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# Modernisation and Transformation in the Armed Forces

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## Introduction

Armed forces worldwide face an epic challenge in keeping pace with the emerging regional and global threats and the changing battlefield milieu. The global security environment is marked by regional conflicts, asymmetric threats, terrorism and the rise of fundamentalism, as well as rapid progress in technology. The armed forces of any nation are, thus, constantly trying to evolve, to stay abreast in dealing with the myriad challenges being faced by them. The commonly used parlance for demonstrating the will to meet these challenges is to modernise/transform. However, the terms modernisation and transformation, especially when referring to the armed forces, are often misused, misapplied and used interchangeably even though they mean different things and have very different connotations.

## Modernisation and its Drivers

The Oxford Dictionary defines modernisation as “to adapt (something) to modern needs or habits, typically by installing modern equipment or adopting modern ideas or methods.” It has also been defined as

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“the process of starting to use the most recent methods, ideas, equipment, etc. so that something becomes or seems more modern.”<sup>1</sup> The modernisation process, thus, has a start point which identifies the present system/process/equipment as having become old and needing change to stay relevant, and would encompass a solution involving the intentional improvement or enhancement of the current capabilities. Modernisation in the armed forces is the practice of upgrading or adopting new technology systems/platforms to counter the emerging challenges.

Modernisation of the armed forces is a complex process, which includes fundamental changes of the capacities in order to accomplish the stated objectives. Modernisation requirements in the armed forces would amongst others, be driven by changes in the threat perception, technology, need for enhancing own capability, budgetary support, and need for cost and manpower cutting. In a dynamic and ever changing battlefield milieu, the threats are constantly changing, and manifesting themselves in different forms. The capabilities of adversaries would also change over a period, further impacting the threat perception, thus, compounding the operational challenges. To deal with these evolving challenges, the armed forces of a nation would be driven to modernise and, thus, stay current with, if not one step ahead of, these challenges.

The rising comprehensive national power of a country, actual or perceived, would increase its desire/ambition to play a greater role in regional/global matters.<sup>2</sup> Such a state must take into consideration the changing geo-strategic environment and emerging security challenges which entail expanding its sphere of influence to protect and further its strategic interests. Thus, sometimes, the requirement to modernise the armed forces may be driven by the growing ambition/stature of a country.

Technology, by far, would be one of the greatest factors pushing for change, as with time, newer technology becomes available and the technological landscape becomes flatter even for the technologically advanced nations. This, in turn, pushes nations to exploit fully the rewards

of technological development to remain dominant, and fuels the need to change and modernise. Evolving technology, thus, helps in enhancing capabilities and stimulates the requirement to modernise.

Availability of budgetary support is a big driver of any modernisation programme. The lack of it, as is usually the case, leads to prioritisation of requirements and, thus, a slowdown in the modernisation process. Modernisation in some facets may also lead to cost cuts in the long run and could prove to be less manpower intensive, thus, generating further traction for the modernisation process.

### **Transformation and its Pillars**

Transformation is defined as “a complete change in the appearance or character of something or someone, especially so that that thing or person is improved” by the Cambridge Dictionary, and the underlying difference from modernisation is that it is a complete change and not an adaption to modern needs. While, on the other hand, “military transformation can be understood in common parlance as a profound change in military affairs”,<sup>3</sup> and the armed forces need to transform and be equipped for, and trained to, meet the emerging challenges. Military transformation is not an end in itself, but it is needed for reasons of both opportunity and necessity.<sup>4</sup> A quantum increase in technology and the revolution in military affairs have ensured that the opportunity exists to exploit modern technology and garner an ability to overmatch opponents. The changing face of conflict has created a necessity for the armed forces to transform or perish as conflicts in the future cannot be fought in the manner, or with the tools, of yesteryears. Thus, remaining restricted to traditional forces will no longer be viable and the armed forces must cater for the same.

The development of transformational capabilities, processes, and force structures needs to be built using certain key pillars which would ensure that the complete process of transformation is a success. Having a clear cut transformational strategy would be one of the pillars of

any transformation process since the transformation process needs to have a clear, laid down strategy and needs to be given strategic focus to cater for emerging challenges. The keys to a transformation strategy include providing appropriate vision, defining suitable organisational responsibilities and providing specific objectives and requirements. In addition, there is a need to lay down a timeframe for the implementation of the transformational process.<sup>5</sup>

Transformation of the armed forces has to be an integrated approach at both governmental and forces levels. Thus, it would need to be driven top down and would encompass changes even in the functioning of the ministry looking after the armed forces, for example, in India's case, it would be the Ministry of Defence. At the Services level, integration would be the key for transformation and an integrated application would encompass integration and jointness in the operational, logistics, training as well as human resource development aspects.

Amongst the many factors driving the transformation of the forces, technology is going to be at the forefront, with information technology being harnessed to optimise the transformation process. In the years ahead, artificial intelligence will revolutionise warfare and change the nature and character of warfare. There will be a requirement of innovative application of technologies which would also necessitate changes in the military doctrines and operational concepts and, thus, fundamentally alter the character and conduct of operations.

Transformation of the armed forces would naturally be possible only with adequate budgetary support. Optimising technology may result in cost and resource saving in the long run; however, modernising and obtaining niche technologies would require enhanced budgetary support.

## **Elements of Transformation**

To keep pace with the emerging global threats, the armed forces must ensure they are ready to respond rapidly to prevent conflict, shape the

security environment, and win the war. Transformation is generally a function of operational necessity and opportunities available by way of budgetary support, resources, research and development facilities, and, above all, political will.

To be able to transform, at the foremost, there has to be a transformation in the thought process. While transformation in certain areas like equipment, concepts, training and others is relatively easier to achieve and easily quantifiable, transformation of the mind/thought process is more difficult to accomplish, but equally important. In today's technology driven age, we need to think differently to be able to tackle the various asymmetric and non-traditional security threats. The tackling of multifarious threats would not be by a conventional use of force on force but would require more innovative, out-of-the box solutions which would leverage the prevalent technology.

Conceptual changes would be an integral part of the transformative process. Many of the most fundamental changes require to be organisational and conceptual; primarily driven by information technology. Joint operations needs to transcend new boundaries, with theaterisation being a key aspect. Force structuring need a relook with a requirement to redefine the building blocks of the forces. Integration in the employment of space, special forces and cyber space and effective employment of information systems for information operations must be developed.

Any transformative process would encompass modernisation of equipment. The armed forces need to exploit within reach technology for opportunities and problem solving, and must keep in mind an integrated approach by all components of the three Services, to the futuristic challenges. Transformation of the armed forces would be spread over a period of time and, thus, must cater for technological advancements be it autonomous weapon systems or information technology. Modernisation should generate platforms, weapon systems, and command-and-control

systems that are designed from the outset with the expectation of frequent and sometimes massive changes, leaving room for experimental systems and iteration.

Training/human resource development would be key elements during the transformation process. The armed forces of the future are going to be technology driven, with equipment constantly evolving and developing. This would necessitate a tech savvy force with increased specialisation. The prohibitive cost of ammunition and lack of training areas would increase the reliance on simulators, requiring a complete change in the approach to training. Joint training for integrated application in operations would also be a core necessity.

Last, but not the least, would be the transformation in logistics. There is a requirement to have an integrated approach to execute logistics at the national and armed forces levels. In addition, stand-alone packages implemented by the Army, Navy and Air Force need to be integrated into a single system, which would, in turn, ensure seamless integration across and between processes, especially in the case of the Indian armed forces. The armed forces needs to transform the logistic systems by the infusion of technology, especially in the fields of inventory tracking, inventory management and energising procurement.<sup>6</sup>

## **Modernisation and Transformation**

Modernisation and transformation processes, as discussed above, are driven by different sets of drivers, albeit with some overlap, and impact the armed forces in different ways. A modernisation process could entail upgrading of a weapon system or using technology to improve an existing system or procedure and, depending on the quantum of modernisation being carried out, the impact could be limited or quite large. Transformation in the armed forces, on the other hand, would require a greater number of changes and would, thus, be more holistic in nature. The scale and quantum of change being carried out

during a transformative process vis-à-vis a modernisation effort would necessarily be much larger. Borrowing from the digital lexicon about the differences between digital modernisation and transformation, we see striking similarities as, “Digital transformation requires viewing the business through a holistic lens that factors in all variables. It’s what we call the 4Ps, that includes—People, Process, Policy, and Platform. It involves developing a new set of core values that thrive on change.”<sup>7</sup> These variables when applied to the armed forces would hold true for any transformative process being carried out.

Cost and, thus, the budgetary support required is a major difference between modernisation and transformation. Transformation in the armed forces, due to its holistic approach and larger scale, naturally, requires a much larger budget. Thus, at times, it may be more effective to carry out modernisation, keeping the amount of money available in mind and work at linking various modernisation projects. However, whether this would lead to a transformational change, is debatable.

Transformation in the armed forces should result in a fundamentally different manner of achieving strategic goals, which would encompass changes in the working organisation, weapon systems/platforms, policies and plans. If this is not achieved post-transformation, then it’s simply a modernisation effort and cannot be classified as transformation. A case in point being the efforts being made by Pakistan to modernise its defence forces by upgrading/refurbishing/purchasing equipment, and though they have raised a few units, they have not actually transformed but are attempting to modernise.

Any transformative effort is also likely to have a modernising effect, however, the reverse is not always true. Thus, any transformation can be seen as levels of improvement. Modernisation in segments or if not done holistically, on the other hand, does not lead to transformation and, if not planned properly, may need to be reworked when transformation is being carried out.

The process of transformation of the armed forces is a continuous one, with no fixed end state. It is a process of continuous evolution and the goals and objectives may get modified with time, though not radically changed. Modernisation, on the other hand is a relatively simpler process with clear-cut objectives which can be met in a shorter timeframe.

When we examine the modernisation being carried out by the People's Liberation Army (PLA), the query that demands attention is: is it modernising or transforming? The present modernisation programme of the PLA is to be implemented in three steps as per China's 2006 White Paper on National Defence and the third step is to complete informationisation, including national defence modernisation, by 2050. The modernisation is focussed on doctrinal changes, structural reforms, induction of state-of-the-art equipment/technology as well as reduction of forces.<sup>8</sup> The Chinese may be calling it military modernisation, thus, underplaying the scope and impact of change, however, what in effect they are carrying out is nothing short of transformation of their armed forces.

### **Modernisation or Transformation: Approach for the Armed Forces**

The question which vexes military planners and governments alike is: which approach to take? Should the armed forces go for modernisation with its advantage of being less cost prohibitive and easier to implement or should a transformational approach be undertaken, with the inherent dangers of being halted mid-way due to lack of funds, a change in focus or even a change in the geo-political balance, resulting in a revised threat appreciation? However, a transformational approach would ensure that the armed forces are correctly poised to take on the challenges of the future in line with the country's growing regional/global role. There are, after all, no clear-cut solutions, and based on a set of factors, may differ for different nations. However, some basics parameters which would hold good are discussed below.



While choosing an approach for the armed forces, one of the underpinning rules has to be: ‘don’t fix something which is not broken’, thus, correctly identifying the requirement or necessity becomes very important. Will modernising a weapon platform or some systems be enough or would it require a completely new structure and way of doing things? In a transformational approach, the changes would be dramatic rather than mere improvement and, thus, their requirement has to be correctly assessed.

Correct threat analysis is crucial for selecting the right approach. One needs to have a multifaceted vision of the future threats and type of warfare, a view that does not bet unduly on a particular type of war and, thus, is able to better analyse the future challenges. This would help in correctly choosing between a transformational or modernisation approach. While visualising the threats, the country’s growing aspirations also need to be factored in as well as the role of the armed forces in them. After all, the armed forces are the hard power component in a nation’s Comprehensive National Power (CNP) and a strategic resource and their future role in meeting the aspirational goals of the country would also help in deciding about the approach to be taken.

Financial outlay is an important constraining component in deciding whether to modernise or transform the armed forces. Ideally speaking, it should not be a dictating factor, however, it often becomes an overarching one. Phased modernisation, leading ultimately to a transformation of the armed forces is one manner of working around the budgetary constraints and ensuring that the objective of transformation is achieved.

Modernisation in the armed forces may not necessarily require an integrated approach, however, for any transformation of the armed forces, an all embracing principle would be the inter-Service integration and an equal level of integration with the government/ministry responsible for

the armed forces. Attempting to carry out transformation without the same would be a recipe for disaster and, thus, would be one of the factors to be considered before deciding on whether to carry out modernisation or transformation.

Military transformations are time consuming, not always successful; and sometimes can even be counter-productive. Thus, before embarking on the path of transformation for the armed forces, one should be very clear about the impact that the transformation may have and what our end state objective is. If ambiguity prevails about the same, then it may be better to follow the modernisation approach rather than the transformational one.

## **Conclusion**

Future security challenges are becoming more and more complex, multi-dimensional and non-traditional in both kinetic and non-kinetic forms. The armed forces of countries need to prepare to meet the rapidly changing, diverse and unpredictable threats which demand innovation and adaptability in military forces at all levels. Military modernisation and transformation are two paths that can be adopted to meet the futuristic challenges. Military transformation is a process with no simple end point and could be considered an evolving process.

While transformation does not mean across the board changes or changing things which are working well and do not need to be changed, the changes should be striking rather than mere improvements. However, since technology and concepts will keep evolving, course correction is a basic ingredient of a successful transformation. Military modernisation, on the other hand, achieves its objective with minimal course correction, in a faster timeframe and at less cost. Thus, both paths offer their own opportunities and challenges and need to be carefully chosen by a nation based on its correctly identified requirements as well as capabilities.

## Notes

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