"The important thing is this: to be able, at any moment, to sacrifice what we are for what we could become."
-Maharishi Mahesh Yogi

INDIA-RUSSIA COLLABORATION STRENGTHENS STRATEGIC

India and Russia have a longstanding relationship marked by strategic, scientific, and economic collaboration, spanning defense, energy, space, technology, and trade. The bilateral partnership, rooted in decades of mutual trust and cooperation, continues to expand in depth and scope, reflecting shared priorities and a vision for global stability, innovation, and growth.

In the defense sector, India and Russia have maintained a robust partnership, with Russia being one of India's key defense suppliers. Joint development and production programs, technology transfer initiatives, and strategic exercises have strengthened operational capabilities for both nations. Notable projects include the BrahMos supersonic cruise missile, co-developed by India and Russia, which exemplifies technological collaboration and indigenous innovation, while highlighting the capacity for co-production and export potential. Regular military drills and exchanges of expertise further reinforce trust and interoperability between the armed forces.

Energy cooperation remains another cornerstone of the partnership. India's growing energy needs and Russia's vast hydrocarbon reserves create a natural synergy. Key initiatives include collaboration in nuclear energy, with Russian assistance in the construction of nuclear power plants in India, and long-term agreements in oil, natural gas, and renewable energy sectors. The collaboration extends to exploration, technological sharing, and sustainable energy solutions, contributing to India's energy security and Russia's role as a reliable energy partner.

Scientific and technological collaboration has expanded significantly in recent years. India and Russia actively cooperate in space exploration, defense research, biotechnology, and information technology, sharing knowledge and expertise in cutting-edge areas. Joint research projects, student exchange programs, and collaborative innovation hubs enhance capacity building and foster long-term partnerships between institutions, researchers, and entrepreneurs from both countries. Trade and economic relations are also a vital aspect of the India-Russia partnership. Both nations have undertaken initiatives to boost bilateral trade, diversify investment opportunities, and develop industrial corridors. Collaborative efforts in pharmaceuticals, agriculture, engineering goods, and high-tech sectors have strengthened commercial ties, promoting mutual growth and regional economic development. Government-led forums, business delegations, and bilateral agreements ensure continuous dialogue and exploration of new avenues for trade and investment. Cultural and educational exchanges complement these strategic and economic initiatives. Programs fostering language learning, arts, cultural events, and academic partnerships create people-to-people linkages, deepening mutual understanding and goodwill. Such initiatives enrich bilateral relations, ensuring that cooperation is comprehensive, inclusive, and sustainable over the long term. The India-Russia collaboration exemplifies a multidimensional partnership that spans strategic defense, energy, scientific innovation, trade, and culture. By leveraging shared priorities, technological capabilities, and complementary strengths, both countries continue to build a resilient and forward-looking relationship. The partnership not only strengthens bilateral ties but also contributes to regional stability, global innovation, and sustainable development, reflecting a shared commitment to mutual growth and a prosperous future.

Significance of National Education Policy 2020

■ **SAMRIDHI SAJOTRA**

In Indian society, education has always been accorded paramount importance. Expansion of one's knowledge to achieve wisdom was considered one of the prime human goals in ancient Indian culture. Education is the fundamental requirement for nurturing a child's capability and developing it to reach peak human potential. An educated society values the morals of equality and fairness and contributes in upholding the sanctity and prosperity of a nation. In order to maintain India's growing trajectory towards development and economic progress, a nationwide access to quality education is a necessity. The immense potential and energy of the youth of our country can be harnessed through providing holistic and high-quality education, that nurtures virtue and instils morality in students plus focuses on multidisciplinary academic learning, co-curricular activities and experiential learning.

From primitive to present times, the world has continuously evolved. The modern era is characterised by rapid technological progress, globalisation and complex socio-political structures. Breakthroughs in the field of science and technology have made our lives easier and transformed this world into a global village. Tech devices like mobile phones and Internet have penetrated our lives in such a way that now we are dependent on these for even the mundane tasks of our day-to-day routine. Activities like ordering food online to creating project files that can be shared across the world, all can be done on our fingertips. This technology driven lifestyle and work-ethic have made processing of things quicker and easier, but on the flip side, people who have been unable to adapt themselves to this digital mode of lifestyle, often find themselves lacking in skills and unfortunately are unable to maximise efficiency and productivity at their work places. In the job market also candidates who are well-equipped with the latest technology and have hands-on experience are often preferred by companies.

The rise of Artificial Intelligence, Machine Learning and Robotics, has pushed many jobs to extinction. This trend will only increase in the near future. A fresh expertise by the workforce will be required to deal with the impact of, integration of these cutting-edge technologies in the work environment. Climate change and dwindling natural resources will eventually lead us to innovate and invent new technologies and methodologies to meet the growing population's physiological necessities like food, water, shelter and energy needs. Advancements in medical innovation and technology are crucial to improve healthcare facility and increase accessibility across urban and rural areas. COVID-19 clearly portrayed the significance of pharmaceutical innovation. Self-reliance in defence sector is a key factor in maintaining national security. "Atmanirbhar Bharat" focuses on indigenisation of defence sector by boosting domestic production and reducing imports. A future oriented approach to Research and Development along with in-house manufacturing of machinery and weaponry is needed. Entrepreneurship is a driving force behind economic development. Entrepreneurs create new businesses, foster innovation, create jobs, generate income and increase healthy competition in the marketplace. An education system should encourage the idea of entrepreneurship and nurture the traits required to become one.

All the above stated points clearly depict the dire need for an up-to-date education policy that matches the dynamic nature of the knowledge landscape. The upcoming workforce should be adept in multidisciplinary skills across the fields of science and humanities. Education provided to children must help them develop critical thinking, problem solving skills, enhance their creativity and instil a sense of responsibility and integrity in them. A well-rounded curriculum that is experiential, integrated, flexible and innovation oriented is required. Inclusion of subjects from sciences to humanities to art and craft to sports to culture and values, in a way that the curriculum fulfils all aspects of human development while making learning a blissful experience is imperative. The purpose of education should be to help children become competent professionals and good human beings.

To achieve the above stated intended learning objectives, a refinementof the current education system is required and the National Education Policy 2020, is a step towards that. It is the first education policy of 21st century, promulgated on 29 July 2020, by the Union Cabinet of Government of India chaired by Honourable Prime Minister Shri Narendra Modi, formulated with the intention that it becomes a stepping stone for India to achieve it's dream of becoming a developed nation. NEP 2020 addresses the unfulfilled agenda of National Policy on Education 1986 and it's modification in 1992 (NPE 1986/92). It's aim is to develop an education system that is deeply ingrained in Indian culture and values, that transforms India, that is Bharat into a global knowledge superpower. It aims to instil in students- a sense of respect and pride towards the nation, fundamental duties and constitutional values; along with a conscious awareness and commitment towards, ethical disposition and human rights.Some salient features of NEP 2020 are:

1. To ensure universal access of education at all levels of schooling from pre-primary to Class 12th.
2. To ensure quality Early Childhood Care and Education for all children between ages of 3-6 years.
3. Every student must attain foundational literacy and numeracy by class 3. The highest priority would be to achieve this in primary schools by 2025. In this regard, National Mission on Foundational Literacy and Numeracy would be established.
4. Modification of the earlier (10+2) structure in school education to a new curricular and pedagogical structure of (5+3+3+4) covering ages of 3-18 years.
5. No hard separation among 'curricular' and 'co-curricular', among 'humanities' and 'sciences' or between 'vocational' or 'academic' streams.
6. Promotion of multilingualism and Indian languages; the medium of instruction till at least class 5 but preferably till class 8 and beyond will be the home language/ mother tongue/ local language/ regional language.
7. Exposure of vocational education in school and higher education system.
8. Assessment Reforms- Students will be allowed to take Board Exams on up to two occasions during any given school year, one main examination and one for improvement, if desired.
9. Setting up of a new National Assessment Centre, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development).
10. Equitable and inclusive education-Special emphasis to be given on Socially and Economically Disadvantaged Groups (SEDGS).
11. Teacher recruitment through fair and transparent process plus merit-based performance.
12. Multidisciplinary education with multiple entry/exit options.
13. NTA to offer common entrance exam for admission to higher education institutions.
14. Setting up of Multidisciplinary Education and Research Universities (MERUs).
15. Establishment of National Research Foundation (NRF).
16. National Educational Technology Forum (NETF), an autonomous body to be created to provide a platform for free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration. Technology to be integrated at all levels of education.
17. Public investment in Education sector to reach 6% of GDP, at the earliest. The centre and the statesto work together in this regard.

This policy addresses the shortcomings of the education sector of our country and is an attempt to overcome them. It focuses on improving the overall standard of education across all levels. The aim of NEP 2020 is to increase the Gross Enrolment Ratio (GER) to 100% in preschool to secondary level by 2030 and GER in higher education including vocational education from 26.3% (2018) to 50% by 2035. The government has realised the importance of integrating latest technology into the curriculum. Special attention has also been paid to the field of research, to improve the innovation capability of our country.

July 2025 marked the completion of 5 years since this policy's promulgation. It's implementation is currently being carried out in a phased manner. Since education is a concurrent subject a collective effort from both centre and states along with all the relevant stakeholders is required, for it's successful execution. As per the policy document, the government aims to put the entire policy in operation mode in the decade 2030-40, following which comprehensive reviews would be taken. This policy is a significant step in modernizing the education landscape of India while making sure that it's true essence remains Indian. It is the first of many steps that will be required to make the Indian education system top of the line; so that all learners from India, regardless of their social and economic background get equitable access to top-notch education, and thereby fulfill their aspirations and contribute in nation's welfare.

GREENER, RESILIENT & HEALTHY CITIES

■ **DR. PARVEEN KUMAR**

The history of this day dates back to 2002 when the International Union of Soil Sciences adopted a resolution proposing that December 05 be celebrated as the World Soil Day to recognize the importance of Soil as a critical component of the natural system and as a vital contribution to human well being. As a consequence to the resolution of the IUSS, the Food and Agricultural Organization (FAO) of the United Nations in June 2013 at its 68th General Assembly unanimously declared Dec 5 to be celebrated as World Soil Day every year. The date of 5 December was chosen because it corresponds with the official birthday of the late H.M. King Bhumibol Adulyadej, King of Thailand, who was one of the main proponents of this initiative.

Soil is not a dead thing as perceived by most of us, it is a living entity constituting a critical component of the natural system and is an important contributor to the human wealth through its contribution to food, water and energy security and as a mitigator to biodiversity loss and climate change. As a living resource, it is home to more than 25% of our planet's biodiversity. It is estimated that only 1% of soil microorganism species are currently known compared to 80% of plant species. Up to 90% of living organisms live or spend part of their lifecycle in soils. Soil organisms can break down certain contaminants. Soil is the foundation of every terrestrial (land-based) food chain on Earth. As soil is the ultimate natural supplier of the food we eat, we cannot survive without it. Healthy soil plays a crucial role as a natural filter, purifying and storing water as it infiltrates into the ground.

However, in the face of climate change and various anthropogenic activities, our soils are being degraded, putting excessive pressure on our water resources. Erosion disrupts the natural balance, reducing water infiltration and availability for all forms of life. The loss of soil nutrients is a significant cause of soil degradation and a major international problem for food security and sustainability. It also results in high cost-of-production, low income and loss of biodiversity etc. As food security is a major concern, India has to overcome the challenge of low productivity due to soil degradation. The loss of nutrients from soil happens due to more than one reason. Soil erosion refers to removal of the top layer of soil by various means which include both anthropogenic as well as natural events. The natural agents responsible for soil erosion include wind, water and waves. Among these agents, water is considered as the main cause of soil erosion. Soil Erosion results in loss of fertility of top soil, nutrients content decline as they are washed away by erosion, underground water level also gets reduced, vegetation and habitat loss, frequent occurrence of drought and floods and many other adverse effects.

Soil salinization is a major process of land degradation that decreases soil fertility and is a significant component of desertification processes in the world's dry land. The accumulation of soluble salts in soil occurs when evaporation exceeds precipitation and salts are not leached but remain in the upper soil layers in low-lying areas. Natural soil salinization, referred to as 'primary salinization,' occurs in arid and semi-arid climatic zones. 'Secondary salinization' is the term used to describe soil salinized as a consequence of direct human activities. It is estimated that by 2050, around 50% of the soil will be affected due to salinity without any fruitful mitigation techniques to overcome the situation. Besides reducing net cultivable area, soil salinization hits hard the productivity and quality of agricultural produce, quality of water, the choice of cultivable crops, the biodiversity and ultimately the livelihood security of the people. For all important crops, average yields in salt stressed environments are only a fraction, somewhere between 20 and 50% of record yields Estimates suggest global economic losses due to soil salinization around US $ 27.3 billion per year Growing trend in the salt-affected soils in India is also becoming a threat to national food security and economic development. Arid and semi-arid regions, where evaporation rates are high and fresh waters are scanty to flush out the excess salts from soil, favor the formation of such soils. Similarly water logging occurs when there is no proper drainage system in the fields. They become waterlogged and this result in the saturation of crops wherein the normal circulation of air is not possible and the amount of oxygen in the soil declines. Shifting cultivation is a type of cultivation practiced mainly in North-Eastern states of India is actually a type of slash and burn method of cultivation wherein the forest land is cleared for cultivation of crops. This causes deforestation, environmental pollution, loss of habitat for wild animals etc. The burning of forest also results in soil erosion and gradual degradation of soil.

It is estimated that to feed the burgeoning population, the country would require about 311 million tons of food grains (cereals and pulses) by 2030 and this requirement would further increase to 350 million tons by 2050 when India's population would be around 1.8 billion. The amount of land is limited and thus ensuring food security for all will definitely be a challenge. The food security has to be attained despite shrinking and fragmentation of lands, climatic adversities, land degradation and many other related factors. Restoration of degraded lands therefore provides an opportunity to cater to the food grains requirements of the ever increasing population. In the country, nearly 147 million ha of land is subjected to soil degradation including 94 million ha from water erosion, 23 million ha from salinity/alkalinity/acidification, 14 million ha from water-logging/flooding, 9 million ha from wind erosion and 7 million ha from a combination of factors due to different forces. The Government of India has also fixed a target of restoring 26 million ha of degraded lands, including salt-affected soils, by the year 2030 to ensure food security for the people. Estimates suggest that every year nearly 10% additional area is getting salinized and by 2050, around 50% of the arable land would be salt-affected. Situation is alarming and we have to act urgently to ensure that things do not go to a point of no return.

THEME OF WSD 2025: This World Soil Day 2025 focuses on urban landscapes with the theme 'Healthy Soils for Healthy Cities.' Beneath asphalt, buildings, and streets lies soil that, if permeable and vegetated, helps absorb rainwater, regulate temperature, store carbon, provide essential ecosystem services, sustain biodiversity and improve air quality. But when it's sealed with cement, it loses these functions, making cities more vulnerable to flooding, overheating and pollution. According to the latest report of National System for Environmental Protection (SNPA) entitled 'Soil Consumption, Territorial Dynamics and Ecosystem Services' in 2024 nearly 84 square kilometers were covered by new artificial surfaces, a 16% increase compared to the previous year. With more than 78 km^2 of net soil consumption, this is the highest value of the last decade. In contrast, just over 5 km^2 were returned to nature, leaving the situation unbalanced: every hour, an area of soil of about 10,000 square meters is lost, as if one tile after another were being removed from the mosaic of the landscape.

Dec. 02, 2025 therefore calls upon all to act and think about urban spaces through their soils and making it sure that men can peacefully coexist with nature in greener, healthier and resilient cities.

(The author writes on agriculture and social issues)

Nari Shakti to Vikas: Focus must shift to Women-led progress

■ **LAKSHMI PURI**

Gender equality and women's empowerment is the organising idea for our brighter todays and our transformed tomorrows. In this age of acceleration, we cannot afford to wait another century to achieve gender parity. The cardinal concept of nari shakti (women's power) and of women as devis (goddesses), which is India's civilisational gift to the world, must now move from symbolic reverence to practical power and take our virasat (tradition) of respect for women into a vikas (development) pathway of women-led sustainable development.

When the freedoms and life chances of half of humanity expand, societies are rewired. Gender equality is an ideal in its own right and also a powerful force multiplier of social, economic, political, technological and environmental progress. The 2015 McKinsey Global Institute report, the 2024 analysis using National Family Health Survey data, and EY's India@100 work, together make a compelling economic case: Closing gender gaps can add 20 to 30% to GDP and is indispensable for India to become a $28-trillion economy by 2047.

India is living through a demographic moment. Our young population will yield a dividend only if it becomes a female dividend. Fertility is declining and the ambitions of girls and young women are rising; India now has near parity in higher education and around 43% of STEM students are women. After years in which women's work was pushed into informality and invisibility, female labour force participation has begun to climb again and must translate into better quality, formal and future-ready jobs.

A defining feature of Prime Minister Narendra Modi's government has been targeted flagship programmes in which women are the principal labharthi (beneficiaries), combined with transversal programmes in infrastructure, health, education and social protection that are gender responsive. Scholarships, hostels andreserved seats have lifted women's presence in higher and technical educationand opened pathways into the knowledge, health, green and care economies. Digital missions and rural programmes have trained tens of millions of women and put smartphones with affordable data and Jan Dhan accounts in their hands, giving direct access to information, markets and services.

Flagship schemes such as Pradhan Mantri Ujjwala Yojana, PM MUDRA, Swachh Bharat and PM Awas have put clean energy, access to credit, sanitation and secure housing in crores of women's names, while schemes such as the Sukanya Samriddhi and Lakhpati Didi have enabled direct benefit transfers into their bank accounts and rising incomes. The next level must move them decisively from labharthi to adhikarpati, from recipients of entitlements to full rights holders and decision makers in the economy and society. That is the essence of achieving SDG 5 on gender equality by 2030.

Intersectionality in India means that many women face multiple layers of dis-advantage through poverty, caste, tribe, religion, disability or location. The abolition of instant triple talaq has strengthened Muslim women's rights in marriage. The election of Droupadi Murmu, a woman from an Adivasi background, as President of India embodies how far a marginalised woman can rise in a republic, deepening its commitment to gender and social justice. The tomorrow we must build is one in which such trajectories are systemic and widespread rather than exceptional.

Freedom from violence remains the non-negotiable foundation of a gender equal society. Ending violence against women and girls in all its forms, from domestic abuse and trafficking to work-place harassment and online hate, must stay at the top of the agenda, together with sustained investment in women's health and in sexual and reproductive rights that guarantee autonomy and dignity.

Political voice and leadership multiply the impact of every other intervention and give women the power to shape tomorrow's rules. At the grassroots, 33% to 50% reservations in panchayats and urban local bodies have created 1.5 million women leaders. The Nari Shakti Vandan Adhiniyam, reserving one third of seats in the Lok Sabha and all state assemblies for women, is a historic step towards real parity in lawmaking and governance. Women are reshaping electoral outcomes, as seen recently in Bihar, as conscious voters rewarding governments that deliver on safety, mobility, education, health and livelihoods.

Culture is an infrastructure of meaning through which societies understand themselves and imagine their future. For centuries it was built from a male vantage of patriarchy, even in civilisations that worshipped the feminine divine. Today, women across the creative industries, from media and literature to cinema, music, sport and digital content, are rewriting that script and reclaiming the Devi idea so that reverence is expressed as equal rights, equal respect and shared responsibility in the home, the economy and the public sphere.

The next level of transformation must now be led as much from offices, board rooms, laboratories and digital platforms as from parliaments. Every institution, from government departments and political parties to universities, research councils, startups and large corporations, must build gender parity into its DNA. This means gender equal education to jobs value chains, where girls move from classrooms into careers in science, technology and artificial intelligence across the wider Industry 4.0 ecosystem. It means corporate leaders and chief executives committing to parity in recruitment, retention, re-entry and promotion, and to many more women in senior management and on boards. It also means a research and innovation system and a start-up culture where women founders, scientists and creators can access credit, mentorship and markets on equal terms.

During its G20 presidency, India placed women-led development at the centre of the agenda, securing commitments on bridging the digital gender gap, raising women's labour force participation, and expanding women's entrepreneurship and leadership. Empowered women are the great transformers of our age. As transformed women who transform their families, communities, countries and the world, they unlock demographic advantage and enable women and girls to live lives of freedom, choice and dignity. If India sustains and amplifies this movement, its civilisational second coming as a leading power will be fast forwarded by a journey to Viksit Bharat (developed India) by 2047 that is lit and led by Nari Shakti.

(The Author is a former assistant secretary general of the United Nations and a leading global advocate of gender equality and women-led development. The views expressed are personal)