and provide rear guards, etc, etc. In the absence of light armour there is only one answer, ie armoured regiments. Besides their not being entirely suitable for the roles of light armour, employment of armoured regiments in this manner is uneconomical and leads to dispersion of armour, in the employment of which concentration is a cardinal principle.[27] Without availability of light armour it will not be possible to fully exploit India's sizeable armoured strength. It is indeed unfortunate that lessons from military history and our own experiences in 1965 and 1971 have been forgotten.

Light armoured regiments faded away from the order of battle of the Army primarily due to the non-induction of new equipment to replace Stuart tanks and armoured cars which could no longer be kept going after more than a quarter of a century of service. There was a one time induction of a limited number of AMX-13 light tanks which were not employed in their proper role, but misemployed as self-propelled anti-tank guns. The specifications of a light armoured fighting vehicle to replace Stuarts and armoured cars were debated for a considerable time, but the then armour hierarchy insisted that it must be a light tank, and not an armoured car, which must have fire power equivalent to the main battle tank, sufficient armour protection to enable it to fight against enemy main battle tanks, be amphibious and yet be small and inconspicuous. A tank meeting all these requirements is a physical impossibility. There was a time when the Swedish IKV-90 was under consideration. The IKV-90 was not meant to function as a light tank in reconnaissance and other roles of light armour. It was designed to operate in place of a main battle tank in the soft and difficult going as obtaining in Northern regions of the Scandinavian Isthmus. What is really needed for operating as a light armoured reconnaissance vehicle is a small and inconspicuous vehicle with a main armament capable of successfully engaging similar enemy vehicles with armour protection for the crew against heavy machine gun (.50 inch or equivalent calibres) armour piercing fire and mobility superior to that of the main battle tanks in service. Amphibious capability is not necessary. Attempting offensive operations across the grain of the country involving repeated crossing of water obstacles is unsound. In any case putting reconnaissance elements across a water obstacle which is unfordable or otherwise not crossable by the main force without rafting or bridging would make no sense. In addition, to enable the vehicle to engage main battle tanks when necessary, it should be equipped with externally mounted, but fired from within, anti-tank guided missiles. The vehicle should be tracked, but wheeled armoured cars cannot be entirely ruled out as they offer several advantages. They are less noisy and more suitable for silent reconnaissance, they are cheaper to procure and maintain and have longer

endurance. Even the armoured cars of World War II vintage were able to operate over several types of terrain such as cultivated rolling country of the European Continent, sandy deserts of North Africa, hill roads and tracks of North Eastern India and Burma and the scrub country of Central Burma. Wheeled armoured cars have gone through a great deal of development since then and their performance now is far superior to that of their Second World War ancestors. The cross country performance of modern state of art wheeled armoured cars comes fairly close to that of tracked vehicles. Perhaps the answer is to have a mix of regiments equipped with tracked and wheeled armoured reconnaissance vehicles and allot wheeled or tracked regiments to formations depending upon their areas of operation.

While the British Army uses the Alvis Scorpion light tank mounting a 76 mm main gun which relies upon chemical energy ammunition for defeating armour, the US Army employs a variant of the Bradley infantry combat vehicle as the basic reconnaissance vehicle. Both vehicles have coaxial and commanders' dual purpose machine guns. They also carry externally mounted anti-tank guided missiles which can be fired from within the vehicles.

A possible answer for India could be a variant of the indigenously manufactured BMP II infantry combat vehicle to serve as a tracked armoured reconnaissance vehicle. It would require increase in armour protection which can be at the cost of loss of amphibious capability: If up armouring has a material effect on the mobility of the vehicle it may need repowering. A suitable armoured car will have to be developed or procured.

The reintroduction of light armour in the Army will strengthen the case for transfer of armed helicopters from the Air Force to the Army Aviation Corps. A helicopter has to be regarded not so much as an aircraft, but more as an extremely flexible and versatile vehicle possessing a degree of mobility unmatched by any ground vehicle which enables it to move over all types of terrain. Armed helicopters are really ground weapon systems which in addition to a very high degree of mobility have the capability to elevate themselves in order to engage targets which cannot be engaged from the ground level due to limitations of inter visibility. Their prime function is destruction of enemy armour by operating closely integrated with armoured or light armoured units and sub-units. They operate close to the ground, using the cover provided by vegetation, folds in the ground and man made objects like buildings for movement and taking up positions for engaging the enemy. This is not very different to the tactics employed by armour. Apart from their ability to 'see' and 'use' the ground in the same manner as armour commanders, armed helicopter pilots have to relate their movements and actions to the tactics used by the armoured unit or sub-unit with which they are operating. This makes

it necessary that armed helicopter crews thoroughly understand armour tactics from the lowest sub-unit upwards. Armed helicopters must, communication-wise, operate on the command radio nets of the armoured formation or unit with which they are operating and their crews must understand and speak the same radio language. The term armour, in this context is used in a wider sense and refers not only to tanks, but also to mechanised infantry and supporting arms like artillery and engineers. Ideally armed helicopters should form a part of such a combat group. A light armoured regiment can be looked upon as a combat group. Armed helicopters belonging to the Air Force, flown by Air Force crews can hardly be expected to operate integrated in the manner described.

The organisation of the erstwhile light armoured regiment was, in principle, sound. Besides light armoured vehicles, it included dismountable elements carried in armoured vehicles at the squadron level and supporting elements like mortars and pioneers at the regimental level. These will necessarily have to be modernised, in that the rifle troops will use infantry combat vehicles, the mortars fitted, in suitable armoured vehicles from which they can fire without dismounting and the pioneers provided with a modified version of the infantry combat vehicle. Furthermore, in keeping with current developments surveillance devices such as ground surveillance radar, long range night observation equipment and remotely piloted vehicles (RPVs) carrying photographic/ television cameras should be integrated to enhance the regiment's information gathering capability.

CONCLUSION

Reconnaissance troops have, from times immemorial, been vital components of armies. Earlier this function was performed by horsed cavalry, but after a small beginning made in the First World War during the Palestine Campaign in using armoured cars and light patrol cars for reconnaissance, light armour gradually replaced horsed cavalry for reconnaissance and all its other roles. Reconnaissance units have been described as the eyes and ears of a commander and their non-availability and non-employment results in troops being pushed into battle blindfolded. Reconnaissance troops based on light armour are of particular importance in armour operations. Armoured forces require reliable, timely and accurate tactical and topographical information. Military history is replete with instances where absence of reconnaissance troops has proved to be a serious impediment in the successful accomplishment of the mission. This has also been experienced during the two Indo-Pakistan Wars, ie 1965 and 1971, in which both sides employed armour in sizeable quantities.

For various reasons like failure to replace aging equipment, neglect of

lessons and obsession to increase the number of armoured regiments in the Army, light armour has been allowed to become extinct in India. This has created a situation that in the event of war our armoured forces will once again be launched blindfolded into battle and this may again come in the way of their accomplishing their mission successfully. This had happened in 1965 when 1 Armoured Division, which had to come to a grinding halt on the first day of its offensive due to lack of tactical and topographical information, failed to complete its mission. The Division did not have a reconnaissance regiment.

There is a requirement for re-introduction of light armoured or reconnaissance regiments in the Army, even if it has to be at the cost of converting some existing armoured regiments into light armoured regiments. A suitable tracked light armoured reconnaissance vehicle can be found by modifying the BMP II infantry combat vehicle for this role. An armoured car will have to be developed or procured. Light armour is an essential component of armoured or mechanised forces. Without it these forces are unbalanced and cannot develop their full combat effectiveness.

REFERENCES

1. HE Lt Gen Fredrick Von Bernhardi, *Cavalry in Future Wars.* John Murray, London, 1906. pp 5, 9, 10.
2. Bernhardi, op cit p 137.
3. Bernhardi, op cit pp 11, 12
4. Bernhardi, op cit pp 19, 20
5. Bernhardi, op cit pp 14, 15
6. W Baring Pemberton, *Battles of the Boer War,* Pan Books, London, 1964. p. 81
7. W. Baring Pemberton, op cit. pp 39, 40.
8. W Baring Pemberton, op cit. p 40
9. W Baring Pemberton, op cit. pp. 125, 126, 131.
10. Field Marshal Earl Wavell, *The Palestine Campaigns,* Indian Edition, Sagar Publications, New Delhi, 1968 (First published by Constable & Co., London, 1926, pp. 231, 232, 237-40.
11. Lt. Col. G. Le Q Martel, *In the Wake of the Tank, The First Fifteen Years of Mechanisation in the British Army,* Sifton Praed & Co., London, 1931. pp. 15, 16, 116-20.
12. Maj. Gen. JFC Fuller, *Armoured Warfare,* Eyre & Spottiswood, London, 1943, pp. 56-60.

13. Gen Heinz Guderian, *Panzer Leader,* Michael Joseph Ltd., London, 1952, p 24.

14. Inadequate speed has consistently remained a feature of most British tanks right upto the present times. This has probablly inhibited tank power pack development in the UK. Even the current British Main Battle Tank, the Challenger has a lower power to weight ratio than its contemporaries like the US M-1 and the German Leopard II.

15. Martel, op cit., pp. 201-215.

16. Capt. BH Liddell Hart, ed., *The Rommel Papers,* William Collins London, India Edition, Natraj Publishers, Dehra Dun, 1977, p. 7.

17. General George S Patton, *War as I knew it,* First Indian Edition, Natraj Publishers, Dehra Dun, 1975, p. 414.

18. Capt. BH Liddell Hart, *The North African Campaign 1940-43,* First Indian Edition, Natraj Publishers, Dehra Dun, 1978, pp. 9-14.

19. Liddell Hart, *The North African Campaign,* op. cit., pp. 30-35.

20. Bryan Perrett, *Tank Tracks to Rangoon,* Robert Hale Ltd., London, pp. 99-148.

21. Bryan Perrett, op cit.

(a) 7 Cavalry, pp. 179, 181, 182, 210, 212, 214, 215, 223, 225, 226, 229-32.

(b) 11 PAVO Cavalry, pp. 151, 160, 161, 166-68, 179, 185-87, 210, 213, 214.

(c) 16 Cavalry, pp. 160, 164-66, 168, 173, 174, 210, 211, 219, 221, 223, 224, 231, 233.

(d) 8 Cavalry. Although this Regiment is not mentioned in this book, it arrived in Burma near the end of the Campaign and operated with 19 Indian Division during the clearing of the Toungoo-Mawchi Road into the Shan Hills.

22. Lt. Gen. Hanut Singh (Retd), *"Fakhr-E-Hind", The Story of the Poona Horse,* Agrim Publishers, Dehra Dun, 1993, pp. 193-206.

23. Hanut Singh, op. cit. and *"An Overview of Operations",* by Lt Gen KK Singh (Retd). pp. 225, 226.

24. Hanut Singh, op. cit, pp. 243-250.

25. Brig RD Law (Retd), *"The Gulf War, The Last Hundred Hours," USI Journal,* July-September 1991, pp. 346-364.

26. *The Military Balance 1994-95.* International Institute of Strategic Studies, Brassey. London, 1994, pp. 154, 155.

27. Brig RD Law (Retd), *"Concentration, The Forgotten Principle," USI Journal,* October-December 1993, pp. 456-471.

Privatisation of Support Facilities in Defence Services - Problems and Prospects

COMMANDER A N SONSALE

INTRODUCTION

"To carry on War, three things are necessary !
Money, money and well, more money".
- Giap Jaeopa Trivulzio to Louis XII of France, 1499.

The fifteenth century old advice to the French emperor is as true today as it was then. But apparently it has not percolated down to the corridors of power in Delhi. The maiden budget presented by the United Front Government on July 22, 1996, has proposed a defence outlay of Rs 27,798 crores, an all time low in the last 35 years in terms of percentage of GDP[1] at about 2.38 percent. On September 2, 1996, the Parliamentary Standing Committee on Defence submitted a report projecting a shortfall of 72,000 soldiers and 20,000 officers in the Army alone[2].

In the existing socio political climate our defence services will continue to be plagued with two problems - first the continually reducing budgetary support coupled with inflation and second the perennial shortage of manpower. Despite remonstrations, a solution seems remote. These twin problems need to be addressed to in all seriousness. One of the possible ways is certainly "the privatisation of support facilities in defence services".

Over the years, the thrust has been to isolate all aspects of defence from private sector and keep them strictly under the government control starting with training, procurement of equipment, maintenance, storage of spares and defence related research and development. The aim initially was to ensure quality supplies and insulate the critical defence sector from vagaries of market forces, especially at the time of emergencies. However, with the passage of time, this policy has resulted in the defence services attempting to take upon themselves various kinds of functions which have very little connection with their primary role. This has also resulted in very poor teeth to tail ratios for all the three services. Our Air Force has 150 to 200 men for each flying aircraft[3], which is among the highest anywhere. The Indian Navy's uniformed strength is supported by an equal number of civilian employees. The average

Edited text of the Essay which won the First Prize in Group A of the USI Gold Medal Essay Competition 1996. Commander A N Sonsale is serving with the Naval Headquarters, New Delhi.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

sailor-per-ship ratio in most Western navies is three hundred. In the Indian Navy it is four hundred and fifty[4]. In our 1.2 million strong Army, the fourth largest in the world, acquisition of high-tech weaponry and equipment in recent years has not brought about any significant reduction in the manning scale[5]. There is considerable flab in all the three armed services. Admiral J.G. Nadkarni,[6] has suggested that the size of the Indian armed forces could be cut down by 25 percent across the board without affecting the country's combat ability.

As a means of achieving this reduction in manpower and in associated costs and to increase the teeth to tail ratio of our armed forces the privatisation of support facilities is examined in detail in this paper. The country as a whole has taken irretrievable steps towards liberalisation initiated with Mr Manmohan Singh's policies. Disinvestment of Public Sector, though presently at a slow pace due to resistance from unions and poll related populist policies, must ultimately gather momentum due to multi-national competitions and economic realities. Sooner rather than later we are positively headed for complete privatisation in this country in line with more advanced Western economies. It is only logical that defence services should lead the way in this direction and bring the change at their own terms and to their best advantage. Of course there will be pitfalls and a great deal of thought process and debate will need to be undertaken. For what is being proposed is against all the traditional wisdom, against our system of keeping all "Military" matters in a shroud of secrecy. Having first crossed this psychological hurdle in achieving effective and optimum integration of defence and private sectors the more practical problems of designing and implementing adequate safe-guards and fall back options will need to be addressed, to avoid scams involving large sums.

In fact initial steps have already been taken. Navy is already involving private sector in selectively off-loading repair and refurbishment of its shipboard machinery whenever the Naval Dockyards find themselves overloaded or lacking the infrastructure or technological know how for some specific equipment. A lot of Defence Public Sector Units like MDL, MIDHANI, HAL are supported by a host of ancillary industries in the private sector. But all these are second tier supports. At the fundamental level our defence apparatus has a natural tendency to be self contained and self sufficient in all spheres. It is this fundamental bias which comes under question when we talk of privatisation of support facilities.

A cost effective, smaller, slimmer and smarter force dependent on support from outside by private sector and subject to market forces or a huge but cash starved and man power starved giant monolith having everything under its own fold but barely able to sustain itself and getting crushed under its own weight. It surely appears like a Hobson's choice.

AIM

The aim of this paper is to examine the implications of "privatisation of support facilities in defence services".

This paper has dealt with :-

(a) Areas and functions of armed forces that are amenable to support from private sector.

(b) Possible effect on the manpower cost and teeth to tail ratio of armed forces by utilisation of resources in the private sector.

(c) Advantages and shortcomings.

(d) Specific recommendations.

AREAS AMENABLE TO PRIVATISATION

MAINTENANCE

United kingdom converted their dockyards to autonomous bodies in the mid 1980's with self sustenance as the precondition. This brought in a lot of professionalism. The wages and overtime allowances earned by dockyards now had to be against real and efficient results. Also the Navy could more effectively expect and demand better value for its money from dockyards as a paying customer.

Presently, the complete refits and operational maintenance of Naval Ships is carried out by the two Naval Dockyards (at Mumbai and Vishakhapatnam) and two Naval Ship repair yards (at Kochi & Port Blair). These are government organisations with Naval Management and a civilian work force of over 30,000 workers and supervisors. Some of the refits and drydockings are also off-loaded to other shipyards such as Goa Shipyard, Cochin Shipyard, Hindustan Shipyard, Vishakhapatnam and Garden Reach Shipbuilders and Engineers (GRSE) Calcutta. Keeping total privatisation as the ultimate goal our repair organisations can be made autonomous and monetarily self sustaining to start with. Bidding against other commercial yards on a competitive basis is sure to bring in a lot of financial discipline and professionalism.

The requirement to off-load repairs at equipment level to trade has been recognized by the higher management of the Navy and is in force for some time now depending on the load on dockyards or when adequate infrastructure or expertise for a particular equipment is not available. But the system needs

to be institutionalized rather than implementing it on a case to case basis. With significant strides towards indigenisation and standardization that the defence forces have taken, the OEMs (Original Equipment Manufacturers) can be persuaded to set up their repair and support facilities to provide on a contract basis. A similar approach could be adopted in case of various repair workshops of Army and Air Force.

This approach can be extrapolated to include supply of spares as part of the maintenance contracts. Here the respective material organisations will only carry the war reserves. The carrying of base and depot spares will be contracted out to OEMs under rate contracts or other suitable agreements. The reduction in inventory to be carried by the Material Organisations will be phenomenal. This will also bring about a major reduction in manpower, storage space and other inventory-carrying costs. This proposal, however, presupposes that with the passage of time more and more equipments would be indigenised and standardised. The methodology is already in force for hi-tech equipment like computers, fax machines and photo copiers which are being placed under maintenance contracts routinely from units. The complete set of equipment having commonality with those in the private sector and located in peace areas for all the three services can be placed under maintenance contracts with the OEMs and authorised agencies. All the non combat vehicles, office equipment such as air conditioners, fans, generators etc could be brought under this category. The repair facilities for specialist equipments used exclusively by the services such as weapon system, radars, sonars and equipment involving classified parameters such as those related to communication and electronic warfare will, however, need to be retained under government control for security reasons till Indian private sector starts participating in the field of weapons too.

FOOD

Presently, food is procured by Army Service Corps through contractors and then supplied to various units. There is scope for contracting out the complete catering services in peace areas to private contractors. Given the quantum of services involved; the private sector is bound to find it beneficial. Competitions would ensure quality and efficient service. Likewise in case of the Navy and Air Force the existing structure of catering and supply branches need to be continued only for ships and air bases in the remote and inaccessible areas.

The complete system of issue of ration, in kind, to servicemen could be privatised by having suitable tie-ups with reputed retailers on a unit to unit basis. Such systems already exist for items like, cooking gas and milk in various stations. Royal Navy has successfully experimented with contracting

out services in officers' messes, cleaning, gardening, security and some other functions.

POL

Another major area looked after by ASC and that could be privatised is the supply of POL to the vehicles. In places where sufficient consumption is guaranteed, reputed oil companies and retailers will find it economically viable to have exclusive outlets for use by services. Modalities to cater for the taxes and duties exempted in case of ASC supplies will need to be worked out. Naval and Air Force vehicles in peace stations could be supplied fuel in a similar manner. In case of aviation fuel for aircraft and diesel for ships and tanks, arrangements already exist with oil companies to supply directly at respective units around the country.

DEFENCE PRODUCTION

Today our defence production network comprises of thirty nine ordnance factories and eight defence public sector undertakings. The two together hire around 2,80,000 workers. Ordnance factories take away about 28 per cent of the defence budget. These industries produce all defence related goods - low technology clothing, boots, blankets and hi-technology products like weapons, ammunition, aircraft, ships, special alloys and materials to be used in nuclear and missile technologies.

The industrial policy resolutions of 1948 and 1956[7] have brought almost the complete defence production including non critical and fringe military products eg non combat stores, clothing and raw materials to be the exclusive preserve of the state, leaving only smaller items of dual military civil use with the private sector. At the time of inception of these policies there were strong reasons. Some of them were:

(a) Security.

(b) Absence of capital investment in the private sector.

(c) Necessity of stringent quality control for the private production sector.

(d) Socialistic ideology of the then government.

(e) Fear of growth of 'military industrial combines' (MICs) as existing in the West with considerable clout in shaping policy.

(f) The image factor; the peace loving, neutralist image would have been tarnished by a private sector arms industry indulging in sales pitch and competitive marketing.

Thus for about half a century of independence the defence industrial base (DIB) has remained confined to the public sector and enjoyed the protected status with a captive customer in the Armed Forces. Devoid of competition the natural ills and inefficiencies have taken their toll on the organisation.

With liberalisation, foreign investments and tie ups with multinationals, a lot of capital has come to the country. With arrival of self certification and ISO 9000 series qualifications, the big hurdle of requirement of stringent inspection, quality assurance and quality control procedures has almost become redundant. It is against this back drop that we should see the level of inroads that the private sector has been able to make in the field of defence production.

As a sequel to 1962 and 1965 wars, some modifications were made in the policy resolution of 1956 and certain armament stores were allowed in the private sector. A separate Department of Defence Production under the Ministry of Defence was created to give fillip to indigenous production of defence related goods. Embargo on military supplies by certain foreign governments in 1965 further underscored the need to develop indigenous production of all defence related goods[8].

At ancillary and small scale level, in non critical spheres, the private sector has been interacting with DIB for a decade. Defence public sector undertakings have shed low technology items to private sector. Bharat Electronics Limited (BEL), Garden Reach Shipbuilders and Engineers (GRSE), Hindustan Aeronautics Limited (HAL) have all developed a network of small scale industries and ancillary units around them. The ordnance factories have also been sourcing various raw material and small parts from a wide spectrum of indigenous industries, including the metallurgical, chemical, engineering and textile groups.

In 1985 an APEX body, headed by the Secretary Defence Production and Supplies was constituted to take major policy decision regarding off loading of items from defence sector to civil sector. The annual report of the Ministry of Defence 1986-87[9] also pronounced that no new capabilities will be created in the defence undertakings for production of nonsensitive defence equipment, if capacity and capability existed in the private sector.

However, the government policies have not been consistently followed up. For example way back in 1988, selected manufacturers had a meeting with MGO, JS(DDPS) & DQA(A), apparently, at the instance of the then defence minister. The Bofors gun was exhibited and details of ammunition and fuzes for 155mm FH77B system, 125mm system and 73mm systems were provided to give the firms a chance to manufacture these. Even though the firms expressed confidence to take up the job it was not followed up[10] to its logical conclusion.

Inspite of availability of adequate skills and infrastructure in the private sector the progress of indigenisation programme has been very tardy mainly due to a web of bureaucratic procedures in development and acceptance, non professional approach of the concerned agencies and, in lot of cases, reluctance on the part of Services to try out indigenous items as against imported ones. Some attempts do appear to have been made to involve the private sector in major or medium technology levels eg., at one stage Kirloskars were involved in the development of an indigenous engine for the Arjun main battle tank. But finally the issue has not progressed to its logical conclusion[11].

It appears that in the area of weapons, weapon systems, arms and ammunitions there is not much scope for privatisation due to a variety of reasons. We shall continue to be dependent on public sector, import and licensed production.

Recent pronouncements of the Associated Chambers of Commerce and Industry of India (ASSOCHAM) indicate a growing interest and perception of profits in defence related manufacture in the private sector, perhaps due to recent policy pronouncements regarding the export of defence based materials and expectation of profits[12]. However they face the hard realities of tough international arms market flooded by a glut of surplus, state of the art equipment from multinational weapon manufacturers and from erstwhile Soviet Union.

CLOTHING

Provision of clothing to the soldier comes under the charter of Army Ordance Corps (AOC). The ordnance factories produce the bulk of clothing items. With liberalisation and the quality goods being produced by Indian manufacturers today there is scope for near 100 percent privatisation in the sector. Reports in 1992[13] have suggested that the central government was incurring an annual loss of Rs 50 crores due to the irregularities in procurement which is done under selective tenders instead of open tenders by ordnance factories. The rampant corruption in procurement coupled with gross inefficiency and unprofessional management of ordnance factories have resulted in services having to pay more than the fair market prices for these items. Merely by permitting the Indian Service Headquarters to buy from the open market and exposing the ordnance factories to competition, significant cuts in the defence bill are possible. In fact the Arun Singh Committee on defence expenditure had recommended the closure of low technology defence factories like those producing clothing because there is enough capacity in the private sector to produce these goods at cheaper rates.

To open the way for privatisation and for procurement of standard and

established products of big companies, an institutionalised mechanism will have to be put in place for periodic review of existing specification, which needs to keep pace with changing times and technologies. For example the specification for shoe canvas oil resistant sole, meant to be used by airmen while working on aircraft, lays down stringent conditions on colour fastness to light and washing. This is superfluous considering the environment and type of usage envisaged for the product. Some steps have already been taken in this direction. For example, Air Force[14] is procuring Shoes Canvas white (TIGRE BRAND) from M/s Bata India Ltd for Rs 46.60. Although this doesn't conform to the laid down specification, but it more than meets their requirement and is also cost effective. Similarly Air Force is procuring Ultra Violet Sun Glasses from RAYBANS for issue to pilots at a cost of Rs 1150/- which would have been several times costlier, had they to lay down their own specification and then get them custom made.

Since the 1980s, to some extent clothing items eg. boots, blankets and so on have been gradually shed to the private, joint, cooperative and small scale sectors[15]. However a lot of ground still needs to be covered in this direction.

Defence Research and Development

The Indian Defence R&D base is almost entirely dependent on the Defence Research and Development Organisation (DRDO). The Organisation was established in 1958. Over the years the organisation has grown into a giant network of over 40 laboratories and employs over 30,000 personnel[16]. The organisation covers practically every spectrum of service research ranging from aeronautics, life sciences, electronics, engineering materials, general stores, naval science and technology, rockets, missiles, vehicles etc. The organisation has quite a few achievements to its credit. Significant development has been made in the areas like food preservation technology and vehicle technology and testing. In exclusive military fields it has developed packages, eg, the Nag, Trishul, Prithvi and Akash systems, the pilotless target aircraft and reusable rocket pods, to name a few. Over the years the DRDO has grown significantly. From a modest budget of Rs. 1.5 crores in 1961[17] it had a budget estimate of Rs 740 crores in 1994-95[18]. The organisation has been headed by eminent scientists like Menon, Bhagvantan and Nag Chaudhari. This significant growth has resulted in a multifaceted R and D base and provided multi-disciplinary facility under one roof, and at the same time has led to a rigid and systemised command structure based on equated ranks, departmental promotions and the trappings of the usual Indian bureaucracy. The list of failures of DRDO is not insignificant. The much berated Arjun MBT, Marut HF-24 and much delayed LCA and ALH projects have cost the country dear[19]. Incidentally defence R&D

today accounts for about 4.5 per cent of defence expenditure[20]. Also the working conditions are not good enough to attract the best brains in the country. The strictly hierarchical structure and limited opportunities don't create the correct temperament for research. There is a case for off-loading a lot of our defence R&D to the private sector, at least those sectors which have dual civil and military applications. This has been amply proved in a lot of cases. For example the product inventory of the BEL includes TV picture tubes, silicon and Germanium semiconductors, ICs, capacitors and crystals and components for industrial and medical application. All these have been developed with upto 70 percent indigenisation by R&D activities within the company in collaboration with the DRDO. Integrated functioning with the private sector would enable curtailing of R&D effort costs. This will also introduce an element of competition, free control and intellectual stimulation in the field.

A credible technical R&D base has been built up over the years in our academic institutes like IITs, IISc and also in the private sector. But there is not much technical interaction between DRDO and these pools of excellence except at a purely academic level wherein certain service officers and DRDO scientists pursue higher studies. Well established facilities for training in management and related disciplines exist in various autonomous and private institutions and some of the human resources development programmes run by the DRDO, eg medical entomology, psychology, personnel selection duties, operations research, systems analysis and so on can be suitably integrated. A beginning has been made in this direction with the DRDO running a MSc Computer Science education programme in seven universities to train software professionals for induction into the organisation. This approach, if taken to its logical conclusion would certainly enable DRDO to rationalize its structure and bring down numbers to a reasonable extent.

Even in the UK on whose earlier pattern our DR & D base is organised (as in the 1950's) a shrinking resource base and increasing duality in application has led to increasing participation by the private sector in military R and D in the last two decades.

The US system is essentially a hybrid between government owned institutional research and publicly funded development activities of profit oriented private corporations. A sizeable number of army, navy and air force research laboratories in the USA function directly under the Pentagon, while all the weapon systems including missiles, aircraft, combat vehicles are developed by private corporations utilizing Pentagon funds. Thus an integration of the R and D efforts is achieved, utilizing both the private and government sectors. Perhaps the greatest benefit is in the intellectual stimulation of both sectors, with an element of competition.

The French while setting up their arms industry went beyond the R and D effort linked to the three services by creating a 'fourth' superior service. Recruiting from the best and brightest graduates from the famous Ecole Polytechnic, the service acted as a stimulant to the R and D effort, with a strong corporate identity and motivation.

It is thus evident that there is scope for both privatisation and interaction between the DRDO and the private sector. Modern defence production and development is a multi disciplinary activity involving practically every element of the metal, electrical, engineering, transport and management disciplines. It is in fact mutually beneficial for both the sectors to integrate and benefit by reverse spin offs. In any case a narrow, restricted and bureaucratic Defence R and D structure is detrimental to its own development.

However, it should be kept in mind that such integration may not lead to rapid leap to the hi-tech state-of-the-art level. For the private participation will essentially be in the areas of dual application. Defence will continue to bear the brunt of R&D expenditure in pure military technologies where, in the absence of any definite prospects for short term commercial returns, private financing is not likely.

TRAINING

To a defence person trained in the traditional mould in any of our elite training establishments, even a thought of privatisation of even a part of training process may appear unthinkable and even preposterous. However, an honest introspection would reveal the merits. Brigadier NB Grant[21] and N Kunju[22] have argued very passionately about the irrelevance of traditional mould of training in today's circumstances and economic inviability of spending long and costly years in training. All the three Services have gone ahead and created huge training infrastructures of their own and introduced various schemes of entry, ostensibly with a view to attract better quality of youth to join the Services, especially so, in the technical branches. This has resulted in creation of a repeat infrastructure for basic academic studies in a host of disciplines like medicine, engineering and management. Even economically advanced nations have not found it viable to run parallel institutes of their own.

In fact many countries have privatized even very specialised and professional parts of their training successfully for a long time now. As long ago as 1935, M/s Airwork was contracted to operate an Elementary and Reserve Flying Training School at Perth for the Royal Air Force[23]. During the Second World War, M/s Airwork trained over 40,000 aircrew for the RAF and subsequently provided assistance in this field for many air forces in the Middle

East, Asia and Africa. M/s FR Aviation has for some years been providing Radar Target and EW training services for UK defence forces. USA, Germany, Australia and Sweden are amongst other countries which have privatised target towing and EW training. In order to reduce infrastructure using privatisations the Royal Navy was able to reduce the number of shore training establishments from 22 to 12 between years 1983 and 1993[24].

In India the defence services spend maximum time and resources on HRD. That the training in defence services will be more as compared to other civil services and private corporate houses is inevitable due to the specialised nature of their duties. However, it is felt that there is scope for utilising the facilities in private and civil institutions. Merchant Navy has increased the annual turn-out of officers for the executive branch from 250 to 650 by reducing the training period and by raising the educational qualifications at entry. Similar policy has been implemented for the technical branches of the merchant Navy.

Similar approach can be considered for the armed forces. All the prestigious and elite training institutions of the services need to be converted to institutes of higher and specialised learning in the true sense. Raising the entry level qualification for officers and men in uniform will also result in the following benefits :

(a) Savings in training costs.

(b) Increased availability of officers and men for jobs in units. This will to some extent offset the severe human resource crunch being experienced today.

(c) The individuals joining the services would be relatively more mature and would join with "open eyes" in the true spirit of "volunteer forces", having had the opportunity to critically examine all the career options open to them.

Possible Effect on Manpower Costs and Teeth to Tail Ratio

The capitation cost of a civilian is 25 to 30 per cent less than his uniformed counter part[25]. As such any work handed over to civil sector must essentially lead to some savings. Kaushal[26] estimated a possible saving of Rs 2000 crore if the number of defence personnel could be cut by 25 per cent in the three services as recommended by Admiral Nadkarni. Subjecting ordnance factories to open competition at 1994 levels was estimated to give an advantage of Rs 1000 crore to Rs 1500 crore. A similar treatment to DPSUs was estimated to yield a saving of Rs 400 crore to Rs 700 crore.

The possible savings by any rationalization of training efforts and time can be gauged by the massive costs involved in training. A fully qualified pilot for example costs the national exchequer close to Rs 7 crore[27]. The cost of training at NDC per officer was estimated in the year 1986 to Rs five lakh[28].

Since all the support services are managed by tail part of the defence forces, the improvement in teeth to tail ratio will be directly proportional to the amount of privatization that can be introduced.

ADVANTAGES

REDUCTION IN MANPOWER COSTS

In 1994-95 the defence pensions cost the national exchequer a whopping Rs 2,706 crores[29]. With ever increasing number of defence pensioners due to increased longevity and yearly addition of over 60,000 defence personnel to the retired pool[30], this expenditure is to go on increasing. About 40 per cent of defence budget is spent in paying salaries to the armed forces and to the defence civilians[31]. With the recommendations of the Fifth Pay Commission this expenditure will go up substantially.

IMPROVEMENT IN TEETH TO TAIL RATIO

Any privatisation will be in the tail services and in civilian staff supporting the fighting forces. Hence any step towards privatisation will invariably result in an improvement in teeth to tail ratio.

INCREASED EFFICIENCY AND PROFESSIONALISM

Any privatisation is bound to improve the professionalism and efficiency in the respective area. The competition and market forces will ensure that only the best, the most efficient and professional outfits survive.

IMPROVED ACCOUNTABILITY

The user and the supplier both will be more accountable to each other and to the system because they would be morally and contractually bound by MOUs, rate contracts or some other legal documents.

DECENTRALIZATION

Any contracts with private suppliers and companies will have to be serviced and monitored at unit and formation level. This would bring about a

lot of decentralization and speed. A beginning has been made in the Navy with the concepts of New Management Systems (NMS). The results are very encouraging. The decision making has become faster. The unit and formation commanders have got tremendous amount of flexibility and the tendency to look upto Delhi, for every small thing, has significantly come down.

Increased Job Opportunities : Post Retirement

Increasing private participation in various facets of defence services is sure to generate better post retirement job prospects for the relatively young but well qualified and disciplined work force who would be familiar with exact requirement of the defence forces.

Shortcomings

Rear Admiral JJ Blackham, R.N. in his address to industrialists[32] in November 1993 brought out reasons for wishing to keep some functions at least in the Naval hands in the context of privatisation of support facilities in the Royal Navy. They included :

(a) A wish to provide shore appointments for naval personnel to balance their time at sea. Even sailors like to visit their husbands and wives and be present, if not for the birth of their children, at least for their conception!

(b) A need to imbue our people with much of naval culture and ethos during training.

(c) A need to preserve proper branch structures, if we are to be regarded as a reasonable employer.

(d) A need to maintain an adequate pool of manpower to provide for re-generation in crisis and war.

(e) A need to maintain adequate manpower to respond to calls for aid to the civil or to cater for calls for ceremonial without prejudicing the operations of the fleet.

(f) A need to keep naval establishment under naval command (this does not, however, mean the Navy doing every thing)."

The above when extrapolated for Army and Air Force bring out some of the issues which need to be adequately considered prior to introduction of privatisation in a big way.

Dependence on Private Sector

Any privatisation, however, will render the services dependent on a particular supplier or a group of suppliers. A private agency being totally market driven has a tendency to overcharge in times of crisis or use the leverage to gain some other benefits. Navy has faced this kind of problem repeatedly. Given the long life of equipment once inducted in the services and the need for a life time of product support, adequate checks and balances need to be catered for at the stage of induction itself and availability of adequate competition and multiple sources.

Loss of Flexibility

Having all the operational maintenance and logistic agencies directly under his command gives a military leader a lot of flexibility. This, to an extent, will need to be sacrificed in case of contract driven services and support facilities. But since this gamut of privatisation is envisaged in peace time locations away from the international borders, it should work satisfactorily after the initial teething troubles.

Loss of Growth Potential

With the proposed privatisation a lot of senior vacancies will have to be given up. This is likely to have a detrimental effect on the morale of the forces. This could be compensated by creating alternate openings in various watchdog organisations if private support facilities are to be adequately monitored.

Corruption

Any privatisation would perforce involve decentralization of financial powers wherein lay the seeds for scams. The possible ill effects on the functioning and on the moral fibre of the servicemen need to be considered very seriously. Today the armed forces are considered one of the cleanest professions and it would be a tragedy if anything should happen to this clean image.

Specific Recommendations

The agenda of economic liberalization and social upliftment set by our political leadership makes it impossible for our armed forces to get the kind of share of national budget that would sustain the present level of manpower and would also, at the same time, maintain the operational readiness at the desired levels. Our armed forces, even if they are able to assert themselves to

get their rightful share of the budget will find it increasingly difficult to meet the spiralling technology costs. For example from the days of Wright brothers through the F-18, aircraft costs have increased by a factor of four every ten years. In the year 2054, the current US defence budget will purchase only one tactical aircraft[33]. Even otherwise, in keeping with rest of the economy, privatization is here to stay and the armed forces cannot remain aloof. Hence the following recommendations are made:-

(a) *Institutional Approach to Privatisation* – Some very hard decisions need to be taken which go against the very basis of setting up and keeping the complete gamut of Defence Apparatus, all related production and services, under government control. If it is not possible to increase the budgetary support to the Services it needs to be ensured that every single rupee that is allotted to the Services gives the best possible value. Having agreed to the basic principles involved, a "Standing Committee for Institutional Approach to Privatisation of Support Facilities in Defence Services" needs to be set up, with members from the three services and all concerned ministries at sufficiently high level. It should identify the areas for privatization and work out the exact modalities on a progressive basis and also monitor the progress.

(b) *Training* – All the training facilities available in civil sector be made full use of. The service institutions be used to impart only the specialist service training for which no institutions are available outside.

(c) *Repair Organisations* – The facets of ship repairs which are common with the merchant marine can be privatized. Only specific areas exclusive to warship and submarines need be retained with Dockyards. These could be works pertaining to weapons, sensors and equipment of classified nature.

(d) *Equipment Repairs* – For equipment repairs, memoranda of understanding be entered with Original Equipment Manufacturers to provide servicing and repair facilities. Wherever, economics of scales so permit, the OEMs can be persuaded to set up facilities for the exclusive use by the Services.

(e) *Non Combat Vehicles* – In case of non combat vehicles, again the facilities and management of base repair workshops for repair and maintenance of service vehicles in peace areas can be off-loaded to OEMs and their authorised service agents under contract or MOUs.

(f) *Spares* – In case of spares for ships, vehicles and if possible aircraft, various OEMs be asked to maintain stock of spares under rate contracts,

to be made available through their respective repair outlets mentioned at serials (c) to (e) above. Suitable payment procedures will need to be formalized to ensure commercial acceptability and speedy disposal.

(g) *Military Farms* – All the military farms can be wound up. In the era of green revolution and operation flood, they have practically lost their relevance.

(h) *Fuel Supplies* – Fuel supplies to all the service vehicles in peace areas could be privatised with appropriate arrangement with oil companies. Exclusive outlets for services, wherever possible and suitable mechanism for obtaining the benefits of tax and duties exemption to the services will need to be formalised.

(j) *Clothing and Other Low Technology Items* –

(i) Close to 1.4 million service men to be clothed in a limited type of uniforms, is a dream target that the best of private companies would love to acquire and the services can really call the shots and get good bargain.

(ii) The ordnance factories producing clothing items can be handed over to private managements in a phased manner.

(iii) The other low technology items being produced by Ordnance factories such as boots and blankets need also to be subjected to competition from open market to achieve best value of money for the services.

(k) *Specifications* – A suitable mechanism be set up to constantly review the services specifications to facilitate introduction of suitable products from standard ranges of reputed manufacturers to achieve maximum cost benefits.

(l) *Rest of the Defence Production* – All the defence related items, which have dual application in Civil and Military be sourced from private sector. DPSUs and Ordnance factories be allowed to participate only as one of the competitors without any price advantage.

CONCLUSION

It is evident that there is scope for privatisation of support facilities in Defence Services. Clothing, rations, fuels, vehicles, low and medium technology equipment, maintenance support for equipment, machineries and vehicles

common to civil industries, refits and construction of ships, training and defence R&D are some of the areas which are amenable to privatization. The guiding principle should be that any activity where equipment facility/infrastructure already exists in the private market need not be repeated exclusively for the services except in very few critical sectors. Countries all over the world have gone in for private participation in defence sector right upto the level of producing major weapon systems and there is no reason why we cannot emulate their experiences albeit with due caution. The advantages in terms of increased efficiency, professionalism, reduced man-power costs and improved teeth to tail ratio would be immense.

The associated shortcomings are - increased dependence on private sector, loss of some degree of flexibility, loss of growth potential and most importantly the relatively clean and insulated military life getting exposed to market forces and associated ills like bribery and corruption. Also there will be a lot of resistance from within the establishment as is the case while introducing any change. Adequate checks, balances, safeguards and fall back options will need to be devised and implemented. An effective integration of defence and private sector will lead to solution of many problems being faced by the soldier today. Then and then alone the soldier will be able to concentrate on his primary tasks more effectively.

REFERENCES

1. Bobby John Varkey, "Defenceless without Cash", Hindustan Times, 25 Aug 96.
2. Indian Express, "Fading Lustre", Editorial, 04 Sep 96.
3. Abhijit Basu, IDAS, "Defence expenditure and the economy, A review with special reference to the Indian context", NDC journal, Vol XVI, Nov 94.
4. Neeraj Kaushal, "India's Defence Budget : Can it be reduced?", Defence Today, Apr - Jun 95.
5. Abhijit Basu, op cit.
6. Neeraj Kaushal, op cit.
7. Major Rajiv Kumar, "Defence Production in the Private Sector", USI Journal, Jan-Mar 91.
8. Vikram Sahgal, "Simplification of Defence Procurement Industry : Perspective and Self Certification", proceedings of seminar on DGQA and Industry towards excellence, 18-19 July, 1996.
9. Major Rajiv Kumar, op cit.
10. Vikram Sahgal, op cit.
11. Major Rajiv Kumar, op cit.

12. Ibid

13. Sreedhar, "A Preliminary Note on Demand for Grant for Defence for 1994-95", *Strategic Analysis*, Vol XVII, No 3, Jun 94.

14. Gp. Capt. SK Chaterjee, DGQA - "A User's Perspective", proceedings of seminar on DGQA and Industry towards excellence, 18-19 July, 1996.

15. Major Rajiv Kumar, op cit.

16. Ibid.

17. Ibid.

18. Sreedhar, op cit.

19. Major Rajiv Kumar, op cit.

20. Neeraj Kaushal, op cit.

21. Brig. NB Grant, AVSM (Retd), "Professional Defence Institutes : Can We Afford Them?", *USI Journal*, Oct-Dec 90.

22. M Kunju, *How Army Suffers from Colonial Hangover*, Reliance Publishing House, N. Delhi 1993.

23. Brian Walters, "Privatised Training - A Growing Trend", *Navy International*, Jul/Aug 94, pp 217-218.

24. Rear Admiral JJ Blackham, "An Address to Industrialists", *Naval Review*, Jan 94.

25. Cdr M Bhargava, "Managing Defence Budget - A Pragmatic Approach", *Naval Despatch*, Vol 54, March 95.

26. Neeraj Kaushal, op cit.

27. AVM, SS Malhotra, AVSM, VM (Retd), "What Makes The Air Force Tick?", *USI Journal*, Oct-Dec 90.

28. Brig SS Chandel, SC, VSM, "Training of Higher Commanders", *USI Journal*, Oct-Dec 87. pp.

29. Neeraj Kaushal, op cit.

30. Jasjit Singh, "Affordable Credible Defence of India", *Strategic Analysis*, Vol XVI, No 11, Feb, 94.

31. Sreedhar, op cit.

32. Rear Admiral JJ Blackham, op cit.

33. No. 25.

Indian Infantry Divisions in World War-II

MAJOR GENERAL (RETD) CHAND N. DAS

(Part-II)

14 INDIAN DIVISION

The 14 Indian Division was raised in Quetta in 1942 and moved to the Burma front in September 1942 when the British forces were retreating into India and the Chinese retreating northward from Burma. The Arakan is separated from the rest of Burma by wide rivers and jungle clad hills. It was evacuated in 1942 and the British troops withdrew to Chittagong just across the Burmese border. A victory was badly needed to boost morale shattered by the reversals in Malaya and Burma. The Division first saw active service in Arakan that year after the impetus of the Japanese advance had expended itself. Aimed at seizing the airfield on Akyab Island originally planned as a sea-borne operation, but was abandoned as such due to lack of assault craft. The Division was to advance 150 kilometers from Cox's Bazaar down the Mayu Peninsula and a British Brigade was to capture Akyab by sea. The Division was landed in mid December 1942 from Chittagong on either side of Mayu Peninsula in an effort to seize the Peninsula (Foul Point) as a preliminary to taking Akyab. Maungdaw, the lateral road across the peninsula passing by a tunnel under the Mayu range to Buthidaung, and Buthidaung were captured. In January 1943 both Rathedaung and Donabik were reached. At this stage both sides brought in reinforcements. 14 Division now had an unmanageable nine brigades under command. The Japanese crossed the steep Mayu Ridge through thick jungle and counter attacked Rathedaung and a fierce fight ensued.

At Donabik troops came across the Japanese 'bunkers". These were dug-in, well camouflaged, impenetrable by 25 pounder shells, mutually supporting positions from which machine guns could be fired through narrow slits. Several frontal attacks during January and March failed. A Japanese force crossed the Mayu river and destroyed a brigade around Donabik and thereafter infiltrated to the coast causing utter chaos. Maungdaw and Buthidaung were abandoned and the troops were back at Cox's Bazaar after four months. Due to indifferent communications, difficult terrain and the monsoon, the operation

---

Major General Chand N. Das is a well-known writer on the Indian Armed Forces. His book on, Traditions and Customs of the Indian Armed Forces, is an authoritative text-book on the subject.

was unsuccessful, though its forward troops had actually penetrated through to Foul Point. Administrative difficulties combined to make a withdrawal inevitable which was actively followed up by the enemy.

By the end of March 1943, the Division sadly defeated by casualties and sickness handed over the front to 26 Indian Division and withdrew to India where it was reformed as a Training Division at Chindwara in erstwhile Central Province now Madhya Pradesh. It paid special attention to arrangement for supplies, communication and training in jungle warfare and Infantry tank cooperation.

It won two Victoria Crosses
Subedar Parnak Singh - 5/8 Punjab Regiment.
Jamedar Ram Swarup Singh - 2/1 Punjab Regiment.

17 INDIAN DIVISION

The 17 Indian Division was raised at Ahmednagar in 1941 and was in action in Burma and Assam almost continuously from 1942 to 1945. As the Japanese advance was reaching Singapore, they also started advancing from Siam into Tennasarim in South-East Burma. The Indian forces withdrew across the river Salwan and the Sittang Bridge was the first defensive position of choice and was held by the 17 Indian Division from 16 to 23 February 1942. Due to a communication gap the bridge was demolished while the bulk of troops were still on the wrong side. A fair number managed to cross the fast flowing river but the bulk without their weapons and equipment.

The remnant of the Division put up a defence at river Pegu on 6/7 March but were forced to withdraw to Rangoon. Rangoon was surrounded by the Japanese and it soon fell.

In March 1942 the troops in Burma were reorganised into Burma Corps with General Slim as Corps Commander. The Corps was concentrated around Prome to defend the line Proma-Toungoo, but the Japanese advanced up the river Irrawady cut off the Chinese Division at Toungoo exposing the eastern flank. The position at Yenangaung was, however, held long enough to burn down its oil installations. There were heavy casualties and loss of guns near Yenangaung. Orders to withdraw into India were received on 28 April 1942 and an action was fought by the Gorkha Brigade to cover withdrawal across the Irrawady on 28 and 29 April 1942. The last action for the retreat from Burma was fought from 30 April to 2 May 1942 at Monywra.

After the withdrawl from Burma and reorganisation, the Division played

a significant role in the great defensive battle of Imphal, the seizure of Meiktila and the subsequent thrust to Rangoon. It was deployed around Tiddim for the defence of Imphal. The Japanese, however, crossed the river Manipur south of Tiddim in March 1944 and advanced northwards in a bid to isolate 17 Division. The Division started withdrawing but the Japanese cut the road further north and established themselves astride Tuitum ridge. When driven off from this position they cut the road still further north. The Division fought actions at Sakawng and Bishenpur. At Bishenpur 5 Gorkha Rifles have the distinction of winning two Victoria Crosses.

Eventually, the Division fought its way back to Imphal and fought the Imphal Battle. It then advanced to capture Marktila and after its capture operated along the Rangoon Road.

Members of the Division who were awarded the Victoria Cross:

Hav Gaje Ghale - 2nd 5th Royal Gorkha Rifles

Naik Agansing Rai - 2nd 5th Royal Gorkha rifles

Subedar Netra Bahadur Thapa - 2nd 5th Royal Gorkha Rifles

Naik Fazal Din - 7/10 Baluch Regiment

Rifleman Ganga Lama MM - 1/7 Gorkha Rifles.

19 Indian Division

The Division was formed in India in 1941 by Major General J.C. Smyth VC, MC. The Divisional sign was a hand holding a dagger and the Division became universally known as the Dagger Division thereafter. During 1943 and 1944 it underwent frequent transformation as battle experience brought out new lessons on the organisation and training to fighting formations for the Far East. When it went into battle it was the First "Standard" Indian Division.

In battle its commander was Major General T.W. Rees, CIE, DSO, MC, a non-drinker and non-smoker, a brilliant tactician and a real leader of men with dash and personal courage of such high order that it was an embarassment to his loyal staff. To his men, General Rees became known as Pete. To his Indian troops, he was the "General Saheb Bahadur" - and never was the title "Bahadur" better earned.

It was during the winter of 1944 when the Japanese "Invade India" had been halted, the 19 Division was sent into battle. In November 1944 in boats and rafts the Division with more than a thousand vehicles and all its guns slipped across the Chindwin at Sittaung in two columns. Once across the

Chindwin, the Division was deployed in two long range penetration groups - each as a self-contained fighting force, supplied by air, making its own routes across country and leaving no line of communication open in the rear. Japanese encountered en route were liquidated with expedition. The watchword was "Pursue the Enemy".

The first column cutting through their way over 150 miles captured Pinlebu on 16 December. Meanwhile, the other column after a march of 150 miles captured Banmauk on 18 December to link up with the 36 British Division. After that the Division advanced towards Shwabo and its first battle was at Leiktu which lasted five days. The road was then opened for the advance on Shwabo and Pinlebu; Pinde and Gada were taken in quick succession. The Division having covered more than 400 miles captured Shwabo after a stiff fight.

Within 24 hours of the fall of Shwabo, General Rees had sent patrols across the Irrawady 20 miles to the east to locate suitable crossing places. The first crossing was at Thabeikkgin and the Division was established at Kyaukmyaung. Inspite of fierce reaction by the Japanese the bridgehead was held by troops who had fought so gallantly for 20 days. It was not until early February that the Kabnet area was eventually cleared. Pear Hill was repeatedly attacked by the enemy but it was held. On Minban Taung there was a fierce fight.

With the support of tanks the push was made down the river from Kula to Singun. The effort to hold advance on the road to Mandalay was a failure and cost the Japanese more lives. Inspite of the difficult terrain and "hard fought battles" Madaya was captured. Meanwhile, the main force advanced towards Mandalay and surrounded it. Fort Dufferin was captured and soon the two flags, the Union Jack and the Dagger Divisional flag which General Rees had been carrying about ready for the occasion, were hoisted.

Soon after Maymyo was captured. With the fall of Mandalay the Japanese main line of defence on Irrawady was turned. At Tomosko thousand shells from the Field Regiment resulted in the total slaughter of the enemy. At Megingyan more than 2000 Japanese were encircled. The Division still in pursuit in the Shai Hills captured Thezre and Hlaing Det.

While British forces occupied Rangoon the Division fought some of the toughest battles for Toungov-Mawchi. Kalaw and Manpadet were captured.

Finally in July 1945 when the last two Japanese Divisions west of the River Sittang attempted to escape, the Division in close cooperation with the

17 Indian Division inflicted a most crushing defeat on the Japanese on the banks of Sittang. "The Cease Fire" found the Division driving the enemy back along the Mawchi Hill road through thick jungle towards Siam.

20 INDIAN DIVISION

The 20 Indian Division was raised in Bangalore in 1942 under Major General Douglas Gracey. It carried out extensive training in jungle war in Ceylon solely for the war in Burma. The Division's order of battle then showed the classic constitution of an Indian Division - one British, one Indian and one Gorkha battalion to a brigade. General Gracey had personal concern for the welfare of his troops. "The Jawans" he knew well, the Gurkha "Sathi" even better, for he himself was from the 1st Gorkha Rifles. During a pitched battle in the Irrawaddy valley one Gorkha battalion went into action with the cry "the General's Gorkha charge"

In early 1944 when patrolling and brief action on outpost lines was the general pattern of the war in Burma, the 20 Indian Division was moving down through the jungle country to the Chindwin and beyond and into the Kabaw Valley seeking out the enemy, to destroy him.

These early days also brought the award of a Victoria Cross to Lieut. Alan George Harwood in a three day action at Kyaukchaw which cost him his life while leading the final assault.

The 20 Division had attained early mastery over the enemy in the Kabaw Valley. They were, however, withdrawn to defend the southern half of the Imphal plain. Their withdrawal was to be a fighting one. The first tank versus tank battle in Burma took place during this withdrawl. Successive actions were fought which delayed and took toll of the enemy at Moreh, Shark, Nippon Peak and Sita Ridge. Bitter battles were fought on the Shenam Saddle, "Brigade Hill", "Crete" and "Scraggy". In the defence of Palel airfield the Division prevented the Japanese from bringing his guns forward to get within range of it. Before it was pulled out, the Division had killed 2,500 Japanese in the fighting from Tamu to the Sheman Saddle.

On the Ukhrul road the Division held the Saddle overlooking the Thoubal river and by an encircling movement cut the enemy line of withdrawal for Kanglatongbi area. The enemy made desperate attempts to escape but were practically annihilated.

In November 1944 the Division went into its second spell of fighting. It established the 14 Army's first bridgehead across the Chindwin at Maukkadaw.

After a sharp action at Budalin there were only brief encounters before the final assault at Monywa which was captured without any opposition. In the advance towards Mandalay it captured Myinmu. The Irrawady bridgehead battle lasted nearly a month but inspite of stiff opposition and counter attacks by the Japanese, the Division held its position. Jamedar Prakash Singh of the 13 Frontier Force Rifles won the Divisional second Victoria Cross making the supreme sacrifice.

In early March, Talingon was captured after a week long battle after which the breakout to east began and swiftly capturing Myotha on the Saging-Myingyan railway, it cut the main Mandalay-Rangoon road to Bilin. After the battle of Kyaukse, Magwe was captured cutting the only MT road to Prome. That forced the enemy to evacuate the airfield hurriedly abandoning his MT and guns. Allanmyo and Bwetgyi Chaung were captured and Prome was entered with slight opposition on 2 May and Shwedaung the next day. During June the Division took up its final position along the main Rangoon road from Gyobingauk to Hmawbi.

In September the Division moved by air and sea to French Indo China with the task of concentrating and disarming the 70,000 Japanese troops there.

In December one brigade left for Borneo and another for Mecassar. Subsequently, the third brigade returned to Ranchi to disband and so a famous fighting formation was broken up.

23 INDIAN DIVISION

The 23 Indian Division was formed at Ranchi in January 1942 and first went into action on the borders of Burma and Assam. In June 1942 the first patrolling started from Imphal and formed defensive positions to cover the withdrawal of General Alexander's Army. In November 1942 it was concentrated in the Kabaw Valley and operated up to Chindwin.

When Wingate's group set out, men from the Division escorted them 20 miles beyond Chindwin, with a diversion attack on Okkan near Kalemyo. Constant patrolling by the battalions and sudden small attacks in the jungle distracted the enemy's attention from Wingate's exhausted men. Later, when Wingate returned; the Division covered their retreat.

In November 1943, the Division had been holding the sector of the Assam frontier over 100 miles long for more than 18 months. While withdrawing for a rest, a battalion was sent to assist a battalion of the 17 Division which was being heavily pressed.

During the rest, it got valuable training and then moved to Sittaung to make another diversion for the second expedition by Wingate in Northern Burma.

To meet the Japanese attack in India 17 and 20 Divisions were withdrawn from the Kabaw Valley nearer their base in Imphal as it had been decided by General Slim, the Commander, that for the first time we should fight the Japanese when the precarious line of communication was behind them and not behind us.

The enemy's first move in early March 1944 was a wide encircling movement through Chin Hills threatening to cut 17 Division's supply line. To meet the threat, a brigade was sent into Chin Hills. When the forward troops of the brigade were themselves cut off by the enemy, the rest of the Division started fighting from Imphal to contact the 17 Division. There followed one of the bloodiest fights in the campaign and the Division suffered 250 casualties. The contact with the 17 Division was, however, established and a brigade covered the withdrawal of the 17 Division to Imphal. Subsequently, it was engaged in bitter and prolonged fighting in the defence of Imphal against the main thrust of Japanese armour and artillery. 50 Indian Parachute Brigade which had joined the Division was cut off at Sangshek, but delayed advance of the Japanese for several days and fought its way out. General Slim wrote later, "the enemy by constantly attacking and reinforcing failure, fell into our hands and it was at this period especially round Imphal that the process of wearing him out began".

When Imphal was cut off by the Japanese, the Division attacked the 15 Japanese Division on the Ukhrul road and cleared the hills dominating the area. It finally opened the road on 22 April. In the Battle of Lam-nu it again surprised the enemy and captured the position.

The Division relieved the 20 Division at Shenam and for almost three months every single battalion of the Division was involved in heavy but successful fighting on the hills around. One of the most daring attacks of the campaign took place when "Gibralter Hill" was taken by the enemy but finally in a counter attack recaptured with Artillery support and it captured Tamu. Subsequently, it was engaged in bitter and prolonged fighting and took part in the initial stages of the offensive and advanced back into Burma. It had suffered 2,900 casualties.

In 1945 the Division having trained in combined operations embarked for Malaya arriving at the time of the Japanese surrender. Thereafter, it moved to Java with the formidable task of restraining law and

order and rescuing internees. This involved fierce street fighting which continued for a year after the war with Japan was over. This evoked a special tribute from the Dutch Force Commander in praise of the unsurpassed gallantry and self sacrifice of the troops which had saved so many men, women and children from death and starvation. The Division's casualties in Java were more than 1,300. The Division returned to India in 1947 to disband the same year.

25 INDIAN DIVISION

The 25 Indian Division was raised in South India in August 1942 and given the operational role of meeting any attempted Japanese invasion, while at the same time, training intensively in jungle warfare.

The Division under 15 Corps first saw action in Arakan in March 1944 where it held and enlarged the Maungdaw Base. It had advanced down the Mayu valley in the latter part of 1944 retaking Buthidaung in early January 1945 and entered Akyab Island which had eluded the 14 Indian Division two years earlier, but was now found to have been evacuated by the Japanese. It was decided to carry out sea borne landings to get round successive enemy positions as the Japanese had done in Malaya in 1941 and to prevent the retreating Japanese from escaping. Landing by 25 Division at Ramree Island took place in the later part of January 1945. Village Kangaw near the coast was strongly defended but the commandos established a beach-head on which a brigade was landed. The position was held against counter-attacks from January to mid February.

Landings were also made at Ru-ywa to open up the An Pass and then breakout to outflank the Japanese, provide a route to the Irrawaddy river and threaten Prome. Heavy counter-attacks by the Japanese at Ru-Ywa were repulsed. With 3 Commando Brigade under command, it made a series of successful seaborne attacks down the coast supported by sloops of the Royal Indian Navy, winning four Victoria Crosses.

The Division was withdrawn to South India in April 1945 to prepare for the invasion of Malaya being chosen for the assault landing role. Although hostilities then ceased, the operation proceeded as planned and it was the first formation to land in Malaya occupying the capital Kuala Lumpur and then accepting the surrender of the Japanese Army.

26 INDIAN DIVISION

The 26 Indian Division was raised in 1942 from the original Calcutta

Division and for the next two years was almost continuously in action in the Arakan, the south west Burma front. During 1942/43 the Division took part in the strenuous efforts made to reach Akyab. During March, when the 14 Division was sadly depleted by casualties and sickness, it took over the Front. Early in 1944 it moved to the relief of the 7 Indian Division, invested by the Japanese in their "Admin Box" at the Ngakyedauk Pass. The Japanese had established themselves on the eastern side of the pass and had surrounded the "Admin Box". It was cleared of the Japanese by joint effort after a month long battle. One of the Divisions's two Victoria Crosses was won during the bitter fighting at this critical stage of the Arakan campaign. In January 1945 the Division took part with the 25 Division in a series of swift leapfrog landings down the coast to capture Akyab and Ramree Island. Preperations followed for the long-awaited sea-borne invasion and capture of Rangoon, which in the event was accomplished without enemy opposition on 2 May 1945.

1946 saw the Division engaged in operation in Java and Sumatra prior to its eventual disbandment.

34 INDIAN DIVISION

The 34 Indian Division was raised in 1942 for the defence of Ceylon. There was an increasing Japanese thrust and the Division prepared a number of defences on the beaches and inland for the defence of the island. The Japanese naval crafts managed to reach the proximity of the island to shell it on one occasion but no damage was done and the troops suffered no casualties.

When Lord Mountbatten established his headquarters in Ceylon, the defence of the island was further strengthened.

1 BURMA DIVISION

(later designated 39 Indian Division)

The Division was formed in Burma on 1 July 1941. At the time of the Japanese invasion in February 1942 the Division was short of artillery, Engineers, signals, Medical and transport.

After 3½ months of continuous fighting delaying actions, on orders for withdrawal in April 1942, tired and exhausted troops began their retreat over 1,400 kilometers of mountains and malarial jungle with the enemy in hot pursuit. For crossing the Chindwin at Kalewa by streamers the order of priority was men, guns and four wheeled vehicles. All other items were either burnt

or made unserviceable before crossing. Of the 100,000 Indian settlers who came with the retreating army, barely half made it to India, the rest having perished on the way. On 12 May 1942; 30 kilometers out of Kalewa; Indian Army lorries met them.

The Division finally withdrew to Shillong where it was re-designated 39 Indian Division and assumed a training role.

EPILOGUE

THE WAR CHANGED THE WORLD

Statesmen concerned with peace treaties in 1945, were fully alive to the danger of repeating the errors of World War One's peace treaties. But they were faced with problems of immense complexity. In this war strategy, the Allies in the West had kept Western Germany under their occupation and had allowed the Russians to occupy Eastern Europe - a step which led inexorably to communist domination of governments in Eastern Europe after the war.

Beyond this, the war had changed completely the international status of nations regarded as "great powers". Germany and Japan lost this status in defeat. Britain and France lost theirs inspite of victory.

From 1945 onwards, world affairs were destined to be dominated for many years by two super powers, the United States and the Soviet Union.

WORLD WAR II - 1939-45

Theatre Honour - Abyssinia 1940-41

Battle Honours

Gallabat
Agordat
Barentu
Keren
Keren-Asmara Road
Ad Teclesan
Massawa
Amba Alagi
Berbera

Theatre Honour - British Somaliland

Theatre Honour - North Africa 1940-43

Battle Honours

Sidi Barrani
El Mechili
The Cauldron
The Kennels

Defence of Tobruk
Sidi Suleiman
Tobruk 1941
Omars
Gubi II
Relief of Tobruk 1941
Alem Hamza
Gazala
Tobruk 1942
Point 171
Mersa Matruh
Defence of El Alamein Line
Deir el Shein
Ruweisat Ridge
El Alamein
Matmata Hills
Akarit
Djebel el Meida
Djebel Graci
Ragobet Souissi

Theatre Honour - South East Asia 1941-42

Battle Honour

Hong Kong

Theatre Honour - Iraq 1941

Theatre Honour - Syria 1941

Battle Honour

Damascus

Theatre Honour - Malaya 1941-42

Battle Honours

North Malaya
Kota Bahru
Jitra
Central Malaya
Ipoh
Kuantan
Kampar
Slim River
the Muar
Niyor
Singapore Island

Theatre Honour - Italy 1943-45

Battle Honours

The Sangro
Caldari
Cassino I
Monastry Hill
Castle Hill
Hangman Hill
Cassino II
Sant Angelo In Teodic
Tavoleto
Pratelle Pass
Coriano
Alpe di Vitigliano
Femmina Morta
Poggio San Giovanni
San Marino
Santarcangelo

Rocca d'Arce
Ripa Ridge
Trestina
Monte Della Gorgace
Monte Cedrone
Citta Di Castello
Advance to Florence
Il Castello
Gothic Line
Monte Cavalo
San Martino Sogliano
Monte Farneto
Monte Cavallo
Monte San Bartolo
Casa Bettini
The Senio
Senio-Flood Bank
Gaina Crossing
Idice Bridgehead

Theatre Honour - Greece 1944-45

Theatre Honour - Burma 1942-45

Sittang 1942
Pegu 1942
Yenangyaung 1942
Kyaukse 1942
Monywa 1942
Rathedaung
Donabik
Stockades
Chindits 1944
Mogaung
North Arakan
Buthidaung
Razabil
Defence of Sinzweya
Ngakyedauk Pass
Point 551
Ramree
Kangaw
Ru-ywa
Taungup
Imphal
Tuitum
Sangshak
Sakawng
Tamu Road
Shenam Pass
Nungshigum
Litan
Bishenpur
Aradura
Ukhrul
Tengnoupal
Tiddim Road
Tonzang
Kennedy Peak
Mawlaik
Kalewa
Haka
Gangaw
Shwebo
Shwell
Kyaukmyaung Bridgehead
Myinmu Bridgehead
Nyarengu Bridgehead
Singu
Taungtha
Capture of Meiktila
Defence of Meiktila
Meiktila
Mandlay
Fort Dufferin
Ava
Kyaukse
Letse
Mount Popa
Magwe
Rangoon Road
Pyabwe

Kanglatongbi
Kohima
Jessami
Defence of Kohima
Relief of Kohima
Jail Hill
Naga Village

Pyinmana
Toungoo
Pegu 1945
Shandatgyi
Kama
The Irrawaddy
Sittang 1945

INDIAN ARMY AWARDS IN WORLD WAR II

Nearly 6,300 awards were earned by the Indian Army for gallantry and meritorious service during World War II. Awards for gallantry alone totalled about 4,800. They include 31 Victoria Crosses, four George Crosses, 252 Distinguished Service Orders, 347 Indian Order of Merit and 1,311 Military Crosses.

The Infantry earned about 4,000 awards, including 29 Victoria Crosses, one George Cross, 446 Distinguished Service Orders, while Engineers and Service Corps had about 350 awards each to their credit. Of the 300 awards won by the Armoured Corps 21 were Distinguished Service Orders and 88 were Military Crosses. The invaluable and gallant service rendered by army doctors to the front line troops earned the Medical Service 140 awards for gallantry alone, among them eight Distinguished Service Orders and 70 Military Crosses. Over 100 awards were won by the Signal Corps which included one Distinguished Service Order and eight Military Crosses. The Artillery won 100 awards which include one Victoria Cross, six Distinguished Service Order and 38 Military Crosses.

VICTORIA CROSS

		Division
1.	2/Lt Premindra Singh Bhagat	5
2.	Subedar Richpal Ram (Pos)	4
3.	Lt Col A.E. Cumming, MC	9
4.	Havildar Parkash Singh	14
5.	Subedar Lalbahadur Thapa	4
6.	Company Havildar Major Chhelu Ram	4
7.	Havildar Gaje Ghale	17
8.	Naik Nand Singh	7
9.	Jemadar Abdul Hafiz	5
10.	Sepoy Kamal Ram	8
11.	Capt Michael Allmand	3
12.	Rifleman Ganju Lama MM	17
13.	Subedar Netrabahadur Thapa (Pos)	17

14.	Naik Agansing Rai	17
15.	Maj Frank Gerald Blaker MC (Pos)	26
16.	Naik Yeshwant Ghadge (Pos)	10
17.	Rifleman Tulbahadur Pun	3
18.	Rifleman Sher Bahadur Thapa	4
19.	Jamedar Ram Sarup Singh (Pos)	14
20.	Rifleman Thaman Gurung (Pos)	8
21.	Sepoy Bhandari Ram	25
22.	Havildar Umrao Singh	25
23.	L/Naik Sher Shah (Pos)	25
24.	Jamedar Parkash Singh (Pos)	20
25.	Naik Gian Singh	7
26.	Naik Fazal Din	17
27.	Rifleman Bhanbhagta Gurung	25
28.	Lieut Karamjeet Singh Judge	7
29.	Sepoy Namdeo Jadhao	8
30.	Sepoy Ali Haider	7
31.	Rifleman Lachhiman Gurung	7

NOT TO BE FORGOTTEN

Within the limits imposed by time and space it has not been possible to record the names and service of many units of both the British and Indian Armies who gave both gallant and invaluable support to the Indian Divisions, in action, garrison duties and in the training role. In action many came from Corps and Army sources, who in themselves deserve a special mention, as also do those who served in the less spectacular role of L of C troops.

The Royal Navy and the Royal Air Force, together with the Royal Indian Navy and the Royal Indian Air Force were as always in evidence, ever providing outstanding service and support in their respective elements.

Finally, within the Divisional establishment, many of the smaller units have unavoidably been deprived of recognition. Their service is not forgotten as all played their parts with the same flair and efficiency that characterised the Divisions to whom they belonged.

(Concluded)

Golden Jubilee Seminar

DEFENCE SERVICES STAFF COLLEGE

WELLINGTON

GENERAL

The Defence Services Staff College, Wellington, will be celebrating its Golden Jubilee in October 1997. As part of its celebrations a two day seminar will be organised. The subject of the seminar is :-

"Command and Staff Challenges in the 21st Century".

"There have been profound changes in the last two decades of the Twentieth Century which have altered our perceptions of the nature of future conflict and the mechanics of its resolution. There has also been a sea-change in the way nations perceive themselves and each other in the international system. The military will continue to be an important and critical element of national power. However, the Indian Military Establishment requires creative adaptation, fundamental changes and determinism to be able to respond effectively to the nation's needs in the future. These will pose tremendous challenges to the Command and Staff at all levels." Some questions that may assist in crystallising issues for discussion are delineated in the following sections.

MILITARY-STRATEGIC ISSUES

(a) Low Intensity Conflict emerged as the primal form of war in the post war period. Most military experts feel that this trend will continue in the 21st Century. An eminent band of Social Scientists and Futurologists, however, have been warning of the possibilities of the outbreak of high intensity conflicts in the next millennium. This could be premised upon a fierce competition for the control of the world's dwindling oil reserves. Identifying the primal form of conflict for the next century is vital, for it will have an enormous bearing upon the nature of our military organisations, their armament patterns, tactics and training.

(b) While the self-assessed capability of the Services has had some effect in shaping our external environment and actions in the past, should this principle be also extended to the sphere of the nature and scope of internal security operations itself? A bulk of our internal threats will arise from the failure of government to address and appease all expectations

of all people in the nation? If so, what mechanisms, consistent with the subordination of the military to civil power, as demanded in a democracy, need to be institutionalised?

(c) Perspective Planning (PP) - the management of change in force structuring, weapons and equipment and doctrines - has often been found short in relation to the nature of conflict fought and likely to be combated in the future. A fits - and - starts method of planning seems to have been pursued which has tended to incorporate increments of technology enhancements into existing force structure, as and when such enhancements became viable and attractive for interested components of the services. Is there a case for lending a joint service character to PP so that it can acquire a greater perspective of the revolution in military affairs by a holistic, inter-service appreciation of the nature of conflicts likely to be faced, our future military strategic compulsions and identification of risks associated with various postures and resource allocation levels.

(d) Is there a need to evolve a deterministic approach to generate military capabilities as opposed to the responsive approach pursued presently? Is there indeed a requirement to generate force-structure and doctrines based more on a bag of capabilities than on specific threat perceptions, in a strategic environment where the nature of threat itself is diffuse and ambiguous?

(e) *Energy Base Transition.* The oil reserves of the world are likely to be exhausted due to intensive use in the next 40 years. This would entail an across the board transition to alternate and renewable sources of energy. This is turn will have a radical impact upon the military means of propulsion, on weapon systems design and technology. The tank fleets, vehicle fleets, combat aircraft and ship propulsion systems would undergo dramatic changes. India is already importing 90 per cent of her oil needs. We need to look ahead to that not too distant future without oil and anticipate the nature of changes. The services will have to provide the lead in visualising these radical equipment transitions and providing the overview guidance to our R & D effort.

(f) What mechanisms of changes in existing mechanisms, need to be integrated in order to generate appropriate research and development thrusts at both national and military levels.

(g) Are our deliberate and crisis action planning procedures, both national and inter-service adequate for the requirements of the future? What changes if any are called for?

(h) The present structure of the Staff of Services Headquarters has often been described as gargantuan and extremely bureaucratic. What measures, both organisational and procedural, including radical restructuring, may become necessary for high-performing and efficient Service Headquarters functioning in response to better planning and implementation requirements?

OPERATIONAL LEVEL ISSUES

(a) In view of the possible extension of integrated data and communication links to lower and lower levels in the chain of command, is there a need to reshape the hierarchy of our force-structure by increasing the span of control either at Corps or Divisional level and thus eliminate either the divisional headquarters or the brigade headquarters?

(b) What re-structuring would be required for efficient and cost-effective joint planning at the theatre and subordinate levels?

(c) Centralised control is more efficient for achieving concentration and synchronisation. Since the requirements of delegation and directive style of command arose from the inability of commanders to 'see' the entire battlefield as the battlefield expanded in time and space, is there a case for shifting back to centralised command styles, as commanders are able to view the entire battlefield, albeit electronically, with greater clarity and unifying focus than subordinate commanders in their cellular engagements and battles?

(d) At present we have general purpose forces who, with minor equipment modifications, are used for combat across the spectrum of conflict. What conceptual changes in force structure and appropriate doctrine can be envisioned for future battle in varying conflict scenarios?

(e) The survivability of command and control nodes and elements will be critical to warfighting in the next century. What changes in command and staff structures and procedures will be required for efficient command and control in the highly lethal, precision-kill environment of the future?

(f) How should future commanders and staff be trained for the stressful and intellectually demanding environment of the future?

(g) In order to avoid information overload and operational security, what information must flow hierarchically and what otherwise? Is the answer situational, or can we make rules applicable in all situations?

TACTICAL LEVEL ISSUES

(a) Our present ethos for combined arms warfare devolve around 'affiliation' born of peace-time functioning including joint participation in exercises. Since integration and not affiliation will be the demand of the future high-intensity battle, is there a case for smaller, more mobile, self-sufficient, truly combined arms units? Suggest a capability profile and organisation for a possible 21st Century Combined Arms battlion?

(b) The profile of the warrior in the future will include a substantial and sophisticated technical acumen. What impact will this have on our methods of recruitment and training units and sub-units?

(c) One view of the future combatant is that he should be capable of dominating a military space two miles wide and one mile high. Comment.

(d) Adventure sports had provided creative solutions to military problems in the Second World War. Parachute and Gliders had created a tactical military revolution. Helicopters brought about the next jump in tactical mobility. Could adventure sports - especially para planes and powered hang gliders provide another mobility revolution by generating a "tactical hop" capability to fly over minefields and water obstacles?

(e) The application of military force in dealing with terrorist violence runs the serious risk of causing collateral damage to innocent civilians and bystanders. This is leading to the development of a whole host of non lethal weapons - which stun, decapacitate or immobilise temporarily. Should our armed forces adopt this non lethal approach while dealing with terrorist violence and urban insurgency situations? This would be specially applicable in case terrorist take shelter in holy shrines and other sensitive locations and installations.

PAPERS FOR THE SEMINAR

All officers who wish to contribute on this theme should send in their papers by **15 Jul 97** to Secretary, Golden Jubilee Celebrations, Defence Services Staff College, Wellington, (Nilgiris)-643 231 (Tamil Nadu). Selected authors will be invited to address the seminar and their papers will be published in the final report of the seminar as well as the 'Trishul' Journal of the Defence Services Staff College.

Testing Times

MATIN ZUBERI

"This is the nearest thing to Doomsday that one could possibly imagine. I am sure that at the end of the world - in the last millisecond of the earth's existence - the last man will see what we just saw". This is how one of the Manhattan scientists reacted to the first nuclear test conducted in the New Mexico desert on July 16, 1945. The scientist who had arranged the explosion of the plutonium device shouted, "We are all sons of bitches now". Robert Oppenheimer later said that this was the best comment on the test. The bomb which decimated Hiroshima was a uranium bomb. It had not been tested before. Therefore, it can be said that the Hiroshima bombing itself was a nuclear test. A plutonium bomb destroyed Nagasaki. Some of the scientists suggested after the war that Los Alamos, the secret laboratory where the bombs were fabricated should be abandoned as a monument to man's inhumanity to man.

Addressing the American people after the Nagasaki bombing, President Truman declared; "The atom bomb is too dangerous to be loose in a lawless world...we must constitute ourselves trustees of this force... It is an awful responsibility which has come to us. We thank God that it has come to us instead of our enemies and we pray that He may guide us to use it in His way and for His purposes". The sanctimonious exceptionalism of the United States in the nuclear arena and the non-proliferation policy articulated later were neatly summarised by Truman. General Groves who pushed the Manhattan project with relentless energy wrote in a secret report dated February 21, 1946 that the United States should not permit any foreign power, in which it did not have absolute confidence, to make or possess nuclear weapons. If such a country embarked upon a weapons programme, the United States should destroy such a capacity before it could threaten American interests.

The first nuclear test in peacetime was conducted at the Bikini atoll in the Pacific. The bomb posed a serious threat of instant obsolescence to the American Navy. It became necessary to test the ability of ships to survive the destructive forces generated by the bomb. Inter-service rivalry and the need to secure a major role in the postwar defence establishment triggered the tests in 1946. The test series, code-named Operation Crossroads, involved 42,000 men, 150 aircraft and more than 200 ships. The target fleet for atomic bombing

Professor Matin Zuberi is a member of the Indian Council of Social Science Research and former Chairman, Centre for International Politics, Organisation and Disarmament Studies, Jawaharlal Nehru University, New Delhi.

consisted of 73 Japanese, German and American ships equipped with instrumentation to collect data on blast, pressure, heat and radiation. The animal kingdom was also represented aboard the ships. Representatives of foreign governments, U.S. Congressmen and journalists were invited to witness the tests. Live transmission of the blast was arranged.

Levrenti Beria, burdened with the responsibility to produce a bomb for the Soviet Union, sent two scientists, one of them disguised as a Pravda correspondent. The first test of the series was conducted on July 1, 1946. The nuclear device, with a picture of the pinup girl Rita Hayworth stencilled on it, exploded in the midst of 73 ships; but only five ships went down. Radio listeners, waiting breathlessly for the explosion, heard nothing. It was a great disappointment and was contemptuously described as "a sneeze in a windstorm". One of the Russian observers dismissed it with the words "Nothing much". The second test on July 25, 1946 was far more impressive; vast quantities of radioactive debris were thrown into the atmosphere and produced a massive mushroom cloud. A French dress designer advertised one of the beauties on the French Riviera as an Anatomic Bomb and produced a scandalous bathing suit immortalising the nuclear tests. It was a marketing triumph indeed.

The first Soviet test, code-named "First Lightning", occurred on August 29, 1949. By then the American stockpile consisted of at least a hundred bombs. The United States then embarked on a crash programme to produce the H-bomb. On October 3, 1952 Britain conducted its first test at the Monte Bello Islands of Australia. The first French test occurred on February 13, 1960 in the Sahara Desert; and the Chinese conducted their first test on October 16, 1964 at Lop Nor. The early tests of all these countries were atmospheric tests. India is the only country whose first nuclear device was conducted underground at Pokhran on May 18, 1974. This was a demonstration of the technical competence of Indian scientists and engineers.

The five nuclear weapon powers have exploded 511 nuclear devices in the atmosphere with a total yield of 438 megatons - equal to 29,000 bombs of the size dropped on Hiroshima. France is the only country to have exploded nuclear devices in Africa. For the period between 1945 and 1985, the average had been one test every 9 days. Dating from each country's first explosion, the scorecard for the United States is one explosion every 18 days for the period, for the Soviet Union/Russia, one test every 22 days; and for France, Britain and China, one test every 57, 340 and 279 days respectively. China was the only country to test in 1993 and 1994 and since May 1995 China and France have increased their score. The United States leads with 1,054 officially acknowledged tests, 63 of which involved more than one nuclear device. The maximum number of tests were conducted in 1962; the mind-boggling figure

of 178 was reached because of the impending nuclear test ban. The numb of American tests in 1962 was 96, that of the Soviet Union 79, and of Brita and France 2 and 1 devices respectively. The maximum number of British tes in a single year has been 7 in 1957, for France 13 tests in 1980 and for Chi 3 tests in 1966 and 1976. The grand total so far has been 2046 nuclear tes France continued atmospheric testing until 1974 and China until 1980.

The United States, Britain and France exploded nuclear devices in th Pacific. The Nevada desert has been the location for a large number of America tests, including some tests done jointly with Britain. The gambling industry Las Vegas used the testing programme to boost tourist trade. Its Chamber Commerce helpfully provided tourists with nuclear shot calendars to facilita visits to the dawn extravaganzas of light, colour, sound and nuclear clou effects. Hotels arranged food packages for bomb-watchers. One motel claime that its guests could witness the nuclear flash without leaving their poolsid lounge chairs. The explosions were called alarm clocks of Las Vegas. Loc residents and tourists used to stand in their bathrobes to watch the blast. The consulted their watches at the time of the explosion; they knew that it took th ensuing shock wave about 7 minutes to reach their town. Having witnesse rainless thunder and lightning, they dressed, breakfasted and began their norm day. An "atomic hair do" and an "atomic cocktail" were the rage for a whil One hotel sponsored a Miss Atomic Bomb Contest which featured you beauties wearing puffy mushroom clouds pinned to their bathing suits.

The *New York Times* joined with enthusiasm in propagating the nucle culture. It informed readers that between June 25 and September 1, 1957, the would be more than 15 nuclear detonations and that bomb-watching was breath-taking experience. The article mentioned routes for tourists includin important viewing points. Instructions were given for photographers. The fireba from explosions lasted long enough for a series of pictures. The chief haza of bomb-watching was said to be the omnipresent danger of car accidents; i their excitement people became careless in their driving. Dozens of repute journalists regularly travelled the 65 miles from Las Vegas to the test site order to witness what were called "freedom blasts". Nuclear explosions lower yields caused great disappointment. "Bigger bombs, that's what we' waiting for", said a night-club operator, "Americans have to have the excitement". The Governor of Nevada, refering to the test site, exclaime "We had long ago written off that terrain as wasteland, and today it's bloomin with atoms". The bomb had been truly domesticated. The United State manufactured about 60,000 nuclear weapons in 71 types, configured in 1 weapon systems. The average production rate between 1945 and 1985 wa about 4 nuclear devices per day.

The Soviet Union conducted 30 tests in 60 days culminating in a gigantic explosion with a yield of 50 megatons on October 30, 1961. This was the largest test ever conducted. The atmospheric disturbance generated by it orbited the earth thrice and the flash was so bright that it was visible at a distance of 1,000 kilometres despite cloudy skies. A gigantic, swirling mushroom cloud rose to the height of 64 kilometres. The fireball was in excess of 2 miles across. Night became day. One cameraman in an aircraft observing the test recalled hearing a remote, indistinct and heavy blow "as if the earth has been killed".

II

A comprehensive nuclear test ban has been one of the oldest items on the agenda for disarmament. The U.N. General Assembly has passed more than 70 resolutions on the subject. All the bewilderments of the Nuclear Age came to focus in a mounting public resentment against radioactive fallout. Instead of grappling with the almost intractable horror of thermonuclear annihilation, people concentrated on the insidious threat of radioactive contamination. The triggering event was the 15 megaton American thermonuclear test code-named Bravo on March 1, 1954. A huge fireball ignited the pre-dawn skies for over a hundred miles. The fallout covered 7,000 square miles of the Pacific. A small Japanese fishing trawler inappropriately called Lucky Dragon was in the area. One of the Japanese crew was startled by a dazzling light and shouted, "The sun rises in the west". The Japanese fishermen fell sick; one of them died on September 24, 1954. The Japanese people mourned him as the world's first H-bomb casualty; the United States government paid his widow a cheque for one million yen. It was this American test which impelled Jawaharlal Nehru to make a passionate appeal for a test ban on April 2, 1954. He had proposed it as a disarmament measure. If his proposal had been accepted most of the horrors of the thermonuclear arms race would have been avoided. The United States and the Soviet Union had just started to produce H-bombs and France and China had not exploded their first nuclear devices. Nonproliferation missionaries cite Nehru's appeal now to bamboozle India into agreeing to their new version of a comprehensive test ban (CTB) but this is nothing more than a nonproliferation measure. Their lectures and angry admonitions should not delude us into believing that they have suddenly been converted into campaigners for nuclear disarmament.

The late 1950s and early 1960s witnessed a worldwide movement against nuclear testing. The tangible threat of radioactive contamination, especially the fear of the isotope Strontium-90 settling in the bones of the rapidly growing children, galvanised diverse elements in societies. Even the *Playboy* magazine published an editorial condemning "The Contaminators", exclaiming that all

children "may die before their time....or having spawned grotesque mutations". Nuclear disarmament propaganda had a new image-skulls and cross bones painted on a milk bottle. The Pugwash movement played an important role in championing the cause of a CTB as a "first step" towards nuclear disarmament. Nobel laureate Linus Pauling drafted a petition signed by 9,235 scientists from many countries and delivered to the United Nations. An agreement to stop testing could serve as "a first step" towards the "effective abolition of nuclear weapons", it said. The official position of the nuclear weapon powers was that the nuclear fear was unjustified. In January 1962 President Kennedy publicly drank a glass of milk and declared that he was serving the delicious beverage at every meal at the White House.

The test ban issue became a major factor exacerbating Sino-Soviet relations. According to the Chinese version, Soviet leaders had informed them in the fall of 1962 about the possibility of an agreement to stop testing; the Chinese urged their allies not to sign it. There were several issues which were casting their shadow over Sino-Soviet relations. Ideological differences, personality factors, especially Nikita Khrushchev's efforts to improve relations with the United States, and acute conflict regarding the scale and nature of Soviet assistance in the nuclear field had created a crisis situation. The Chinese declared that on June 20, 1959 Soviet leaders "unilaterally tore up the agreement on new technology for national defence and refused a Chinese request for "a sample of an atomic bomb and technical data concerning its manufacture". They criticised Khrushchev for having "divorced the cessation of nuclear tests from the question of disarmament". The *People's Daily* thundered: "The discontinuance of nuclear tests should under no circumstances become a means by which the United States may maintain nuclear superiority". The Chinese accused Khrushchev of adventurism and capitulationism during the Cuban missile crisis. After the arrival of British and American delegations to negotiate a test ban, a Chinese delegation led by Deng Xiaoping which had been trying to hammer out party differences departed from Moscow; when it arrived at the Beijing airport it was given a hero's welcome by party functionaries led by Mao himself. The Partial Test Ban Treaty (PTBT) of 1963 was denounced by the Chinese as "a big fraud to fool the people of the world". They vehemently charged: "This treaty completely divorces the cessation of nuclear tests from the total prohibition of nuclear weapons, legalises the continued manufacture, stockpiling and use of nuclear weapons by the three nuclear powers, and runs counter to disarmament". The real objection of the Chinese was that it was a measure designed to impede the development of their own nuclear deterrent. The treaty was the first global agreement to protect the environment and was partly intended to erode the growing opposition to nuclear weapons symbolised by the fear of cross-border diffusion of radioactive debris. While its impact on nuclear disarmament was negated by vigorous underground testing, it was the

international communist movement which was most directly and adversely affected by it. Chinese delegates at the Geneva negotiations for CTB forgot their earlier emphasis on a linkage between nuclear disarmament and a test ban.

The day the American Senate approved the PTBT it also voted for the then largest peacetime defence budget in history. China and France never subscribed to the treaty because it was not in their national interest. India was one of the early signatories. Pakistan joined it only in 1988. With testing having gone underground and the weapons becoming invisible, the milk became clean, the geiger counters stopped clicking; it was time to "talk rationally and coolly about nuclear weapons". So pontificated one of the most influential nuclear strategists of the United States.

Test ban negotiations were resumed in 1977. About 90 per cent of the text of a multilateral treaty was agreed upon. A new hurdle appeared in the form of arguments regarding the reliability of the stockpiles of nuclear weapon powers if a complete ban was imposed. "The panic that hit the arms testers in 1978 in both the United States and Britain", says the then British Foreign Secretary David Owen, "when they realised that an agreement was close; was one of the most disgraceful episodes of people protecting their jobs that I have ever witnessed". The Reagan Administration viewed a CTB as contrary to American national interest. Nuclear deterrence required continued testing; moreover, the Strategic Defence Initiative necessitated a massive bout of testing. Kathleen Bailey, then an official of the U.S. Arms Control and Disarmament Agency, bluntly said, "If the U.S. is forced to choose between its own national security and its nuclear testing programme versus the survival of the NPT - which we would dearly like to see - the U.S. would choose maintenance of its own national security and, therefore, its own nuclear testing programme". There is no conceivable reason why this criterion should not apply to Indian decisions concerning national security.

III

Negotiations for a CTB were resumed in the Conference on Disarmament at Geneva in January 1994. The real impetus for this step was to avoid criticism of the nuclear weapon powers at the impending NPT Review and Extension Conference. The review conferences since 1975 had witnessed acrimonious exchanges on the test ban issue. The 1995 Conference assembled under a propaganda barrage highlighting positive features of the global nuclear order. John Holum, Director of the U.S. Arms Control and Disarmament Agency, had even hailed "the end of the arms race". The nuclear weapons powers, led by the United States, carefully orchestrated the deliberations of the

Conferences and were astonished by their own success. While the Extension Conference was in session, Clinton and Yeltsin agreed at Moscow summit to deploy theatre missile defence systems. It is one of the paradoxes of the nuclear age that defensive measures have offensive connotations. The Anti-Ballistic Missiles Treaty of 1972, cornerstone of the entire nuclear arms control structure built over decades, deliberately left populations of the United States and the former Soviet Union vulnerable to nuclear attack. This arrangement eliminated the threat of a first strike. Arms control treaties relating to offensive nuclear weapons are made possible because of the ABM Treaty. Influential members of U.S. Congress want this treaty to be reinterpreted and, if necessary, abrogated in order to facilitate deployment of ballistic missile defences. Their current favourite is Theatre High Altitude Area Defence (THAAD) system. Ratification of START II by the Russian Duma is held up because of the unequal and burdensome terms imposed on Russia. General Boris Tarasov has called it an outrageous example of Russian humiliation. The proposed extension of NATO to Central Eastern Europe and the assault on the ABM Treaty would make it more difficult for nationalist elements in Russia to give their approval to SALT II. By devaluing the deterrent effect of British, French and Chinese nuclear forces, deployment of ballistic missile defences will provide an excuse for these countries to retain and even to augment their nuclear stockpiles. China has already registered its protest – theatre missile defences could render, it was stated in February 1995, the Chinese arsenal "completely ineffective" and leave China open to blackmail.

The United States is committed to maintaining an "enduring stockpile". Even if START II is ratified by the Russian Duma, the total number of American nuclear warheads will remain between 9,500 and 10,000. General Eugene Habinger, Commander of the U.S. Strategic Command, testified before the Senate in March 1996 that constant efforts will be needed to preserve technological edge over the next 30 years. The United States will maintain an enduring stockpile for the next 50 years and beyond. A Presidential directive was issued in November 1993 mandating American weapons laboratories to ensure "preservation of the core intellectual competencies in nuclear weapons" including weapons design. The Energy Department will be spending $20 billion on the newly established Science Based Stockpile Stewardship programme. The three weapons laboratories are developing comprehensive plans to extend the life of each weapon system slated for the enduring stockpile. If Secretaries of Defence and Energy departments inform the President that they no longer had a "high level of confidence" in the safety and reliability of a nuclear weapon of the type critical to nuclear deterrence. the President in consultation with Congress could withdraw from the CTBT. The Nuclear Posture Review of 1994 also requires the Energy Department to retain the "capability to design, fabricate, and certify new warheads".

The United States has conducted 51 per cent, USSR/Russia 35 per cent, France 10 per cent, and Britain and China 2 per cent each, of all nuclear tests. Obviously, the United States and Russia have accumulated enormous data on every aspect of explosive techniques. They have also developed simulation technology useful in understanding various elements of nuclear explosions without conducting tests. A new generation of laboratory testing equipment is being built at enormous cost. As Vladimir Inkimets of the Russian Academy of Sciences has put it, "instead of test sites we will have information test sites". British nuclear scientists have long been recipients of vital information from the American weapons laboratories and have jointly conducted nuclear tests in the Nevada desert. France and China recently conducted tests, incurring public disapproval, in order to obtain more data and to complete the modernisation of their nuclear forces. The United States and France signed an agreement on June 4, 1996 which provides for sharing a vast amount of computer data drawn from simulated explosions. China was also offered simulation technology. It is reported that the United States is anxious to avoid a disastrous nuclear accident anywhere in the world which may provoke a domestic public outcry leading to new constraints on the size and location of the American nuclear arsenal.

China's nuclear warhead modernisation is geared to increasing Beijing's targeting options. More accurate weapon systems with a higher yield-to-weight ratio would considerably increase nuclear punch. It is reported that a computer-modelled study conducted in 1990 concluded that China would join nuclear disarmament efforts only if the United States and Russia reduced their nuclear armouries to the level below 600. Thus China's strategic calculus demands that its military capabilities should be measured against those of the United States and Russia. Influential security analysts in the United States, however, maintain that the American nuclear stockpile should not be lower than that of the combined nuclear forces of Russia, Britain, France and China.

The French Defence White Paper of 1994 stated that nuclear weapons allowed for avoidance of a conventional arms race which would be "unacceptable from a financial viewpoint". A Franco-British Joint Commission on Nuclear Policy and Doctrine has been formed and there are vague references to a "Europeanised deterrent." The Maastricht Treaty of 1991 mandates common defence for a future united Europe. "When Europe becomes a federal state", said a senior official of the European Union, "logic would dictate that Germany and the rest must co-inherit whatever is the nuclear weapons legacy of France and Britain".

While attempts were being made at Geneva to remove brackets from the rolling text of the test ban treaty, the nuclear weapon powers were articulating

at the Hague, their views regarding the utility of nuclear weapons and their unique contribution to the maintenance of world peace for 50 years. They argued that NPT recognised their possession of nuclear weapons without placing any limitation on threat or use of these weapons. The British government advised the International Court of Justice to drop the case regarding the legitimacy of nuclear weapons because the international community had "sensibly elected to draw a veil of constructive silence" over the issue. A French professor said the Court had been "placed in the position of a mathematician asked to solve an equation containing an infinite number of unknowns". An American legal luminary pointed out that each of the nuclear weapon powers had made an immense contribution of human and material resources in building their nuclear arsenals, upon which "many other states have decided to rely for their security". Another American expert observed that nuclear deterrence had "saved many millions of lives from the scourge of war during the last 50 years" and that in this sense, nuclear weapons had been used for over half a century. The Court was warned against interfering with deterrence. A Russian lawyer candidly maintained that human rights treaties were not designed with a view to concerning themselves with situations in which nuclear weapons could be used. And a British nuclear expert was bold enough to say what could not be said at Geneva or in the precincts of the U.N. General Assembly, "nuclear weapons might be used in a wide variety of circumstances with very different results in terms of likely civilian casualties" and in some cases "it is possible to engage in a nuclear attack which caused comparatively few civilian casualties". Kathleen Bailey, senior fellow at the Centre for Security and Technology at the Livermore Laboratory, in her comment on the judgement of the International Court of Justice, pointed out that nuclear weapons being the ultimate tool of coercion the ultimate commitment to their use "is in the best interests of Americans".

There are reports and articles in reputed journals advocating use of nuclear weapons against the so-called rogue states. The U.S. Joint Chiefs of Staff's "Joint Military New Assessment" of 1992 called for nuclear weapons to be used to deter not only nuclear attack, but also to deter use of chemical and biological weapons. The Pentagon's Fiscal Year 1995 Annual Report states that in addition to deterring use of Russian nuclear weapons, consideration should be given "to whether and how U.S. nuclear weapons and nuclear posture can play a role in deterring acquisition of nuclear weapons by other nations". In a testimony before the Senate Foreign Relations Committee on March 28, 1996, William Perry stated that the weapons available for response to the use of chemical weapons included nuclear weapons. These statements seem to indicate the possible use of nuclear detonations for the first time since Nagasaki. They also undermine the so-called negative security assurances given to the non-nuclear weapon states parties to the NPT.

The deliberations at Geneva were taking place while these related developments revealed that, emboldened by the unconditional extension of the NPT, the nuclear weapon powers had formed an alliance against the non-nuclear world. They conducted their own secret negotiations to sort out minor problems resulting from their different learning curves on the path of nuclear technology. Offers of simulation technology were most helpful in this regard. An agreed text of a CTB was then presented as a *fait accompli*. Despite repeated efforts, India could not get any of its security concerns accommodated. India's insistence on a time-bound agenda for nuclear disarmament was rejected as an unrealistic and utopian scheme. If nuclear disarmament is not possible after the end of the Cold War, when will its time come? This is the most opportune moment for eliminating these weapons for ever. India, since the inception of its nuclear programme, had endeavoured to protect its indigenously built capabilities from foreign intrusions. There is a national consensus, cutting across parties, to preserve the nuclear option. The Sino-Pakistani nuclear axis is a mjaor threat to Indian security. Moreover, Foreign Minister I.K. Gujral has pointed out that Diego Garcia is a base for nuclear submarines. India's double veto at Geneva was based on national consensus. The outrageous provision regarding entry into force of the treaty was an intolerable imposition. India's exemplary restraint since 1974 has not been appreciated by countries which are accustomed to understand only the language of force. Indian policy makers must now implement the imperatives of missile-borne deterrence.

Counter-Proliferation US Plans and Objectives

B RAMAN

The move for a well-integrated Counter-Proliferation Initiative (CPI) under the leadership of the US Defence Department (Pentagon) and with the active involvement of the Central Intelligence Agency (CIA) was a consequence of Operation Desert Storm against Iraq in 1991.

In a report to the US Congress on the activities of the Pentagon during 1994 submitted in February, 1995, Mr. William Perry, US Defence Secretary, referred to the following lessons from the Operation with regard to Weapons of Mass Destruction (WMD) and missile delivery systems which led to the formulation of the CPI:

(a) In each of the categories of WMD-nuclear, biological and chemical-the US forces were in for a surprise.

(b) The Iraqi progress in its nuclear weapon programme and its direction and technical character were different from what the US had assessed them to be before the war. Although Iraq did not have enough fissile material for a bomb, its weapon programme "was farther along".

(c) To the USA's surprise, Iraq did not use its large stock of chemical weapons to halt the advance of the allied forces and there was no credible information as to why it did not do so.

(d) Even though Iraq was known to have certain biological weapon facilities, the US forces did not understand fully as to how to destroy them while minimising the ill-effects on the allied forces (collateral contamination).

(e) While the military impact of the use of the Scud missiles by Iraq was minimal, it had a significant political impact on Iraq's neighbours and their likelihood of entering the war or being drawn into it. Before the war, there was no adequate assessment of the likely political impact.

The first step in the CPI was the setting-up of a Counter-Proliferation Centre in the CIA in 1991. This has since been expanded and Mr. Perry's

---

Mr B Raman is the Director, Institute of Topical Studies, Madras, and a former Additional Secretary, Government of India.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March. 1997

report mentioned a three-fold increase in the number of defence personnel deputed to this Centre since then and the creation of a post of Deputy Director, Military Support, to co-ordinate the military related activities.

A report titled "A National Security Strategy of Engagement and Enlargement" submitted by President Clinton to the Congress in February 1996, indicated that he had approved in 1995, a new Presidential Decision Directive (PDD) on intelligence priorities. Of the seven priorities highlighted by him, four relate to the CPI. These are:

(a) "Rogue States" whose policies are consistently hostile to the US.

(b) Countries that possess strategic nuclear forces that can pose a threat to the US and its allies.

(c) Command and control of nuclear weapons and control of nuclear fissile materials.

(d) Transnational threats such as proliferation of WMD, intentional narcotics trafficking, international terrorism and international organised crime.

The PDD laid down that the intelligence community must provide the policy-makers with "world-wide capabilities to detect, identify and deter efforts of foreign nations to develop Weapons of Mass Destruction and ancillary delivery systems."

The CPI, as it evolved after Operation Desert Storm, is based on the following premises:

(a) Earlier assumptions that conflicts not involving the USSR would be fought solely with conventional weapons are no longer valid.

(b) The first priority should be the prevention of the proliferation of WMD.

(c) Simultaneously, the protective capability of the US against WMD should be strengthened to make it clear to potential users that threats of use of WMD against the US would not deter it from the application of its military power in pursuance of its objective.

The CPI's conceptual framework called for a mix of the following measures:

(a) Persuading non-WMD states that "their security interests are best served through not acquiring WMD."

(b) Curtailment of access to technology and materials for WMD through export controls and other means.

(c) International action to punish violators with trade sanctions, exposure of companies and countries that assist proliferators and sharing of intelligence with other countries concerned over the problem.

(d) Reducing threats from WMD already in the hands of certain countries through agreements to destroy, inspect, convert, monitor or even reverse their capabilities.

(e) Retention of the political, economic and military capabilities to retaliate against those who might contemplate the use of WMD, so that the costs of such use be seen as outweighing the gains.

(f) Acquisition of military capabilities to seize, disable or destroy WMD, in time of conflict, if necessary.

(g) Acquisition of defence capabilities, both active (Theater Missile Defences-TMD) and passive (protective gear and vaccines), to minimise or neutralise the collateral contamination and enable the US forces to fight even on a contaminated battlefield.

In 1994, the Defence Secretary set up an inter-agency Non-Proliferation/ Counter-Proliferation Programme Review Committee (NPRC) chaired by the Deputy Defence Secretary to report on action required in respect of intelligence collection, battlefield surveillance, passive and active defence, counterforce capabilities, military support for inspections and export controls and counter-terrorism if any domestic or international terrorist group manages to acquire a WMD.

In its report, the NPRC suggested the following priorities in respect of future action:

(a) Detection and characterisation of biological and chemical agents.

(b) Detection, characterisation and destruction of hard underground targets.

(c) Detection, location and neutralisation of WMD inside (in the hands of terrorists) and outside US territory.

(d) Development and deployment of additional passive defence capabilities.

(e) Improvement in the collection and analysis of WMD-related intelligence.

(f) Support for WMD-related arms control measures.

(g) Missile defence capabilities.

The study of the NPRC's report was followed by the setting up of the following committees:

(a) A Senior Standing Committee on Non-Proliferation and Export Controls to work under the National Security Council's (NSC) Inter-Agency Working Group (IWG) on the same subject.

(b) A Non-Proliferation and Arms Control Technology Working Group to work under the Committee on National Security of the National Science and Technology Council.

(c) A Counter-Proliferation Programme Review Committee (CPRC) consisting of the Defence and Energy Secretaries and Director, CIA.

The Congress authorised an expenditure of US $ 60 million on counter-proliferation programmes during fiscal year 1995 and this was followed by the drawing-up of a six year (1996-2001) programme called the Programme Objective Memorandum (POM), which is estimated to cost US $ 556 million, with the expenditure in the first year (1996) amounting to US $ 80 million.

The POM calls for concentration of funding and R & D efforts on the following four programmes during the six-year period:

(a) Detection and characterisation of chemical and biological agents. It envisages accelerated development of better quality sensors and their integration into existing and planned carrier platforms, emphasising man-portability and compatability with unmanned aerial vehicles.

(b) Detection, characterisation and destruction of hard, underground structures. This calls for "new capabilities including advanced sensors, enhanced lethality and penetrating weapons to address the need for better probability of target defeat, while minimising collateral effects and aids for advanced targeting and strike planning."

(c) Detection, location and neutralisation of WMD inside and outside the US. This envisages better means of identification and evaluation of source of threats, creation of the required force structure, strengthening protective measures at key military, economic and scientific facilities and at sensitive logistic nodes and joint training exercises for the US forces in order to improve their reaction capability.

(d) Development and deployment of improved passive defence capabilities such as protective suits, shelters, filter systems and decontamination technology.

NATO INITIATIVE

During the NATO summit of January, 1994, President Clinton called for a similar Counter-Proliferation Initiative by the NATO. Following this, the NATO set up a Defence Group on Proliferation (DGP) to be co-chaired by the US and one of the European members of the alliance in rotation.

It also adopted in May 1994, a conceptual paper on what should be the political-military approach to the problem and approved an assessment of the risks posed to the NATO by WMD proliferation. The DGP was asked to analyse the operational implications of the identified risks and suggest follow-up measures.

According to Mr. Perry's report to the Congress in February, 1995, "NATO is concerned about the continuing risks of illicit transfers of WMD and related materials, growing proliferation risks on NATO's periphery and the role of suppliers of WMD-related technology to states on NATO's periphery."

Referring to the role envisaged for Japan in the over-all scheme, Mr. Perry said: "The US and Japan are working to identify the theater missile defence capability Japan will need and to evaluate options for acquiring that capability in future years, including opportunities for co-operative programmes."

COUNTER-PROLIFERATION SUPPORT PROGRAMME

Amongst the steps taken under the CPI in 1995 was the approval by the Chairman of the Joint Chiefs of Staff of a Counter-Proliferation Missions and Functions Study, assigning responsibilities for the field commanders in different geographic regions of the world to counter proliferation and the creation of a Deterrence/Counter-Proliferation Capabilities Assessment Team to review the priorities.

On the recommendations of this team, a Counter-Proliferation Support Programme (CPSP) with the following priorities was adopted:

(a) Detection and characterisation of biological weapons and chemical weapon agents.

(b) Identification and destruction of underground targets and above ground infrastructure.

(c) Improvement of capability to detect and track shipments.

(d) Defeat of agents facilitating clandestine acquisition of WMD-related technology and materials.

Mr. Perry's report to the Congress on the activities of the Defence Department during 1995, which was submitted in March, 1996, referred to the following actions taken under the CPSP during the year:

(a) The deployment of Specific Emitter Identifiers (SEIs) that would enable the identification and tracking of ships at sea that may be carrying Nuclear-Biological-Chemical (NBC)-related cargoes. The first set of SEI hardware was delivered to the US Navy for use on patrol aircraft in West Asia six months ahead of schedule.

(b) Speeding-up of the development of the helicopter-based Long-Range Biological Stand-off Detector System (LR-BSDS) that can detect aerosol clouds to provide long-range warning of the use of chemical and biological weapons. The objective was to have the first set ready for deployment six years ahead of schedule.

(c) Speeding-up of the development of the Joint Service Lightweight Suit Technology (JSLIST) for producing improved chemical protection suits. The first set was undergoing warm climate operational testing during 1995, two years ahead of schedule.

(d) Development of a capability for remote detection of chemical aerosols through multihyper-spectral sensors and exploration of innovative bio-detection technologies.

(e) Improving counter-force capability to identify, characterise and destroy above-ground hardened or underground NBC-related facilities of target countries such as factories, laboratories and storage sites and development of hardware and software for the accurate prediction and minimisation of the collateral effects of such counter-force destruction operations on the US forces employed for carrying out the strikes, the civilian population and the environment. The first set of collateral effects prediction hardware and software was delivered to the US European Command during 1995.

(f) During the fiscal year 1997, US counter-force capability would be further enhanced to enable it to better detect and destroy critical mobile targets such as mobile missile-launchers and nuclear weapons infrastructure.

(g) During 1995, NBC-related Explosive Ordinance Disposal Equipment for counter-terrorist use was deployed in several sites in the US and overseas "to heighten readiness and reduce response time". An additional set of nuclear EOD equipment was shipped to Europe "for pre-positioned forward storage."

Spelling out the direction of R & D efforts to enhance counter-force capabilities, Mr. Perry told the Congress in March, 1996: "Many nations are placing their critical military assets in buried facilities or tunnel complexes. Utilising its experience in nuclear effects and its field test facilities, the

Defence Nuclear Agency (DNA) is assisting the Service laboratories to improve the lethality of conventional weapons for attacking underground facilities. Innovative warhead technologies, not dependent on high explosives, are also being investigated as entirely new ways to destroy chemical, biological and nuclear materials and weapons. The DNA is developing advanced prediction models for the dispersal of nuclear, biological and chemical agents released into the atmosphere. The Air Force is exploring hypersonic weapons that, when used with real-time target acquisition and communications systems can provide a means to quickly destroy mobile launchers for WMD."

Role of Nato, Japan and Australia

A meeting of the NATO's Defence and Foreign Ministers held in November, 1995, approved a report submitted by the Senior Defence Group on Proliferation (DGP) suggesting priority for the following capabilities:

(a) Improved collection of strategic and operational intelligence, including early warning data.

(b) Automated and deployable command, control and communications.

(c) Continuous, wide-area ground surveillance.

(d) Stand-off and point BW/CW detection, identification and warning.

(e) Extended air defences, including Theater Ballistic Missile Defence for deployed forces.

(f) NBC individual protective equipment for ground forces.

Referring to the USA's co-operation with countries in the Pacific region in the field of counter-proliferation, Mr. Perry's report for 1995 said: "In the Pacific region, US friends and allies have also recognised the growing security risks posed by proliferation. Some Pacific partners have also participated in – and will like to do so in the future — international coalition operations in which the presence of NBC weapons has been a factor. The US has been working with such key allies as Japan and Australia to forge common approaches to improving military capabilities and doctrine in the face of NBC risks."

Role of SOF and CIA

Under the CPI, the Special Operations Forces (SOF) of the US have also been assigned a role which has been defined as developing a capability "to contribute to deterrence and destruction operations by providing a precision strike capability against weapons, storage facilities and command and control nodes and to the collection of real time intelligence through their special reconnaissance capabilities."

Left uncovered or scantily covered in Mr. Perry's reports to the Congress is the exact role of the Counter-Proliferation Centre of the CIA in the CPI, apart from collection of intelligence. However, from a study of the proceedings of the various congressional committees and reports appearing in the US media, one could surmise with reasonable confidence that the centre would be providing a cover to military personnel deployed on covert actions against WMD facilities of target countries during peace time and co-ordinating the psychological (Psywar) operations against target countries.

The cover provided by the CIA centre would enable the President to circumvent the requirement of prior Congressional approval for sending the armed forces on operational duties abroad. Military personnel deputed to the CIA centre would be undertaking such operations as staff of the CIA and not of the Defence Department.

The Psywar role of the CIA centre would be to create opinion in the target countries against WMD, fund Track 2 diplomacy meetings through cut-outs of individual academics and non-governmental organisations working in tandem with the CIA and create misgivings in public mind in target countries about the safety of their WMD establishments through clandestine funding of NGOs taking up the matter.

The "International Herald Tribune" of September 14, 1995, carried a report filed by Mr. Jeffrey Smith of the "Washington Post" on a proposal under the consideration of the Clinton Administration to authorise the US intelligence agencies to expand the use of covert action in order to deal with international terrorism, narcotics smuggling and spread of WMD. It quoted Mr. John Deutch, Director, CIA, as telling the National Press Club at Washington on September 12, 1995, –"The USA needs to maintain and perhaps even expand covert action as a policy tool."

While he defined covert action as an intelligence activity to influence overseas events undertaken in such a manner that it could not be traced back to the USA, a generally-accepted definition of covert action is a clandestine, deniable action undertaken by an intelligence agency in foreign territory to achieve a national security objective, for which the use of the armed forces or traditional diplomacy would not be advisable or feasible.

In his authoritative study of 1989 on the US intelligence community (Ballinger Publishing Company, Cambridge, Massachusetts), Mr. Jaffrey Richelson, former Senior Fellow at the Centre for International and Strategic Affairs, University of California, Los Angeles, places the covert actions undertaken by the CIA in the past in the following categories:

(a) Political advice and counsel.

(b) Financial subsidies to individuals in a position to influence decisions in favour of the US and its policies.

(c) Financial support and technical assistance to political parties, private (Non-Government) Organisations, business firms and trade unions.

(d) Covert propaganda.

(e) Economic operations.

(f) Para-military or political action operations designed to support or overthrow a regime or defeat an insurgent force.

(g) Attempted assassinations.

After the Watergate scandal, President Jimmy Carter banned covert actions involving assassinations and overthrow of regimes through para-military means. President Ronald Reagan modified this order. While covert actions involving targetted assassinations continue to be banned, all other types of covert actions are permissible, with the prior approval of the Congressional Intelligence Oversight Committees which are informed in camera of the proposed operations and their approval obtained for incurring the necessary expenditure. In emergent cases, the President can order a covert action by the CIA in anticipation of Congressional approval, while keeping the committees simultaneously notified of his action. One of the covert actions reportedly approved by the Clinton Administration related to assisting Iraqi political exiles and the Kurds for overthrowing President Saddam Hussein of Iraq.

The US press had speculated in April, 1996, that one of the first covert actions under the CPI might be directed at a facility for the manufacture of chemical weapons which Libya was allegedly setting up in underground structures at a place 40 miles south of Tripoli. The speculation was triggered off by a remark of Mr. Perry at Cairo on April 5, 1996. Asked by pressmen whether the US would let the Libyan facility be completed, he replied: "I don't want to comment further on that, but the answer is no."

It is assessed that while the pre-emptive use of the USA's counter-force capability might be directed only against any WMD facilities determined by the US intelligence community to be coming up in North Korea, Iran, Iraq, Libya and Cuba, covert actions under the CPI against other target countries might be confined to the following:

(a) Sabotage of R & D efforts.

(b) Creation of demoralisation in the WMD establishments.

(c) Inspiring the formation of anti-nuclear and anti-missile lobbies and financial and technical support for them.

(d) Creation of fears about nuclear and missile safety through the planting of articles in the printed media and programmes in the audio-visual media and through NGOs funded by the CIA.

New Weapons

Also not covered in Mr. Perry's reports is the funding by the Defence Department of the development of non-lethal (to human beings) chemical and biological weapons, micro-nukes which could be used to control regional conflicts not involving any of the nuclear powers and a Nuclear-Driven Radio Frequency (NDRF) warhead which can paralyse computer networks, telecommunication and power transmission systems over a wide area in the target country without causing any damage to human beings and other infrastructure.

A study titled "Setting Precedents in Anarchy: Military Intervention and WMD" published in the Spring 1996 volume of the "International Security" brought out by the Massachusetts Institute of Technology gives details of the direction of the new R & D efforts. Amongst the new weapons under development are:

(a) Bio-deterioration agents, which are genetically-engineered microbes to attack infrastructure or equipment. They can eat substances such as rubber, concrete and metal.

(b) Bacteriological agents that can affect combustion by contaminating the fuel and weakening or destroying the lubricating ability of oil.

(c) Anti-traction chemical agents for contaminating fuels, supercorrosives and supercaustics.

(d) Metal embattlement chemicals which can render metallic surfaces of aircraft, missiles etc weak or brittle.

(e) Nuclear-driven Radio Frequency(NDRF) war heads, which, when exploded at a height of 50 to 100 kms over the target area, would create an intense electro-magnetic field disrupting all command and communications equipment, computer networks, electrical power grids and telecommunication systems within a radius of 1,000 kms without any radiation, fall-out or other collateral damage at the ground level.

Implications for India

A careful study of the CPI policy statements of senior US officials indicates that they envisage the use, if necessary, of their counter-force capability for destroying WMD- related infrastructures mainly against the so-called

rogue states and not others such as India and Pakistan whom they do not view as hostile to their interests.

Presently, they are confident of countering any WMD-related activities by India through diplomacy, denial of technology, export controls and psywar.

If these conventional counter-proliferation methods fail and if they apprehend that India's efforts would be detrimental to US interests through actions such as sharing by India of knowledge, technology and materials with States hostile to the US, they may undertake covert sabotage actions directed against our scientific and other related establishments.

Sleeping agents, who may be eventually required for such covert sabotage actions, have to be identified, recruited, trained and placed in position much in advance. It would, therefore, be reasonable to assess that efforts towards the recruitment and placing of such sleeping agents would be under way even now.

Sleeping agents are of two categories — humans and material in the form of equipment supplied by them for our sensitive installations. Presence of US and other Western companies in the running of telecommunication services in areas where sensitive establishments are located would facilitate such sabotage operations.

It is for this reason that China, which opened up its economy to foreign investment in 1979, has been resisting pressure from the US to open its telecom services to foreign participation. Where it has allowed joint ventures with foreign participation such as in the production of telecommunication equipment, it has ensured that the Chinese company in the joint venture is clandestinely owned and controlled by either the armed forces or its intelligence agencies. There has been a large number of such ostensibly private companies, which have been actually floated by the armed forces and intelligence agencies, to act as joint venture partners in sensitive fields.

If this has not already been done, it is time to have an in-depth study of the implications of the USA's Counter-Proliferation Initiative and Counter-Proliferation Support Programme for the security of our scientific, military and other infrastructure and initiate action for enhanced protection.

Simultaneously, it would be advisable to assess the present capability of our intelligence agencies, particularly the Research and Analysis Wing (R&AW), for the collection of intelligence and advance warning data relating to threats to our scientific, military and other infrastructure and initiate action to strengthen it.

India's Foreign Relations Part III - Relations with the Far East, the Middle East and South–East Africa

SAHDEV VOHRA

INTRODUCTION

Besides India's relations with the Super Powers and with her neighbours, India's relations with the Far East, the Middle East and with African countries on the Indian Ocean littoral are important. Central Asia has been a cauldron of the human race from where migrations have taken place over the ages to Asia and Europe, leading to the settlement of the Aryan race here, followed by the inroads of the Mongol, Hun and Turkish races over these regions as well as of the Scythians, Parthians and the Yuch-Chi or Kushan. Foreign relations of India with West Asia and Central Asia have been an integral feature of India's history. Trade was carried on with countries round the rim of the Indian Ocean since the earliest times and the Harappan civilisation of India had traded with Gulf countries. Arab sailors learnt to sail to India and further east, taking advantage of the monsoon winds, and traded with Malabar coast from Oman, and from the ports of Somalia in East Africa.

The Arab traders extended their trade with Sri Lanka and to the East Indies and China. They superceded the Indian migration of earlier times there, that had led to the establishment of Kingdom of Sumatra, Bali and of Champa in Indo-China. These intimate relations and spread of Indian civilisation in the Far East are a background on which India can build and recreate relations.

RELATIONS WITH THE FAR EAST

INDONESIA

The world war created a swift and sudden change in the map of the Far East when Japan attacked the region in 1942. The effect of their invasion was the unexpected collapse of the Western empires there like a house of cards. The Dutch in Indonesia, the French in Indo China, the British in Malaya were

---

Mr Sahdev Vohra is a former member of the Indian Civil Service. He has written several articles on India's relations with other countries highlighting the historical perspective.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997

swept out of their dominions. In Indonesia Sukarno declared independence in 1945 and the Dutch evacuated finally in 1949. In 1955 Indonesia organised the non-aligned countries' conference of Bandung. It was attended by Nehru, Chou En Lai, Nasser and other leaders of the Non-Aligned Movement. This was a set back to the Dulles plan of organising non-aligned countries into a bloc of U.S. allies against the USSR and Communism. Nehru was responsible for helping Sukarno in his revolt against the Dutch when he sent Biju Patnaik to rescue Sukarno by air on one occasion. But after India's defeat in the border conflict with China in 1962, the image of Nehru was tarnished. Subsequently, Suharto replaced Sukarno and followed a policy of accepting help from the West. Being an oil-producing country, Indonesia joined the OPEC group of countries, which hitherto was a club of oil producers of the Middle East and Arabs. Indonesia has rich rain-forests and other resources. In 1973 Suharto took over Portuguese East-Timor, a step which has not yet been recognised by the United Nations.

Although a country with a large number of islands, Indonesia has developed a common language (Bhasa) and a unity which is remarkable. It is a country with the third largest population in Asia and its development has lately been fast, both in the economic field and in the social goals like education, public health and welfare of the people.

ASEAN

The countries of the Far East now forming the Asean group of nations belong to the Shan race of people, as distinguished from the Han race of the Chinese people. These countries comprising Thailand, Malaysia, the Philippines and Indonesia have successfully developed an economic union and a common set of rules in the commercial field. All of them have established stable political regimes and welcome foreign investment and technology, undeterred by any phobia of foreign control. Their liberalisation of trade and economy has suited a world economic system which is getting more and more integrated and in which economic unions of regional countries are becoming a marked feature. India has the advantage of the presence of communities of Indian origin that have existed here since the colonial period, and which have prospered after the process of decolonisation. Industrial goods from India have also found a market in these countries.

However, there have been some negative features in India's relations with Asean countries. The worsening of relations of India with China and Pakistan have been viewed with watchfulness. China is a nearer and powerful neighbour, and in respect of Pakistan, the largely Muslim population of Asean countries have not always been given a fair picture of the Indian side of the

dispute over Kashmir. India has to build on the base of goodwill of these countries by her closer relations with them which have not always been fostered with the attention they deserve. Despite its initial success in economic planning and its secular, democratic system of government, India has lost in the race of economic development whereas the Asean countries are an example of brilliant success. Foreign relations are a function of moral leadership, as well as of mutual cooperation, and of benefit through trade and joint business ventures, besides pursuit of policies of peace and security. Taking this into account, India's relations with the Asean countries have lately taken a turn for the better.

VIETNAM

Coming to individual countries, Vietnam's struggle against France, and later against USA was to last till 1973 and caused untold suffering and destruction. The same struggle was extended to Cambodia and Laos. Vietnam has shown a remarkable capacity to stage economic recovery. Vietnam's relations with China were unfriendly in the 1970's due to border disputes as well as their rival claims over the Paracel and Spratley group of Islands in the South China Sea. These are reported to contain valuable oil and gas deposits. These islands are in fact a cause of dispute among several of the other Asean countries with China, including the Philippines, Brunei and Indonesia. In 1995 there was a dispute between the Philippines and China over the claim made by the latter on one of the innumerable remote islands that constitute the group. China declared also that its geographical sway extended over a large part of these islands as its "Blue-Water" territory. All concerned countries have to exercise the choice of a peaceful settlement.

MALAYSIA

Malaysia had close contact with India in the days of British rule when a large Tamil population was engaged in the rubber plantations and in mining industry. The descendents of these migrants are an integral part of the population both in Malaysia and Singapore. A tolerant and progressive people, the Malaysians have absorbed even larger Chinese population. The industrial and economic progress achieved has been a marked feature of the country. With Malaysia, as with the other Asean countries, India has a record of good relations, and expanding industrial and trade cooperation.

AUSTRALIA AND APEC

Australia is keen to expand trade with the Asian neighbours including India. In the present ambience of economic unions, USA has initiated a Pacific

Asia region, and spelt out its ideas of closer economic ties among all countries on the Pacific Ocean rim. India will have to take note of these developments. Already India has been invited to Asean to attend its meetings. India will have to pay greater attention to relations with the Pacific rim and its member countries than it has done hitherto since the political and economic conditions are favourable for such participation. It is up to the Indian entrepreneurs and business community to compete in the open Pacific markets, and to expand their exports in these neighbouring countries where they have advantage in saving transport costs, and where Indian products are likely to be more suitable because of similar climatic conditions.

RELATIONS WITH THE MIDDLE EAST

The Arab world emerged from Turkish rule after the First World War and formed by the Allies into the independent states of Iraq, Syria, Palestine, Lebanon and Jordan. Egypt also emerged from British rule. Mahatma Gandhi put India's relations with the Middle East in a clear perspective after the First World War when he supported the Khilafat movement and espoused the cause of the Arabs in Palestine against the decision of Britain to create a homeland for the Jews in Palestine.

A major event in the Arab World was the discovery of the world's biggest oil deposits around the Persian Gulf region, in Saudi Arabia, Kuwait, Iraq, and Iran. The picture of Arabs as beduins and desert people was transformed into one of rich kingdoms controlling the vital oil supplies needed by the industrialised world of the West, including USA after the Second World War. But in 1948, a contrary factor was introduced when with President Truman's active mediation, Israel was declared an independent state. USA had become a cause of dividing the Arab powers and Iran into those who supported USA and those - the vast majority - who treated USA as having betrayed the Arab people. The situation was complicated when the USSR first started giving arms to the Arab state and later when the USSR in 1959 agreed to finance the High Dam at Aswan in Egypt.

India as a leading member of Non-Aligned Movement sided with Iran when Mossadeq nationalised the oil industry in 1953. The US thereafter increased their investments in the Saudi Arabian oil industry, thus dividing the Islamic World into two camps. Later, Yasser Arafat kept closer relations with Nehru over a common stand against the pro-Israel stand of USA against the Palestinian interests. Thus the relations of India with the Middle East were warm and friendly. The prosperity derived from sale of oil resulted in modernisation of the Gulf Emirates and the migration of skilled labour from India and Pakistan besides other countries. This enabled them to earn and send foreign exchange to the mother country.

The Pakistan propaganda in the Middle East and among the Muslim countries generally has tended to paint an anti-Indian picture over Kashmir, presenting it as an anti-Muslim state. The organisation of Islamic Countries (OIC) was utilised to confuse the issue as one of Islam rather than as a political one, forgetting that India had a larger Muslim population than the entire population of Pakistan. Generally these countries have not been deluded and recognised that India was a secular state, and have given support to the stand that the dispute should be settled bilaterally by negotiations.

A notable development in the Middle East recently has been the use of what has been called "Fundamentalism", a word which needs to receive a more precise meaning, ever since its association with the Khomeni Revolution in Iran in 1979. The word was first used in respect of the support given by Iran to the Shias in South Lebanon against the Israeli occupation. The conflict between the Shias of Iran on annual pilgrimage to Mecca and the Saudi Arabian authorities was attributed to fundamentalism and revival of antipathy between the Shias championed by Iran and the Sunnis whose cause is espoused by the rulers of Saudi Arabia as custodians of the Holy Shrine. However, when Afghanistan was invaded by the Russians in 1980, the mujahideen who flocked into Afghanistan to carry on the 'holy war' against them, were trained by Pakistan in the neighbouring border areas, and after the war the mujahideen trained and indoctrinated for a holy war everywhere and equipped with the lethal arms and equipment supplied by the USA for the war in Afghanistan. These were also called fundamentalists, to misdirect their undoubted spirit of self sacrifice to spread terrorism in places as far apart as the Kashmir Valley, the New York Trade Centre, and the Philippine Islands, and several other targets which were chosen and manipulated by leaders who exploited the idealism of these mujahideen into destroying targets human, institutional or religious, indiscriminately. The phenomenon had a direct repercussion when the ISI of Pakistan directed the mujahideen to operate in the Kashmir valley.

On the economic front, India has retained her position in the Middle East, and taken part in the construction of railways, roads, and industrial projects in Iraq, Libya and Saudi Arabia. There are opportunities for setting up industrial ventures in these countries for exploitation of the oil resources and laying of pipelines for export of gas and oil, and for setting up refineries. These are more likely to be handled by government agencies and it is, therefore, important that our foreign relations are geared to this direction. The war between Iran and Iraq from 1980 to 1987, and the war threatened in 1990 by Iraq on Kuwait show the hazards of war in the Middle East. The Arab world was divided by the war over Kuwait and USA launched an attack on Iraq. The Iraq army had to face the attack on the border with Kuwait by tanks and massive aerial bombardment. The war was over in a week. It revived the

morale of the US army after its debacle in Vietnam. India's interest lay in limiting the war and making the peace less punitive. The consequences of this war are still being felt.

The problem of the Middle Eastern countries is in fact the question of being masters of their oil resources and to utilise their oil earnings to raise the standard of living of the people. That is why India has supported the national reassertion by countries of the region. The technology and resources provided by the Western oil interests to develop the oil industry cannot be made into a sufficient excuse for master minding the exploitation and utilisation of these resources in the foreign interest. The Middle East was responsive to Communism at one stage not because of a belief in its "theology" but because it seemed a way out of the tight hold of the western powers over these resources. Now that the banner of communism is down, the countries have raised the banner "fundamentalism" against exploiting powers to keep their hands off.

RELATIONS WITH IRAN – AFGHANISTAN – CENTRAL ASIA

AFGHANISTAN

Afghanistan loomed large in the policies of the British rulers in India. The threat from the north seemed real when Napoleon was advancing into Egypt, and later when Russia expanded into Central Asia. This does not concern India so long as Gilgit and the Northern Territories (as named by Pakistan) forcibly occupied by Pakistan in 1947 from the state of Jammu and Kashmir, stay with them.

Another problem is the Durand Line which divided the Pakistan tribes into two portions, one within Afghanistan, and the other now part of Pakistan. This haunts Pakistan and her policy towards Afghanistan, ever since the Pakhtunistan movement earned the support of the rulers of Afghanistan. The problem is difficult since to unite Pakhtuns is to disturb the national frontier between these two countries. India was a market for the sale of dry fruits, carpets, and other produce of Afghanistan. But this market has dried up because of the hostile policies of Pakistan towards facilitating this trade.

A third problem is that large scale opium plants are grown in the area. India is being used as one of the surreptitious routes for opium smuggling to International markets. Afghanistan is in need of non-interference to enable the various tribes and ethnic groups to work out a government, strong enough to manage the warring and unruly tendencies. India is unable to exercise its good offices because of the blockade that Pakistan has created around access routes from India.

Afghanistan needs trade routes with Uzbekistan, Tajikistan, Iran and India. These can operate only when the civil war ends. Before the Russian invasion, Afghanistan received aid from Germany, Russia and Britain to establish its arterial roads from Kabul to the North, and to Herat, Kandher and Jalalabad in the West, South and East respectively. Textile Mills were established in the North by the USSR. India built a hospital in Kabul. King Zahir Shah had encouraged education and one could see in his reign in the 1960s, girls in school uniforms marching every morning to their schools. Indian teachers and engineers worked in Afghanistan in those days and trade with India flourished. All these developments are now a thing of the past. Restoration of peace in Afghanistan is essential before development work is resumed.

IRAN

Like Afghanistan, Iran was the object of Anglo-Russian rivalry in the Nineteenth Century. The British occupied the Island of Fao at the mouth of the Shat-el-Arab after an invasion of Iran in the 1830's. At the same time, Russia occupied parts of Northern Iran. Iran emerged from the shadow of this Anglo-Russian rivalry, in 1907 when Russia and England entered into a detente and undertook not to interfere in Iran.

The Kajal dynasty tried to introduce Western system of education. But the country already had an Islamic system of madarsas which was strongly entrenched. Youngmen from the upper classes were sent abroad to absorb the western way of life. But the army remained largely a personal bodyguard of the Shah, and the Shah introduced an all-enveloping system of espionage so that Iran became a closed and secretive society.

Iran's position in the international politics was transformed by the discovery of oil. It was owned by Anglo-Iranian oil company. Later the Americans came to hold a predominant interest in Iranian oil industry. In 1953 the Pahlavi dynasty was dethroned by the visionary fanatic Mossadegh who, nationalised the oil industry. The American CIA brought about the fall of Mossadegh and restored the Shah to his throne. But Mossadegh became a prophet.

Independent India revived relations with Iran. They decided upon joint schemes for a steel plant in India. Iran, concentrated more on common economic plans with Turkey and Pakistan. Pakistan was helped by Iran to acquire US aircraft, the sale of which had been banned by USA after the Indo-Pak war of 1965. It was only when President Rafsanjani came to power, Iran changed its stand in favour of India. In 1995 the Iranian President visited India and praised its secular policy where all religions flourished. He advised the Indian

Muslims not to use the Babri Masjid issue for propaganda purposes. In 1994 Iran had taken a stand against the attempt by Pakistan to introduce a resolution in the UN Human Rights Commission over Kashmir. While holding the view that the two countries should ascertain the views of the Kashmiris, Iran advised them to settle the dispute bilaterally.

To the Central Asian Republics, Iran offers an outlet to the Sea. While on his visit to India, the President of Iran signed a Tripartite agreement with Turkmenistan and India. The agreement provided for a road from Turkmen Republic to the Persian Gulf for transport of goods from and to India through Iran. A pipeline project which had been under consideration since long for supply of oil and gas from Iran to India via Pakistan was revived.

Iran feels that South Asia should be seen as a geographical unit for economic development. It takes a longterm view of Asian cooperation among India, Pakistan, China and Iran to evolve Asian solutions to Asian problems.

India and Central Asian Republics

The future of Central Asia has been transformed by the break-up of the USSR in 1990 and the several independent states that have been formed – Uzbekistan, Kazakhstan, Kirghistan, Tajikistan and Turkmenistan. They are seeking alliances to find outlets for their exports and for imports of their essential needs. Due to long association with Russia, their communications were developed through the North. Being landlocked they need new lines of communication to the sea towards South as well as through China on the East and Turkey on the West. Turkmenistan is anxious to construct pipelines for its enormous gas deposit. Located on the Caspian Sea, its oil and gas reserves are part of the biggest oil resources in the world next to those of the Persian Gulf region. Uzbekistan is a producer of cotton on a large scale. They need to develop railway lines, pipelines and to find alternate markets. Iran had offered to allow Turkmenistan transit through her territory to the Arabian Sea.

China has a large Muslim population in Sinkiang as well as in the provinces in the neighbourhood where the Muslims predominate. China has moved rapidly to conclude trade and frontier agreements with her neighbouring Central Asian States, namely, Kazakhstan, Kirghistan and Uzbekistan with which it has common borders. As far as India is concerned, Jammu and Kashmir adjoins Central Asia, but the Ladakh (Leh) route through Karakoram Pass to Yarkhand has been closed by China. Pakistan having occupied Gilgit and Baltistan, the route through Hunza to Sinkiang is in Pakistan's occupation. Central Asia is not in a position to import and export through India at present through these routes.

The interest of the USA in Central Asia is another factor affecting its future as USA wishes to have a role in the future developments of the region. The USA, Russia and China are in fact all interested in developments in the region and their interest covers the state of Jammu and Kashmir as a part of Central Asia. The contemporary example of Afghanistan is a warning to what dire results can follow such a big power interest. Already Tajikistan has become a cockpit of internecine war between Tajik of Afghanistan and of the State of Tajikistan adjoining Russia. India has a vital interest in the non-interference of these powers in Central Asia and in the peaceful development of the region.

Uzbekistan, Turkmenistan, Kazakhstan have signed trade agreements with India and it will be possible for India to help in their development provided the systems of communication are developed towards the sea, through Iran.

RELATIONS WITH AFRICAN COUNTRIES ON THE INDIAN OCEAN

India had long trading relations during the British rule with East Africa, South Africa, and Zanzibar. The traders from Saurashtra, Kutch and Gujarat had established branches in these countries for trade between India and Africa. The British imported plantation labour from India to work on the farms and estates. Indian labour was imported to work on the railways. These migrants stayed on in Africa after the period of their contracts. They set up small businesses in towns or villages and were called dukan-wallas (from dukan=shop) and rendered an essential service in retail trade. In the developing economy of these countries during the late 19th century and after, the Indian businessmen provided banking, shipping and other essential services in port cities like Cape Town, Nairobi and Dar-es-Salam, and were successful in competition with the white community. But the lot of these Indians, including the rich Indian traders was humiliating when the Dutch and English colonists developed a system of civil government. They devised discriminatory and suppressive regulations to keep the Indians segregated and to place obstacles in their way to keep them out of the mainstream in business, trade and agriculture. These regulations were in fact a beginning of the apartheid, later introduced formally. They were disallowed residence in the main residential localities in towns and their children were denied admission in the public school system. On a visit to South Africa in the late 80's of the last century, Mahatma Gandhi then a young and practising barrister - at - law, experienced these humiliations. He felt that he should help the Indians to fight this injustice and discrimination. He had faith in the sense of justice of the British Government and fought through petitions, 'prayers' and through newspaper publications. Later, he evolved the weapon of civil disobedience which he first experimented with, in the fight against discriminating laws and regulations in South Africa.

The East African countries Kenya, Tanginyika, and Uganda became independent in the 60s of this century. South Africa too has, at last, attained abolition of apartheid and white rule. Nelson Mandela became the President of the new republic and established cordial relations with India. In the other East African countries Indian commercial and business communies have continued to flourish although from time to time they have faced difficulties, as when Idi Amin became the ruler of Uganda and sequestrated the property and treasures of Indian traders. Large number of Indian businessmen had to leave Uganda but later regimes have reversed the trend. There is scope for expanding trading and commercial relations with these countries on a reciprocal basis. The countries of East Africa have lately formed themselves into an economic union and this is an instance of a general trend in the modern world.

Both East Africa and South Africa are India's neighbours across the Indian Ocean. It is natural that our economic relations should develop with them, especially when Indian traders have already developed business there and have participated in the economic development that is taking place. In South Africa, the members of the ethnic Indian community have a notable position in the country's political system and hold important posts in the cabinet.

Some Aspects Affecting Preventive Diplomacy

LT GENERAL (RETD) D. PREM CHAND, PVSM

RIGHT OF INTERVENTION

Unilateral intervention by the Security Council in conflict areas on behalf of the UN is not authorised by the Charter. Each intervention mission will, accordingly need to be mandated by the Council. There is the sovereignty aspect to be carefully considered. There are quite a few conflict areas in the world today where the nations concerned would find themselves unable to accept UN intervention. The two *extraordinary situations* in which the UN has intervened have been the employment of US troops in proxy operations on behalf of the UN: Korea in 1950 and Iraq in 1990.

One way in which the conflicting aspects of intervention and sovereignty may be reconciled is through a mandate based on a majority consensus in the Council, with at least four of five permanent members and two thirds of the Council in favour of direct intervention. This would, in fact, amount to direct pressure of world opinion, in addition to any other measures, such as diplomatic and economic, by the member states to mandate and implement a proposed intervention. Of course, the Charter will need to be modified to codify some such stipulation. Yugoslavia is a recent case, where UN intervention at an early stage would have prevented the extensive damage to life and property. The same may have been possible in Iraq in 1990.

Other forms of intervention, as distinct from the involvement of a peacekeeping mission, could be more active diplomatic pressures, coordinated by the UN to diffuse potential conflict situations. Equally, the employment of the Secretary General's (SG) conciliatory and mediation missions at very early stages should be similarly helpful. But again at the instance of the Council consensus, and with the support and assistance of the powers with influence and leverage in the area.

If *Direct Intervention* is not considered advisable, we should aim at *Indirect Intervention,* coordinated by the UN.

Text of a paper presented by Lt General D. Prem Chand, former Force Commander Windhock, United Nations Transition Assistance Group in Namibia in a Seminar held in London on February, 21-23, 1992.

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

VULNERABLE AREAS FOR POTENTIAL CONFLICT

Developing countries are prone to internal conflict, as is amply evident in Latin America, Africa and Asia; particularly countries which are weighed down by heavy population. The main reasons are degrading poverty and marked disparities, between the Haves and Have Nots. This inevitably gives rise to frustrations, friction and conflict, especially amongst the millions of unemployed youth as fertile ground for terrorist activities.

The developing countries have been relying a great deal on Aid and Loans from World Organisations and friendly states to manage their economic problems. The time has come when many nations are finding themselves under a heavy debt burden. They have been unable to balance their budgets, in spite of heavy deficit financing and the loans are beginning to create their own grave problems. The reason is the absence of adequate accountability, with massive amounts continuing to flow towards the 10-20 percent affluent groups and the poor remaining where they were. There is a conspicuous absence of any effort at AUSTERITY and at balancing their budgets. They rely increasingly on borrowing as crutches, on which to lean. Mr. Salim Ahmed Salim, Secretary General of the Organisation of African Unity (OAU) at the time commenting on the major problems in Africa is reported to have said "Loans and borrowings have been the curse of Africa." The answer is for donor countries to satisfy themselves that a country wanting a loan has in fact made substantial cuts in its budget; and to add an auditing component to accompany the loan - a modicum of sovereignty has accordingly to be sacrificed.

ADVANCE WARNING AND FORECASTS FOR CONTINGENCY PLANNING

A mechanism needs to be considered at UN Headquarters to keep the Security Council and the Secretary-General advised of likely developments in vulnerable areas, and the probabilities of conflict, to enable contingency plans to be prepared well in time. The existing arrangements to collect and collate information have been unable to do much in the way of accurate and reliable forecasting. Apart from the Secretary-General's Secretariat, with its current affairs and information experts, Member States in the zones concerned should switch on warning lights, with advice and assistance to prevent a conflict arising in the first instance. More needs to be encouraged and done in this connection. The UN cannot, in principle, indulge in conventional "spy catcher" type of intelligence activities as such and have therefore, to rely on open sources of information. And yet, the permanent members of the Security Council, with their comprehensive intelligence networks can be most helpful in keeping the UN advised about likely developments of concern. There is, for instance, the view being increasingly expressed that an earlier assessment of

the Gulf situation could well have assisted in preventing the eventual tragic developments. Yugoslavia in 1991 has been yet another tragic example. Such assessments need to be periodically highlighted and reviewed by those concerned at the UN and by the Member Nations. The Military Staffs Committee, not utilised for years, stepped up with intelligence experts, would be particularly suitable for this purpose, as a Joint Intelligence Committee.

The above would also assist towards contingency planning, being based on such assessments. Arrangements to have peacekeeping contingents trained and standing by, at short notice, could be tried out on a zonal basis, with battalions from three to five designated countries in each continent to be ready to form brigade groups, and later divisions if necessary, to fit in with these plans, on a provisional basis as "UN Reserves for Global Peace Keeping and Disaster Relief". Movement plans, airlift and logistics would go hand in hand by the same or other designated countries, within the zones, to provide such facilities. Periodic training exercises and seminars would keep them well integrated. These formations, carrying out their normal defence duties, but with special emphasis on peacekeeping concepts and techniques would be maintained by the countries concerned; enabling the UN to call up well tuned and trained forces at short notice, without the prohibitive cost of maintaining them by the UN. In Europe, such arrangements would obviously be advisable and effective in the earliest implementation of "settlement plans" in situations such as in Yugoslavia in 1991. The same units and formations would in addition be invaluable in tackling natural or man-made disasters at very short notice.

Direction and Control

Although the zonal peacekeeping formations envisaged above would be under the command of their own commanders, the overall direction and control would be exercised by UN Headquarters, as has been the case so far, when the formations are called up for UN peacekeeping duties. The existing UN command and control procedures have been time tested and have worked well. To make them more effective, there is however, the need to enhance the working powers of the Secretary General, once a mission is established in the field. To avoid misunderstandings and confusion, it must be clearly understood that operational aspects must be kept distinctly separate from political or diplomatic issues which may affect the interests of the countries involved, from time to time. To arrive at a proper and workable arrangement between one government and its forces in the field is difficult enough; this would be all the more so where a number of governments and their varying interests are involved. This is an important aspect which needs to be adequately highlighted at peacekeeping study groups and seminars. The SG and the UN Secretariat should also

not be handicapped by inadequate funding for peacekeeping missions. Th unfortunate state of affairs needs to be set right at high priority.

EMPLOYMENT OF MINIMUM FORCE

In home countries, the use of force by their own security forces, in a of civil power, has led'to grave consequences, as is well known. Every effo should, therefore, be made to ensure that UN troops, from contributing cou tries are never placed in situations where they are obliged to open fire o troops or civilians of a country which has requested UN assistance, except o course, when they have to return fire in self defence. This cardinal factor need the utmost consideration by the civilian and military components of a missio Detailed studies and discussions on this aspect at peacekeeping seminars an exercises should be of good value. For a peacekeeping force, to use force i a contradiction in terms.

INCIDENCE OF CONFLICT WITHIN COUNTRIES

Though conflict situations between countries have decreased consider ably, yet the incidence of conflict within countries is on the increase, especial ly in developing countries, largely owing to population pressures, economi disparities and the increase in global terrorism. It is for consideration whethe the well tried concepts and considerations applicable to international peace keeping should not be tried out to defuse conflict situations within the coun tries, the aim being to prevent such situations and incidents arising in the firs place. I am convinced that this approach would be most helpful in many way and states having internal conflict need to be encouraged to utilise officer with peacekeeping experience to develop and try out these concepts and tech niques.

HUMAN RIGHTS

The developed democratic countries have all along, most admirably, stood for the rights of oppressed classes — for their freedom of speech and movement — for speedy justice to those under detention and trial, and the tracing of mission persons unheard of for years. But there are even worse forms of oppression in certain countries, where millions are deprived of even their fundamental minimum needs of adequate food, shelter, clothing and security. These human rights need to be increasingly highlighted in human rights reports by international agencies, as it was pressures of this kind which led to massive movements against the state in Russia in 1918, and in France even earlier. This sad and deplorable state of affairs is also largely a cause of friction, violence, and conflict. More needs to be said and done at international

forums to further the cause of Preventive Diplomacy. Again, a measure of sovereignty will need to be sacrificed by the countries concerned to allow for International Human Rights Agencies to examine and report on such issues. As, in some developing countries, the percentage of those below the poverty line, and those almost so, is more than 50 percent, it would amount to a matter of "Majority Rights".

Cease Fire Aspects

Events in Yugoslavia have once again highlighted the fact that the mere declaration of a cease fire by both sides is not enough. A cease fire has to be implemented — done best and effectively by third party intervention. Even then, it can easily be broken by irresponsible elements or ill disciplined troops, as has happened so very often. A great deal of close liaison, supervision and vigilance is, therefore, necessary, to ensure that the rules accepted by both sides are meticulously recorded by the third party and any violations need to be immediately pointed out and set right. Further, there must be no forward movement of troops; nor any outflanking moves permitted. In fact the operative direction should be better phrased as "Cease Fire and Stand Fast", or "*Cease Fire and Cease Movement*". A move forward by one of the parties would inevitably draw Fire, and the Cease Fire becomes meaningless. This has been the main problem in Yugoslavia.

Sale and Smuggling of Small Arms

There have been encouraging reductions in nuclear and conventional armouries of the world. But the proliferation of small arms is ever on the increase. Terrorists and militant organisations have no problems in obtaining these openly, and through smuggling. In Namibia, every individual could buy upto ten sporting weapons, including rifles. So is the case in many countries. Teenagers are now going around terrorising people with these, which they treat as the latest toys. Some form of checks, balances and accountability need to be considered to neutralise these trends; perhaps, sales only through government agencies, and not through the open market. More stringent customs regulations are needed as being tried out with regard to drugs and narcotic smuggling, as well as precious metals and stones. Some sort of a convention may need to be devised, to prevent the increasing use of such weapons in conflict situations.

Letters to the Editor

Letters are invited on subjects which have been dealt in the Journal, or which are of general interest to the services.

I

Dear Sir,

The text of Field Marshal Cariappa Memorial Lecture 1996, delivered by Lt Gen (Retd) SK Sinha, PVSM, (USI Journal Oct-Dec 96) was quite interesting and thought provoking, even though some of its portions were a repetition of his autobiography, 'A Soldier Recalls'.

Gen Sinha has rightly pointed out that 'apart from efforts to win the hearts and minds of the people' during counter insurgency operations, there is an urgent need for effective public relations (PR) to combat hostile propoganda and project correct image of our Army. However, precious little has been done so far to pep up our PR and this important facet of psychological operations remains a low priority area for our policy makers, or so it seems. Otherwise, why is it that most Army PROs are neither adequately qualified nor motivated enough to carry out their assigned job in a professional manner. One has come across quite a few of them who have apparently been given the job post supersession to enjoy a home posting. There is no dearth of talent in our Armed Forces: It is our attitude towards such appointments that must change.

5 Sikh LI
C/o 56 APO

Yours Sincerely
(Maj Sunil S Parihar)

Review Article 1

The End of a Superpower

BRIG (RETD) CHANDRA B KHANDURI

GORBACHEV - A MAN IN A HURRY

When a Goliath is to be killed, a David is to be found, is an old saying. That happened in case of a mighty Superpower, USSR. Mikhail Gorbachev proved a Soviet David.

From the days of Chernenko in 1984, the Soviet watchers were conditioned to a Russian word-Glasnost. And as, Gorbachev became the General Secretary a book of the very theme, Glasnost, hit the western markets. Along with this word, came another word, Perestroika. For, 'openness' and 'restructuring' as these words meant literally, set the ball rolling from 1988 for a devasting change in the Soviet Union.

When Gorbachev came to Delhi in November 1986 to sign the 'Delhi Declaration', the Rajiv Gandhi Government was in the midst of a dilemma created by the Chinese intrusion in Arunachal Pradesh. Surprisingly Gorbachev cautioned the Indian Prime Minister to exercise restraint and develop rapprochement. He was heard and his advice heeded.

Gorbachev had by this time an image of a deft statesman committed to pursuing international peace. He had agreed to unilateral withdrawal of the Soviet strategic reserves deployed on the Usuri against China, and he began reducing forces from Mongolia, Vietnam, Cuba, Angola and Ethiopia. He offered to evacuate the Soviet troops from the Warsaw Pact countries. With Gorbachev in seat, the Cold War thawed. Ronald Reagan, earlier having openly cursed the Soviet leadership as 'agents of an evil empire' had to admit that 'Gorbachev was easy to do business with.'

TWO FACES OF A COIN - THE SOVIET ROULETTE

In the external affairs, Gorbachev achieved more monumental breakthrough. The end of the Cold War Treaty and the unification of the two Germanys became possible because he agreed. So were the reduction in arms; the Intermediate Range Nuclear Force (INF) Treaty; preventing the arms race on Strategic Defence Initiative (SDI) and a unilateral withdrawal of the Soviet

---

Gorbachev and After. By Stephen White. Cambridge, Cambridge Univ, 1991. p. 310. Rs. 345/-. ISBN 0-521-42435-6.

Brig (Retd) B C Khanduri is former Director of Psychological Operations MOD. He has authored a number of books concerning national security.

forces from Afghanistan. He doled away, in several ways, the Soviet leverages as a Superpower, without obtaining a guarantee of reciprocation.

By 1988, the internal problems began manifesting itself in ugly and serious dimensions. Glasnost saw a regimented and otherwise disciplined Soviet citizenry steam out its grievances against the leadership. So violent were the outpourings that the Western media and governments converted dissension into subversion. Some of the intelligence agencies like the CIA managed to infiltrate into the confidential vaults of the state secrets. KGB and the Armed Forces became their targets. Fears were exacerbated for the Army that flooded barracks from service abroad, e.g. Afghanistan and land borders with other countries, on the rumours of demobilisation without guarantee of employment. Rumours were also rife that ordnance factories were being converted for civilian use. Exploitation took place for encouraging secession through the ludicrously loose constitution that permitted republics to have foreign missions and secede, if others became unaccomodating. In direct consequence to it, the Baltic republics of Lithuania, Latvia and Estonia gave a clarion call for secession. The Central Asian Muslim republics began to receive support from the Muslim neighbours like Turkey and Pakistan. They raised their hydra heads too.

Gorbachev acquiesced to the US demands on the UN for use of force against Iraq in Operation Desert Storm. By this he acquired an image of an American lankey and belied the trust of the Third World. As a direct consequence of strategic dimension, the US has become the only superpower of the world. Gorbachev's diplomacy became hereafter what Stephen White calls in his book, "Gorbachev and After", a 'diplomacy of decline'.

Two more developments further shook Gorbachev's infirm roots: One, the rise of a 'Frankenstein' of an opponent in Boris Yeltsin, in Gorbachev's native Russia. He was later to use the Kautilyan strategy of *Sam, dam, dand and bhed* (conciliation, reward, fear of punishment and dissension). He orchestrated an opposition against Gorbachev and subsequently retrieved him from the members of the hard liners, who staged a coup against him in 1991. Two, the Chernobyl nuclear leak, communal tension, open fights in Nagorno-Karabakh, Georgia and Uzbekistan led to serious internal disorders. Full exploitation of these were made by the Western propaganda to create scenes of doom and gloom - and darker days - among the people. Truth became a casualty; so also Mikhail Gorbachev and his experiments of Glasnost and Perestroika.

The cumulative result of all these was summed up by Dr Fidel Castro of Cuba who told the 'Guardian' : "Our revolution might not be able to resist if there is a breakdown in the Socialist Community -- (But) a catastrophe has happened in the Soviet Union - the mother land." The mother land is now a

fragmented crown, each of its jewel separated. And perhaps irreparable.

'Irretrievable' has also become the world order that the superpower Soviet Union had helped maintain. The two superpowers had maintained order, discipline and balance.

The US having become the sole superpower is now doing - and would continue to do what pleases her.

A NEW HOPE

Having said the above against the Gorbachev holocaust for the Soviet Union and the Third World, one pauses for a rethink : can Soviet Union be resurrected in the form of a 'renewed federation' of Gorbachev's dream, each politically independent but combining to share their common economic gains and military might? The 70 years of socialistic way of life and governance could still serve as a jump pad for future ventures.

Review Article 2

Constitutional Development in Bangladesh*

LT GENERAL (RETD) S L MENEZES, PVSM, SC**

This book on constitutional development in Bangladesh narrates how the establishment of a constitutional government had been thwarted over the years, inspite of the ideal prescriptions in the original 1972 Constitution. As this book was written in 1992, it inevitably predates both the latest elections in which the Awami League returned to power, as well as the penultimate February 1996 elections which the Awami league boycotted, unless held under a caretaker administration. However, the author, Dr. Dilara Choudhury, does provide many illuminating insights into the pre-1992 political turbulence and dilemmas of Bangladesh. As is known, Bangladesh came into being with the ideals of democracy and freedom. During the Pakistan period (1947-1971), with a span (1958-62) of naked military dictatorship, the author iterates the country was ruled by a West Pakistani coterie. The people of the country made unprecedented sacrifices during the liberation war, of a severity experienced by few countries. The author asks what has been the result of their sacrifices, and what went wrong with Bangladesh? The revolutionary war had its own pitfalls. In the author's opinion, it undoubtedly weakened the esteem for authority; it also dramatically radicalised Bangladesh's society, which went into a state of flux. Post-liberation Bangladesh was also confronted with the situation of a country beset by socio-economic problems and lacking institutionalised authority. Even though he lacked organisational experience, Sheikh Mujib's charisma and personal popularity worked like magic, but, the author postulates, 'Unfortunately Sheikh Mujib, instead of institutionalising his charisma, started a process of personalization, such a notion is bound to have negative impacts on the values of constitutionalism'.

The author recounts that Mujib's personal style of politics and his overwhelming majority had created an executive without any checks, whether by the legislature or the judiciary. Mujib then moved to establish a one-party system through the passage of the Fourth Amendment. The author urges an

---

*Constitutional Development in Bangladesh : Stresses and Strains. By Dilara Choudhury, Karachi, Oxford Univ Press, 1994, p. 240, Rs. 345/-, ISBN 0 19 577507 4.

**Lt Gen (Retd) S L Menezes is a former Vice-Chief of the Indian Army and the author of the well known book on the Indian Army, Fidelity and Honour : The Indian Army from the Seventeenth to the 21st Century (New Delhi : Viking, 1993).

Journal of the United Service Institution of India, Vol CXXVII, No. 527, January-March, 1997.

army 'putsch' was possible in 1975 because Sheikh Mujib had alienated key societal groups due to economic mismanagement, serious law and order problems, and the erosion of civil institutions. This was followed by coups and counter-coups, leading to a period of chaos and confusion, if not total anarchy, followed by periods of martial law. The first martial law administrator, the late President Ziaur - Rehman, gave the country a new political order: Zia's political system was not a true presidential or parliamentary one, as the Bangladeshi Parliament lost many of its powers, most notably the power over financial matters, and the judiciary also suffered some setbacks. Though Zia revived the multi-party system in the country, his quest for power prompted him to encourage factionalism, within the existing political parties, with splinter groups being co-opted by Zia's ruling party, the Bangladesh Nationalist Party. This action of Zia retarded the growth of healthy political parties in Bangladesh.

Zia was followed by a weak and ineffectual civilian government for a very short period. This civilian (Sattar) government was however overthrown by another military ruler, H.M. Ershad, in March 1982. Then followed another period of martial law, succeeded by a limited or controlled democracy. After nine years of authoritarian rule, Ershad was removed by a popular uprising in November/December 1990, in which people of all sections of society participated, and some elements of the armed forces also gave support to the people's movement. Ershad's nine year rule further stunted the growth of constitutionalism in Bangladesh. The extension of time for the 30 women's reserved seats for another 10 years by Ershad is cited as a case in point. An important constitutional issue which dealt with 49 per cent of the electorate was not decided by the people's representatives, but through a discussion between the First Lady, Roushan Ershad, and two factions of the Jatiya Party. Begum Ershad, who had no *locus standi* in constitutional matters, had been in favour of 60 reserved seats for women instead of 30, whereas one faction had been in favour of abolition, and the other advocated the status quo. Ultimately 30 reserved seats for women were retained for an extended period of 10 years. Such was the nature of the constitutional politics in Bangladesh during the Ershad period. After the fall of Ershad, the author states, the country had its first free and fair elections in February 1991, under a caretaker government, installing the regime of Begum Zia.

The author concludes that the regimes of Mujib (1972-75), Zia (1975-81) and Ershad (1982-1990) maintained only the facade of constitutionalism, unlike in India, where proper constitutionalism has, by and large, prevailed. As to the Bangladesh Nationalist Party, the author opines that behind the scenes criticism of Begum Khalida Zia, the present president of the party (and till recently the Prime Minister) as to her alleged authoritarianism towards her party members, demonstrates the lack of democracy within that party. As to

the Bangladesh military establishment, the author emphasizes that it is different from both the Pakistan and Indian Armies: 'the Pakistan Army is political but cohesive, whereas the Indian Army is apolitical in the true sense of the term....the (Bangladesh) Army personnel, who deserted the Pakistan Army in the wake of the liberation war, did so on their own initiative and were thus drawn directly to fight for a political cause.....' And what is the political scenario today, by circumstance outside the ambit of this 1994 publication? The Awami League, the party founded by Sheikh Mujib, has come to power for the first time after the 1975 coup. The present Bangladesh Prime Minister, Sheikh Hasina, has made it clear her government is determined to bring her father's assassins to book. Sheikh Mujib's killers had so far gone scot free. At one time they were treated as heroes by some sections in Bangladesh. Sheikh Hasina's government has arrested six of the 24 persons involved in the killing of her father. Four have passed away. Most of the other 14 accused are abroad. During the military regimes, they were given diplomatic postings. They remained in their posts even during Begum Zia's regime who refused to withdraw the amnesty given to all former coup leaders. The Indemnity Act of 1975 has been withdrawn, and extradition treaties are being negotiated with 12 countries for these 14. Following Sheikh Mujib's assassination, Awami League supporters were hunted all over the country. Much of his cabinet was wiped out with him. While the rehabilitation of Sheikh Mujib will go ahead without any opposition from any section, the Prime Minister will come under increasing pressure to act against those who worked against her father's party. On the occasion of her father's death anniversary on 15 August 1996, Sheikh Hasina said, "There must be a trial of the killers, but we need the opposition's cooperation to do so". She will, however, make sure that the Bangladesh Army as a whole is not castigated. Sheikh Hasina knows that she cannot afford to antagonise the armed forces in a nation which has had three coups and 18 attempted coups since Independence in 1971. Sympathy for the killers, however, even if the arrested former officers are tried, will not be widespread.

Review Article 3

The Kashmir Question*

MAJ GEN (RETD) DIPANKAR BANERJEE, AVSM *

Two elections in Kashmir during 1996 usher hopes of a new beginning in this long suffering state. The time to take stock is now. For this brief period is but a window of opportunity to settle questions that have long been hidden under the carpet, pretending that they just do not exist. The reality in such cases is that like cancer, they never disappear. If not correctly treated they only come back in an even more malignant form. In the case of Kashmir they challenge some of the basic tenets of the state and pose questions that are of fundamental concern to India.

It is because of this that Major Maroof Raza's book titled "Wars and No Peace over Kashmir" has a particular salience today. He brings a perspective to this study that is not often found in other writings. Besides, he reflects the views of a new generation that is increasingly relevant.

An important characteristic of the Book is that it captures the essence of the problem in a concise but succinct manner. In seven short chapters Maroof provides an adequate examination of all major issues. Not detailed perhaps but sufficient to allow an understanding of the broader question. The first chapter is on history. In whole of India, Kashmir stands out as the one with an accurate and continuous recorded history. A history that is characterised by both brutality and natural calamity. Twin misfortune that has always plagued the hapless people of this enchanted vale. Yet, the principal characteristic that has defined its people is the harmonious blend of different cultural and religious influences. This has over the years led to a sense of tolerance in the true 'Rishi' tradition that has never deserted them notwithstanding the enormous stress of fundamentalist influences and outside propaganda. It is termed as Kashmiriyat, a unique characteristic that the people are determined to preserve.

Yet, the past is history. Relevant no doubt, as it impinges on the present, but one has to look to the future. In some ways perhaps the future begins in 1947. A time when the people displayed a determination to come together such as seldom seen since. The many developments of that era also proved to be a burden. For it imposed a baggage that continues to be carried, interpreted differently by different sections of the people. The author has described this

---

*Wars and No Peace over Kashmir. By Maroof Raza, New Delhi, Lancer, 1996, p. 176, Rs. 395/-, ISBN 1-897-829-16-7.

*Maj Gen (Retd) Dipankar Banerjee is co-director, Institute of Peace and Conflict Studies, New Delhi.

in crisp and precise words debunking some of the false notions that have been perpetuated for long. The question of accession to India, and the three wars that followed are described competently. Of more immediate concern is the prelude to the fourth and continuing war that began in December 1989 if not in July 1988.

Maroof may have dealt with the causes of the rise of insurgency in more detail. For, when looking for solutions in the future, it is important to know where things went wrong. He identifies only two main immediate conditions. One was Zia's exploitation of the situation arising from developments in Afghanistan. The other was the rise of Madarsa education and with it the spread of Islamic fundamentalism. Actually a number of other and more widespread conditions contributed to the deterioration of the situation in Kashmir. Political chicanery, enormous corruption in every segment of society taking cue from the top, cynical manipulation from the Centre and electoral malpractices were the principal reasons. This led to economic deprivation and destroyed the legitimacy of the State in the minds of its people. Deprived of this, the State lost any right to govern. Insurgency was then a foregone conclusion. Of course it was made worse by outside support and blatant intervention by Pakistan. A major weakness of Indian response to Kashmir has been a reluctance to look within and accept this basic condition.

The problem then is a blend of socio-political, ethnic and economic conditions. Its resolution too should be sought in rectifying these conditions. Instead the first mistake that the State invariably makes is to try to find a military solution, primarily through the use of force. This is the typical short-sighted, limited, knee jerk reaction that frequently proves counter-productive. Regrettably the military, which should know better, having been dealt the short side of the stick on innumerable occasions, meekly complies and willingly provides the political leadership with an alibi, it so desperately needs. A time has come to put a stop to this. The depredations of the politician cannot be covered up by anyone else. They alone have to find a way out of this or pay a price. It is a question of accountability that cannot be overlooked. It is only when this happens that responsible political options would emerge and attempts to find scapegoats after the event avoided. Anyway, it was once again the security forces, battling against enormous odds, that turned around the situation. It is a matter to ponder as to how many security forces around the world would have had the capability to successfully deal with a situation under such tremendous physical and psychological adversities. That the Indian forces do, should not be a licence to use them repeatedly. For in compliance they pay a very heavy price indeed that is not always easy to quantify.

The present situation in Kashmir is transitory. A successful, participatory

and comparatively free and fair election has now provided the State an opportunity to rectify past mistakes. It also provides a chance to set the new agenda. Are the country and the Government ready? The political process to find a lasting solution has begun. Tentative steps to cleanse the Administration and make it more effective has started. An attempt is being made to meet the people's aspirations. But there is nothing to suggest that there is an urgency. In large measure the State is drifting back to its earlier practices. The aspirations of the people are not being met. Terrorism continues as before.

The author has examined nine options to the Kashmir issue identified earlier by Professor Raju Thomas. It varies from maintaining the status quo, to the 'Trieste' type, with a number of intermediate options. Finding a solution that has some chance of success is in itself a major challenge. All the three parties to the issue, India, Pakistan and the people of Kashmir, would together have to evolve an acceptable solution. Pakistan, having almost 'lost' the proxy war would once again be at a great disadvantage. India needs to concede little. But finding an equitable solution is primarily an Indian responsibility. To do this it has to first put its own house in order. For, winning over the people to join the mainstream of national life is a challenge that is yet to be seriously addressed.

Maroof Raza has done a good job highlighting some of these complexities. He has produced a book that has to be read by a wider audience in the security forces and by a wider community. Then only will it contribute to a debate that must surely begin. That is the essence of democracy and the path to peaceful resolution of the situation.

Short Reviews of Recent Books

SPEC OPS : Case Studies in Special Operations Warfare: Theory and Practice. By William H. McRaven, *Novato, Presidio Press, 1995, p 402, $27.95, ISBN 0-89414-544-0.*

Special operations are defined, by the author, as those conducted by specially trained forces, equipped and supported for a specific target, whose destruction, elimination or rescue (in the case of hostages) is a political or military imperative. These differ from conventional operations mainly in the degree of physical and political risks, operational techniques, modes of employment and for their dependence on detailed operational intelligence. A successful special operation defies conventional wisdom by using a small force to defeat a much larger or well-entrenched opponent.

The author develops the theory that special operations forces can achieve relative superiority over even a numerically superior enemy if they prepare a simple plan, which is carefully concealed, repeatedly and realistically rehearsed and executed with surprise, speed and purpose. To prove his theory he carries out an excellent detailed analysis of eight special operations carried out in combat starting with the German glider borne attack on the Belgium fortress of Eben Emael, in May 1940, the feat of the Italian manned torpedo attack against the British at Alexandria in December 1941 to the Israeli rescue of the hostages at Entebbe in Uganda in July 1976. The narrative of each of the well known operations make excellent and very interesting reading. By his analysis of these special operations, the author is able to validate the need for a standing special operations force that is trained, equipped and supported at the best possible levels. This book is well worth studying for all those dealing with or interested in special operations.

-- Maj Gen (Retd) S C Sinha

The Air Campaign : Planning for Combat. By Col John A. Warden III Virginia, *Pergamon-Brassey's International Defence Publishers, 1989, p 160, $ 18.95, ISBN 0-08-036735-6.*

A threadbare discussion of planning of the third dimension of war - the war in the air. The Air Campaign vividly and illustratively brings out the function of air superiority on the outcome of war. The author stresses on the effective use of air power through mass concentration and economy of forces because of its inherent constituents, speed and range. The book is about practicing operational art by the air element commander and also the time honoured application of the Clausewitzian principles of war.

The book has been divided into ten chapters. Firstly, air superiority is a necessity and crucial to success; secondly, offence or defence - the Chess game if the Commander has a choice; thirdly, offensive operations if the battle is to be carried to the enemy; fourthly, defensive operations need careful thought and cool execution;

fifthly, limited operations are enemy dependent; sixthly, interdiction effectiveness is tied closely to either friendly or enemy ground situation; seventhly, close air support in the close vicinity of the forward line of troops; eighthly, reserves - operational - at all levels - help better the odds; ninthly, the orchestration of war through vitiating the centre of gravity as seen from enemy's eyes; and lastly planning the air campaign lays down the principles for general guidance and exploitation by the commander for a "Winning Campaign". The Air Campaign in prospect and in retrospect deals with the levels of war and the centre of gravity; and the criticality of air superiority and achieving it under different situations to win a war.

Chapterwise, crisp end-notes, select bibliography and some chosen photographs have enhanced the usefulness of the book.

A must for all air/air component commanders, surface forces commanders, staffs, joint staffs and the policy makers.

-- Air Cmde (Retd) S K Bhardwaj

The Line of Battle: The Sailing Warship 1650-1840. Ed by Robert Gardiner, *London, Maritime, 1992, p. 208, £ 28.00, ISBN 0-85177-561-6.*

This is a part of the 12 volume series titled Conway's History of the Ship, which aims at readership with knowledge and interest in ships.

The Line of Battle sub-titled-'The Sailing Warship 1650-1840' covers warships from evolution of the specialist line of Battleships in 1650's to the end of the sail as principle mode of propulsion.

Encyclopedic in content, the book provides extensive coverage of the subject under chapters 'The ship of the line'; 'The frigate'; 'Sloop of war'; 'The Oared war-ship'; 'Design'; 'Rigging'; 'Gunnery and Naval tactics'.

In the period under study, the Battle fleet became the arbiter of sea power and the merchant-man was banished from front line by technology that allowed guns to be placed on broadside, increasing the existing fire power. Enhanced sea worthiness and rugged construction led to different types of warship designs. The need for all weather scouts which could out sail the gunships and outgun the smaller ones led to the preliminary cruiser design. The requirement of attack on trade led to development of fast and more seaworthy but less heavily armed vessels. The tonnage increased from 1500 to 2500 tons.

The book has an interesting chapter on ship decoration. The head and stern designs owe their origin to civil architecture, classical Greek or Roman mythology.

The book is compiled by Brian Lovery who is a leading authority on the subject and the book is profusely illustrated and presented in a manner which even a casual reader would find captivating.

-- Cdr S Kulshrestha

The Art of Maneuver,: Maneuver-Warfare Theory and Airland Battle. By Robert Leonhard, *Novato, Presidio Press, 1991, p 315, $ 14.99, ISBN 0-89141-403-7, ISBN 0-89141-532-7 (pbk).*

In the high-tech nature and pronouncedly enhanced capability to anticipate and influence the course of modern battle, manoeuvre must acquire predominant status. Strategy planners and tactical commanders at each level would need to fully comprehend the manoeuvre-warfare in the future.

Robert Leonhard has masterfully discussed the commonly accepted tactical concepts, as well as the conventionality in their application. He then proceeds to expound how the critical vulnerability of the enemy should be targeted by the art of manoeuvre. Starting with a full chapter on definitions / interposition of military terms and the concept of Manoeuvre-Warfare, he relates his theory to air land battle and low-intensity conflicts of the future. Time and again he refers the reader to relevant cases in military history to strengthen his projections and theory and to make them easy to comprehend.

This book will enthral military leaders and thinkers alike. It makes an excellent treatise on strategy and tactics.

-- Maj Gen (Retd) S K Talwar

An Atlas of World Affairs, Ninth Edition. By Andrew Boyd, *London, Routledge, 1991, p 240, £ 10.99 (pbk) ISBN 0-415-06625-5.*

A common man, though has a good knowledge of what is happening in the USA, disintegration of the USSR, unification of Germany and so on, but has a very sketchy knowledge of the happenings in smaller countries like Zaire, Zambia, Yugoslavia, Afghanistan, Angola, Namibia and so on.

Atlas of World Affairs provides, in brief, an account – with maps – of the international issues and conflicts along with various changes which have taken place in Europe and Asia. Of interest are the chapters on Arctic, Antarctic and the Sea Laws about which an average reader does not know much.

Of particular interest to the readers in India are the two chapters - India and Pakistan I and III which give in brief the partition, the liberation of Goa, the Tamil problem in Srilanka when India gave assistance and the 1971 conflict with Pakistan.

A well researched and informative book which gives, in a concise manner, all the information which the students of international politics, may need. A good addition to all libraries.

-- Commodore (Retd) R P Khanna, AVSM

My Enemy's Enemy: Lebanon in the Early Zionist Imagination 1900-1948. By Laura Zittrain Eisenberg *Detroit, Wayne State University Press, 1994, p. 219, £ 29.95, ISBN 0-8143-2424-X.*

This book is a result of extensive archival research, interviews and newspapers of those days to establish the historical roots of Israeli involvement in Lebanon. This historic dissertation focuses on the little known facts about Zionists initial romancing with Maronites — a Christian Catholic sect of Lebanon — between 1900 and 1948 who were dominating it politically despite being a minority. The aim of establishing cordial relations with such a non-Arab dominating force in neighbourhood of Israel (as and when created), surrounded by Muslim majority countries was considered apparently to be beneficial to Israel, but this minority alliance approach later proved unproductive.

The age-old adage that "my enemy's enemy is my friend" augured well for the Zionists and seemed to suggest that Christian communities fighting Muslims in Lebanon would find the Palestinian Jews a natural ally. However, the other side of the coin also appeared correct. The minority Christians in Lebanon were afraid of the wrath of majority Muslims in case Maronites developed intimate relations with Zionists. Similar arguments applied to other Christian denominations, Shias and the Druze in Lebanon. The end result was non-action and wavering by Jewish Agency towards Lebanon and Lebanese minorities towards Israel, till its creation in 1948.

There appears to be no justification as to why Zionists persisted in courting Maronites despite their being proven unreliable allies time and time again. Perhaps Israelis' experience in Lebanon between 1900 and 1948 later contributed to the formulation of its "minorities policy".

-- Maj Gen (Retd) J N Goel

In Viceregal India 1916-1921: The Letters, Volume 2 of Ralph Verney. Ed by David Verney, *Cornwall, Tabb House, 1994, p. 211, £ 20.00, ISBN 0-907018-93-9.*

The book is a collection of letters written by Ralph Verney, a British Army Officer who served as Military Secretary to Lord Chelmsford.

The book, edited by Ralph's son David, provides an insight into the British officers' social and cultural life in India. The princely States of Gwalior and Jaipur have been graphically described. Accounts of travels to different parts of colonial India such as Burma, Frontier, Simla etc are highly readable. Verney has made extremely interesting comments on the personalities of his colleagues and friends as also about numerous places he visited and people he met. The period between 1916 to 1921 was an era when the British colonial power touched its zenith and grandeur essential for the maintenance of power and authority in a diverse and great sub continent like India, is clearly reflected in Verney's correspondence. This period also witnessed the emergence of Mahatma Gandhi as the leader of a mass national movement which led to the successful overthrow of the British Raj. The book contains some rare photographic plates depicting important landmarks as well as events.

A well-produced book, recommended for students of South Asian Social History, diplomats and officers of the armed forces.

-- Mohun Kudaisya

Full Ahead : INS Shivaji Golden Jubilee 1945-1996. *Lonvale Commanding Officer, INS Shivaji, 1995, p. 1996.*

Full Ahead is the story of INS "SHIVAJI", in picture, the premium establishment to train engineering officers and sailors of the Indian Navy. The establishment completed its 50 years in February, 1995.

The book gives in detail, in picture, the details of the modest training in 1945 to a full fledged training establishment to cater to the need of training both officers and sailors who keep the ships of the Indian Navy on the move.

The book brings forth memories to the engineers - both present and past - who have at one time or the other had the privilege of serving in Shivaji.

A light reading with excellent photographs and should find a place in all naval libraries both afloat and ashore.

-- Commodore (Retd) R P Khanna, AVSM

Tower of Secrets : A Real Life Spy Thriller. By Victor Sheymov, *Annapolis, Naval Institute, 1993, p. 420, $ 24.95, ISBN 1-55750-764-3.*

Drawing on his first hand knowledge of the world's most efficient and ruthless espionage network - the KGB of the USSR, Victor Shenoy has spun out a gripping story-more fact than fiction. In this expose, he has not only described the integrated technology of modern security and surveillance systems, but also dealt with the extensive staff and field operators cadre, a highly secretive network in itself.

Victor Sheymov provides a clear insight into the intricacies of espionage and counter-intelligence in its global manifestation, which would enthuse most readers.

-- Maj Gen (Retd) S K Talwar

Nuclear Nonproliferation : A Primer. By Gary T. Gardner, *Colorado, Lynne Rienner, 1994, p. 141, Price $ 10.95 (pbk) ISBN 1-55587-489-4.*

This is another "hot" topical subject, much debated and written about in recent times. This volume by Gary T Gardner, who is a consultant with the World Bank, is another addition, to the wealth of literature, available on the subject. It gives an overview of the technical and political dimensions of nuclear non-proliferation.

He guides the student of arms control, through the fundamentals of nuclear physics, nuclear reactors and the nuclear fuel cycle in simple language. He likewise

explains clearly, the evolution of the nuclear non-proliferation regime, the system of international nuclear safeguards and the prospects for the extension of the NPT.

Chapter 9 of this volume is of special interest, as it deals with Nations of Proliferation concern, including India, which according to the author, started stock-piling of nuclear weapons w.e.f. 1986.

This book is recommended to students of Arms Control in particular and to the other readers, in general.

-- Maj Gen (Retd) Ram Nath, SM

Britain in the Twentieth Century: A Documentary Reader : Volume I 1900-1939. Ed by Lawrence Butler and Harriet Jones, *Oxford, Heinemann Educational, 1994, p. 344, £ 12.99, ISBN 0 435 31924 8, 0 435 31922 1.*

Produced by the Institute of Contemporary British History, to promote the study of history with a difference. It is a source book of the documents — on which the student may use his or her own analytical skills-to develop a prospective. Included is a warning, against being gullible - for example the "Times" report on Chamberlain's agreement with Hitler - Doc 11.7 does not represent the then public opinion.

Each document has to be analysed, based on - who was the author, what were his or her motives; when was it written and for which audience? Thus, in fact, no documentary evidence can be accepted at its face value.

For Indians, whose political future, during those years was dependent on British imperial policy, Chapter 8 and the documents such as the statement of Brig Dyer to Hunter Committee after Jalianwalla - Doc 8.8 and the report of the Governors on the spread of the civil disobedience in 1930, are of interest. Other items of interest, of late thirties, include — the rise of Mosely's Fascists and the abdication of the King.

A thought stimulating book - highly recommended.

-- Maj Gen. (Retd) Partap Narain

Britain in the Second World War : A Social History. Ed by Harold L. Smith, *Manchester, Manchester University, 1996, p. 189, Price £ 12.99 (pbk) ISBN 0-7190-4493-6.*

A nation at war is inevitably faced with large scale mobilisation of manpower for its armed forces, internal security, and transportation. Damage by enemy action to life and property both in the battle zone and in civil habitat far removed from battle fronts, are also factors of disruption of day-to-day life.

During the Second World War, Britain faced the impact of transit of large allied forces of different nations, races, cultures, and social attitudes. The effect of all these on society makes an interesting area of study.

Harold Smith has collated and reproduced numerous reports, records of offici and personal views, and governmental policy, covering aspects of public life in thi publication; extending to crime, loot, plunder, black-market and hoarding which fu ther strained the administrative machinery.

This book is a useful reference work for social research.

-- Maj Gen (Retd) S K Talwa

Israel's Nuclear Dilemma. By Yair Evron, *London, Routledge, 1994, p 327, £ 42.5 ISBN 0-415-10832-2.*

This book focuses on the Israeli dilemma of declaring an overt nuclear postur as a geo-military-strategic deterrence on Middle Eastern political canvas. The con struction of a reactor at Dimona started in 1958 with French assistance and later i 1960, Israel had to declare that it was a research unit and had no intention of devel oping, possessing or introducing nuclear armaments. Israel also declared that it woul not be the first one to introduce nuclear weapons in the Middle East nor be the secon as added later by Allon Yigal, an influential Mapai leader and Deputy Prime Minister under Golda Meir.

Vanunu's revealations in November 1986 and consensus amongst internationa experts indicate that Israel possesses nuclear capabilities and is ahead of other nuclear "threshold states" like India and Pakistan. An explicit nuclear doctrine has not yet been enunciated by Israel and they are still preferring an ambiguous posture. In other words policy of conventional deterrence would continue.

Deterrence was, at various times, an important dimension of Israeli political and strategic doctrine hoping to solve all problems through military means. In November 1966 Egypt signed a Defence Treaty with Syria to control its military activities and also to deter Israel. The Treaty failed in both respects. Syria was uncontrollable and Israel was not deterred. The result was the October 1967 War.

The author argues convincingly that the adoption of a nuclear doctrine and possession of nuclear arms would not provide a solution to the security dilemma of Israel. Further the inherent dangers of proliferation in Middle East by other Arab countries would get multiplied if Israel goes nuclear.

-- Maj Gen (Retd) J N Goel

Clement Attlee. By Jerry H. Brookshire, *Manchester, Manchester University Press, 1995, p. 257, £ 45.00, ISBN 0 7190 3244 X.*

This biography by Jerry H Brookshire concentrates mainly on the socialist in Attlee which he was able to integrate with democracy.

The book traces Attlee's role in Indian independence from the time he came as part of the Simon Commission in 1928. He was disturbed by the inefficiency, corrup tion and mediocrity of Indian politicians (a view which he later corrected). He believed that Indian self-government must be based on an established democratic electoral base and not on a single party and its appointees. He did not fear Congress

dominating the Indian Government for a short period. He projected that Congress would dissolve into competing political parties championing different policies. Despite the fact that Attlee as Prime Minister (PM) had no control over conditions within India–neither the Indian leaders nor the people, he nevertheless, did handle the timing of the transfer.

Attlee was both a politician and a socialist. The combined experience of leading the Labour party in the war – time coalition and of participating intensively in government decision – making made him better prepared for the office. He supported the triangular relationship of trade unions, management and government and felt that radical changes during post war period may jeopardise labour's social services programmes. The Labour Government significantly improved social conditions while maintaining social stability thus setting the pattern for the British nation for future decades.

The book concludes that Attlees was a successful politician and a socialist.

-- Cdr S Kulshrestha

Never Fight Fair! : Navy Seals' Stories of Combat and Adventure. By Orr Kelly *Novato, Presido Press, 1995, p. 337, $ 22.95, ISBN 0-89141-519-X.*

"If the enemy expects an attack tomorrow, hit him tonight. If he expects you to come by sea, arrive by parachute. If he watches for you in a helicopter, arrive as a tourist by an airliner. If he expects a hand-to-hand combat or a knife fight, shoot him. If he expects you to fight by some set of rules, throw the rule book away". This, as the author writes, paints the true picture of what SEALS do. Orr Kelly, a veteran defence correspondent who has worked for various US newspapers, could not have chosen a truer title for this fascinating book.

Predecessors of SEALs were formed during the Second World War as Naval Combat Demolition Units. These were followed by Underwater Demolition Teams and finally SEALs (Sea Air and Land) who saw extensive action in the Pacific and in Europe. This book is an oral history, as told to the author by the creaters of mayhem. After WW II SEALS took part in the Korean war and then were made responsible for the recovery at sea of Gemini and Apollo astronauts. Their work was legendary during the Vietnam war. They also took part in some of the famous actions like the *Achille Lauro* rescue mission to the island of Grenada in 1983.

A highly readable book which confirms the old saying that truth is stranger than fiction.

-- Cdr (Retd) S Varma, SC

Firepower in Limited War. By Robert H. Scales. *Novato. Presidio, 1995, p. 340, $ 32.50, ISBN 0-89141-533-5.*

The end of the Cold War ushered in a uni-polar World leaving the United States of America as the only super-power. As the most powerful nation, the US has to help in the maintenance and enforcement of peace amongst the comity of nations. Paradoxically the present day American Society, especially after its involvement and traumatic

experience in Vietnam, is unwilling to accept the loss in human lives that is likely to result from the intervention of its Armed Forces in foreign wars, however limited their scope and duration. Therefore, when forced into such commitments, the US Armed Forces wish to accomplish with firepower what would otherwise have to be done by manoeuvre and manpower, necessarily involving casualties in men.

There are, however, limits to the use of fire-power in limited wars. Maj Gen Scales has, in this book, done a very frank and detailed analysis of the role played by fire-power by examining the course of five limited wars. He has given interesting accounts of the two wars in Indo-China, the Russian intervention in Afghanistan, the British action in the Falklands and the Allied Operations in the Gulf War.

Of particular interest are his accounts of the American intervention in Vietnam and in the Gulf War. He brings out clearly how the balance between firepower and manoeuvre is determined by the specific nature of the war, the type of terrain and the quality of the enemy troops. The author shows how the tough, well led Vietminh troops, fighting in favourable jungle clad terrain of Vietnam, were more difficult to destroy by massive firepower alone; than tanks, artillery and poor quality Iraq troops in the open deserts, devoid of cover, in the Gulf War.

-- Maj Gen (Retd) S C Sinha

Image and Reality of the Israel - Palestine Conflict. By Norman G. Finkelstein, *London, Verso, 1995, p 243, £ 14.95, ISBN 1-85984-040-X (pbk).*

This dissertation contests the prevailing view that Palestinians were illegal immigrants in Palestine between 1893 and 1948 and the Jews were in majority at the time of creation of Israel.

The contention of Israel that the mass flight of Palestinian Arabs from Israel during Dec 1947 to Sep 1949 was a preplanned result of broadcasts to the Palestinians to leave their homes for the advancing Arab armies to wipe out Israel, did not sound logical as any advancing army would need sympathizers from local population and also information about enemy's army units, terrain and local resources. On the other hand this mass exodus was engineered under Plan D by Israeli Defence forces using fear psychosis, general panic, terror, recorded broadcasts and at times shelling of Arab localities.

Zionism is not only a religion but also a romantic nationalism where all arguments were twisted in favour of Jews. Jewish nation-state implied that jews would have the ownership rights and Palestinian Arabs would be permitted to reside. The hidden interpretation was that non-jews leave the State.

The author conclusively proves by documentary evidence that Israelis were the blatant aggressors in 1948, 1956 and 1967 Wars whereas the Arabs were the innocent victims. The myth that Israelis were fighting for their very survival and they had retaliated stood exploded. A totally new angle to the Israel - Arab/Palestinian relationship backed by documents. An interesting book.

-- Maj Gen (Retd) J N Goel

Imperial Germany 1867-1918 Politics, Culture and Society in an Authoritarian State. By Wolfgang J. Mommsen, *London, Arnold, 1995, p 304, £ 14.99, ISBN 0-340-59360-1.*

Many books have been written on the history of this period of Germany which, unfortunately, have all been under the giant shadow of the Iron Chancellor, von Bismarck. As the author Dr. Mommsen, an eminent historian and Professor of History at the Heinrich Heine University, Dusseldorf Germany, writes, "At no stage of its existence did the German Empire cast aside the traces of its authoritarian origins in the masterful power politics of Bismarck." In this book, which comprises of a series of essays written over a period from 1973 to 1991, the author has looked at this era of German history differently.

His essays depict the German Empire as a System of Skirted Decisions, wherein he has shown the reasons for this dominance over the social history of that period. He has highlighted the emergence of the power of the Prusso-German state and how it came to overpower the older cultural traditions. It effected all areas be it international relations, the economy, internal politics, arts and education.

The Industrial Revolution came late to Germany. it changed its economy from agrarian to a leading industrial power in the world. It led to an aggressive foreign policy and a face off with the leading imperialist nation of that time, Great Britain. This is turn affected all areas of German activity and ultimately led to the Great War. The author has highlighted the effects of the war on German economy as well as the causes that led to the demise of the Wilhelmine Empire.

This is a fascinating book and is highly recommended to all.

-- Cdr (Retd) S Varma, SC

Kashmir: Resolving Regional Conflict : A Symposium. Ed by Robert G. Wirsing, *Meerut (India), Kartikeya, 1996, p. 217, Rs. 300.00, ISBN 81-85823-13-8.*

Recently a spate of books on Kashmir, have been published, as the present status of Kashmir continues to plague the relations between the two countries and is a potential "flash point". India has accused Pakistan of sponsoring terrorism but Pakistan denies these allegations and reserves her right to morally support the Kashmiri right to self-determination.

The Centre for Asian Studies of the University of South Carolina, sponsored a symposium on Kashmir, to hear and respond to views on how the problem could be solved. This volume contains the text of eight formal presentations, plus the open discussion that followed. The presentations include two American, two Indian, two Kashmiri, one Pakistani and one international human rights perspective.

Everything said during the symposium was controversial. We are well aware of our stand point, on the dispute. It is thought provoking and interesting to read the opposite views; some of which may not be palatable. There is no denying the fact, that serious mistakes have been committed in handling Kashmir.

An interesting book, which is highly commended.

-- Maj Gen (Retd) Ram Nath, SM

Super Power India and the Indian Ocean. By Madhurendra Kumar, *Allahabad, Chugh Publications, 1995, p. 311, Rs. 500/-, ISBN 81-95613-95-8.*

The last Chief of the Naval Staff, just before retirement, drew the Government's attention, to the need of strengthening the Navy and how inadequacy of funds, was adversely affecting the force level. In 1962, the country had the traumatic experience of Himalayan blunder. The Indian defence planners must ensure, that we do not now, inflict on ourselves an Indian Ocean blunder. Naval strategist A.T. Mahan wrote in 1900, that, "whoever controls the Indian Ocean, dominates Asia. This ocean is the key to the seven seas. In the 21st century, the destiny of the world will be decided on its waters".

The importance of Indian Ocean cannot be over-emphasised. India lost its independence, when it lost command of this ocean in the 16th Century. Subsequently, in the 19th Century, the ocean became a "British lake", thus facilitating the establishment of the British Empire. The Indian Ocean has special significance to India, which has a large coastline, with vast resources in the Exclusive Economic Zone and through which trade routes radiate. The bulk of Indian trade is by sea. The militarisation of the Indian Ocean, has ominous signs for the security of our country. Though India has declared that this ocean, should remain a zone of peace, the realities of geo-political and geo-strategic imperatives, inspire little confidence in achieving this goal. However, India can play a decisive role, by being a strong naval power.

The book discusses, the strategic issues involved in the Indian Ocean region. It examines the nature and implications of super power rivalry and how it impinges upon India's security. It also examines, why a 'Blue Ocean Navy', would be of vital importance, for safeguarding India's strategic interests in the Indian Ocean.

The book would be of interest to defence strategists in particular and other readers in general.

-- Maj Gen (Retd) Ram Nath, SM

The Naval Institute: Guide to World Military Aviation 1995. By Rene J. Francillon. *Anna polis, Naval Institute Press, 1995, p. 745, ISBN 1-55750-252-8.*

An excellent, authoritative, comprehensive and single source reservoir of knowledge on world military aviation. It includes the much sought after organisation and order of battle of the various air forces, army air components, naval aviation and paramilitary aircraft of different nations of the world. It incorporates details on mission, armament, crew, sighting systems, avionics, survivability features, power plants, mass and flight performance/configurations. The reference book is profusely illustrative and diagrammatically explanatory.

Cross reference indices, aircraft manufacturers by corporate names; airforces and aircraft designations in different languages have further enhanced the usefulness of this reference work.

The book must find its rightful place in all defence libraries.

-- Air Cmde (Retd) S K Bhardwaj

The Law of International Organisations. By N.D. White. *Manchester Manchester University Press, 1996, pp. 285, £ 14.99, ISBN 0 7190 4340 9 (pbk)*

This book is under the aegis of Melland Schill Studies in International Law. It is a compendium of what goes into the making and functioning of international organisations, such as the United Nations. The author has analysed these organisations on the basis of different theoretical approaches such as the legal framework, functional, positivist, rational, relative, revolutionary and so on. The book focusses on relationship between sovereignty of the state and the various organisations involved in the decision making process particularly in the field of defence and national security. The Chapter on comparative analysis between the League of Nations (LON) and the United Nations (UN) gives reasons why the UN is an improvement over the LON. The author has also dealt with regional bodies and their relationship with the UN. In the process, doubt arises as to whether regional bodies would help stabilise the world polity or would prove to the contrary. What is clear is the dominant position of the UN over all other organisations as the final arbiter of peace and stability in international relations.

The Chapters on collective security, military measures, human rights, economic sanctions and peace keeping are informative and interesting. The author has included exhaustive details in a simple format.

-- Dr. Sudha Raman

Memory Hold the Door Ajar : Reminiscences. By K.L. Pasricha. *(New Delhi : Intellectual Press), Rs. 200/-, ISBN 81 7076 81 3.*

A true story of the grit, perseverence, honesty and sincerity to job, this book provides an insight to the functioning of administration in certain states which may well be true of other states in India. The travails of our multitude poor and the general apathy and inability of the administration to reach out to them is not unknown and yet it impacts on the reader the way it is discussed. The author is effective in presenting this aspect and the ways, of the able and not so able government workers, in the gigantic administrative machinery of the country.

The narration is an excellent blend of self experience and an objective analysis of governance in India.

-- Dr Sudha Raman

Additions to the USI Library for the Quarter - Ending March 1997

(The books reviewed in October - December 1996 issue have been added to the Library during this quarter but not shown in this list)

Ser No.	*Author's Name*	*Title*	*Year*
		Air Force	
1.	Builder, Carl H.,	Organizing Training and Equipping the Air Force for Crises and Lesser Conflicts	1995
		Arms Transfer	
2.	Singh, Jasjit (*ed*),	Conventional Arms Transfers	1995
		Biography	
3.	Bose, Sisir K and Bose, Sugata (*eds*),	The Essential Writings of Netaji Subhas Chandra Bose	1997
4.	Palit, DK (Maj Gen),	Major General AA Rudra: His Service in Three Armies and Two World Wars	1997
		Defence	
5.	Jane's Defence Weekly,	World of Defence - 1995	1997
		Espionage	
6.	Parkash, Ved (Lt Col),	The Samba Spying Scandal : (Spies they were not)	1996
		Human-Rights	
7.	United States-Congress,	Country Reports of Human Rights Practices for 1996: Report Committee on International Relations - U.S. House of Representatives and the Committee of Foreign Relations - U.S. Senate	1996
		I.N.A.	
8.	Sareen, T.R.,	Japan and the Indian National Army	1996

India-History

9.	Taylor, P.J.O., *(ed)*,	A Companion to the 'Indian Mutiny' of 1857	1996
10.	Nanda, Ravi (Col).,	Preparing India for the Next Century	1997

Indian Army

11.	--	The Indian Army: United Nations Peace Keeping Operations	1997
12.	Rosen, Stephen Peter,	Societies and Military Powers: India and its Armies	1996
13.	Sharma, Gautam (Lt Col),	Nationalisation of the Indian Army 1885-1947	1996

Indian-Ocean

14.	Indira Gandhi Memorial Trust,	The Making of an Indian Ocean Community (Fifth Indira Gandhi Conference)	1996

Gulf War-Lessons

15.	Cordesman, Anthony H.,	The Lessons of Modern War-Vol IV: The Gulf War	1996

Kashmir

16.	Rahman, Mushtaqur,	Divided Kashmir: Old Problems, New Opportunities for India, Pakistan and the Kashmir People	1996
17.	Naqash, Nasir A.,	Kashmir: From Crisis to Crisis	1997

Memoirs

18.	Singh, Giani Zail,	Memoirs of Giani Zail Singh: The Seventh President of India	1997

Nuclear Non-Proliferation

19.	United Nations,	The United Nations and Nuclear Non-Proliferation	1995

	Nuclear Power	
20. Gjelstad, Jorn and Njolstad, Olav (eds),	Nuclear Rivalry and International Order	1996
	Nuclear Test Ban Treaty - India	
21. Pande, Savita (Dr.),	India and the Nuclear Test Ban	1996
	Reference Books	
22. Far Eastern Economic Review,	Asia 1997: A Year Book, A Review of the Events of 1996	
23. --	Manorama Year Book 1997: Thirty Second Year of Publication, 1997	
	Singapore Mutiny	
24. Sareen, T.R.,	Secret Documents on Singapore Mutiny 1915	1995
	Somalia - Operations	
25. Allard, Kenneth,	Somalia Operations Lessons Learned	1995
	South Asia	
26. Rupesinghe, Kumar and Mumtaz Khawar *(eds)*,	Internal Conflicts in South Asia	1996
27. Bhargava, Kishore Kant and others. *(eds)*,	Shaping South Asia's Future: Role of Regional Cooperation	1995
	Technology	
28. Griffith, Paddy,	The Ultimate Weaponry	1995

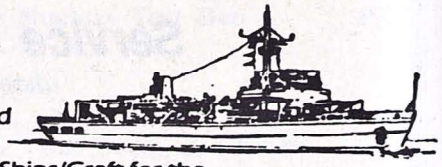
Service to the Services

CANTEEN STORES DEPARTMENT

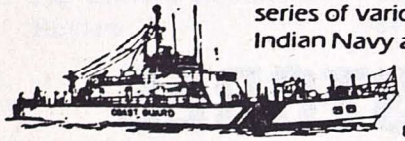
"ADELPHI"
119, MAHARSHI KARVE ROAD,
BOMBAY - 400020

IN PURSUIT OF ENHANCED CONSUMER SATISFACTION TO OUR VALIANT ARMED FORCES

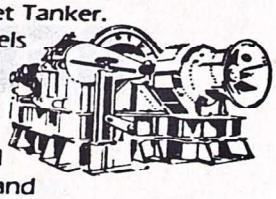
Towards National Growth and Self Reliance



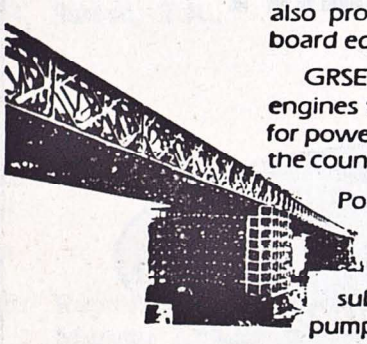
As a defence shipyard, GRSE is currently engaged in the construction of a series of various types of Ships/Craft for the Indian Navy and Coast Guard.



GRSE has the capacity to design and build ocean going ships up to 27000 DWT. Presently building Frigates, Corvettes, Fleet Tanker. Landing Ship Tank, Survey Vessels and Inland Patrol Vessels. GRSE also produces a variety of ship board equipment.

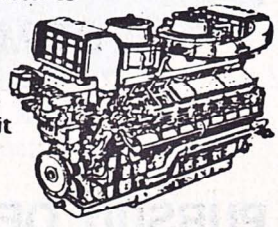


GRSE builds a range of diesel engines for marine propulsion and for power generation—the most efficient in the country.



Portable steel bridges built by GRSE are the best product of its type.

GRSE also manufactures submersible/turbine pumps for agriculturists.



The list of GRSE products is endless and GRSE's pursuit of progress is matchless.

Garden Reach Shipbuilders & Engineers Ltd.

(A Government of India Undertaking)
43/46 Garden Reach Road, Calcutta-700024
Phone : 469-8100-13, Gram : COMBINE
Fax : 469-8150, 8144/479-2146, Telex : 021-8514, 8556