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INDIA'S MILITARY MODERNIZATION



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**Manipal
June 2021**

Manipal Academy of Higher Education
Department of Geopolitics and International Relations

INDIA'S MILITARY MODERNIZATION

**A Dissertation Submitted to the Department of Geopolitics and
International Relations in Partial Fulfilment for Master's Degree
in Geopolitics and International Relations**

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By
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June 2021



MANIPAL
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(Deemed to be University under Section 3 of the UGC Act, 1956)

Date: 15 June 2021

DECLARATION

I declare that the dissertation entitled "**India's Military Modernization**" submitted by me for the award of the degree of Master of Arts in Geopolitics and International Relations of Manipal Academy of Higher Education is my own work. The dissertation has not been submitted for any other degree of this University or any other University.

Omkar Moharir
(Omkar Amol Moharir)

CERTIFICATE

I recommend that this dissertation be placed before the examiners for evaluation.

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ABBREVIATIONS

| | |
|-------|---|
| AI | Artificial Intelligence |
| BMD | Ballistic Missile Defense |
| CAC | Central Air Command |
| CDS | Chief of Defense Staff |
| COSC | Chief of Staff Committee |
| DGQA | Directorate General of Quality Assurance |
| DPP | Defense Procurement Procedure |
| DRDO | Defense Research and Development Organization |
| EAC | Eastern Air Command |
| FDI | Foreign Direct Investment |
| GDP | Gross Domestic Product |
| GOI | Government of India |
| HDO | Higher Defense Organization |
| IAF | Indian Air Force |
| EEZ | Exclusive Economic Zone |
| ICBM | Inter-continental Ballistic Missile |
| IDEX | Innovation for Defense Excellence |
| INSV | Indian Naval Sailing Vessel |
| J&K | Jammu and Kashmir |
| LAC | Line of Actual Control |
| LCA | Light Combat Aircraft |
| LCU | Landing Craft Utility |
| LOC | Line of Control |
| LST | Landing Ship Tank |
| MBT | Main Battle Tank |
| MC | Maintenance Command |
| MOD | Ministry of Defense |
| MSRAM | Medium Range Surface to Air Missile |
| NCC | National Cadet Corps |
| NDA | National Democratic Alliance |

| | |
|------|---|
| NEO | Non-Combat Evacuation Ops |
| OEM | Original Equipment Manufacturer |
| OF | Ordnance Factory |
| PAF | Pakistan Air force |
| PBOR | Personnel below Officer Ranking |
| PDF | Portable Telemedicine system |
| PLA | People's Liberation Army |
| R&D | Research and Development |
| RMA | Revolution in Military Affairs |
| RIN | Royal Indian Navy |
| S&T | Science and Technology |
| SAC | Southern Air Command |
| SLOC | Sea Lanes of Communication |
| SWAC | South Western Air Command |
| TC | Training Command |
| TD | Technology Demonstrator |
| TOT | Transfer of Technology |
| TPCR | Technology Perspective Capability Roadmap |
| UAV | Unmanned Aerial vehicle |
| UCVA | Unmanned Combat Aerial Vehicle |
| UN | United Nations |
| WAC | Western Air Command |
| WMD | Weapon of Mass Destruction |

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ABSTRACT

The research on the theme “India’s Military Modernization” is an attempt to study the ongoing modernization attempt by India in the twenty-first century. Over the years, Indian Armed forces has evolved its capabilities, which has largely been influenced by its threat perception in immediate neighborhood. India is the world's most populous democracy and with its diverse societal mix and central geostrategic position. It is central to economic and strategic considerations of the Asian and Indo-Pacific. India’s unique land borders with China, Pakistan, Nepal and Bangladesh, combined with its aspirations for strategic dominance in the Indian Ocean and nuclear weapons and a principle of strategic autonomy, add to the stated desire for greater self-reliance on defense.

In the past decade, developments in India's immediate neighborhood have led India to examine its foreign and security policies carefully. There is an immense need to quickly modernize the Indian Armed Forces, as expressed in a range of core steps the Indian government has so far adopted, including "Made in India," in order to cope with the dynamic security threat raised by its aggressive neighborhood. It has become obvious in the regional security context that China is India's most powerful military threat — because its nuclear, missile or military hardware advantages surpass that of India. Moreover, the link between China and Pakistan and increased strategic engagement between the two have enhanced the likelihood of India facing a two-front war in the future. The recent changes in India's immediate neighborhood have prompted the country to review its foreign and security policy.

The necessity for quick modernization of the Indian Armed Forces is generally recognized, as seen by some of the important efforts undertaken by the Indian government to date, such as ‘Make in India’, to address the problem. Armed forces modernization is a complicated process that involves all potential improvements in material capability in order to achieve the strategic goal. Modernization reflects the expansion of national ambition. In a multipolar

world, India is seen as a responsible power. Currently, India is the most dominant power in the Indian Ocean. The Indian defense industry has significant political, institutional, and cultural hurdles, as well as a military-industrial complex that continues to struggle in producing contemporary defense gear. There is an urgent need to boost indigenization and manufacturing in the Indian defense sector.

Experts point to a number of structural weaknesses in India's defense institution and civil-military ties as fundamental obstacles to the country's military modernization goals. Because India's defense requirements are projected to rise in the near future as a result of the changing security landscape, indigenous development of contemporary defense hardware and technology will likely remain a top priority. Nevertheless, the Indian Government have committed to undertake significant and far-reaching reforms in the Indian Armed Forces in order to improve their combat capabilities over time. A great deal is necessary to achieve India's strategic goals, and a well-adapted and modernized military plays a critical role in achieving them.