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Dr. A.P.J. Abdul Kalam's Vision and Contributions Towards Viksit Bharat

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Abstract: Dr. A.P.J. Abdul Kalam, popularly known as the "People's President," was a distinguished scientist, visionary leader, and educationist whose ideas continue to shape India's development agenda. Self-reliance, scientific innovation, high-quality education, technological advancement, sustainable development, and youth empowerment were key components of his Vision 2020, which outlined his vision for making India a developed country. These ideas are in line with the modern vision of Viksit Bharat, which aims to use inclusive growth, innovation, and good governance to make India a developed country. In the framework of Viksit Bharat, this paper explores Dr. Kalam's vision and his numerous contributions to nation-building. It examines his contributions to bolstering India's defense and space capabilities, advancing domestic technology, fostering innovation and research, and motivating youth to take an active role in the country's growth. The study also analyzes his emphasis on value-based education, rural development through the Providing Urban Amenities in Rural Areas (PURA) model, and the importance of ethical leadership in achieving sustainable progress.
Keywords: A.P.J. Abdul Kalam, Missile Man, Viksit Bharat, Scientific Innovation, PURA, Education.

Introduction - The outstanding visionary leader, noble personality Dr.A.P.J. Abdul Kalam was born on 15 October 1931 in a place called Rameshwaram in Tamil Nadu. His full name is Abul Pakir Jainulabedien Abdul Kalam. He was a brilliant educator, scientist, motivational speaker, and former Indian president during 2002-2007, he envisioned India as a highly developed and knowledge-powerful nation. He has made an unparalleled contribution to the advancement of India's defense. He effectively oversaw the creation of the domestic guided missiles Agni and Prithivi. Dr Kalam had put in over 10 years long hard work as the project director for the development of indigenous Satellite Launch Vehicle (SLV) at ISRO that ultimately resulted in one of the greatest scientific development of indigenous Satellite Launch Vehicle (SLV). Seven universities awarded Dr. Kalam seven honorary doctorates. Wings of Fire, India 2020, Ignited Minds, Indomitable Spirit, and Transcendence: My Spiritual Experience with Promuk Swamiji are some of his well-known writings. Dr. Kalam played a crucial part in the 1998 nuclear test known as Pakhran-ll. This surprised many people because he was not trained in nuclear science education, and his background was extremely technical at both ISRO and DRDO. However, because the Pokhran campaign was perceived as a collaboration between DRDO, the armed forces, and the nuclear establishment, he became an important technology manager.

As a technologist and engineer, Kalam's true skill was developing and leading technology, which is necessary for mission-oriented programs. India is becoming self-sufficient in space research and defense because to his earnest efforts and commitment. He was named Missile Man of India for his outstanding work. For his outstanding contributions to scientific research and the modernization of defense technology in India, this remarkable individual received the Padma Bhushan in 1981, the Padma Vibhushan in 1990, and the Bharat Ratna in 1997. Between 1999 and 2001, he served as India's Principal Scientific Advisor. He became president of India on 25th July 2002. He is also referred to as the **President of the People**. He always enjoyed inspiring and interacting with students. On July 27, 2015, India lost the brilliant star. India suffered an irreversible loss when he passed away.

There are few studies assessing contribution of Dr. A.P.J. Abdul Kalam. Such as Pareek (2017) examined Kalam's vision of education as the foundation of national development. It highlights his support for skill-based education, virtual classrooms, digital learning, quality infrastructure, and teacher empowerment. He advocated producing job creators instead of job seekers and believed

education should promote creativity, self-reliance, and social progress. Kaur et al. (2018) analyzed Kalam's scientific vision and its contemporary relevance. It highlights his advocacy of scientific temper, innovation, entrepreneurship, and technological advancement for national development. The study emphasizes his belief in integrating science with spirituality and nurturing young researchers to build a prosperous, knowledge-based society. Mondal et al. (2020) focuses on Kalam's views on women's education and empowerment. He believed that educating women promotes social progress, economic development, and national prosperity. The study highlights his advocacy of higher education, vocational training, gender equality, and self-reliance, emphasizing that empowered women are essential for building a strong nation. Akhtar (2021) explored Kalam's educational philosophy, emphasizing creativity, moral leadership, research aptitude, and lifelong learning. It discusses his support for technology-enhanced education, virtual universities, and value-based teaching. The article portrays Kalam as a visionary educator who sought to develop autonomous learners capable of contributing to national growth. Hazarika et al. (2021) examined Dr. A.P.J. Abdul Kalam's educational philosophy, emphasizing creativity, innovation, moral values, and lifelong learning. It highlights his belief that education should create enlightened citizens, skilled professionals, and responsible leaders. The study stresses the importance of teachers, technology, entrepreneurship, and value-based education for national development. Tabish et al. (2023) explored Kalam's educational ideas, emphasizing scientific temper, creativity, value education, and character formation. It discusses his views on curriculum reform, research orientation, teacher–student relationships, and mother-tongue instruction. The article concludes that his educational philosophy remains relevant for creating innovative, ethical, and socially responsible citizens. Mallik (2024) discussed Kalam's vision of education as a tool for creativity, skill development, research, and moral growth. It emphasizes practical learning, technology integration, virtual education, examination reforms, and quality teaching. The study concludes that his educational ideas are essential for developing competent, ethical, and innovative citizens.

Objectives of the study: This research paper has two objectives in the following ways:

1. To examine the contributions of A. P. J. Abdul Kalam toward the vision of a developed and self-reliant India (Viksit Bharat).
2. To examine the role of Dr. Kalam in promoting education, youth empowerment, and skill development as foundations for a developed India.

Methodology of the Study : For the present research, secondary sources have been used and analyzed to study the objective, data available in the form of books, research papers, essays, and the information available at liable websites are been utilized for the research.

Contributions

In ISRO: Dr. Kalam led a team of young scientists and engineers to develop India's first indigenous launch vehicle, the SLV-III. An important turning point in India's space effort was to launch a satellite into low Earth orbit. A technical issue caused the vehicle to veer off course during the initial launch attempt on August 10, 1979. Dr. Kalam accepted responsibility for the failure and encouraged his team to grow from it. The Rohini Satellite (RS-1) was successfully launched by ISRO on July 18, 1980, from Sriharikota aboard SLV-III. India became the sixth country in the world to develop and launch its own satellite as a result of this historic event.

Dr. Kalam contributed to sounding rocket programs, which were early experiments in rocket technology. He played a key role in laying the groundwork for later developments in PSLV (Polar Satellite Launch Vehicle) and GSLV (Geosynchronous Satellite Launch Vehicle). He focused on the development of solid and liquid propulsion technologies. He led research on guidance and control systems for space missions. Dr. Kalam worked closely with ISRO pioneers like Dr. Vikram Sarabhai and Dr. Satish Dhawan. After his success at ISRO, Dr. Kalam was invited to join the Defence Research and Development Organisation (DRDO).

In DRDO: Dr. Kalam joined DRDO in 1958 as a scientist. He worked on hovercraft development early in his career. Later, he played a significant role in developing indigenous missile technology for India. As the Chief Architect of Integrated Guided Missile Development Program (IGMDP), Dr. Kalam spearheaded the development of India's ballistic missile systems.Under this program, India developed several missile systems such as Prithvi, Agni, Trishul and Nag.

Pokhran-II Nuclear Test: Dr. A.P.J. Abdul Kalam was the head of the DRDO and the defense minister's scientific adviser at the time of the May 1998 Pokhran-II nuclear test. Three nuclear bombs a sub-kiloton weapon, a fission bomb, and a thermonuclear (hydrogen) bomb were tested on May 11, 1998. Two more sub-kiloton nuclear tests were carried out on May 13, 1998. Two groups of devices were used for the test, and each group's devices were fired simultaneously. During the operation, five nuclear devices were tested.

Education and Youth Empowerment: Kalam was passionate about inspiring young minds and often interacted with students across India and the world. He launched the **"What Can I Give"** movement, encouraging youth to contribute positively to society. He believed that education was the key to national development and worked to make quality education accessible to all.

Rural Development: As part of his Providing Urban Amenities in Rural Areas (PURA) initiative, Kalam advocated for improving infrastructure, connectivity, and employment opportunities in villages. His vision aimed at

reducing the urban-rural divide and promoting sustainable development.

Healthcare and Social Welfare: Kalam worked on affordable healthcare technologies, including a low-cost coronary stent (Kalam-Raju Stent) and a lightweight caliper for polio-affected children. He supported medical research and encouraged scientific innovation to address India's health challenges.

Vision for India (India 2020): Dr. A.P.J. Abdul Kalam's **Vision 2020** was a roadmap for transforming India into a **developed nation** by the year 2020. He outlined his vision in the book *"India 2020: A Vision for the New Millennium"*, co-authored with Y.S. Rajan. The plan focused on making India a self-reliant and prosperous country through advancements in science, technology, education, and infrastructure.

Economic Growth & Self-Reliance: Targeted an annual GDP growth rate of over 10%. Emphasized reducing dependency on imports and promoting **"Made in India"** products. Encouraged industrial development and entrepreneurship

Agriculture and Rural Development: Proposed the **Providing Urban Amenities in Rural Areas (PURA)** model to boost rural infrastructure. Advocated for **modern farming techniques, irrigation projects, and organic farming** to increase agricultural productivity. Aimed to make India a **global leader in food production** and eliminate hunger.

Technological Advancements & Innovation: Promoted indigenous scientific research in fields like biotechnology, IT, and space exploration. Encouraged the use of renewable energy (solar, wind, and bio-energy) to ensure sustainability. Supported digital connectivity and e-governance for better administration.

Education and Skill Development: Emphasized universal primary education and reduction of dropout rates. Focused on technical and vocational training to equip youth with job-ready skills. Encouraged scientific temper and innovation among students.

Healthcare for All: Advocated for affordable healthcare and improved medical infrastructure. Suggested telemedicine and mobile healthcare units for remote areas. Supported research in traditional medicine and biotechnology.

Infrastructure and Urban Development: Focused on building world-class roads, railways, airports, and smart cities. Proposed 100% rural electrification and clean water supply for every village. Encouraged the construction of affordable housing.

Defense and Security: Strengthened India's nuclear and missile programs for national security. Advocated for self-reliance in defense technology through indigenous manufacturing. Emphasized cybersecurity and the modernization of armed forces.

Women Empowerment and Social Equity: Called for equal opportunities in education and employment for women. Promoted women entrepreneurship and leadership roles in governance. Aimed for an **inclusive society** with no discrimination based on caste, gender, or economic status.

Conclusion: Known as the "Missile Man of India," Dr. A.P.J. Abdul Kalam made important contributions to education, scientific, space, and defense developments in India. He was a pivotal player in India's missile development program, helping to build the Agni and Prithvi missiles, which improved the nation's defensive capabilities. He also played a significant part in the creation of the SLV-III, which launched the Rohini satellite, and contributed to India's space research at ISRO. India's status as a nuclear power was cemented in 1998 when Kalam played a key role in the country's nuclear tests at Pokhran. In addition to his scientific accomplishments, he inspired millions of people as the 11th President of India from 2002 to 2007 with his vision of an independent and advanced India. His focus on education, innovation, and youth empowerment continues to inspire generations. His **Vision 2020** laid the foundation for the idea of a developed India by emphasizing quality education, technological advancement, self-reliance, innovation, rural development, and youth empowerment. His vision inspired long-term national planning and continues to influence the **Viksit Bharat 2047** mission, which seeks to transform India into a developed, inclusive, knowledge-driven, and globally competitive nation by its centenary of independence. All these works of Dr. APJ Abdul Kalam are helping India to become developed.

References:-

1. Pareek, H. P. N. (2017). Dr. APJ Abdul Kalam's vision about education. International Journal of Research in All Subjects in Multi Languages (IJRSML), 5(4), 36–40.
2. Kaur, S., & Dash, N. (2018). Scientific thoughts of Dr. A.P.J. Abdul Kalam and its relevance in 21st century: An exploratory study. International Journal of Creative Research Thoughts (IJCRT), 6(1), 1205–1212.
3. Mondal, T. A., & Manna, D. (2020). APJ Abdul Kalam's contribution to women's education. Journal of Emerging Technologies and Innovative Research (JETIR), 7(9), 1159–1162.
4. Akhtar, S. (2021). A study on exploring the educational thoughts and contributions of Dr. APJ Abdul Kalam. International Journal of Trend in Scientific Research and Development, 5(4), 1148–1151.
5. Hazarika, L., & Dutta, R. (2021). The Missile Man of India Dr. A.P.J. Abdul Kalam and his educational thoughts. Turkish Online Journal of Qualitative Inquiry, 12(7), 6235–6239.
6. Tabish, S. I., & Geelani, S. Z. A. (2023). Contribution of A.P.J Abdul Kalam to the theory and practice of education. International Journal of Humanities and Social Science Invention, 12(4), 6–8. https://doi.org/10.35629/

7722-12040608
7. Mallik, M. F. (2024). Educational thoughts and contribution of Dr. A.P.J. Abdul Kalam towards modern system of education in India. International Journal of Research in Academic World, 3(3), 73–77.
8. Kalam, A.P.J. A. (2002). Ignited Minds – Unleasing the Power within India, Penguin Books Ltd, New Delhi.
9. Kalam, A.P.J.A., & Tiwari, A. (1999). Wings of Fire:An Autobiography, University Press India Private Limited, Hyderabad.
10. Kalam, A.P.J.A. (1998). India 2020: A Vision for the New Millennium, Penguin Books Ltd, New Delhi.
11. Kalam, A.P.J.A., & Singh, S.P. (2011). Target 3 Billion, Penguin Books Ltd., New Delhi.

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