



Ensuring Quality Education for All: A Roadmap from 2030 to 2047

Dr. Kanupriya Sharma

¹Department of Chemistry, Biyani Girls College Jaipur, Rajasthan, India

*Corresponding Author E-mail: drkanu.chem@gmail.com

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Abstract

Education to enable India to realize the vision of 'Viksit Bharat @ 2047' and SDGs especially SDG 4 on Education. This paper assesses the successes made in inclusive, equitable quality education and reduced inequalities for children in India by the year 2030 with consideration to issues like infrastructural and technological inequalities and unfilled skilled pre-service and in-service teacher's needs. It brings out innovation and successful and successful practices, and models from different parts of the world that can help fill these gaps. This paper has also looked at the other related SDG's education has in its pursuit together with policy implications in order to lay the right footing for the attainment of sustainability and inclusiveness.

Keywords: SDG 4, Quality Education, Viksit Bharat@2047, Sustainable Development, Inclusive Education, Digital Divide, Teacher Training, Public-Private Partnerships, Educational Equity.

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Introduction

The United Nations' SDG 4 is concerned with inclusive and equitable quality education, and promotion of lifelong learning for young and adults by 2030. Education is one of the keys to sustainable development because it contributes to economic growth, equality, and an increased ability to bring a positive change in society. This is because it facilitates attainment of other SDGs because it is directly related to health, poverty and gender, Sareen and Mandal, 2024. The proposed goals of SDG 4 include ensuring that children within the basic education and early learning ages, primary ending and secondary education receive quality education as well as ending gender, wealth, region, and other disparities in education and ensuring that all learners have skills needed for entrepreneurship, employment, and social mobility in technical, vocational, or post-secondary Colleges and Universities.

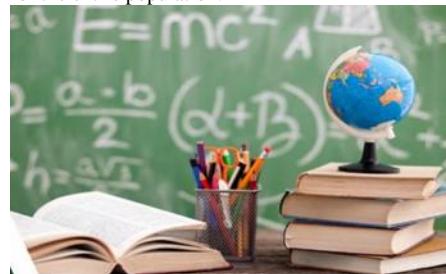
While India plans on attaining developed status by the time it marks seventy years of its regained freedom in 2047, education will continue to form the concern's core. The concept of Viksit Bharat@2047 focuses on skilled and knowledge-based society which can in fact respond to the world and perform innovation. Quality education is very important to prepare India's young generation coming under a large part of demographic dividend to meet required competencies of the 21st century. Education for SDG 4 can foster citizenship, reduce inequality and exclusion; (Nima and Maithili 2022) develop skilled workforce and productive informed citizens, relevant to the needed technological revolution.

Despite notable progress in enrollment and literacy rates, India's education system continues to face significant challenges:

- **Regional Disparities:** The disparity existing between the quality of education they get depending on whether they live in urban or rural areas.
- **Digital Divide:** Current drawbacks include: Lack of proper connectivity solutions underprivileged countries/regions for better digital networking.
- **Infrastructure Deficiencies:** Lack of adequate school structures, learning structures, sanitation then basic education especially in the rural areas.
- **Marginalized Groups:** Limited educational opportunities for girls, tribal populations, and children with disabilities.

• **Quality Concerns:** Present deficiencies in teacher qualification, problem with curriculum relevance, and absence of effective teaching approaches. Much has been done in India over the past few decades regarding enrolments and literacy, particularly at the primary level. Some of the efforts include the Right to Education Act (RTE), the Sarva Shiksha Abhiyan and the Mid-Day Meal Scheme. Nevertheless, educational quality remains a concern, and there is need for improvement in learning achievement (Draboo S, 2020) rather than enrollment rates. Closing the quality gap requires increasing the quality of preparation and training of teachers, changing the curriculum, and adopting an innovative teaching approach that will enable teachers to teach students of diverse learning needs. Moreover, while increasing physical and digital learning environments in schools, urban areas persistently have worse performance and access to infrastructure in comparison to rural and remote areas, which exacerbate existing gaps and confines the options for children in poor rural regions.

In view of analyzing the difficulties like the broad digital gap, heterogeneity in regional distribution, and infrastructure quality, one can set an equitable and powerful framework of education in India. This change is paramount for the nation to achieve all its visions of transforming the country into a knowledge-based society by the year 2047 and shared vision of preparing the nation and its human resource to meet and resolve challenges at the international level and to incubate and sustain innovations and development for the entire population.



Current Status In India And Key Pillars

India has shown appreciable improvement towards execution of the fourth sustainable development goal, i.e., to ensure inclusive and equitable quality education for all. Some of the achievements are enlarging the admission rates with GER at the primary education level rising above 98%, meaning that nearly all children have an opportunity to attend primary school. Secondary and higher secondary levels (Singh, and Kakkar 2021) have also increased; the GERs being 77 percent and 51 percent respectively. Literacy in the country has gone up to about 77.7% and this has seen an improvement in the literacy quality with regard to females. Government of India driven schemes like Beti Bachao, Beti Padhao and Samagra Shiksha Abhiyan have helped in achieving Gender Parity Index (GPI) of 1.02 at primary class. Also, the digital learning like PM eVIDYA, DIKSHA as well as during the pandemic increased the reach to education and the reforms like NEP 2020 tries to make education more holistic, Inclusive and vocational education kind of learning (Yadav, and Dardi 2020).

Even so, there are still considerable problems to be tackled. There is a regional inequity whereby, rural and remote region students have limited ability to access quality education due to limited school facilities and teachers. Its equality status shows low literacy and enrolment rates especially in states like Bihar, Uttar Pradesh and Jharkhand as compare to the national level. Other gaps in Infrastructural development make the problem worse since majority of schools do not have basic amenities like sources of clean and safe water for drinking, respective toilets, libraries and laboratories. There is also one of the lowest scores concerning the digital aspect of the population, with only 24% of rural households possessing internet access. Education quality is the other major challenge facing transformational change in African universities. Lack of teachers, poor and inadequate training and the general adoption of rote learning compounds the poor

performance outcomes which are brought out by the ASER 2022 report showing that only 20% of standard one pupil in rural school could read to the standard of their class. Many a times girls, tribal kids, and students with disabilities are on the verge of further challenges. The issues affected girls as most of them dropped out of school because of societal beliefs, early marriage and lack of protection, while boys from the tribal areas and students of Scheduled Castes and Scheduled Tribes (SC/ST) dropped out school because of poor education standards. On the other hand, children with disability complaints that there is poor infrastructure for them and few resources that reach out to them appropriately.

The study established that Equity and inclusiveness are well-aligned with the goal since inequities related to SES, Gender as well as geographical locations remain robust barriers in the realization of Education Quality for all. Generally, SC, ST and OBC candidates are denied equal opportunities for education due to several factors including poverty, poor infrastructural facilities and social strangulation. The gaps have been attempted to be bridged under the RTE Act and visions under the SSA and other schemes, as well as the scholarships that are available in sectors and arenas.

Yet, there is still a long way to go to achieve equal opportunities nevertheless such works are called to persist partly because rural and remote regions have poor student enrollment and inadequate access to quality education.

The fight against education inequality has been boosted by the role played by technology in improving education, and with NEP 2020 supporting the blend of EdTech into learning systems. Schemes like DIKSHA, PM eVIDYA, and creation of MOOCs have open resource mobilization in digital learning. These platforms make education more open, flexible, individualized and based on skills and entail smaller costs as facilitators of learning. However, the hurdle of digital divide persists, this makes difficulties for student within rural school and households from the economic disadvantaged background. The study also shows the education scenario and shows 24% of rural household has internet facility and the vast majority have lost requisite electronic gadgets for online education. Filling this gap is the need for massive investments in the infrastructure, the accompanied devices and content relevant to different geographic locations in order to ensure that all students are benefitted from technology.

Teachers are very central to the delivery of quality education for students hence any training and development done on them is very important. There is little doubt that while the role of generic capacity-building programs cannot be understated, professional development for teachers and school leaders which relates to pedagogical practice, content knowledge and ICT capability is the key to improving teaching and learning outcomes. NEP 2020 focuses on the professional development of teacher through continuous training and professional development of teachers' Continued professional development with access to modern teaching aids.

Some of the objectives for the modernization of curricula include; implementation of current needs and goals of sustainable development. Reflecting on the goals and objectives of NEP 2020, stress has been laid down on life skills and thinking skills. It focuses on execution and incorporation of concepts that surround sustainability the likes of climatic change and conservation into the learning framework. Further, when vocational training relates to local markets and workforce requirements it easily helps course to ready students to face life responsibilities.

Early childhood education strengthens the foundation of learning hence plays an important role in designing education success. According to NEP 2020, foundational literacy and numeracy, specific start time from class 1 – class 3, is focused due to high dropout rate and poor learning ability among children below age of 8. Toddlers across the country benefit from services such as Anganwadi and Balvatika, for early childhood care and education, however these services need to be improved in terms of physical facility, qualified resource person and curriculum. Achieving and maintaining contextualized quality of early childhood education for children in rural and hard to reach areas is essential to lay a strong educational foundation for a lifetime.

Innovations, Best Practices, Pathways For Achieving Quality Education

The attainment of SDG 4 also requires the use of innovative solution and best practices. Initiatives at the government level India have been very effective major in changing the education scenario. For example, the Samagra Shiksha Abhiyan integrates the many different existing education programs hence giving balanced education and equal chances. There is also an enhanced adoption of gender equal opportunities through education especially girl child through programs like Beti Bachao Beti Padhao., and other initiatives like PM eVIDYA have been able to deliver education during the pandemic times with the help of technology across various mediums.

Other included inputs from non-governmental organizations (NGOs) and the private sector. In this module, organizations such as Pratham have concentrated on foundational learning through formative assessment; Teach for India on combating educational disparities (Beena Pandey, 2018) by placing well-trained fellows in low-performing schools. Such steps show that joint initiatives of the stakeholders will help to achieve results.

In particular, countries like Finland and Singapore should be taken as examples. Currently, Finland has developed tremendous educational system with such principals as teacher autonomy, individualized approach to all students, and limited use of assessments. As with Singapore, adoption of Information Communication Technology and skills- based education make students fit for an advisory economy. India can learn a thing or two from these models in an effort to boost its education system.

EdTech solutions are proving to be highly disruptive and are generally gaining recognition as solutions to numerous challenges, including those related to constrained resources. AI/ML bases platforms do follow the learner centered approach as the content is customized to each of the learners. The incorporation of fun while learning that can be brought by elements of game and understanding that include focused learning that appeals to the young learners. These advances are partners for the future of education, assuming solutions are found for digital divide.

When India celebrates 75 years of its independence in 2047, the country anticipates an education system which will not limit itself merely to reading and writing, and mathematics alone but produce innovative and sustainable characters. Quality of education (Saini *et al.*, 2022) in a developed India will also be defined as openness, fairness and creativity. It will teach students skills for the twenty-first century that are skills like employability skills, information literacy, information communications technology skills among others student- centered skills like leadership skills, communication skills, and interpersonal skills as well as promoting green ethical standards among learners. The education system has to prepare the student to be useful citizens in a sustainable and prosperous society(Vanishree; Madhuri 2022).

Policy Recommendations

To realize this vision, long-term strategies are essential:

1. Strengthening Early Childhood Education: Increase enrolment in quality early learning centers and ensure that both literacy and numeracy objectives of NEP 2020 are achieved.

2. Investing in Teacher Development: Improve Initial Teacher Training delivering focus on recent pedagogy, subject knowledge, ICT competencies.

3. Reducing Regional Disparities: Regional disparities must be closed by prioritizing development of infrastructure and teachers in less served areas.

4. Promoting EdTech Solutions: Intensify the application of information communication technologies in learning so that every learner can afford it.

5. Inclusive Policies for Marginalized Groups: The PTA should also offer spot scholarships for girls, tribal and particularly abled students in particular school zones to help out the less privileged.

6. Curriculum Overhaul: Implement the three additions: sustainability; life skills; and training for jobs into the package so as to bring education into par with the world and country's need.

7. Monitoring and Evaluation: To that effect, there is need to integrate sound mechanisms aimed at monitoring and evaluation in order to facilitate accountability. Periodic evaluations of learning accomplishments, construction of structures, and execution of policies will assist to pin point shortcomings and reassess strategies. In the case of non- profit innovations, partnerships can be seen as the means through which services are later scaled up and replicated.

In this context, while excising these pathways, Education can be turned into the foundation of Sustainable Development thereby helping in achieving the vision of Viksit Bharat@2047.

Thus, to increase the speed of attaining SDG 4 by 2047, there are the following recommendations: Continued governmental and private investment in education; the active involvement of educational institutions in the implementation of the proposed strategies; the active participation of all interested communities and districts of India. The included stakeholders will work together in ensuring the right policies and strategies are implemented operationally.

Moreover, promoting a culture of learning and creativity with education stakeholders will be fundamental in meeting the future global dynamic environment for learning. It should also be aimed at fostering such learning contexts that would accommodate change, variability and complexity of learning situations to foster both; the preparation of students to meet demands of an environment that is continuously changing. If only the right investments in education are made and a road map is set, India can guarantee that each child will have access to good education towards having the best future for the nation.

Bridging SDG 4 With Other SDGs

Education can be a powerful multiplier in improving a range of SDGs where it is a key enabler, as such it will have a domino effect and trigger effects across the other program areas. For example, SGD 1 No Poverty has strong links with education since improved education provide people with skills to obtain well paid jobs and escape poverty trap. Literature has it that educated people are healthier economically secure and mobile and all these factors reduce poverty.

In the same way, the sixth SDG (Clean Water Sustainable Development) works hand in hand with education as no other programs can empower women and girls more than education. Education helps girls to be financially

young, empowered, and be able to take on challenging social roles and positions help to participate on employment and leadership domains. Education of girls represents the economic and social promotion of women and influences changes for young women's gendered trajectories in different aspects of life.

Education is also closely related to SDG 8 (Decent Work) by ensuring that the young people are well equipped for prospective markets. Adopting to changes that occur in industries as a result of technological developments, prepares the young generation with adequate knowledge and skills acquired from quality education that help him/her fit in the emerging economy sectors. Furthermore, education increases both entrepreneurship and innovation (Nagalaxmi *et al.*, 2022) and prepares the society for job markets hence enhancing sustainable economic development.

The same is true with SDG 10- Reduced Inequalities for the same reason; education helps increase people's chances of having better-paying jobs thus reducing inequalities in income level, geographical location, gender among other factors. education empowers the downtrodden groups to be productive citizens and close the loopholes left by the elites or the so-called haves.

Education is not just the tool to empower individuals it's a significant imperative in the approach towards overall development of society. Education has a great opportunity to synchronize or coordinate health, environment and economic development. For example, the health and nutrition courses will increase healthier approach to diseases and diseases preventing, lifestyles, and health care services. With regard to the environment, implementation of sustainable development and regards to the environmental issues assists in developing new generations of people who are aware of the consequences of their actions and able to change the climate on the planet.

Moreover, education plays a crucial role in an economic development process, as through a good quality it prepares the workforce to be productive and adequately equipped for responding reactive and complex economic environment. Since education promotes changes in attitude and behaviors for the betterment of the society, health and environment, SDG 4 can play the role of the key that will unlock this prosperity and inclusiveness (Jana, 2020) to unite various sectors towards the envisioned prosperous future.

Conclusion

Realization of the fourth Sustainable Development Goal, by providing inclusive and equitable quality education to all, is both strategic and central to India's vision of a *Viksit Bharat* in 2047. Being at the center of efforts to promote personal and national development, quality education is the way to promote the development of every person and the country as a whole in the context of the Indian multicultural society. Microcredit is a tool with which people can be pulled out of poverty and, at the same time, it is one of the crucial kinds of the economic activities that can contribute to changing the position of women, promoting health, and protecting the environment. All children of this nation must be given the chance to enroll in a good quality education, so that India could produce technically equipped, well informed and innovative work force to address the concern of 21st century.

But attaining SDG 4 involves much more than simply promises on paper – it equally calls for involvement from every stratus of society. This vision can only be achieved with the synergy of – and partnership between – governments, educational institutions, the private sector, and civil society. The modernization of instructions, use of technology, and the curriculum changes are critical in developing environments that shape critical thinking, creativity and sustainability.

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