



Department of Distance Education
Punjabi University, Patiala
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**B.A. PART-I
SEMESTER-I**

**DEFENCE AND
STRATEGIC STUDIES
PAPER : WAR AND ITS
VARIOUS ASPECTS**

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**Note:- The students can download the syllabus from
departmental website www.dccpbi.com**

GUERRILLA WARFARE

INTRODUCTION AND DEFINITIONS OF GUERRILLA WARFARE-Guerrilla warfare is purely defensive warfare. It is essentially a weapon of the weak against the strong. Out of the three types of wars-conventional, unconventional and nuclear, the guerrilla belongs to unconventional wars. Guerrilla warfare is not a new phenomenon and it is assumed that it is a product of the twentieth century. Guerrillas have existed since time immemorial. Guerrilla is a member of an irregular military force fighting small scale wars. The Spanish patriot went underground after the defeat of their country and adopted harassing tactics against the regular troops of Napoleon. The Spanish called this sort of fighting as 'guerrilla', which in their language means 'small war'. Shiva ji's Marathas marauders who successfully nibbled at the Moghul's empire were among the forerunners of guerrilla warfare in India. A guerrilla takes up on himself the task of crusading for the people's freedom, rights and other liberties. A guerrilla devotes appropriate time for political indoctrination of the people. He may take up cause of agrarian reform, seeking ownership and distribution of land, thereby gaining people's support for the cause. To win over people to his side, the guerrilla faithfully follows his master's advice- "We must patiently explain, persuade, discuss and convince.

1. According to Mao Tse Tung "Guerrilla warfare is a weapon that a nation inferior in arms and military equipments may employ against most powerful aggressor and nation.
2. According to Karl Marx "Guerrilla have a distinctly modern ring, and herein they put in a nutshell, the most revolutionary theory of warfare.
3. Lt.Gen.P.S.Bhagat defines "Guerrilla movement is a controlled uprising against a Government, with methods adopted to suit the prevailing circumstances.

So we can said that Guerrilla warfare is a form of warfare by which the strategically weaker side assumes the tactical offensive in selected forms, times, and places. Guerrilla warfare is the weapon of weak. It is never chosen regular warfare. It is employed only when and where the possibilities of regular have been closed.

BASIC THREE RULES AND EIGHT REMARKS-

In order to create unity of spirit and bonds between troops and local population, there are three rules and eight remarks-

The three rules-

1. All actions are subject to command.
2. Do not steal from the people.
3. Be neither selfish nor unjust.

The eight remarks-

1. Replace the door while leaving the house.
2. Roll up the bedding on which you have slept.
3. Be courteous.
4. Be honest in your transactions.
5. Return what you borrow.
6. Replace what you break.
7. Do not bathe in the presence of women.
8. Do not search those you arrest without authority.

India has also witnessed a large number of examples of Guerrilla warfare e.g. Maharana Pratap, Shivaji Maratha, Maharaja Ranjeet Singh and various revolutionary groups against the Britishers.

TACTICS AND STRATEGY-

Guerrilla must follow the golden rules in the matter of tactics and strategy. The guerrilla depends for accurate information regarding the enemy on friendly local inhabitants. He also indulges in espionage with a view to gather intelligence regarding enemy intention, strength, and movement. “know your enemy and know yourself, and you can fight a hundred battles without disaster”.

1. When the enemy advances- we retreat
2. When the enemy halts- we harass

3. When the enemy avoids battle- we attack
4. When the enemy retreats- we follow
- 5.

PRINCIPLES OF GUERRILLA WARFARE-

War is not an easy task and for attaining victory there are some principles for guerrillas which they must follow before invading war. Guerrilla must behave informal in public like a fish in water. He is everywhere and nowhere. There are main principles for the guerrilla warfare –

1. Geographical Knowledge- Guerrilla is the son of soil and therefore is quite familiar and well-versed with the area of operation. A guerrilla must have the geographical knowledge of that particular area where they will be going to engage warfare. It is very important for a guerrilla to get whole knowledge about the area, its terrain, its environment, its weather conditions, its plus and minus point of the land whether it is desert or bushy/ forest area and hilly area. A guerrilla should not fight war in open places like desert or plain areas. Shivaji had fought successful war against the Moughals because they have full information about the place where they fought war. They could easily run to the hidden places after the attack in the hilly areas. If guerrillas have good knowledge about the area then they can fight a war on minimum lose with minimum efforts and have good chances to win the war.
2. People's Cooperation- Guerrillas can only win the war in that condition in which they have full cooperation and support from public in that particular area. Mao Tse Tung gave more emphasis on this principle because he had continued his guerrilla war in China for many years with public support. Local population is the only source who can give information regarding geographical conditions, easy food availability, easy hidden places and sometimes they can provide the spy facilities also. Without people's cooperation it is impossible for guerrillas to continue their war against enemy.
3. Mobility- Mobility is like a blood in human body for guerrillas. Guerrillas cannot fight regular war in one place, they have to do surprise attacks in different places in different timings. Secondly, Guerrillas has to follow the major policy of 'hit and run', due to this cause, guerrillas must have mobility and quickness in their task and attack. Guerrillas must have weapons of light weight and in small size for their easy movements from

one place to other place. Guerrillas must be trained in cavalry and skilled in their weapons for their quick movements after surprise attack on enemy.

4. Leadership- Great wars are only fought and won by great leaders. A good leader should be alert quickly as the situations occur in war-field. A leader must be courageous n disciplined. He must show genuine interest and zeal in his duties. The knowledge of leader must be more than his subordinates and he must convey it very well in all guerrillas. A leader of guerrillas should be loyal to his country, unit, and to his guerrillas and to his aim.
5. Surprise attack- Surprise attack is the bone of victory in the guerrilla warfare. Guerrillas has less power n less in counting with less weapons, so they have to follow the technique of surprise attack. By doing this surprise attack they achieve their target easily. Surprise attack only can be done when the enemy is not in state of fighting or he is sleeping or doing rest. In that way guerrillas follow the principle of economy of force. But in surprise attack they must ensure their own security.
6. Living conditions and routine- Guerrillas come from underdeveloped areas of the world. The life of guerrillas, like that of other natives, daily toil and struggle. His weapons are not produced in factories. He depends on captured arms, ammunition and equipments. His clothes, like his food, are obtained through his own initiatives and efforts. The guerrillas try to be self sufficient. The guerrillas do not have a fixed routine, it varies with circumstance prevailing in the area of operation. Generally he tries to get up early in the morning and prepare his food before daybreak. He is busy educating himself and train himself in weapon and social and political ideal.

PHASES OF GUERRILLA WARFARE - Mao Tse Tung was great guerrilla leader and military thinker of China. According to him, guerrilla war has three phases and successful guerrilla warfare must pass through all the phases.

First phase (strategic defensive) - This is phase or organisation, consolidation and protection of regional bases in remote, complex and difficult terrain. In this phase, admired support is build up among the people. The requirements of guerrilla are courier. Weapon- training , making of fronts and pressure group.

Second phase (strategic stalemate) - In this phase, the action turns more violent. There is a sabotage and acts of terrorism. This is a phase whereby strength and experience is gained. The second phase is marked by "hit and run" raids. Mao calls this phase as a preservation of our-selves and destruction of enemy.

Third phase (strategic offensive) - In the third phase the aim is to destroy the army forces in the field. For this the Guerrilla forces will have to transform themselves into own combat forces and take on the opposing forces in a classic conventional combat for decision. At this stage the need for much larger and varied supplies of armaments becomes acute as the intensity of operating increases. If supply of weapon is maintained by the outer sources, this phase will see success of operation. If there is a chance of defeat then guerrilla element will quickly revert to the second phase. If they are being found the solution of third phase then victory is expected. Guerrilla warfare is cheapest war for the insurgents and the most expensive for the established governments.

CHARACTERISTICS OF GUERRILLAS-

1. Guerrillas are great leaders with great mobility and quickness in their movements and decision making.
2. They have good knowledge of geography of particular area.
3. They have good faith in local population and always have public support. They are patriotic and move in public like fish in water.
4. They are always skilled in their weapons and techniques.
5. They believe in quick and surprise attack and co-operate each other in battlefield too .
6. They are well-disciplined and obey the instructions of their leader.

Conclusion- Guerrilla warfare is an armed conflict by the citizens against their government and their system for political purposes. It has become more relevant as a means of warfare as the lethality of weapons have increased, communication is more developed and media has a longer reach. A war ends only when the policy conflict that gives birth is finally settles or some other means of reconciliation found. Finally it should not be forgotten that he (a guerrilla) is not a superman

and is made like anybody else. If we understand him thoroughly, we can beat him in his own game and we can convert his positive points into negative points and can turn his victory into defeat by using counter-guerrilla activities like breaking public support, cutting external help, breaking their will to fight, by starting civil operation against them with public support. But the history of Guerrilla warfare shows that a determined guerrilla operation can never be suppressed by military power alone.

LESSON NO. 2.2

**PSYCHOLOGICAL WARFARE : DEFINITION, CONCEPT, FUNCTION
AND LIMITATIONS**

“Battles are won primarily in the hearts of men.” Montgomery

INTRODUCTION-

Psychological warfare is of ancient origin. Psychological warfare is that warfare in which the use of propaganda is against an enemy, supported by such military, economic, or political measures as may be required. Such propaganda is generally intended to demoralize the enemy, to break his will to fight or resist, and sometimes to render him favourably disposed to one's position. In the battles of ancient and medieval India, the number of elephants was primarily meant to create an impact and influence of power and strength the minds of adversaries, though the role of elephants in the final outcome of the battle remained a dubious factor. In the Second World War (1939-45), ‘war without weapons’ was popularly known as psychological warfare. The operator of psychological warfare understands the enemy's state of mind and uses the right techniques to influence the mind. Psychological warfare has given different names like war of nerves, battle of minds, diplomatic war or the strategy of terror. In present times, psychological war is major part of warfare. Psychological warfare is used to gain the main objective of the war. When a war broke out, it firstly started in the minds of those human beings who are directly and indirectly got effected by the results of war. In that way psychological warfare is an important aspect in the era of modern war. As Clausewitz had said that it is not the numbers but the spirit of an enemy that counts and it is certainly not numbers alone. The main battle involves the killing of enemy's courage than that of enemy's soliders.

DEFINITIONS-

Paul M.A. Lineberger has defined psychological warfare in the following words: “Psychological warfare comprises the use of propaganda against any enemy with such other measures of military, economic and political nature as may be

required to supplement propaganda."Eisenhower described psychological warfare as the struggle for capturing the minds of people.

Wolf and Columbious observe "psychological and attitude of target population, through both propaganda and systematic campaigns of opponent destabilization."

FUNCTIONS, AIMS AND OBJECTIVES OF PSYCHOLOGICAL WARFARE-

Psychological war costs less than a conventional war of attrition or even a small military battle to achieve a political objective. In these kinds of wars we have to use three means to conduct a war against an enemy like propaganda, rumour and brain washing.

Psychological warfare can help compensate when military means are not available or sufficient. It can lead to future usage of enemy's resources and ordnance. Even it can attract domestic support easily than military means. It should be a hard try to get the sympathy from the world against enemy and towards one's own cause and policy with the aim to receive help as much as possible through the formation of alliance. Psychological warfare acts so well to get sympathy as world support and even funds and military support.

- In psychological warfare, propaganda and rumours are used against the enemy. It is used with the other methods and techniques of war in war time situation.
- Destroying the moral of enemy
- Create disturbance, indiscipline in enemy's areas
- Create un-cooperation and dissatisfaction among soliders and public
- Give boost to ill-elements and ill-activities in enemy areas
- Growing the feeling of surrender
- Create rumour and internal dispute among enemy army and population.

In present times, mainly psychological warfare and tactics are used by those countries who are indulged in cold war. So many countries are always busy in efforts to achieve big targets with psychological techniques instead of using military means. So during peace time many nations used to follow the methods to attain their targets by psychological warfare.

- By doing friendship treaty and agreements with those nations who are the enemy of our enemy

- By creating bilateral relationships with the neighbours of enemy on economic and security and cultural grounds
- By creating internal problems and insurgency in the enemy's country
- By intruding and doing terrorist activities in their nation

TYPES OF PSYCHOLOGICAL WARFARE-

1. Strategic psychological war- this is directed at all areas under enemy control with the aim of undermining the morale of enemy civilian population and the armed forces.
2. Tactical psychological warfare- this is directed against enemy military forces and the civilian population in the battle area.
3. Consolidation psychological warfare- this is directed friendly rear areas or in territory occupied by our armed forces. Although consolidation psychological warfare includes countering enemy activities against the civilian population under our control.

"Our real war, infact all, be fought before military operations begins." Adolph Hitler

PSYCHOLOGICAL WARFARE TECHNIQUES USED AGAINST CIVILIAN POPULATION:

1. Radio- Radio is used for spreading the news and false news can be broadcasted against enemy within their country as these things had happened there. These activities are called black Radio.
2. Mails- Mails are usually used to influence the civilians negatively. These distribution was mainly used in both world wars and but it was most successful in First World War. These mails can be viral in minutes and already fearful people accept it very easily as truth.
3. Leaflets- Leaflets are used as messages to population by authority. It is working in different ways like messages of safety from their leaders, useful material to attract children and distribution of food and medicines to females and children.
4. Pamphlets- Pamphlets are thrown in public by aeroplanes. It can have any message written over paper or it can be food and goods packets for people of those areas where the supply of food and goods of basic needs has cut or lost due to war.
5. Films/Movies- Electronic media can play a very influencing role in war affected areas. Through movies and video existing government can

decrease the morale of enemy's armed forces and population and similarly can increase the morale of their own country's army and people.

6. News channels- As we are living in a modern world and day to day all news can reach at all destinations. Whether it is related to any natural calamities or health hazards or any terrorist attack. That's why news must be very frequent. It should be very clear and truthful as far as possible.
7. Speeches- It is mainly delivered by leaders and existing authority to boost the morale of their armed forces and their families. It can also help to maintain peace and cooperation among the population.

TYPES OF PROPOGANDA-

1. White Propaganda- In this type of propaganda the sources are announced by nation. Method- By radio and leaflets in open way.
2. Grey Propaganda- Sources used for this does not declared publicly.
3. Black Propaganda- Used in enemy forces and areas.
4. Strategical Propaganda- Targeted the enemy forces and areas.
5. Tactical Propaganda- Against friendly nations or alliances of enemy nation.
6. Offensive Propaganda- Against any social activity which harms our interests.
7. Defensive Propaganda- For the fulfilment of our own social activities.

RUMOURS- Rumours are made against those objectives for which war is going to fight. Rumours are that false news which is going to spread in enemy's army and population for demoralization. Every nation tries to escape their army and population from the bad effects of rumours. It is the fact that rumour is only technique which is always used against enemy. It can be viral through radios, pamphlets, leaflets etc.

LIMITATION OF PSYCHOLOGICAL WARFARE-

1. The problems of our own morale are also intimately related to psychological warfare, as human psyche is the target of psychological warfare. It is an attempt to exploit human emotions, fears, hopes, and aspiration, in a systematic immanent to create a favourable image of the sponsor and to undermine the enemy.
2. To maintain a very high standard of our own morale of armed forces and civilian population.
3. Breaking the enemy will to fight.

Our officers have also responsibilities for countering enemy psychological operation against our forces. The main requirements, for countering enemy efforts are good moral, knowledge of current affairs and an understanding of enemy psychological operations and techniques.

CONCLUSION-

In the modern times, we must know the importance of psychological warfare and in offensive operations it should be used for demoralize the enemy and smash his will to fight. Psychological warfare is an effective weapon that is used in an invisible battlefield where mind is the target and psychological actions are bullets.

Field Marshall Manek Shaw successfully use psychological warfare for securing the surrender of Pakistani troops in Dacca(Dhaka) during the 1971 Indo-Bangladesh war. Nowadays psychological warfare is a vital instrument of a national policy and it is used as a substitute of any offensive weapon/device to defeat the enemy without any man and material lose. These are the wars fought without blood but destroy many things of enemy and can compel him to surrender or to accept his/enemy's own defeat.

Lesson No. 2.3

ASPECTS of Psychological War-I

- I. Leadership
- II. Discipline
- III. Motivation

I. Leadership

Leadership is an important feature of human activity. Leadership is core/nucleus feature of a man's personality. It also exists in animal life. In old times it was said that it is an inherited position. But leaders are partly born and partly made. Leadership is the "ability to lead or cause to go along with oneself." William Slim defines leadership as "leadership is of the spirit compounded of personality and vision."

"Leadership is the art of influencing and directing men to an assigned goal in such a way to obtain their obedience, confidence, respect and loyal cooperation" - Qamar Husnain.

A US definition of leadership is "the art of imposing one's will upon others in such a manner to command their respect, their confidence and their whole hearted cooperation."

Attributes of a Good Leader

- 1. Alertness:** A good leader should be alert as the situations in war develops quickly. A leader must be well mentally. Alertness of mind helps a commander to use these opportunities at the night time and exploit the situation to his own advantage.
- 2. Bearing:** It means desirable physical appearance, dress, courage, behaviour and conduct. A leader should remember that a personal bearing will exercise a dominating influence not only with his own men but with the general public too.
- 3. Courage:** Courage is a mental state. It gets its strength from spiritual and intellectual source. The way in which these spiritual and intellectual elements are blended produces roughly two types of courage i.e.

- (I) Physical courage and (II) Moral courage.
- I. Physical courage is an emotional state which urges a man to risk injury or death.
 - II. Moral courage is a more reasoning attitude which enables him coolly to stake career, happiness and his whole future on his judgment of what he thinks either right or worth while.

4. Decisiveness: A logical thought process is essential for so many problems. A leader must, therefore, acquire the ability to make decision promptly when required. A leader's power of taking decision results from his ability to remain imperturbable in crisis. His greatest assets are the abilities to act normally in abnormal situations, to continue to think rationally, to be decisive in action when they are paralysed by fear.

5. Dependability: It means reliability and worthiness. A leader should be dependable. Soldiers may lose trust in their leaders. It takes a lot of time to establish dependability. So, one has to be very-very careful. It is like a good habit, as a child learns good habits late but bad habits very soon.

6. Endurance: It means tolerance. It is an essential trait of a leader. Time comes in a battle when the opposing forces feels that probably they are fighting a losing battle. It is at that time that battles are won or lost. The side which has that little extra endurance is the side that wins. It is the leader who has that extra endurance of mind and body that can inspire his troops to produce that extra endurance required to win battles. It is again of two types (I) Mental endurance (II) Physical endurance.

7. Enthusiasm: It is the display of genuine interest and zeal in the performance of duties. It comes from liking your job having a living interest in all facets of your work and seeing the possibilities for the development of new ideas and techniques. Jobs only appear dull routine or mechanical when they are looked at with dull eyes and dull mind.

8. Initiative: Initiative is first step lead independently. It also means acting independently. Initiative means that one does not wait for the things to happen but one has the ability to see quickly what needs to be done. Initiative is necessary in the battlefield.

9. Integrity: It means honesty, uprightness. As a leader one has to be honest not only with oneself but the men one leads and the people with whom one works. Any loss weakness in moral character will result

in losing the confidence of our superiors, contemporaries and subordinates. A leader must have a high degree of integrity.

10. Judgement: Judgment is the power of the mind to assess various factors and values quickly and often under difficult circumstances and practice. At times, a mistake or error of judgment may result into big disasters. So it is better to learn from mistakes or errors and Justice a leader should not discriminate with their subordinates. He should make justified decisions in all matters.

11. Knowledge: The knowledge of leader should be more than his subordinates. Otherwise they will not trust him. With wisdom, he can fight with all difficulties.

12. Loyalty: A leader should be very loyal to his country, unit, army and to his juniors and seniors officers. It is a two way traffic. If you are loyal towards yours companions, they will also be loyal to you.

13. Sense of Humour: A leader must possess this quality. Sometimes sense of humour helps in fear and help to ease the problems and can bring normally the tensed conditions.

II. Discipline

How to Inculcate Discipline among Soldiers:

The dividing line between a ‘mob’ and an ‘assembly’ is discipline. An army without discipline has aptly been called a ‘mob of men’. The word ‘discipline’ is derived from the Latin word ‘discipulus’ which meant a pupil, a follower especially of Jesus Christ during his life time. Discipline today in its general application means obeying, following or adhering to a code of conduct, a set of rules and time-honoured conventions written or unwritten. In our present context it means obedience the seniors and going by the traditions and rules of the Army. From the military point of view ‘discipline’ has been defined as, “to carry out the orders smilingly in the fulfilment of the mission given”. True discipline is not forced from outside. It is a habit and a way of life. When we learn to carry out the orders as our duty and not out of fear of punishment, only then we are truly disciplined. It is basic foundation on which a soldier is going to be made.

Military discipline exists on two levels: Individual and collective. Individual discipline is the basis of collective discipline. It can be inculcated among soldiers through physical exercise, intellectual training and personal examples of the senior officers. The overall collective discipline involves organisation, planning, rules and obedience.

History offers us many instances where small but disciplined forces got the better of formidable formations. Shivaji challenged the mughals might with his devoted band of disciplined soldiers. Babur overthrew one lakh strong army of Ibrahim Lodhi with only 25000 trained and disciplined men. Modern armies are better and more powerful than the irregular million of the olden times only because they are more well-knit and disciplined. How this discipline is to be cultivated among the soldiers ?

1. Discipline and Training:

The habit of discipline can easily be developed among soldiers through constant training. Howsoever brave the soldiers may be, if they do not respect and obey their officer, they are good for nothing. They can never succeed on the battle-field. Through regular training and mental exercise, discipline should be made an integral part of the soldier's daily life. Military discipline must be enforced strictly not only during wartime but also during peace-time. The officers must possess moral courage to punish those who violate military discipline. Even minor instances of indiscipline must not go unobserved.

2. Discipline and Sports:

When Nelson remarked that the battle of Waterloo was won on the playgrounds of Eton, he did not exaggerate the truth even a bit. Games and Sports are essential not so much for physical fitness alone as for the sense of discipline and co-operation they inculcate among the players. War is not an individual affair. It is a collective endeavour that requires mutual co-ordination and team-work. Playgrounds are the adult nurseries where grown ups learn the art of co-operation competition and team-spirit. Thus games should be made a regular feature of the soldiers life as their importance cannot be over-emphasised in the inculcation of discipline.

3. Discipline and Fear:

Discipline offers soldiers immunity against fear and panic. Fear springs from rumours and misinformation. Once out, it overcomes even the largest force by demoralising it. A disciplined soldier can fight and resist these forces of fear and panic more efficiently than others. Some-times even weak and wavering leadership can cause fear and panic among the ranks which may turn into chaos and disorder. It must be controlled immediately otherwise it can prove fatal. Army discipline infact depends

upon the men who lead it.

4. Discipline and Courage:

Courage, in a way, is the by-product of a disciplined life. The units known for discipline are always in high spirits and great morale. Lack of discipline leads to demoralisation and disorder. Soldiers fail to fight efficiently if they are required to do so. Often the enemy launches a lightning attack and the soldiers are taken by surprise. If they happen to be disciplined and organised, they can easily tackle it without falling into confusion and chaos. Disorganised and indisciplined units cannot face such exigencies.

5. Discipline and Leadership:

As already noted, discipline among defence forces depends mainly upon the officers and leaders at the top. An officer who is himself stranger to discipline can neither teach nor expect discipline from his soldiers. Discipline is not to be preached or taught through word of mouth, it has to be practised and demonstrated through personal example. An officer must treat his men humanely and sympathetically. Before issuing an order he must see whether it is within the reach and competence of his men to carry out that order. Undue demands and dictatorial commands often breed indiscipline. Only an unwise leader will use force and arrogance where love and persuasion can serve his purpose.

6. Enforcement of Discipline

When a soldier deliberately refuse to carry-out the orders of his seniors, violates the army discipline or behaves irresponsibly, he must be taken to task. Indiscipline must never go un-noticed and un-punished. If a recruit has not saluted his officer he should be immediately stopped and told to salute and even given some minor punishment. It will work as a deterrent upon other negligent soldiers. But only an officer with moral courage can do so. Minor incidents of insubordination and indiscipline if left un-checked can take the form of a rebellion one day.

To sum up we can say discipline and order are so indispensable and vital for a soldier as a gun in his hand. Army without discipline will degenerate into hordes of bandits and assassins. In fact our civilised life itself, in any sphere, is unimaginable without rules and discipline. Even nature observes a certain discipline to carry on its functions. With the increasing destructive capabilities of modern armies, the need for individual and collective discipline has become all the more. A self

willed man in uniform cannot be entrusted with the role of handling nuclear capabilities of modern arsenals. He will become the proverbial monkey with a matches in his hand. The only thing we can expect of such a an unruly general or a soldier is self-destruction. Saddam Hussain of Iraq has come to exemplify that specimen of indisciplined soldiers. And what he has done to his dear Iraq ?

III Motivation or inspiration

When Thomas Alra Edison, the greatest inventor of the modern times was asked the secret of his success he attributed it to 'ninety nine percent inspiration and one percent perspiration. Motivation in normal parlance is called inspiration. Inspiration plays the same vital role during war and war time. Battles are sometimes won only through the invisible weapon of motivation/inspiration. Babur is supposed to have won the First Battle of Panipat by firing the minds of his soldiers with his inspiring words. During long stretches of battles and lonely ordeals of trenches, explosions and death and maiming of fellow soldiers, soldiers do get exhausted, demoralised and depressed, especially when things are not going their way. At such critical moments, motivation is what is needed by the fighting men, to boost their morale. Their minds need to be instilled with feelings of patriotism, national ideals and ancestral traditions, to revive their fighting spirit. Many defence experts and psychologists have tried to explain the meaning and spirit of motivation/inspiration. According to Woodworth, "Motivation/Inspiration is a feeling that incites the soldiers to fight". S. S. Mathur defines it as "a motion that encourages a man to undertake the work and brings urgency in finishing it". Simply stated in military terms, motivation is an exhaustion to the soldiers through word and precept to make them do what the leader thinks proper. Wise leaders use it as a weapon to draw the best out of their men. A word of appreciation, a pat here and a smile there will induce the soldiers to perform even inconvenient jobs happily and quickly. Given below are some hints to infuse inspiration and motivate the soldiers:

1. Catering to the Needs of the Soldiers:

The soldiers going to the battlefield must possess high morale and fighting spirit. They must not carry any fear or anxiety in their mind. If they have been imparted good training, equipped with the best weapons, and their other needs fulfilled, they are bound to face the enemy bravely. It is the duty of a good Commander to look after the needs and

requirements of his men besides infusing them with dedication and sacrifice. Even prominent political personalities can motivate the forces by visiting and talking to them on the front as Lal Bahadur Shastri did during 1965 Indo-Pak War.

2. Saving Soldiers from Demoralisation:

The continuous and long drawn battles adversely affects the morale of the soldiers. Their long absence from their homes and hearts becomes a cause of worry for them. Indifference towards the wounded and sick soldiers also draws upon courage and morale of the other soldiers. Failure in the timely supplies of provisions and armaments also leads to the demoralisation of soldiers. A good officer must not allow these things to happen. In bad times when no physical facility or supply is possible even a sympathetic word of mouth is potent enough to lead the soldiers to sacrifice their lives for their motherland. The leader himself must be the first to bear all ordeals and hazards during lean time if he wants to motivate his troops.

3. Creating Confidence among Soldiers:

It often happens that the enemy tries to create fear and panic among the civilians and the soldiers, through its intruders and spies even before the outbreak of war. As is recorded in history, the Scouts and spies of Chengiz Khan would often infiltrate into the enemy ranks and frighten them with the daring exploits and canel deeds of Chengiz. In modern times this is achieved by war propaganda especially through electronic media. Thus it becomes the duty of the Government and officers to assure the soldiers that they have been equipped with the best available arms and their interests are dear to the nation. In the modern psychological warfare, the enemy might has to be belittled to create confidence among the soldiers. The self sacrificing officers inspire confidence among their men. Masses always follow the leader.

4. Respecting the Feelings of the Soldiers:

A good officer must respect the feelings of his men notwithstanding his personal status, intellect or religion. Sometimes even the religious feelings of the soldiers can be exhorted to arouse and excite them against the enemy. Care must be taken not to injure anybody else's feelings while doing so. During 1965 and 1971 Indo-Pak Conflicts, Pakistan ordained its soldiers to wage a Jehad against India to save Islam. 'Bole-So-Nihal' and 'Jai Bajrang Bali' are the war cries rooted in Indian religion. They have

always motivated our men to die for a just cause.

5. Honouring Bravery:

Soldiers showing great bravery and unique qualities of leadership must be honoured with medals and rewards. If the acts of gallantry go unrecognised, the soldiers are sure to get demoralised. The Government should be duty bound to decorate and promote the brave so that other soldiers may emulate them and get inspiration from their National Honour.

6. Providing Maximum Facilities:

Defence forces deserve maximum facilities as they are expected to lay down their lives for the sake of their motherland. Unfortunately, India failed to give any importance to this aspect immediately after Independence. Salaries of the Senior Officers were slashed and Lt. Generals were debarred from having gun-salute, many other facilities and allowances were withdrawn. Indian forces were demoralised. Its consequences we saw in 1962. Later on the policy was reversed. Today our armed men are among the best-paid and most highly-provided cadets of Indian Government Services.

To conclude, we can not over-emphasise the role played by inspiration/motivation during war time. It is an essential ingredient of the mental equipment of the soldier. Who cannot inspire and motivate his men cannot become a great leader. And if he is able to do so, he can make his men move the mountains.

**B.A. PART-I (SEMESTER-I) DEFENCE AND STRATEGIC STUDIES
PAPER-I**

LESSON NO.: 2.4

ASPECTS OF PSYCHOLOGICAL WARFARE-II

- I. Morale
- II. Fear and Panic

I. Morale

Morale is a most important element of Military Psychology. In war, morale has too much importance. It is necessary to maintain the morale of the soldiers in war because the history tells us that due to the lack of morale forces can be easily defeated. For example France was defeated in World War-II due to the lack of morale. This is the reason that morale has been included in the Principles of War.

Man has been conscious of the value of morale for centuries past. Great Military leaders like Napoleon seemed to understand the practical implications of morale and used the morale in his warriors with great success. He said that "in war the morale is to physical as three is to one." But the famous American General Marshall of Second World War has said that the importance of morale is not only three times but it has now increased to six times. Morale is more powerful than the heavy tanks-big guns and the Nuclear Weapons which have more power of destruction. In war morale is only an important weapon of soldier. The advent of total war has increased the importance of morale because total war involves on all fronts and therefore morale of military forces must have a broader and deeper basis than in the past. Today enemy with different ways wanted to decrease the morale and courage of the opponents. This type of Psychological warfare can only be checked with the help of high morale and high courage.

There are many examples in Indian History that forces win the wars due to the high morale and courage. For example, the forces of Rana Partap, Shiva Ji, Guru Gobind Singh fought against the highly organised forces due to the high morale and his courage.

In this way we can say that morale has a very important place in war because without morale forces cannot achieve success. In war the real

object is not to kill the enemy but the aim is to destroy the will of fight of the enemy.

Definition and Meaning of Morale:

Morale has been defined as "A Moral condition, especially as regard discipline and confidence". In the military sense, morale is synonymous with the will to fight and win. It is supposed to be a state of mind, with reference to Confidence, Courage, zeal and the like of a number of persons associated in some enterprise such as soldiers.

Norman Copeland has defined morale, "Morale is a Spiritual Condition. It is more than physical condition and it is more than mental condition. It cannot fairly be restricted to moral condition."

Barlet said that "Morale is an internal Discipline."

Factors Contributing to Morale:

A large number of factors together build up morale. The more important factors which contribute to morale are:-

1. Leadership: The effect of fear falls on every body and when fear take place than the need of leader arise, to guide the soldiers in the danger. A good leader can reinforce morale where as a poor leader can destroy it altogether. A good leader should be foresighted so that he can take right decision at right time while controlling his forces. Without leadership people cannot even constitute a State; without it there can be no well developed technology and without it morale is totally useless. A leader must make up his mind and frame his decisions when he comes to face the men.

2. Discipline: Discipline plays a great role in building the morale of a soldier. The army trains its men in discipline so that under proper leadership its mission could be successfully accomplished. No military unit can exist without discipline in peace and war. Undisciplined soldiers do not enjoy the confidence and respect of their fellow citizens. Discipline creates an inspiration of duty in soldiers. In this way we can say that discipline builds morale and morale helps discipline.

3. Self-Respect: Self respect is another factor which builds morale of a soldier. The spirit of self respect of a soldier prevent him to bent before the enemy in danger. Without self respect the morale or courage of a soldier cannot be maintained. When self respect exist in soldier then he do not do wrong work or mistake.

4. Self-Confidence: To keep the morale or courage high self

confidence is also very necessary. Self confidence is a moral virtue which can be created by discipline and training. Self confidence can be created only when men know their individual's qualification and capacity. The confidence in leadership can also help in creating self confidence.

There can be no proper morale where there is no self confidence. A well trained and well equipped soldier will naturally feel morally, as well as physically, superior to an ill trained and ill equipped opponents.

5. Espirit-de-Corps: The feeling of Espirit-de-Corps also plays a great role in building the morale of a soldier. The espirit-de-Corps creates love towards each other. This spirit can be created with self respect, self control and with self confidence.

6. Man Management: Man management in peace and war is an essential part of morale raising activity. Men prefer to serve in a Unit which has good man-management, resulting from advanced planning, sound organisation and continuous supervision. If the man-management is not good then the morale of the soldier will also not be high. The object of man-management is "To prepare men mentally and physically fit for battle".

7. Food and Water: If the soldier does not get food and water then his morale goes down. To maintain the morale of the soldier it is necessary to provide him with food. A soldier who is well fed feels contented and cared, his morale is automatically up. Infact Armies march on their stomachs.

8. Good Information: The effort of good news falls on the morale of a soldier. The soldier should be always aware of what is happening on the border or on the battle front. The soldier must get the news of victory. Soldiers should also be aware of the national condition of the country in war. It is preferable for "the commander to keep the soldiers well informed and also keep away them from rumours and black propaganda.

9. Good Training: Training plays a great role in building the morale of soldiers. Soldier should be trained in proper way so that they could fight battle in war. If the proper training is not given to the soldiers then it will be very difficult for them to win the war. For example in 1965 India-Pakistan war, Pakistan had sophisticated weapons but their soldiers were not trained and the ultimate result was that the Pakistani forces were badly defeated. A well trained and well equipped soldier will naturally feel superior than ill trained and ill-equipped army or enemy.

10. Recreation: Music can also play a large part in the building of morale. It is powerful means of merging individuals into a group. It removes the mentally botheration. Therefore, there should be proper arrangement of Radio and different types of games. Martial music, impressive military parades and ceremonies raise the morale enormously.

11. Family Welfare: The proper functioning of organisations like the soldiers boards, record offices at Regimental Centres and other voluntary organisation, helps the morale of the soldier in the field. If the responsibility of the family members takes the Institutions or Govt., the soldier can fight better in the war. Otherwise he would be worry about the family members.

12. Good Health: The men must be kept in perfect health. Constantly, through ceaseless supervision over their diet daily routine and medical care, good physical condition ensures equally good mental state.

II. Fear and Panic

Fear is a natural instinct of mankind. From birth to death it accompanies man in one form or the other. The child is afraid even of the darkrooms, the youngman fears the future, the grown up is worried about his children and the oldman shudders to think of death and the unknown future. Nations and countries live in fear of the external invasion, famine or epidemic. Even our globe today is threatened by the fear of environmental pollution and nuclear holocaust.

When fear is so all-pervasive even in our general life then how can we expect our soldiers to be free from it ? Moreover, they have real reasons to be afraid of. They are enlisted to become the targets of bullets and fodder for the canon. Actually the sources and causes of their fear form a formidable list. It begins with their recruitment and training. The fear of leaving their homes, getting injured during the training, failing to come to the expected mark haunt them always. Even the steel hearted soldier is confronted by many doubts and fears while going to war. The question of his own survival, the fate of his wife and children during his absence, the result of the war etc. weigh heavy on his heart. All these factors give birth to fear and panic among the soldiers.

What is this fear that hounds a man like a spectre throughout his life. Being wide spread it has many synonyms like dread, fright, alarm, panic, terror and trepidation etc. The dictionary meaning of 'fear' is an

unpleasant often strong emotion caused by anticipations or awareness of danger. Norman Copeland defines it in similar teams as 'the emotion caused by impending evil'. Fear on personal level becomes anxiety and it leads to loss of courage. Given below are some of the situations and factors that contribute to this state of fear and panic among the soldiers.

1. Ignorance of the Soldiers about Battle Plans:

Soldiers going to the battle front must be fully acquainted with the tactics and plans to be adopted there. They must be prepared psychologically for the war through inspiring words and deeds by the leaders. No room should be left for rumours and misinformation on the part of the enemy. Nothing should be concealed from the troops during emergency so that they get mentally prepared for the worst.

2. Lack of Training:

Soldiers must be imparted full training and army discipline before sending them to the front. They should also be equipped with the latest and the best available weapons. They must know the rules and techniques of battle in different kinds of terrain. The major factor leading to our debacle in 1962 Sino-Indian conflict was the lack of training in mountain warfare. Arabs had the best weaponry during the six day Arab-Israel War of 1967 but they lacked the training in their use. Pakistanis lost a number of deadly Patton Tanks simply because they did not know how to use them. A trained soldier is the least prone to fear and panic. He can foresee the dangers and difficulties inherent in such situations. A man with imagination can conquer his fears and doubts to a great extent.

3. Lack of Courage:

Before despatching troops to the war front, it must be seen that they are in high spirits and their morale is high. Exhausted and battered units cannot fight a big battle. Their courage is over-spent and they become exposed to fear and panic even under not so extraordinary situations. Good leadership, both political and professional, can play a great role in boosting the morale of their troops. A soldier's mind must be kept free from economic and domestic worries so that he may face any eventuality with equanimity. Where there is no fear there is bound to exist courage.

4. Domestic Worries:

Soldiers too are men. They also love their near and dears ones. While going to war, the minds even of the toughest soldiers are invaded by fears and doubts about their family in case they do not come back. Who

will look-after his wife and children, what will become of his house and property if he is killed ? To keep such feelings away from the fighting troops, the Government must assure them that no harm will come to their members of family and their property in case they sacrifice their lives for the sake of their country. Full pensionary benefits and other facilities will continue to be enjoyed by their survivors. The Govt. must protect their proprietary rights. Free education to their children and ensuring suitable jobs for their dependents should be obligatory for the authorities. Those who display rare courage and bravery should be suitably honoured, decorated and rewarded. Such measures will go a long way in saving the soldiers from fear and panic.

5. Rumours:

Sometimes the enemy may launch a misinformation campaign and remour/mongering in order to demoralise the rival forces. If proper care is not taken to acquaint and inform the forces with truth and actuality, they may fall a prey to fear and panic born out of false propaganda. Good officers must protect their troops against such hostile activities of the enemy.

6. Weak Leadership:

History is a witness that the Sikhs lost Anglo-Sikh Wars of mid 19th Century for want of able leadership. No doubt the wars are fought by the defence forces but they are won or lost by political leadership. A central unified leadership is essential for a war to be won. It, however, does not mean dictatorial central command like that of Saddam Hussain. Our own political leadership was quality of dithering and procrastination during Chinese Invasion of 1962. They did not protest when China occupied Tibet. Inspite of Chinese defence preparedness, on our borders, Pandit Nehru and Krishan Menon did nothing to deter them. The appointment of B. M. Kaul as Corps Commander in NEFA sector further demoralised our already ill-equipped, under-trained and directionless forces. The consequent Indian rout at the hands of the Chinese was inevitable. The dread of the Chinese might played havoc with our soldiers.

7. Long-drawn Battles:

Unduly long-drawn battles have adverse effect on the morale of the soldiers. Sometimes they feel compelled to revolt against their leader. It happened with Alexander, the Great. Travelling and riding hundreds of miles away from their homes, Macdonians had defeated Porus on the banks of Jhelum. But when Alexander ordered them to advance further eastward, they

refused to oblige and raised a banner of revolt. Wise commanders must go on shifting their men on active war duty. Fresh contingents must be moved in to supplant the zeal and ferrous of the forward lines.

8. Defective Military Organisation:

War is an art. Like all other arts, it needs careful and conscious planning and organisation before hand. Off hand and haphazard wars usually lead to confusion and chaos. The recent American war in the Gulf is likely to remain a glowing example of military organisation and planning for a long time to come. The timely supplies of provisions and arms and ammunition will have to be assured during war days. Nobody can fight empty-handed and empty-bellied. Disruption of the supply line is the easiest method to create fear and panic among the soldiers. In the absence of mountain tracks and roads, Indian soldiers could not get timely supplies of men and material during their conflict against China in 1962. The result was for everybody to see. Poor military organisation and weak leadership had condemned India to utter humiliation. Our soldiers were frightened and even the Generals fled the battle-field.

These were the factors responsible for bringing fear, and panic among the fighting men during war time. A wise General can take one from them. If he follows these DO's and DONT's he is sure to present his soldiers from falling easy prey to the deadliest enemy of courage namely fear and panic. Once fear overtakes then there is no stopping of chaos, confusion and destructions. Many winning situations have been lost in history on account of this invisible force that tears apart the strongest heart.

LESSON NO. 2.5

NUCLEAR WAR-I**Introduction**

The war in which nuclear weapons are used is called nuclear war. The war which broke out in 1914 became a total war. The Second World War was also in the shape of a total war but went a step further towards the end of this war, the Americans dropped atom bombs over Japan. The word 'atom' came into use after that, which subsequently was called 'nuclear' also. Atom or nuclear weapons can be in the form of missiles, rockets, bombs, artillery shells or mines. They can either be small or big in size, they can either be having long or short range. When any of these weapons having an atomic or nuclear energy, is used, it will be called nuclear war. With the use of atom bombs in World War II, the nuclear era started. The biggest fear of the nuclear era is that any country resorted to the use of nuclear weapons, there would be unlimited destruction of men and material.

First Experimental Atom Bomb—16 July 1945

The Americans exploded their first experimental atom bomb on 16 July, 1945 in the South of Albouquerque. It was burst over steel piller. There was a flash immediately on its explosion illuminating hills upto radius of ten miles. A heat wave and then a very severed thunderous sound travelled through the valley. Immediately a fire-bell rose up and there a mushroomshaped cloud went as high as 40,000 feet. The steel piller had completely melted and disappeared. The desert which was all round became like glass. This was the effect of the first experimental atom bomb. One can easily have a guess as to the amount of destruction such a bomb could have caused. It was decided to use this type of bomb in war.

First Atom Bomb for Military Purposes—6 August 1945

While using the atom bomb for the first time in history for military purpose, the Americans released one over the town of Hiroshima in Japan on 6 August 1945 at 8.15 A.M. at a height of 20,000 feet. The explosive force of this bomb was equivalent of 20,000 tons of TNT. The public had no warning about this bomb. Every one was taken by surprise and no one could go into

any place of shelter. Instantly, an area of four square miles in the heart of the towns was completely burnt and destroyed. Out of the total population of 343,000 of the town, 66,000 were killed at 90,000 wounded, 67 per cent of the buildings in the town were damaged or destroyed. The average population per square mile in the area which came under full and direct effect of the bomb was 35,000 out of which 32,000 per squares miles were killed. This proportion of casualties was very high compared to what conventional bombardment achieved in thickly populated city of Tokyo where out of the average population per square mile of 1,30,000 only 11,800 died. It is apparent that the atom bomb provided to be much destructive than the conventional one. It opened a new chapter in the history of warfare. The second atom bomb was exploded over Nagasaki on 9 August, 1945 at height of 20,000 feet. The bomb had the same explosive force as the one dropped over Hiroshima, but the loss caused to men and material was comparatively low due to the town being smaller and its terrain 39,000 were killed and 25,000 wounded, 40 per cent of the buildings were damaged. The Japanese completely collapsed as a result of the destruction caused by this new weapon and immediately sought armistice resulting in unconditional surrender.

Measuring of Nuclear Force

The explosive force of the nuclear bomb is defined in term of tons of TNT which is the energy used for exploding conventional bombs. The more the TNT in a bomb, the bigger is its explosive force. There are only a few ounces of TNT in a conventional weapon. If the explosive force of a nuclear bomb is worth thousands of tons to TNT 1000 tons is referred tons as kiloton (KT). Ten thousand worth of TNT is referred to as a Megaton (MT). A 10 KT bomb is therefore, the one having explosive power worth 10 thousand, tons of TNT. Accordingly, the bomb exploded over Hiroshima was a 20 KT bomb.

Effects of Nuclear Energy

If nuclear power is let lose in great quantity, a fire-ball of gases creating intense heat and blast is created. The fire-ball grows bigger very quickly and goes up very high in the atmosphere. The gases spread all round in great intensity and with speed thus creating a wave of very powerful blast. Because of all these actions there are four main effects of the nuclear explosion, that is flash, heat, blast and nuclear radiation.

(1) Flash :- The first outcome of a nuclear explosion is the bright of flash light. The flash comes into being immediately as a result of the heat and

is very glaring. It disappears gradually. It glares many times more than the sun. It is so bright initially it is impossible to look towards it but after two seconds one can look direct at it. The initial flash can dazzle man, result in temporary loss of night vision or produce permanent retinal burns.

(2) Heat :- Nuclear heat, also called thermal radiation is released by the blast. The thermal radiation travels at the speed of the light in straight lines. It is absorbed by the surrounding area and results in heating the objects. The thus converted heat produces burns on personnel, fires in cities and forests and ignition of any other combustible material.

(3) Blast :- A high pressure wave is created by the explosion of a nuclear bomb and travels at an immense speed outward from the burst. This blast effect causes great damage to men and material. The height of the burst determines the extent of damage that the blast can cause. If the burst is at a high height, the distances at which soft targets (motor vehicles, buildings, men) are damaged, increased. If at a low height, the distance for damaging hard targets (tanks, artillery pieces, concrete construction) is increased. Casualties are caused to personnel due to collapsing of the buildings, debris, flying glasses and other such material. Normally the blast pressure is 1.03 kilograms per square inch.

(4) Nuclear Radiation :- Nuclear explosion emits nuclear radiation which produces devastating effects, like the thermal radiation, travels at about the same speed as light in straight lines. It has a very great penetrating power. It contaminates the air space over whole of the area of its spread and the object also absorbs it. It causes casualties amongst personnel.

Destructive Power of a 50 MT Nuclear Bomb (MT means Mega Ton)

It has been estimated that a 10 MT bomb is capable of destroying an area of 400 square miles. A 50 MT bomb will cause damage as under :—

- (1) If blast is on the surface of the earth, severe damage will be caused to buildings upto a radius of 14 miles.
- (2) If burst at a height of 10 miles, it will burn naked skin upto a radius of 70 miles.
- (3) If burst at a height of 30 miles, those look direct at the fire-ball from within radius of 300 miles will become victims of retinal burns.
- (4) In the down-wind direction from the point of burst nuclear radiation will spread upto 500 miles and 50 per cent of the personnel who remain exposed to it for four days are likely to

die.

- (5) If burst underwater at a depth of 2700 feet, waves 20 to 500 feet high will be produced 100 miles away; 4 to 5 feet high upto 400 miles.

Such a burst can be resorted to for forcing flood water into nearby cities; it will also spread nuclear radiation causing casualties to personnel.

Both the United States and Soviet Union are capable of producing 100 MT bombs and also of delivering them through bombers and long range missiles. The destruction which can be very well imagined.

The Race for Nuclear Power and Technical Developments

The other nations also concentrated on producing nuclear weapons after the Americans dropped their first atom bomb over Japan. Russia was far ahead to them in this venture. There was naturally a race between America and Russia to surpass each other. The result of the race during the first twenty years of the nuclear era are given below :

(1) 1945-49 :- American had taken the lead by exploding the first atom bomb in 1945 and managed to retain this lead for four years. In 1946, the Americans exploded a nuclear bomb, as experiment underwater in South Pacific. The same year in August, they created an Atomic Energy Commission (AEC) and they entrusted to it all the work connected with nuclear energy. This commission continued experiments on and development of nuclear weapons. They gave due consideration to the possibilities of the use of nuclear energy for peaceful purposes also. A number of experimental explosions were carried out in the Pacific. Then Russia, England, France and China also came into the nuclear field. They carried out their own experiments. But Russia was ahead of the other three nations and exploded their first nuclear bomb in September, 1949. This brought the Americans monopoly to an end. Russia started the catching up with American in the race and both the big powers concentrating still more towards the development of this weapon.

(2) Production of Hydrogen Bomb :- In the beginning of 1950, the public started hearing of another type of bomb which came to be called as hydrogen super fusion or thermonuclear bomb. So the progress in scientific research in the years following World War II led to the product on this new and still more powerful bomb.

(a) American Hydrogen Bomb—1 November, 1952

In May, 1951 the Americans exploded in the Pacific, bomb which contained hydrogen explosive. On 1 November, 1951, they exploded their real first-

Hydrogen bomb as an experiment. The explosive power of this bomb estimated to be 5 to 7 M.T. One island completely disappeared as a result of this explosion and there occurred in its place a crater 175 feet deep and of one mile radius.

(b) Russian Hydrogen Bomb—12 August, 1953

Russia could not sit back when America was making such a fast progress. The Russians also worked on a Hydrogen bomb and exploded one on 12 August, 1953. This bomb was much lighter than the American one and could be carried and delivered by one air craft. It was also cheaper. Its power was about 20 M.T. that is 4 times that of the American bomb and 100 times that of the one-dropped at Hiroshima. This bomb was so powerful that it was capable of causing destruction to an area of 150 square miles and creating heat in an area of 800 square miles. Apparently Russia overtook America in the race for nuclear weapons.

(c) American Hydrogen Bomb—26 March, 1954

America exploded another hydrogen bomb on 26 March, 1954. It was small enough like Russian's to be carried in one air craft.

(3) It was estimated that in 1961, Russia had 1000 M.T. worth nuclear bombs and America had about 30,000 MT so America had ten times more than Russian nuclear power. England also had experimented on a hydrogen bomb by 1960. China carried out an experiment of hydrogen bomb on 6 October, 1964.

(4) Missiles and Spacecrafts :- Russia took a lead over America in the missiles and spacecrafts. Both these weapons are discussed later in this lesson.

Fission and Fusion

The nuclear bombs initially made were called fission bombs. The hydrogen bombs came to be known as fusion bombs. The difference between two is explained under :-

(1) Fission :- It is a process which involves spontaneous splitting (fission) of a heavy nucleus into two or more heavy nuclear. It contains uranium or plutonium as too heavy nucleus which explodes simultaneously if a specific amount of a material, called the critical mass is assembling. Therefore, there is a limit to the amount of explosive of the weapons.

(2) Fusion :- This process, involves the union (fusion) of two light nucleus to form a heavier nucleus. The fusion reaction is started by heating the material to such a temperature that nuclear energy is released in an

amount sufficient to continue the reaction with explosive violence. This process is also called thermonuclear reaction because heat is required for it. The fusion bomb has an unlimited amount of explosive in one weapon; that is why fusion bombs are hundred times more powerful than the fission bombs.

Means of Carrying Nuclear Bombs to the Target :

(1) Gun :- Only small shells can be fired through guns and, therefore, the destructive power of such shells is comparatively small. But they can be depended upon for accuracy and reliance.

(2) Free Rocket :- It has a longer range than the gun but is less dependable for accuracy and reliance. The accuracy decreases with increase in the range.

(3) Guided Missile :- Preparation for firing a guided missile takes long time. The success of its use is less certain than the gun and free rocket. It has a very long range which results in diminishing accuracy.

(4) Aircraft :- The aircraft has a fairly long range and can carry any type of bomb, it can be depended upon for accuracy. The employment is dependent upon a number of things for example weather, enemy's hostile action and problems, regarding guidance.

(5) Spacecraft :- It has a high speed and can be kept in orbit for a long period. It can carry a number of big bombs. Because of its height and speed its accuracy is adversely affected.

Prepositioning :- A nuclear bomb can be positioned at the required place in advance. It can then be exploded at the required time by using time fuse. If the time fuse is not used, it should be possible to approach the target area at the time when explosion is desired.

Missiles

Introduction :- The development of the missiles and rockets is attributable to the Chinese. The guidance of missiles made a start in the Nineteenth century when an effort was made to guide the Tarpedo. The Germans made guided bomb in World War I and they paid a lot of attention towards this weapon between the two world wars. The Germans took a great lead in the development of missiles in the Second World War. They brought bombs and V-2 rockets into use. The Americans started taking interest in this weapon in 1940 and used guided bombs in Europe and Burma. All the countries concentrated on the development of missiles on coming into being of the nuclear era. A missile can be fitted with either a nuclear or

conventional war-head. There is no requirement for an aircraft in the use of missile. A missile cannot come back to its base and is, therefore meant for one flight only. There is no requirement for landing ground for a missile, as required for an aircraft.

Types of Missiles :- From control point of view, missiles are of two types :

1. Ballistic Missile :- It is that missile which keep on travelling like an artililery shell for most of its flight. During the initial stage of its flight, the rocket motor provides the power to it and it can be guided. When the engines burn-out they fall away and the warhead keeps on going. No guidance is then possible. A ballistic missile is capable of going high into space and then it comes down at a great speed thus marring the defence very difficult.

2. Guided Missile :- The guided missile is powered by its engine throughout the flight and it can be guided right upto the target. It is a sort of pilotless aircraft. Comparatively if flies low and travels slowly.

Classification of Guided Missiles :- The missiles can be launched from the air surface of the earth or underwater. Their targets can be in any of these three places. The missiles can, therefore be divided into the following classification :-

1. Aircraft-to-Air (AAM)
2. Air-to-Surface (ASM)
3. Air-to-Underwater (AUM)
4. Surface-to-Air (SAM)
5. Surface-to-Surface (SSM)
6. Surface-to-Underwater (SUM)
7. Underwater-to-Air (UAM)
8. Underwater-to-Surface (USM)
9. Underwater-to-Underwater (UUM)

These missiles can either be for offensive or defensive purpose. Offensive missiles are described first.

Offensive Missiles

(1) Inter-Continental Ballistic Missiles (ICBM) :- ICBM is a strategic missile. It has a very long range; over 5000 miles. It can be fired from the continent over the oceans into another continent. Both America and Russia have made a great progress in this type of Weapon. China is also making

an effort to catch up with them. Any of these countries can fire the missile from its mainland into any of the two countries. The ICBM so far developed are, America-Minuteman Titan and polaris and Russian-Sark, Sart and Sasis, Polaris, Sark and Sasis are USMS.

(2) Long-Range Ballistic Missile (LRBM) :- This is a strategic offensive weapon. Its range is over 3000 miles. England had produced Blue streak as LRBM.

(3) Intermediate-Range Ballistic (IRBM) :- This also is a strategic offensive weapon. Its maximum range is about 1500 miles. American Ther and Jupiter are examples of IRBM.

(4) Medium-Range Ballistic (MRBM) :- This is a tactical offensive weapon. Its range is 50 to 250 miles. It is to bombarded distant tactical targets of direct importance to and directly affecting land operations. Such missiles can be called high level artillery. This provides such a weapon to a commander of ground forces as he can use at his discretion. Americans have produced Sergeants and Pershing and the Russians-T7A.

(5) Short-Range Ballistic Missile (SRBM) :- This is also a tactical offensive weapon with a range of up to 62 miles. This missile of two types :

(a) Short Range Assault Missile :- This missile has extended the range of older antitank weapons such as bazookas, recoilless guns and rifles, grenades. It has a great hitting power. These missiles are normally mounted in vehicles which have good cross country performance and then fired either mounted on vehicle or from the ground. Their battle effective range is 1750 to 8250 yards. American missile is Dart.

(b) Field Artillery Missile :- This missile is to extend the range of field artillery. It is used to attack ground targets in conjunction with a conventional weapons. Americans have honest John and Russians have T5B and T5C.

(6) Air-to Surface Missiles :- The accuracy of the bomb cannot be relied upon when it is dropped by the aircraft from a height. If the aircraft throws the bomb by getting closer to the target, its own safety is in danger. Solution has been found in the aircraft launching a guided missile from distance so that its accuracy is assured and the aircraft remains at a safe distance. Air-to surface missiles were, therefore, invented Azon, Ranzon and Tarzon were ASM in World War II. A great progress has since been made in this respect. How the America is have Wingtail, Crossbow and dog and the Russian have Kernel.

(7) Anti-Submarine Missiles :- Missiles have been manufactured to destroy submarine. Americans have got Rur-5A which is a SUM and subroce which is an UUM

Defensive Missiles

1. Surface-to Air Missile :- The aircraft has attained very great speed and the anti-aircraft weapons cannot successfully engage the modern aircraft. A need was, therefore, felt of such a missile that would destroy an aircraft at great heights. SAM was invented. The Americans have Hawk, Nike-Hercules and Nike-X and Russians have M-a and Golash be used against the enemy's aircraft.

The problems then arose neutralizing the ICBM, after they had been launched by the enemy. Nike-Hercules was used in an experiment and it successfully destroyed a missile at a height of 19 Miles. This missile is now in the American Nike-system to destroy enemy's missiles. Nike-X proved to be capable of still better performance. Its range is 200 miles and can reach the height of over 20 miles. It has further strengthened the Nike-system.

With a way found to destroy the air-coming missiles. It became necessary to make improvements in the methods of missile attack. A rocket of the type of multiple re-entry vehicle (MRV) came into existence. A number of war heads launched in this rocket and they, before reaching the target, depart from the rocket and go towards different targets. One missile is required for tackling each of those warheads. Not only does its increase the cost of defence but also the chances of the warheads getting away without being destroyed. More than 20 warheads can be sent in Titon.

2. Air-to-Air Missiles :- It is primarily for the self-defence of the aircraft. The bomber aircraft make of such missiles to protect themselves from enemy's aircraft. Americans have Falcon and Russians have Anab and Atol.

LESSON NO. 2.6

NUCLEAR WARFARE-II**Tactical Nuclear Weapons**

A number of the missiles mentioned above are weapons for tactical use. Such weapons can be used by military commanders in the battlefield to achieve their aims and take advantage of tactical situations. These commanders will have the discretion to use them in the method and at the time desired by them.

The nuclear bombs which were manufactured initially were for dropping in the enemy's territory and were strategic weapons. There was a rapid and vast development of such weapons and only a few of them could destroy big cities. Gorden Dean, who was the Chairman of the American Atomic Energy Commission from Feb 1950 to Jun 1953, advised that nuclear weapons should be made for tactical use also. Kissinger, who was then Professor in Howard University, stated that total war should not be relied upon as the only solution. He also emphasized that tactical nuclear weapons should be manufactured with the hope that the wars may remain limited. The big powers gave a serious thought to this proposition and started manufacturing nuclear weapons for tactical uses also. Medium-range and short-range ballistic missiles were developed. A number of missiles are mentioned above under offensive tactical missiles; these are weapons for tactical use. Such weapons can be used by military commanders in the battlefield to achieve their aims and take advantage of tactical situations. These commanders will have the discretion to use them in the method and at the time desired by them.

Neutron Bomb

USA tested a neutron warhead in 1977. A neutron bomb is essentially tactical, as opposed to a strategic, weapon designed to incapacitate, and subsequently kill through instant nuclear radiation, while causing minimum blast damage to buildings and equipment. USA did not give up production of neutron bombs ignoring Soviet requests and protests. In 1981, Soviet Union also tested the neutron bomb and started producing neutron

bombs.

Three Generations of Nuclear Weapons

The first bombs and warheads developed in the late 1940s and 1950s are referred to as first generation of nuclear weapons. Combat and powerfull warheads developed for SLMBs and ICBMs form the second generation. The third generation has brought in electromagnet pulse (EMP) and X-ray laser (Xaser).

Theories of Nuclear Warfare

When nuclear power became to be a weapon to reckon with, whole of the world became anxious to find ways and means to save itself from their powerful weapon capable of complete destruction. Every one knows that the use of nuclear weapons will result in complete disaster and annihilation of all the belligerents and neutrals also. The solution, therefore, lies in avoiding nuclear was. USA and USSR, which had been recognized as the two big powers having extensive energy, started giving thought to the theories of nuclear warfare. The commonly known theories of nuclear warfare are discussed below. Two theories, deterrence and massive retaliation, deserve careful study.

(1) Deterrence :-

The concept of deterrence is a weapon of national policy through which one country deters another country from indulging in such military or political action which is not favourable to it. Such a weapon had been in use in the old times also. In modern times the concept of deterrence has become a sort of strategy. In the beginning of the 20th Century, the Germans started increasing their naval power considerably. The British started building up their naval strength to be double of the Germans with a view to deter them. As a result, not only did the British Navy become very powerful for World War I, but also its had a great deterring effect on Germany.

With the coming into use of nuclear weapons, the theory of deterrence has taken a new shape and has now special meaning. Andre Beaufre has said, "The object of deterrence is to prevent an enemy taking the decision to use armed forces; put in more general terms. This means compelling him, when faced with a given situation, to act or react in the light of the existence of a set of dispositions which constitute an effective threat. The result, which it is desired to achieve, is therefore a psychological one and it is sought by means of threat". So the aim is achieved through holding out a threat. Herman Kahn has said, "Strictly speaking, the word

'deterrence' means dissuasion by terror". Mr McNamara, the Secretary of State of America, in 1969 said, "The cornerstone of our strategic policy continues to be to deter deliberate nuclear attack upon the United States and its allies." Essential points of deterrence are :-

- a) **Intention to Retaliate** :- A nation should have the capability to retaliate and, at the same time, make it very clear that capability would be made use of. The capability and the intention should be advertised but commensurate with security. The prospective enemy has got to be convinced that the threat is not a bogus one and that it would be given a practical shape. Such a threat can be effectively conveyed through the statement of a responsible politician or government official. The announcement of the strategy of "massive retaliation" by John Foster Dulles, US Secretary of State, in 1954 had a salutary, credible and deterrent effect. The usual threat by Khrushchev used to be, "We shall bury you". It is only such credible threats which create the desired psychological effect.
- b) **Credibility of Threat** :- Mere statement mean nothing unless the one who attempts to create threat is strong enough to carry it out and the opposite party is convinced of such capability. He should also be convinced that it is not a verbal threat and that the other party has got the intention and capability to carry out the threat. Two points, therefore, mainly make a threat credible; the power (capability) and the determination to use it. Public opinion has got to be very strong so that there is no doubt regarding the determination of the nation. When President Kennedy of America gave an ultimatum to USSR during the Cuba crisis, the Russians fully well knew that the ultimatum was backed by American public opinion and about their determination and that America would carry out its ultimatum. So the deterrence worked.
- c) **Capability to Retaliate** :- The capability has got to be such that the enemy should know that his adversary has got the power to inflict more damage on him than he himself might inflict on him by taking the initiative. Nation should, therefore, have the capability to withstand the havoc the enemy creates as a result of his nuclear first-strike and the capacity to hit back that have the capability for a credible second-strike. The retaliation must have the element of assured destruction.

(2) **Massive Retaliation** :-

The phrase, "massive retaliation" was used by Jone Foster Dulles on 12 Jan 1951. He said, "Local defenses must be reinforced by the further deterrence of massive retaliatory force"; the term "Massive retaliation"

was derived from this sentence. He was of the view that, "A potential aggressor must know that he cannot always prescribe better conditions that suit him. The way to deter aggression is for the free community to be willing and be able to respond vigorously at places and with means of its own choosing". This meant having a great capacity to retaliate. Dulles initiated the theory of "Massive retaliation" and he emphasized that there is no point in fighting limited wars on the pattern of Korea. He declared that his country would use nuclear weapons in "Massive retaliation" if provoked. He believed in the capacity to retaliate instantly being a great deterrence. USSR also built up its nuclear power as a result of the American new strategic concept. They became capable of indulging in equally massive retaliation. USA then abandoned this theory and adopted "Graduated response" which aimed at obtaining a balance in both the fields; nuclear and conventional.

(3) Preventive and Pre-emptive War Theories :-

These theories are known to have been thought of by USA. The preventive war has been defined as a nuclear attack which does not wait for any visible provocation or any other covert aggression from the enemy. It is to take premeditated initiative to destroy the enemy's strength in general, and strategic air power in particular. The concept of the pre-emptive attack is an off-shoot of the preventive war. It was to be the first phase in the development of an offensive strategy. Whereas preventive war seeks to destroy the enemy's military potential in a surprise first nuclear strike without any signs of aggressive designs from the enemy, the pre-emptive war theory claims some sort of moral, though vague, justification inasmuch-as it is launched only on signs of enemy's impending nuclear strike. Defining it, Bernard Brodie said, "Pre-emptive attack envisages a strategic air attack by the United States only after the Soviet Union has already set in motion its own strategic air attack, but before that is consummated and preferably before it gets well under way." In the pre-emptive attack, the time is very short and it is not unlikely that wrong signals about enemy preparations are picked up and a false alarm sounded for an irrevocable nuclear attack.

(4) Counter Force and Counter Value Strategies :-

The counter force strategy aims at destruction of the enemy's nuclear power in a first-strike with a view to neutralizing his retaliatory capacity. The counter value strategy aims at the destruction of centers of population and is purely defensive. The American posture was generally wedded to the concept of destroying the Soviet military installations (counter force),

whereas the USSR aimed at the destruction of the American civil population (counter value).

(5) Graduated Response :-

Massive retaliation was substituted by graduated response, that is to obtain a balance in all fields.

(6) Flexible Response :-

The strategy of flexible response was recommended by US Secretary of Defence, McNamara in 1961. This strategy has been defined as the capability of military forces to react speedily to any enemy threat or attack with actions appropriate and adaptable to the circumstances existing. It recognizes the possibility that deterrence may not work or it may not be appropriate to a given situation. McNamara told the Congress, "What we are proposing is a capability to strike back after absorbing the first blow. This means we have to build and maintain a second-strike force. This strategy was adopted by Kennedy.

(7) What is Second Strike Capability :-

Second strike capability means the capacity to hit hard after absorbing the first strike by the enemy. McNamara visualized that to attain second strike capability, the second strike force should have sufficient flexibility to permit a choice of strategies, particularly an ability to (1) strike back decisively at the entire Soviet target system simultaneously, (2) strike back first at the Soviet bomber bases, missile sites and other military installations associated with their long range nuclear forces to reduce the power of any follow-on-attack and, if necessary, strike back at the Soviet urban and industrial complex in a controlled and deliberate way.

Strategical Problems in Nuclear Era

New and complicated problems have arisen as a result of the beginning of nuclear era. There are problems for the attackers as well as the defenders. Such problems are applicable to both strategy and tactics. Only strategical problems are discussed.

1. Strategical Problems in Defence :-

It is essential that every country prepares itself for defence against a sudden nuclear attack and saves itself from its destruction to the maximum extent possible. A solution has got to be found to the following problems to be able to organize a successful defence.

- a) **National Policy :-** The primary strategical problem of the nation is the decision on the nuclear policy and on the theory of nuclear warfare

to be adopted.

b) National Morale :- Keeping up of the national morale is a big requirement and a problem during nuclear attack.

c) Capacity for Retaliation and Security of Nuclear Weapons :- The first problem is that it should not be possible for the enemy to know the exact locations of nuclear weapons so that he is unable to have direct attacks on them. Then the security of such locations should be so organized that minimum damage is done to them even if nuclear bombs fall directly over or near them. Only then will they be able to withstand the first attack and retaliate.

d) Economic Problem :- Nuclear war is much more expensive than conventional one and a lot of financial resources are needed. It creates an economic problem because of economic burden.

e) Warning Time :- Not only is it difficult but also impossible to get warning in advance about a nuclear attack. The defender must know of the impending attack to be able to be prepared for it or otherwise he will be surprised and caught off balance. He must have the required information well in time. To obtain this information is a big problem for the defender.

f) Duration of Nuclear Attack :- The duration of a nuclear attack is very short. Whole of the activity, from the attacker's side, is finished in limited time. Lack of warnings and the nuclear attack becoming effective within a short space of time, makes the other problems still more complicated.

g) Destruction of Material :- The cities are densely populated and are located close to each other. The industry in a town is concentrated at one place. Industry and buildings will be adversely affected as a result of nuclear attack. There is, therefore, the problem of dispersal and strengthening of structures.

h) Casualties to Personnel :- Nuclear bomb causes great damage to human life also. Medical care of personnel becomes a big problem. The human power suffers a decrease due to deaths.

i) Problems of Civil Defence :- A lot of hardship is to be faced as a result of destruction. Arrangements for food, removing of debris, treatment of the wounded, disposing of dead bodies, shelters for those whose homes are destroyed, and hygiene are to be made and there are a number of other allied problems for civil defence organization.

j) **Effects of the Attack :-** The atmosphere and whole of the area are contaminated due to nuclear radiation. Saving the public from the effects of the contamination becomes a big problem. In order to prevent the activities of the nations from coming to a standstill, improvisation of the systems, which have been destroyed, has to be done.

2. Strategical Problems in Offense :-

Nuclear era has not created problems for defence only but the attacker also has certain problems which he has to solve.

a) **Selection of Target :-** The biggest problem of the attacker is the selection of the targets. Priority of targets out of big cities, civil population, industry and armed forces has to be decided. Ultimate aim is to destroy enemy's country and armed forces. Highest priority is given to enemy's strength for strategic bombing, that is airfields and missile bases are bombarded.

b) **Control of Nuclear Power :-** The nuclear weapons to be used in nuclear war are kept in a state of readiness so that they can be brought into action instantly. Only then can one neutralize the enemy missiles and also attack him. Therefore, they are kept at alert so that no time is wasted. It remains a big problem that such weapons are not let off accidentally.

c) **Obliteration :-** It is a recognized fact that the military power used should be commensurate with the aim to be achieved. Only that much force should be used as will ensure achievement of the aim and not so much that it brings about complete obliteration and no human being or structure is left; the aim will also be completely obliterated. Nuclear weapons cause great destruction and the aspect of the amount of force needs still more consideration in nuclear warfare. If everything and everyone is obliterated, who will be defeated ? The attacker is faced with the problem of the quantity of force to be used.

d) **There can be no Limited War :-** There is no possibility of keeping the war within any limitations when nuclear weapons are used. If tactical nuclear weapons are used, the nuclear war is bound to go beyond those tactical limits. The result would be an all-out nuclear war. It is therefore, absurd to think that the war will remain limited even when nuclear weapons are used. When both the sides possess nuclear weapons, they are likely to be used especially in a direct confrontation and no side will be able to deter the other. The Russians were right when they said that nuclear war cannot remain limited. The attacker, therefore, has to

keep in view that there would be an all-out nuclear war even though he may use only tactical nuclear weapons.

e) Intelligence :- The attacker can ensure success only if he destroys all the nuclear weapons of the enemy in the first strike so that he does not remain capable of retaliating. This can be achieved only if the exact location of those weapons is known. Obtaining of full information about the enemy is a great problem. An efficient intelligence system is essential.