An Analysis of India's Aerospace Power in the Twenty-First Century

Dr. Rajesh Kumar, Assistant Professor, Department of Defence Study, Govt. College, ateli (Mahendergarh)
dr.rajeshsaini70@gmail.com

ABSTRACT

The advent of the twenty-first century will be remembered by human civilization historians as "the birth of aeronautical power." The idea of military might, which the world had been accustomed to for the previous 500 years since the Renaissance, has been rendered obsolete with the turn of the twenty-first century. In order to apply force, nations have traditionally used military strength. Since the invention of gunpowder more than 500 years ago, military force has been characterized by a steadfast style of conflict. Technology did not fundamentally alter warfare, but it did bring about newer weapons with greater destructive potential, culminating in nuclear weapons. Warfare has become more sophisticated and all-encompassing as a result of land, sea, and air power. However, up until the end of the 20th century, the characteristics of military force and its function in international relations remained mostly constant. The nature of warfare has altered as a result of scientific advancements made in the final decades of the 20th century, including those involving computers, precision guided weapons, information technology, and the massive virtual world of software programming.

KEYWORD: Aeronautical Power, Military Power, Technological Transformation, Variables and Hypothesis, World Politics, Aerospace Power

INTRODUCTION:

Power analysis is based on the idea that conflict is ingrained in human nature. It is impossible to fully comprehend power without studying its three facets: nature of power, allure of power, and logic of power. Power has primarily been associated with military power since its strategic inception. In the chaotic international system, states have been thought to have only one goal in mind: to gain more power. As a result, an examination of military power is intrinsically related to studies of national power, international power, and the significance of force in the development of great powers. Since ancient times, the notion that military might was a significant or essential component of a nation's power had been pervasive. Military might was traditionally thought of as the combination of land force and naval power from the beginning of history until the twentieth century. Aerospace power is still a relatively new idea, and air power is a reality of the twentieth century.

The existing literature for various aspects of power, including what constitutes national power, the extent to which military power influences national power, the changes in the concept of military power in contemporary times and its contemporary constituents, and its importance in the concept of national security in the twenty-first century, had to be surveyed in order to establish a futuristic concept of aerospace power. It inevitably resulted in the study of the development of aerospace power and the magnitude of its expected impact on a country's capacity to become a great power, notably India. Since aircraft power is a relatively new idea, there is little particular literature on the topic. Numerous topics are covered in the literature that is now available, including the significance of national security, the use of force in international relations, and the need for appropriate force formations. Information from various categories of literature had to be incorporated in order to make a fair assessment of the information relating to aerospace power because it is likely to be seen as a part of military power, which is related to the use of force in international relations and its significance to national and international security.

As a result, three categories were used to survey the literature that was available. For information on the "Relevance of Power in International Relations," the first group was examined. The relevance of military power and its constituents was the main topic of the poll for the second group. In addition, a survey was conducted to evaluate "The Impact of Military Power on the Formulation of National Security Strategy." The continuous relevance of various traits and elements that make

up military might was examined, especially in light of the current technological transformation. The third body of literature concentrated on the analysis of "Air power and Aerospace power." This survey aimed to identify the likely capabilities of aerospace power and its function in global affairs in the twenty-first century. To assess contemporary thought, a sizable number of published articles, journals, publications, and seminar materials were examined. In this way, the Internet revolution has developed into a wonderful medium for communication and a vast repository of knowledge. The Internet can be seen as one face among many of aeronautical power. The Internet has also evolved into the model for the kind of aerospace power that the twenty-first century will see.

POWER IN INTERNATIONAL RELATIONS

As long as states continue to be the primary actors in an international system that is anarchic, rower has been and will always be the fundamental foundation of international relations. Many academics, especially those associated with the realist school, concur that the core of international politics is the fight for power. Thucydides, Machiavelli, and Hobbes are regarded as the first theorists. A era of fierce power struggles between 300 or so declining nations in China led to the creation of one of the finest treatises on strategy in the East, Sun Tzu's "The Art of War." To use a 20th-century parallel, the 150-year-long World War TI was continuously experienced by the Chinese of the fighting states. Today's conflicts still revolve around a struggle for supremacy, power, and control despite changes in weapons and tactics. Practical philosophers replied with a science of security and strategic action to the struggle for power and possessions, which became a separate feature of human events on larger and smaller dimensions, with Kautilya emphasising the necessity of power in statecraft in a clinical manner. classical theorists like Hobbes, Machiavelli, and Thucydides.

Theory of Power Politics - A Historical Review:

Athenian general Thucydides (460–400 BC) accurately chronicled the Pelepannesian War (432–404 BC) for 21 of the whole 28 years that it lasted between the two coalitions, one led by Sparta and the other by Athens. The "History of the Peloponnesian War" by Thucydides, widely regarded as the first thorough history written of a significant conflict in human civilization, is not only a classic study of the struggle for military and political power but also a heroic tale of victory and defeat, brilliance and stupidity, honour and deceit. It is a story about competing alliances, strategies, and tactics in diplomacy. Thucydides examines the historical development of the power struggle in the Greek city-states while analysing the origins of the conflict. The city-states of Hellas developed strong navies and armies in order to improve their military might as Athenians and Peleponnesians pursued the expansion of their political influence and the acquisition of wealth became a more important goal due to the rise in state revenues. According to Thucydides, a fight for dominance and control over resources was sparked by the rise in the relative riches and might of different city-states. The strategy of gaining power through the creation of confederacies and alliances became the norm. According to Thucydides, power politics is a zero-sum game in which each player's benefits and losses are exactly equal. Thucydides is clear-cut when describing the causes of the conflict: "All this came upon them with the late war, which was started by the Athenians and Peloponnesians by the collapse of the thirty-year truce formed after the capture of Euboea. I begin my response to the question of why they violated the treaty by outlining their grievances and points of contention so that no one would ever have to inquire as to the immediate reason that propelled the Hellenes into such a massive conflict. I believe that the real cause was the one that was traditionally kept most hidden. War was unavoidable due to the rise in Athens' dominance and the concern that this caused in Lacedaemon.

RESEARCH QUESTION

Therefore, the research topic is: "Does India need an Aerospace Power structure in the twenty-first century?"

PURPOSE OF THE STUDY

The study is crucial because it aims to assess how increasing aerospace power would affect international relations. All signs point to the crucial role that aerospace power plays in the growth of national strength, especially for the current and future Great Powers. The role of aerospace power to national security is obviously crucial. It is clear that technology is advancing very quickly, and in the twenty-first century, this will only accelerate significantly. These technological advancements in the areas of computers, information, software, etc., when combined with aviation and space travel, produce a potent national power cocktail. Therefore, it is crucial that countries, especially India, realise how crucial aerospace power is to overall national power. The study seeks to rationalise India's strategic doctrines in light of the country's enormous geostrategic and geopolitical significance, potential for growth as a significant economic power, and logical progression toward Great Power status. India must recognise the threats to her emergence as a major power and the significance of developing the necessary aerospace power in order to ensure not only her security but also her emergence as a Great Power given the rapidity with which technological advancements are shaping aerospace power and its likely dominant role in the 21st century.

VARIABLES AND HYPOTHESES

It is common knowledge that hypotheses are crucial to research. A hypothesis is an important research instrument because it serves as an operating tool for theory, is a relational assertion that lends itself to proof, and allows the progress of knowledge beyond one's own beliefs and ideas. The study's fundamental hypothesis is that "The nature of aerospace power, in the 21st century, will contain military, economic, and political elements, and, as a result, it will become the lynchpin of national power." This hypothesis is supported by the research question. In actuality, the great nations of the twenty-first century will be required to be aerospace powers. The following hypotheses have been either supported or refuted in the study in an effort to determine the research question:

H1: In the twenty-first century, aerospace power would become a crucial element of national strength. CHI: Great Powers in the twenty-first century would have to be aerospace powers.

H2- Aerospace Power would develop as a vital tool for ensuring national security.

H3- Significant risks to India's national security would result from the country's geostrategic significance and potential rise to major power status.

H4: India has the potential to grow its aerospace industry to match its status as a global power.

H5- India's power structure must be reorganised as a result of the rapid changes in the strategic environment that are required to be addressed.

A detailed understanding of the variables involved is required in order to study and explore the research topic and the hypotheses that have been developed. Since it is clear that each hypothesis follows from the major hypothesis HI, there are only two variables left: one independent and the other dependent. The dependent or constituent variable is nation-state power, while the independent or operational variable is aerospace power.

METHODOLOGY

The study has used a formulative, historical, and analytical research design to support or refute the hypotheses. Such a design places a focus on the analytically-based discovery of concepts and insights. This design was chosen because it is adaptable enough to allow for the opportunity to analyse many facets of the subject being studied. Three approaches of data collecting were used in the design: reading relevant literature, interviewing experts, and taking part in seminars and debates. The most successful approach, from framing the problem and hypotheses through analysing the pertinent data, involved a review of relevant literature. Numerous secondary sources of data were analysed due to the size of the study. The information covered a wide range of topics related to the topic, including international relations power, national power, military power, technology, revolution in military affairs, revolution in strategic affairs, nuclear strategy, aerospace

power, weaponry, etc. These could be found in books, periodicals, monographs, reviews of other books, reports, etc.

RELEVANCE OF MILITARY POWER AND ITS CONSTITUENTS

When describing the nature of politics, E. H. Carr cautions the audience against the error or propensity of separating politics from power. According to Carr, coercion and conscience, hatred and goodwill, self-assertion and self-subordination are all present in political societies, and political action must be based on a co-ordination of morality and power. He gives a few examples: China's fate in the nineteenth century serves as an illustration of what happens to a country that is content to believe in the moral superiority of its own civilisation and to despise the ways of power; the liberal government of Great Britain almost came to ruin in the spring of 1914 because it attempted to pursue an Irish policy based on moral authority without being supported by effective military power; and in Germany in 1848, the Weimar Republic broke out. According to Carr, the military is of utmost importance since war is the ultimate balance of power in international relations. In his book "Economic Aspects of Sovereignty," R. G. Hawtrey characterises diplomacy as "possible war." Thus, with the threat of conflict dominating world politics, military might becomes a recognised benchmark for political principles.

AEROSPACE POWER AND AIR POWER

The impact of air power on international relations is extensively discussed in Eugene M. Renne's classic book, "The Impact of Air Power: National Security and World Politics." This 1950 research charts the development of air power and shows how it became firmly established as a tool of national power. Rarely in the history of man has a technological advancement changed human affairs as quickly or with as much impact as the science of flight, according to him. The author claims that the survival or extinction of the United States hangs precariously on the concept of "air power," which makes sense when viewed in the context of the Cold War. The impact of air power on international relations is extensively discussed in Eugene M. Renne's classic book, "The Impact of Air Power: National Security and World Politics." This 1950 research charts the development of air power and shows how it became firmly established as a tool of national power. Rarely in the history of man has a technological advancement changed human affairs as quickly or with as much impact as the science of flight, according to him. The author claims that the survival or extinction of the United States hangs precariously on the concept of "air power," which makes sense when viewed in the context of the Cold War. Brigadier V. K. Vair, VSM (ed.y), wrote a 1992 research titled "Nuclear India" that focuses on the strategic needs that force India to adopt the nuclear option. The analysis was completed well before India decided to exercise its option in May 1998. The author emphasises that India must activate its nuclear option as soon as possible due to the country's continuous threats from China and Pakistan. He emphasises that in addition to China and Pakistan, India's geographic location and the significance of the Indian Ocean will undoubtedly result in long-term accompanying risks to its security. In order to provide a minimal but assured deterrence against Pakistan and a protection against nuclear coercion by China, the report advises India to develop a practical nuclear force structure, appropriately supported by adequate ancillaries. The author's view that the issue is the quantity of nuclear weapons is a significant flaw in the study. Analyzing the technology problems should have been done from a wider angle instead. As all of the delivery systems are aerospace vehicles, this would have brought attention to the fact that nuclear weapons ultimately fall under the category of aeronautical power. The study would have been more thorough and pertinent if nuclear weapons and strategy had been taken into account as one aspect of a bigger picture of aerospace power.

The associated literature reviews have unequivocally proven that the international system is characterised by anarchy and, as a result, power struggles among states. In practise, nations are acknowledged according to their strength and national authority, despite the fact that all sovereign states are equal in theory. According to the report, military might will remain the main source of national authority. The poll suggests a revolution in military relations, and it appears that the nature

of military power is undergoing a significant change. Rapid technical advancements in the areas of computers, information, spaceflight, and aviation are to blame for this new revolution. Nowhere in the literature has the concept of aerospace power in the broader context of national power crystallised. Only Americans appear to have found appeal in the realisation that military dominance will depend on air and space dominance. From India's perspective, the report reveals a startling underestimation of aeronautical capability. In fact, it appears that Indian intellectuals have not yet been very interested in the idea. According to the report, India has the following shortcomings:

(a) Indian strategic thinking does not include the idea of aerospace power.

(b) There aren't any well-defined strategic doctrines that take a long-term view and account for India's geostrategic significance.

(c) A strategic defence assessment is required, with special attention to the global RMAs and increasing aerospace capabilities.

(d) India's security cannot be met by the current defence organisational structure and force levels.

(e) India currently lacks an aerospace force structure, and its current air power force structure is insufficient to meet the country's security needs long into the twenty-first century.

INDIA'S NEED FOR AEROSPACE POWER

The conclusions that have so far been drawn from this study underline the reasons why India needs to concentrate on growing her aerospace power. A review of the conclusions in brief, which are mentioned below, will demonstrate the reasoning behind India's needs for aerospace power in general:

National power now includes a crucial role for aerospace power. In addition to its most obvious military component, China's economy and technical advancements make it essential for enhancing "Comprehensive National Power," as the Chinese have called it, of states in the twenty-first century.

In the twenty-first century, aerospace power will be a deciding factor in power politics. In other words, the Great Powers of the 21st century will unavoidably be space-faring countries.

India is an Asian Power due to its economic, military, and technical prowess, and its present growth trajectory qualifies it as an emergent Great Power. Great Powers must possess strategic independence, which can only be attained when the nation-state demonstrates total national power, which includes economic, military, and technological prowess. It has been established that aerospace power is a crucial component of national power in the twenty-first century. India will need to make sure she has enough strategic latitude in the global arena, and she can only do this if she becomes a significant aerospace force in its own right.

The two countries that pose the most immediate threats to India are Pakistan, a nuclear-armed state that harbours ferocious animosity toward India, and China, an established global power. India's immediate threat environment is significantly influenced by aerospace power in light of China's significant aerospace and nuclear capabilities and its strategic partnership with Pakistan, which poses a serious threat to India's security. In such a threat environment, India can only ensure its security by becoming a significant aerospace and nuclear power. A nuclear-armed state that lacks aerospace might as well not be a member of the international community.

CONCLUSION

For a rising power like India, the effects of aerospace power are profound. In terms of economy, military, and technology, India is the leading nation in Southern Asia, a significant regional force in the Indian Ocean, an Asian continental power, and a rising global actor. India has overcome significant developmental obstacles over the past 50 years, and as a result of its strengths in the economic, technological, military, and human resource arenas, India now displays significant potential for national power. Dr. A P J Abdul Kalam, the president of India and a scientist, says that his country "has the potential and capability to join the ranks of wealthy nations by 2017." The importance of aircraft power in attaining this goal is implied but not expressed clearly. For

India to become a Great Power in the twenty-first century, a sizable aerospace power capability is essential. In earlier chapters, the ubiquitous influence of aerospace power on all facets of national power in general and modern combat in particular was examined. Aerospace power in the twenty-first century will give nations' national power tremendous aggressive capabilities, which will improve national security. Aerospace power will be able to effectively defend national interests on its own by having the ability to intimidate, coerce, and, if necessary, threaten potential enemies. Modern aerospace power would be the ideal tool for great states to display their power in the twenty-first century. In the chaotic international system, big nations must be able to display their authority.

REFERENCE

Hans J. Morgenthau, Politics among Nations: The Struggle for Power andPeace (New Delhi: Kalyani Publishers, Indian Reprint 199 l), p.3 1.

Klaus Knorr, The Power of Nations: The Politid Economy of International Relations (New York: Basic Books, IN., Publishers, 1975), p.21.

Hans J. Morgenthau, Politics among Nations: The Struggle for Power and Peace, p.181.

Carl Von Clausewitz, On War, Edited and Translded, Michel Howard and Peter Paret (New Jersey: Princeton University Press, 1976), p. 69.

Machiavelli, The Prince, Ed by Quentin Skinner and Russel Rice (Carnbkidge: Cambridge University Press, 1988), p. 51.

Babur, with a force of 12000 cavalry and aided by cannons, defeated Ibrahim Lodi's army of 100,000 infantry and elephants at Panipat in 1526 AD.

Peter Paret, Makers of Modern Strategy: From Mechiivelli to the Nuclear Age, Edited, (Oxford: Clarendor, Press, 1986), p. 34.

M.J.B. Davy, Interpretative History of flight (London: 1948), p.22-23.

Eugene M. Emme, The Impact of Air Power: National Security and World politics (New Jersey: D.

Sun Tzu, The Art of Strategy, Trans. R. L. Wing (London: Thorsons, An lmprint of Harper Collins Publishers, 1988), p. 13.

Thomas Cleary, Mastering The Art of War, Trans. and ed., (Boston: Shambhala publications, Inc., 1989),

Thucydides. The History of the Peloponnesian War, Trans. Richard Crawley (The Internet Classics Archive, 26 Jun 2000), The fust Book, p.8

Niccolo Machiavelli, The Prince, ed., Quentin Skinner and Russel Price (Cambridge: Cambridge University Press, 1988).

Machiavelli, The Art of War, ed, and Trans., Peter Bondanella and Mark Musa (London: Penguin Books, 1939).

Thomas Hobbes, Leviathan (Cambridge: Cambridge University Press, 1988).

Edward Hallet Carr, The Twenty Years' Crisis, 19191939 (London: Macmillan and Co., 1st edition 1939,2" edition 1946, 15" Reprint, 1984).

Hans J. Morgenthau, Scientific Man vs. Power Politics (Chicago: University of Chicago Press. 1946)

'O Reinhold Niebuhr, Christianity and Power Politics (New York: Charles Scribner's Sons. 1940).

John Herz, Political Realism and Political Idealism (Chicago: University of Chicago press, 1951).

Kenneth N. Waltz, Man, the State and War flew York: Columbia University Press, 1959).

Frederick S. Dunn, Peaceful Change (New York: Council on Foreign Relations, 1937).

Klaus Knorr, The Power of nations (New York: Basic Books, Inc., Publishers, 1975).

David A. Baldwin, Power Analysis and World Politin: New trends versus Old tendencies, in Power, Strategy and Security, ed., Klaus Knon (Princeton University Press, 1983. New Delhi: Asian Books, 1987).

Frederick H. Hartmann, The Relations of Nations (New York: Macmillan Publishing Co., Inc., 1957,5" edition 1978).

'Ray S. Cline, World Power Assessment 1977: A'~alculus of Strategic Drift (Boulder: Westview Ress, 1977).

Paul R. Viotti, International Relations and the pefence Policies of Nations: International Anarchy and the Common Problem of Security in The Defence Policies of Nations: A Comparative Study, Ed. Douglas J. Murray and Paul R. Viotti (Baltimore: The John Hopkins University Press, 3' ed.. 1994).

Y Daniel S. Papp, Contemporary International Relations: Frameworks for Undershnding (New York: facmillan Publishing Company, 2" ed. 1988)

Ronnie D. Lipschutz, Ed., On Security (New York: Columbia University Press, 1995)