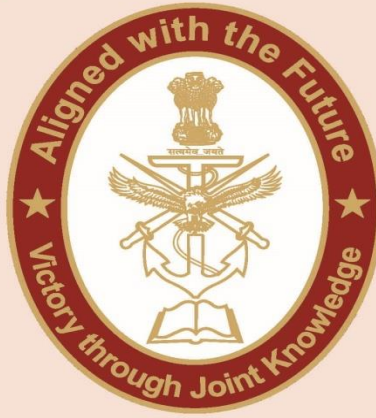


# CENTRE FOR JOINT WARFARE STUDIES



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### INCREASING COMPLEXITIES OF FORCE RATIOS IN CONFLICT



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In his seminal book 'Vom Kriege' or 'On War'; Clausewitz devotes an entire chapter to the 'Superiority of Numbers'. As he puts it, 'Strategy fixes the point where, the time when, and the numerical force with which the battle is to be fought'. Thus, by his application, it was basically the time and place of the numerical force that would determine the war strategy.

He further states that if we strip the combat of all other elements, if we set aside the valour of the troops, because that is a given constant, then there remains only the bare conception of the combat without form, in which we distinguish nothing but the number of the combatants. This number will therefore determine victory.

He was right in a way, but history has proved that more than numbers, it is their application at the right place and the right time which has shaped outcomes. Also, the enhancement of numerical strength by intangibles such as

morale, training and technology – the last of which greatly offsets numerical superiority – makes it difficult to determine the impact of sheer numbers on a battlefield. Superiority in numbers is thus, just one of the factors for victory.

Also, superiority has ratios. It could be twofold, threefold or fourfold, and increasing in this manner, it will at some point overpower everything else. But there comes a point when a large force does not guarantee victory, but can be actually counterproductive, because of problems of deployment, logistics and coordination. So, what is the size of a force beyond which it becomes excessive? The skill lies in not absolute superiority, but producing relative superiority at the decisive point at the correct time.

Force concentration became integral to the Prussian military operational doctrine, which aimed to cause disproportionate losses on the enemy and therefore destroy the enemy's ability to fight. The ratio of armed forces became the dominant factor. Concentration of force requires mobility, to permit rapid concentration and power to be effective in combat once concentrated. Both elements were present in the tank which became the decisive weapon platform in World War II.

While Commanders desire numerical superiority over their adversaries, they are not always able to achieve it. Instead, they use methods such as manoeuvre to achieve local superiority in combat power. Force multipliers; improving command and control, enhancing lethality, and seeking to possess better information than their opponents allow assets to contribute relatively more to a fight, thereby potentially offsetting a requirement for mass.

However, the past few years more emphasis is being placed on 'indirect mass; command and control, precision weapons, lethality, robust networks and superior information as a substitute for 'actual' mass. However, what happens when an adversary combines these measures with actual mass? If both sides

are lethal, networked, and effectively commanded, then what are the factors that determine the outcome on the battlefield?

Success in battle is also a function of strategy, operational employment, doctrine, training, combat experience, leadership, force structures and morale.

The US first confronted the problems of traditional force superiority being unable to prevail in Vietnam, where, it was argued that a 10:1 force ratio was required for counterinsurgencies. This has been a problem that has plagued many armies including the Israelis in Lebanon. A counter -insurgency or unconventional war, requires massive manpower - and has no clearly defined ratios, since the enemy is so intangible. It was a problem that was faced by both the Soviet Union and USA in Afghanistan (leading to their rather hasty withdrawal) and a 'surge of troops' which was often touted as the answer, did not always work.

The Russians face a similar problem in Ukraine, Russia's ongoing invasion of Ukraine is the largest armed conflict in Europe since World War II and has fundamentally altered the continent's security landscape. Before Russia's invasion of Ukraine, many observers looked at Russia's overwhelming combat power and thought Russia would achieve a quick victory. because Russia had a numerical advantages in weapon systems such as tanks, artillery, attack helicopters and planes. The Russians had numbers on their side, or more precisely a number; the 3:1 rule, the force ratio by which attackers must outnumber defenders in the plains in order to prevail. Russia, clearly, could easily amass that advantage as it outnumbered the Ukrainian many times over no matter what the key determinant was, be it infantry, tanks, artillery, air defence systems or aircraft.

The force ratios of course vary from attack on prepared defences 3:1 to attack on hasty defences 2.5:1, for counter attack on a flank it is 1:1 and change

drastically to upwards of 6: 1 for attacks in extreme high altitude areas. These calculations of course will change drastically once you enter built up areas and confront a conventional force, militias and have to deal with a civil population.

Based on historical battle analysis, the 3:1 rule of thumb suggests that attackers should have at least three soldiers for every defending soldier to overcome the defenders natural advantages and increase the probability of offensive success. An important condition for the 3:1 force ratio is that attackers' and defenders military capabilities should be qualitatively similar. If one side enjoys significant qualitative and technical advantages over an adversary, then they might secure success without meeting that rule of thumb.

As per a recent article in the Economist, 'Mariupol's grim experience holds useful lessons for armies all over the world'. While all Armies try to avoid fighting in cities, they are being increasingly being forced to do so. Urban warfare is slow and costly for the troops waging it particularly as you want to limit collateral damage to the civilian population and to key infrastructure. Over the years cities have grown in size with more people living in urban than rural areas and 'they can envelop armed forces'.

The requirement of troops is of course, much less in defence than in offensive. But while the defender has the advantage – it can be offset by the attacker by attaining local superiority in time and space. One of the major factors determining outcomes is the ability to control where and when to have decisive engagements. If in the course of battle the sides commit their reserves and redeploy forces from other sectors the constant coefficient changes and the possibilities are immense.

This has been best summed up by Sun Tzu who said; "The musical notes are only five in number but their melodies are so numerous that one cannot hear them all. The primary colours are only five in number but their combinations

are so infinite that one cannot visualize them all. The flavours are only five in number but their blends are so various that one cannot taste them all. In battle there are only the normal and extraordinary forces, but their combinations are limitless; none can comprehend them all. For these two forces are mutually reproductive; their interaction as endless as that of interlocked rings. Who can determine where one ends and the other begins?”

But these numbers are effective in a conventional conflict where things are ‘black’ and ‘white’, the outcome in a hybrid conflict or a grey zone environment is no longer dictated by the logic of these numbers. Recent conflicts, which have been characterised by blurring lines between war and peace, state and non-state actors, regular and irregular warfare, conventional and unconventional means the imponderables are many. As Robert Gates put it, “Warfare no longer fits into neat, tidy boxes. It has become more hybrid and far more complex.”

The proliferating of terrorist groups and non-state actors also poses a new threat for security forces. Countering them requires a different strategy than just numbers. As per Jennifer Kavanagh ‘the extensive influence of non-state groups that are able to act autonomously on the international stage has increased. These actors have increased in number and independence in recent years, as well as in the types of power they are able to wield. Their actions not only amplify state power but also constrain state flexibility’. These non-state groups have also used their power in ways and speeds that were not possible before social media.

The other factor highlighted by Jennifer Kavanagh is the extent to which relationships between countries serve as key sources of power that are decisive in shaping conflict outcomes. Typically, power is measured by looking at capabilities, such as military weapons or GDP. However, as globalization

and changes in technology make it cheaper and easier for goods, services, and information to flow across borders and advance interconnectedness between countries, relationships such as alliances and trade networks have become as important to any assessment of national power as capability-based measures. Ukraine has benefitted from military and economic assistance, intelligence and infrastructure support.

Then there is the issue of holding captured territory. Russia appears to have changed course to a seemingly more limited strategy of expanding its control in Eastern and Southern Ukraine. There are no exact formulae regarding how many soldiers are required, but as per a report in CSIS a 'force ratio of as many as 20 soldiers per 1,000 inhabitants has sometimes been necessary to pacify a hostile local population'. At the end of World War II, for example, there were 101 US soldiers per 1,000 inhabitants in the US controlled sector of Germany. More recently, there were nineteen US and European soldiers per 1,000 inhabitants in Bosnia in 1995 and twenty soldiers per 1,000 inhabitants in Kosovo in 2000.

Lower ratios are generally insufficient to pacify hostile populations. In Iraq, for instance, the US had seven soldiers per 1,000 inhabitants and faced persistent problems even with the help of Iraqi government forces and Sunni militia members. In Afghanistan, the figure was only one soldier per 1,000 inhabitants, along with the help of Afghan National Security Forces, the outcome is well known. The copy book remains the Indian Army's spectacular success in East Pakistan and early exit after the birth of Bangladesh but that was backed by a ground swell of popular support.

The truth that endures is that the complexity in conflict stems from the interaction with the opponent. To accept superiority of numbers as the one and only rule, and to reduce the art of war to a formula of numerical superiority at a

certain time in a certain place maybe an oversimplification. Did the Americans miscalculate numbers in Vietnam and Afghanistan and are the Russians treading the same path? There are now reports of the successes of the Ukrainian counter offensive in Kharkiv; but with the Russians having dug in with support of sizeable pro- Russian inhabitants the force ratios required to evict the Russians completely will be a definite deviation from the standard norms which may never materialise.

In the Indian context there are examples of battles where numbers were not on our side and yet we inflicted great casualties on the enemy. On 12 September 1897, an estimated 12,000 – 24,000 attacked the outpost of Saragarhi where thousands of them swarmed and surrounded the fort. Led by Havildar Ishar Singh, the twenty-one soldiers of 36th Sikhs (presently 4 SIKH) refused to surrender and were wiped out in a last stand. The battle of Rezanag La on 18 November 1962 is also a tale of valour of the Company of 13 KUMAON led by Major Shaitan Singh where the Chinese subjected the defended position to heavy artillery, mortar and small arms fire and attacked in overwhelming strength in successive waves. In 'The Monsoon War,' Amarinder Singh and Lieutenant General TS Shergill have stated that in 1965; "India took the offensive in Punjab without the usual three-to-one superiority".

While Clausewitz's rule prevailed in the first three generations of warfare which were characterised by muscular power and manoeuvre as the determinants of a conflict, the same may not be equally relevant as the world is increasingly being confronted with the fourth and fifth generation of warfare which includes both non state actors and an increasing emphasis on technology.

At its core, war is about power, who possesses it, who doesn't, and who can use it effectively. Russia has shown that it is willing to use military force to achieve its policy goals regardless of international opinion or condemnation.

Hence while we cannot eliminate paying attention to one of warfare's oldest considerations but these numbers need to be recalculated in a multi-dimensional conflict. Numbers do matter but the essence lies in how you use these numbers.

### **CERTIFICATE**

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