Bridging the Digital Divide in Kashmir under NEP 2020: Issues of Access, Equity, and Quality

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Abstract

The National Education Policy (NEP) 2020 positions digital learning as a cornerstone for achieving universal access, equity, and quality in education across India. However, its implementation in Jammu and Kashmir faces unique challenges due to socio-political disruptions, infrastructural deficits, and socio-economic inequalities. This paper examines the critical issues of access, equity, and quality in digital education within the Kashmir region, focusing on how NEP 2020's provisions interact with local realities. Issues of access highlight the scarcity of digital devices, unreliable internet connectivity, and affordability concerns, which disproportionately exclude students from economically weaker backgrounds. Equity challenges are further compounded by gender-based disparities, socio-economic barriers, and recurring internet shutdowns, which widen the gap between privileged and marginalized groups. Quality concerns are evident in the lack of localized e-resources, limited teacher preparedness in digital pedagogy, and the absence of culturally relevant content.

The study underscores that while NEP 2020 initiatives such as DIKSHA, SWAYAM, and virtual labs provide a framework for digital inclusion, their success in Kashmir depends on robust infrastructural development, teacher training, and the adaptation of content to regional languages and contexts. The paper also emphasizes the role of government, local bodies, and public-private partnerships in bridging these divides through innovative solutions such as community learning centers and offline digital tools. Ultimately, ensuring inclusive and sustainable digital education in Kashmir requires aligning NEP 2020's digital vision with ground realities, thereby enabling equitable educational opportunities for all learners.

Keywords: NEP 2020, Digital Divide, Kashmir, Access and Equity, Online Education

Introduction

The digital divide in India has long been recognized as a critical impediment to inclusive development, but its implications in conflict-ridden and geographically isolated regions like Kashmir are particularly acute. With the introduction of the National Education Policy (NEP) 2020, India envisions a digitally empowered learning ecosystem that emphasizes technology integration, universal access, equity, and quality in education. However, the realities of Kashmir pose unique challenges to achieving these aspirations. The region's political instability, frequent internet shutdowns, infrastructural limitations, and socio-economic disparities create deep fissures in the accessibility of digital education. Students, especially from rural and economically marginalized backgrounds, struggle with inadequate connectivity, lack of digital devices, and absence of supportive learning environments. While NEP 2020 stresses the importance of leveraging ICT, online platforms, and digital repositories for democratizing education, these policy ambitions often clash with the lived realities of Kashmiri learners who remain cut off from even basic digital resources during prolonged curfews and communication blackouts. This disconnect not only undermines the promise of NEP 2020 but also risks widening existing educational inequalities in the region, leaving students further marginalized in an increasingly knowledge-driven world.

Going past the question of access one finds the question of equity and quality which are, inextricably, linked. Socio-political sensitivities, gender-based starkness and socio-economic disparities contaminate the NEP vision of fair education in Kashmir by dictating opportunities to digital education perfections. The institute enrolls children in a disproportionately high number who are girls, students in rural institute districts, and children living in low-income households, supporting the status quo rather than breaking it down. In addition, uneven infrastructure, untrained educators, and minimal how and why underlying contextual digital

content adaptation impede the quality of digital education itself. The pedagogy commonly does not make use of local realities thus alienating instead of engaging. Although NEP 2020 focuses on holistic, flexible and inclusive vision towards digital education, Kashmir experience shows how structural inequalities, cultural sensibilities and political disrupts this dream. There is therefore not just a problem to provide digital infrastructure, but to devise strategies that will create/ guarantee meaningful access, contextualized learning and disruption resistance. To close the digital divide in Kashmir within the framework of NEP 2020, this delicate balance must be achieved: fulfilling technological requirements on the one hand and, on the other hand, being socially just, culturally sensitive, and continuously advocated by the policy. The dream of digital learning as a means to empower, provide equity and quality education can only be achieved in one of the most vulnerable regions of India using this method.

Importance of NEP 2020 in Promoting Digital Inclusion

National Education Policy (NEP) 2020 can be described as a transformational policy that is designed to democratize access to education in India, where digital inclusion is a key centrepieces. NEP 2020 focuses on the benefits of using technology to reconcile learning gaps so as to support equal access to education considering the immense socio-economic and geographical differences that serve as obstacles to equal education provision. In its policy, the approach is engaged in making quality resources available to all students through a digital resource hub in programs like DIKSHA, SWAYAM and National Educational Technology Forum (NETF), so that both rural and urban areas learners can access the quality content. W hen encouraging the adoption of technology-enabled platforms, the NEP 2020 extends flexibility in learning, the possibility of accessing multilingual content, and open educational resources, which are significantly important among the areas that lack infrastructure and social-political setbacks such as Kashmir. Notably, the policy does not only imagine digital empowerment of students but also teachers as it also focuses on capacity-building, training, and digital pedagogical skills needed to promote inclusion.

Moreover, NEP 2020 also aims at promoting digital education as a method of equity and quality, whereby the marginalized and disadvantaged individuals, e.g., women, economically poor communities, and learners in conflict-affected regions, are provided access to educational opportunities that they had previously had no access to. The emphasis on the development of virtual labs, digital libraries, e-content in the regional languages expands access and confronts language and cultural issues. The policy facilitates the shortening of digital divide and life-long learning through the promotion of blended learning models and the desired strong ICT infrastructure. In conclusion, NEP 2020 views digital inclusion as not an extra phenomenon as part of education but an extra component of Indian education system in order to attain goals of equity, accessibility and excellence. The fact that it focuses on inclusive digital practices, therefore, makes it a driving force in the transformation of the educational field to meet the needs of the 21 st century.

NEP 2020 and Digital Access in Kashmir

The National Education Policy (NEP) 2020 sees technology as an important enabler to ensure access, equity, and quality in education, especially in parts of India which are underserved like Jammu and Kashmir. Among its key digital learning projects, one can note DIKSHA (Digital Infrastructure for Knowledge Sharing) and SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), the platforms that are planned to provide high-quality educational content to both students and teachers all over India. DIKSHA also offers e-books, teacher training modules, and interactive learning material in various languages whereas SWAYAM offers Massive Open Online Courses (MOOCs) between institute to university level. Coupled with these, other projects, such as SWAYAM PRABHA (24x7 educational television channels), e-pathshala and virtual labs, the goal is to add flexibility and scalability to traditional education through digital options. As is the case in Kashmir, decades of socio-political instability and geographical inaccessibility to key instituteing regularly competes with

consistency in learning and dependency on physical infrastructure, thereby necessitating interventions that can lead to continuous learning yet minimized dependency on infrastructure. The NEP would also consider forming the National Educational Technology Forum (NETF), an idea that may be useful to promote digitally innovative pedagogy and reinforce ICT-supported education especially Kashmir teacher training.

Nevertheless, there have been significant challenges in implementing these programs in Kashmir as these programs have been experiencing unusual regional limitations. Though the national facilities such as DIKSHA and SWAYAM digital platform are in existence, its actual chew in Kashmir has been minimal. Internet shut downs, low bandwidth in the countryside, and unaffordability are the limiting factors to the ease of access to online content. Connectivity gaps still leave many students and teachers unable to download e-resources, or to enroll in MOOCs. Through questionnaires and field research, it is found that metro cities such as Srinagar possess some moderately active involvement of online education programs but minor districts are usually ignored. Moreover, the COVID19 crisis laid bare the stark digital divide in Kashmir with many learners not having access to smartphones or laptops or even regular electricity to take advantage of the NEP-based digital opportunities. Another major concern is the readiness of teachers as low levels of digital literacy and insufficient preparation make it impossible to exploit e-learning tools. Therefore, the realization of the digital vision of NEP 2020 remains lumpy in terms of its progress and highly dependent on infrastructure and socio-political circumstances and factors in Kashmir.

In breaking such obstacles, the role of the government and the local bodies comes in handy. Both the central and the Union Territory (UT) governments have mandated expansion of ICT infrastructure like broadening of broadband connectivity through BharatNet project and digital literacy campaigns. Community-based digital centres with shared access to the e-resources via a local administrative body, institute management committees and Panchayati Raj institutions can be arranged to support students without a personal device. Some of the good examples of such interventions can be the establishment of smart classrooms in government institutes, focus on solar-powered ICT labs in off-grid regions, and the provision of tablets or low-cost devices to marginalized students to ensure their access to digital inclusion as suggested by NEP. Also, collaborations with local NGOs and education trusts have also achieved success in filling the gaps by offering to them offline content via the SD cards, pre-installed tablets, and local area radio programs. Ways of increasing teacher training (through regional training centers etc.) and applications of locally relevant content (in Kashmiri and Urdu) also increase cultural accessibility and inclusion. Finally, concerted force concerning the government, local institutions and social organizations is crucial in turning the digital dream of NEP 2020 to viable access to education in Kashmir. Focus on infrastructure development, digital literacy, and locally focussed innovation will help Kashmir to come closer to equitable digital education projected in the NEP context.

Issues of Access

Accessibility of the available digital devices can be considered as one of the main challenges of the digital divide bridging in Kashmir under NEP 2020. Many students especially those who are in economically weaker sections do not have access to smartphones, laptops, or personal computers necessary in online learning. It is reported that only 10 percent of households in India own a computer and approximately 24 percent have access to the internet; these statistics are lower in Kashmir, a conflict-affected region (NSSO 2020). Most learners just have one family device and this pose a challenge of access to frequent online classes. The penetration of cheaper devices is quite low and this jeopardizes the vision of NEP 2020 to be inclusive.

The problem of availability and affordability of the internet is equally important. Not only are internet services very costly in Kashmir, relative to the household incomes but they are also highly unreliable with frequent shutdown and restrictions. Despite the 4G network services that have enhanced the digital connective setting after 2021, affordability is another driving factor,

whereby, most families cannot afford to pay monthly data subscriptions. One study (UNICEF, 2021) in Kashmir noted that more than half of the students could not regularly attend online classes because of the lack of connectivity or data balance. This lack of access to the digital space diminishes the efficiency of digital learning platforms such as DIKSHA and SWAYAM in the country.

Access problems are further worsened by the issue of the urban-rural gap. Urban areas like Srinagar and Jammu have accessibility to relatively good network coverage and supply of devices but remote districts like Kupwara, Kulgam and Shopian face their extreme crunch on the part of infrastructure. ICT labs and good power are not common in rural institutes therefore online education may be undistinguishable. Consequently, the digital divide in Kashmir is not monolithic but stratified between socio-economic and geographical divisions, which disciplines the egalitarian realization of NEP 2020 digital objectives.

Issues of Equity

The gender-based digital divide is one of the concerns in the digital education scenario in Kashmir in NEP 2020. The girls, mostly those in conservative families and rural families, may not have access to smartphones, or even laptops as their male counterparts do. Research on the use of ICT in conflict ridden regions has shown that gadgets are most likely to be allocated to boy children and the girl students are left to rely on shared or limited facilities. Not only does this decrease their engagement in online courses but it also causes a further gap between genders on these fields of education and access to opportunities. Such situations present great challenges to the intentions of NEP 2020 to have an inclusive type of education due to the combined traditional patriarchal standards with technological obstacles.

The social-economic disadvantage adds more inequity in the digital learning. Families representing the marginalized communities and daily wage workers as well as economically weaker sections are not usually able to afford digital devices or even the recurring expense of internet connectivity. As shown in the Periodic Labour Force Survey (2022), Jammu and Kashmir have a larger percentage of the households living below the poverty line than the nationally-average levels, which is also an exact reflection of online isolation. Most of the students are forced to rent gadgets or have classes in the community centers, thus conservation and quality of the education is compromised. This institutional disparity comes at the expense of the ideology of equal learning opportunity set by NEP 2020.

On top of all this, regional imbalances perpetuated by security lockdowns and closed internet connections in Kashmir further perpetuate these obstacles. Internet shutdowns during political conflict have disproportionately affected students in the Valley and students are unable to access online resources like DIKSHA and SWAYAM. As contrasted to the case of other states, where the main problems of connectivity are infrastructural, the conflict-based policies complicate the situation in Kashmir, and students are in a disadvantaged situation in general. The nature of these frequent breakdowns breeds uncertainty and brings the learning gap between Kashmir and the rest of India into a severe question mark that puts the fair application of NEP 2020 under a serious suspicion.

Policy and Implementation Gaps

There are several issues in implementing NEP 2020 in the region of Kashmir that limit the planned results of digital inclusion and educational fairness. Although the policy requirement is to intensify ICT based learning problems have remained; lack of infrastructures, underdevelopment of teachers and frequent interruptions of the internet still play major spoilers. There is no digitalized classroom or virtual basic ICT laboratory in many government institutes in rural districts of the country and it is a challenge to roll out such an initiative like DIKSHA or SWAYAM massively. There are also chances that the teachers may not have received any formal training in digital pedagogy to prepare to conduct teaching digital instructions. Furthermore, the social and political particularities of the region such as internet blackout during socio-political dissatisfaction establish a systemic uncertainty in the minds of

students and educators. These barriers are indicative of a schism between ambitions of visionary nature incorporated in NEP 2020 and the realities on the ground of education provision of Kashmir.

Going by other Indian states and Union Territories, the application of NEP 2020 in Kashmir suggests even greater systemic delays. Good ICT ecosystems, high level of digital literacy, and active local governments have been used by states such as Kerala, Karnataka, and Delhi to mainstream online education platforms. As an example Hi-Tech Institute project in Kerala, Digital Desh in Delhi have resulted in almost universal digital access to institutechildren, whereas in Kashmir there is still a problem of power shortage and uneven internet penetration. In a similar competition, the northeastern states like Assam and Meghalaya, which are under geographical limitations have managed to participate in online education more points using the community learning centers and the blended models. Based on this comparative analysis, it is evident that Kashmir struggles in control of digital dimensions, although to some extent it is also infrastructural, it is no less influenced by tribulations surrounding conflict that affect its implementation status more precarious than other regions.

The importance of public-private partnerships (PPPs) to fill such policy and implementation gaps cannot be underestimated and is underutilised in Kashmir. Digital Access and innovation through collaboration with Private organization, NGOs, and ed-tech companies are encouraged by NEP 2020 to scale digital access and innovation. Nonetheless, the interaction of governmental agencies with the private stakeholders is limited and has hampered the spread of such models in the Valley. In other areas, NGOs and start-ups may be providing tablets, creating and designing local-language content, or creating community Wi-Fi hubs, but in Kashmir less sustained interventions have existed due to the nature of security issues affecting the region and unwillingness to invest there. Domain where resource constraints may be alleviated through PPP strengthening via contributing to devices, locally produced content in Kashmiri language and Urdu, and offline digital content in shutdown-affected areas. Unless there is effective intersectoral cooperation, policy changes outlined in NEP 2020 may always look aspirational, with students in Kashmir continuing to miss out on the Indian national digital learning revolution.

Strategies for Bridging the Digital Divide

One of the first indicators of meeting the challenge of achieving the digital divide in Kashmir under NEP 2020 is through infrastructure development and sustainable models of ICT. Stable internet connection, steady power supply and availability of low-cost digital devices are the main linchpins of digital schooling. Sustainable digital access can be achieved through the expansion of broadband services provided under BharatNet, ICT labs in government institutes, support of solar powered smart classrooms, etc. in all geographical regions. According to the level of privation of students, access can be even more democratized by investing in low-cost equipment like tablets or e-readers. One of the ways in which Kashmir can better accommodate the national vision of equitable digital learning is through giving priority to the eventual development of long-term ICT infrastructure.

Inclusive programs in digital literacy to students and teachers are equally important. Where students require basic digital skills necessary to access platforms such as DIKSHA and SWAYAM, the teachers should be educated on the digital pedagogy, e-content development and blended learning pedagogies. Training centers can be put up across the region so they are upskilling their teachers and then working at the grass roots level through peer-to-peer learning workshops. Particular emphasis put on training of female students and marginalized populations should be provided to overcome gender-related and socio-economic inequality. One way, empowering both teachers and learners at the same time, these programs will have made a digitally confident ecosystem that can support NEP 2020 reforms.

Policy changes are required to enhance localisation, and multilingual e-resources as one of the ways to reinforce equity and accessibility. Linguistics will be minimized by the development

of digital learning content in Kashmiri, Urdu and other local languages which will enhance study levels among the students. The presence of culturally relevant examples and region specific case studies as well as local history in the digital contents promises higher study relatability and ownership by the learners. In the case of connectivity gaps, available open educational resources (OERs) which are downloadable in offline forms can be relied upon. With these reforms the digital revolution as anticipated by NEP 2020 will not be a dream that could only be as English speaking and urban-centric but will be in every corner of Kashmir when implemented systematically.

Creative solutions like community learning centers and offline digital tools have the overall transformative potential to be used in Kashmir due to its special socio-political conditions. Libraries or community centers with shared digital resources can be a source of venue where students who may not own their own device, or have unreliable access to the internet can go. In order to assure continuity of learning in case of internet shutdowns, off line digital media like preloaded tablets, SD cards, and educational radio broadcasts can be used. Such innovations can be augmented through collaborative projects that will involve local NGOs, universities, and other private partners. The combination of the strategies has the potential to combat these facets of the complex nature of digital divide in Kashmir and bring into reality the vision of the NEP 2020, inclusive, equitable, and quality digital education.

Conclusion and Recommendations

The influence of Nepal 2020 in Kashmir both illustrates the revolutionary potential of digital education and shows the structural challenges that continue to make it an unattainable vision in many communities. Although the goals of using measures like DIKSHA, SWAYAM, and NETF are to make quality education accessible to all, in the case of Kashmir, the problem of regular internet shutdown, the lack of infrastructure, socio-economic inequalities, and regional gaps will hinder the implementation of the policy. Accessibility to devices, affordability of internet welfare, as well as the absence of localized digital information are the multilevel barriers of exclusion, especially to those in marginalized positions, as girls, or students of rural localities. Notwithstanding these challenges, NEP 2020 offers a complex framework that can overcome the educational gap and achieve inclusivity, equity, and learning outcomes of quality in case of adapting it to the particular setting of the Valley. Digital education in Kashmir can succeed, therefore, through not only technological fixes but also through those strategies that overcome social, cultural, political limits that form the digital divide.

To go ahead, a number of recommendations can be given. First, infrastructure development should be one of the priorities of the government by using sustainable ICT models such as broadband connectivity, quality electricity supply, and devices distribution at affordable costs. Second, implementing the teacher capacity-building provisions is to be institutionalized so that a proper digital pedagogy could be realized whereas students should be attended to with comprehensive digital literacy programs. Third, gender digitalization could be achieved through policymakers investing in multilingual and localized e-resources that reflect the Kashmiri culture and learning needs and make digital education accessible and relevant. Fourth, new methods originating digital communal centers, offline tools of learning, and joint community and government cooperation should be promoted to address the disruptions and resource shortages related to shutdown. Here, lastly, to match the irregularities of Kashmir, it is important to continually monitor, incorporate stakeholder participation, and policy elasticity, in bending NEP 2020 reforms to fit changing realities of Kashmir. The adoption of these recommendations will take Kashmiri digital education a step ahead of the NEP 2020 vision of an inclusive, equitable, and quality-driven digital education system, which ensures that it does not leave learners behind.

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