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**A Comprehensive Analysis of Educational, Environmental, and Social Challenges in Pakistan: Bridging Policy, Curriculum, and Community Development: An Integrative Review**

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**Abstract**

This article reports on the scale of the challenges that Pakistan faces in relation to education, environment sustainability and social inclusion, with an emphasis on policy gaps, curriculum development and community-owned solutions. In calling for an integrated set of reforms that tackle these problems together, these positions highlight the importance of linking contemporary systems of education, the environment, and social equality. In the matter of education, the editorial highlights important issues such as inadequate skill-based education, gender disparity, inadequate training for teachers and infrastructure deficiency. It emphasizes the importance of updating the curriculum so that students don't just leave school for work, but also STEM, vocational training and gender-sensitive education to prepare for the world's job market. The emphasis is on the contribution the environmental education makes to sustainability, examining issues such as air pollution, waste management and climate change. The study also examines social inclusion aspects such as how eunuchs, women and students with disabilities are excluded, which highlights the significance of having policies and programs to assist everyone in obtaining better access to quality education. The article analyzes Pakistan's educational and environmental institutions, and compares them with those of countries such as India and Singapore, to see what can be learned about best practices and what needs to be addressed. It concludes with policy recommendations, including aligning curriculum, training teachers, educating everyone and launching community-based initiatives to eliminate the educational gap and foster long-term development. Equal opportunity and access to an education are important and different stakeholders must come together to ensure that Pakistan's future education system is not only equitable and accessible for all but also environmentally benign and allow future generations to be '21st century ready'.

**Keywords:** Social Inclusion, Skill-Based Education, Gender Equality, Curriculum Modernization, Educational Reforms

## **Introduction**

Pakistan has so many problems that are all interlinked and make it difficult for the country to develop in the fields of education, environment protection and inclusion of everyone in society. These issues are not only dragging the nation's economic growth, they are making it more difficult for its people to succeed in an increasingly connected and competitive world. The way to solve these is certainly not in isolation, but through crosscutting and connected changes in education, environment and social justice. This article examines these three critical issue areas in Pakistan and how policy reform, curriculum reform and locally implemented projects can complement each other to foster sustainable development. Pakistan's schools are struggling to keep up with the 21st century. While some progress has been made in altering education policies, serious challenges around factors like too little skill-based education, too little teacher training and discrepancies between boys and girls continue to hinder students' ability to learn. For instance, many students in rural areas are unable to receive vocational educational programs and skill-based learning which are highly demanded in order to prepare them for the global job market (Rafiq-uz-Zaman et al., 2024). The SNC has also faced problems with implementation, especially in rural areas with few resources or qualified teachers (Nadeem et al., 2024). Pakistan faces significant environmental challenges, from heavy air pollution to an ongoing crisis in waste management and what is generally a deteriorating impact from climate change. Smog/smoke as well as car emissions hit cities like Lahore and Karachi the worst and is extremely damaging for the population's health and the economy (Bano et al., 2024). Floods, heat waves and sea-level rise are common occurrences, scars of Pakistan's ranking among the countries most vulnerable to climate change (Khalid et al., 2024). Environmental education in schools, however, remains scant, particularly in the rural and poorer areas. Not only is raising awareness needed, but also to prepare future generations to live in an environmentally friendly manner. Social inclusion remains a major issue, especially for groups that are already on the margins, such as women, students with disabilities and eunuchs. The issue of gender inequality in education has slightly improved; however, rural women still experience difficulties in receiving education due to cultural and economic constraints (Nadeem et al., 2024). Similarly, eunuch community faces difficulty in getting formal education owing to legal obstructions and social stigma, although legal amendments have been implemented to bring them into mainstream (Shafi et al., 2024). But for Pakistan to actually become an inclusive society, it would have to transform not just its schools but also the way people were conditioned to perceive these pariah groups. This article argues that Pakistan cannot sustain its long-term growth unless these interlocking issues are addressed through community-based approaches, mutually supporting policy solutions and long-term changes in the school curriculum. By linking education, the environment and social equity, we can build a future that is more open, vibrant and just for all citizens, and particularly for the most vulnerable. This paper discovers policy gaps and demonstrates the necessity for an education system that is more inclusive, gender-responsive and

environmentally friendly by comparing it with that of the neighboring nations such as India and Singapore. The article concludes with policy recommendations for curriculum reform, teacher education, and local initiatives to assist Pakistan address its acute social, environmental and educational challenges.

### **Educational Challenges and the Creation of New Curriculums**

Pakistan has a lot of big problems with its education system; problems like a long-outdated curriculum, lack of resources and unequal access to education. Though there have been a number of reforms during the past few years, these problems have not gone away and they are still largely preventing any further advancement in education. This section addresses the pressing need for new curriculums and inclusive teaching methods in Pakistan — where an analysis of the crucial challenges in Pakistan's education system is followed by a discussion of the potential of new course material and teaching methods to bridge the gaps and prepare students for a 21st century life.

### **Not Enough Skills-Based Education**

Another significant issue with Pakistan education system is that there is no skill's orient curriculum. That's crucial to getting students prepared for what is an increasingly dynamic job market. In Pakistan, the conventional methods of teaching have put a lot of emphasis on memorization of facts and learning of theories. This has made it difficult for students to acquire what are known as practical skills; critical thinking, problem-solving and creativity, among others. And this way of thinking, it makes it a lot harder for them to find jobs, and that gap between what they learn at school and what employers need is even bigger (Rafiq-uz-Zaman et al., 2024). To remedy this, skill-based education should be a prominent part of the school syllabus. Community college students should have access to training programs, entrepreneurship programs and skills programs that will give them real-world, practical skills that allow them to thrive today in our economy,” she said. In rural areas, where vocational education is particularly scarce, incorporating skill building into the curriculum can help bridge the divide between school and work. For women, in particular, such programs might serve as a boon because cultural and logistical barriers frequently keep them from obtaining higher education and finding employment. Vocational education is one of the way for especially women to become economically independent & influential in conservative areas (Rafiq-uz-Zaman et al., 2024). Teaching people how to be entrepreneurs is one of the most important programs to instill a self-reliant culture and hopefully bring down unemployment and raise growth. Rafiq-uz-Zaman et al. (2024) argue that teaching entrepreneurship in school can create new businesses that contribute to local economic development, particularly in regions where a local economy is otherwise scarce, and local self-employment is an option for survival.

### **Inadequate Teacher Training and Resources**

One of the greatest obstacles to making changes to the curriculum and to education, in general, in Pakistan is the shortage of well-trained teachers. The proposition of education in any system is a teacher-dependent and the better is the teacher, the better is the education, but in Pakistan teachers are not properly trained to use modern tearing methods and the system of professional development is not in place to allow modern

techniques and approaches of teaching to be used in the class room according to the helping material provided and define by the board/authority time and again. Numerous teacher training programs are archaic, which results in teachers' inability to instruct skills based lessons and accommodate all of their students' needs (Nadeem et al., 2024). The government's Single National Curriculum (SNC), which aims to standardize education across Pakistan, has been difficult to implement due to the scarcity of trained teachers and resources. Teachers struggle to accommodate the changes because they don't have much opportunity for professional development or access to new teaching materials. In order for the SNC to work and for the students to benefit, the SNC will require significant funds to be invested in the teachers' continued professional development, in programs that are on-going and can be altered as the syllabus evolves (Nadeem et al., 2024). And how resources are organized remains a huge problem, too. Schools in cities might get by with more money, but in rural areas, schools don't even have the basics, like enough classrooms, technology or teaching aids. To the extent the wealthy won't pay more, it makes it more difficult for them to provide their students with a good education. It is essential that there be adequate training and resources available to all teachers nationwide if a reformed curriculum is to be successfully implemented; as noted by Nadeem et al. (2024) point out.

### **Gender Inequality in Education**

There is no denying that disparity on gender is still a colossal problem when it comes to the educational system in Pakistan, especially in the rural areas. Though there have been some gains in recent years, girls still disproportionately miss school as compared with boys; especially in more conservative areas of the country where cultural expectations limit female schooling. Access is not the only issue when it comes to gender inequality in education – the quality of schooling and opportunities for girls are also in question. There is less funding less space, and fewer facilities in girls' schools as compare to the boys' schools (Khalid et al., 2024). Women are still a long way off from being treated equally, especially in rural Pakistan's education setup. Those things have improved in recent years, but girls remain a lot less likely to go to school than boys, particularly in more conservative regions where local culture restricts girls' education. The disparities between boys and girls are not only about access; they also influence the quality of and opportunities for girls' education. "It is common practice and norm in Pakistan. Girls' schools receive less money and are often overcapacity, lacking resources (Khalid et al., 2024). Despite the government endeavoring to promote gender equality through providing scholarships to girls and working towards increasing the number of girls who are literate, girls' education is being restrained by cultural barriers, particularly in rural and tribal areas. This issue is aggravated further where there are insufficient number of female teachers in rural areas as parents are often unwilling to send their daughters to the school where there are no female teachers (Khalid et al., (2024). And girls often aren't able to attend college because of what society demands of them, a circumstance that shrinks their opportunities for personal and economic advancement. These disparities need to be addressed by implementing a gender-sensitive curriculum. In particular, establishing safe, accessible learning environments for girls and providing them with vocational and skills-based training that can enable them to access the skills they'll need to secure jobs and improve their status in society should be key elements of these shifts.

Training of teachers was said to be lacking gender sensitivity, in order that the teachers could assist girls learning in a manner contrary to traditional gender conduct, and favor equality (Rafiq-uz-Zaman et al., 2024).

### **Inclusive Education for Marginalized Groups**

It also leaves out students with disabilities, eunuchs and others who were historically denied access. Although the law has been changed to facilitate eunuchs in Pakistan in getting education, however, they are still being discriminated and not allowed to attend government schools. Due to social stigma and social acceptance, they are unable to receive even primary education (Shafi et al., 7, 24). Students with disabilities also struggle to obtain an education as there is not enough funding, qualified staff or appropriate curricula. Many times kids with disabilities can't even go to regular schools and have to go to special education schools. Those schools tend to lack the resources they need to serve them well. As Rafiq-uz-Zaman et al. (2024) emphasize the need for effective teaching strategies and curricula that are accessible to all students regardless of their backgrounds or abilities. This is essential to ensure equal access to education for all learners. Inclusive education in the national curriculum will enable students with disabilities and those from marginalized communities to have an equal opportunity alongside everyone else. If we have an inclusive education in the national curriculum, it will allow our society to be fairer and more accommodating. Special resources that can be utilized by schools to facilitate the usage of ICT in inclusive education can be made available with these schools, and teacher training can focus on how to teach students with diversified needs with the best possible outcomes (Rafiq-uz-Zaman et al., 2025).

### **Curricular Adjustments and The Skills Needed in The 21st Century**

It is essential to include 21st-century skills in the current curriculum design of Pakistan so that students get prepared for the challenges of today's world. Students need to learn most of these skills — critical thinking, creativity, working together, communication — in order to do well in what is an increasingly global, technologically centric job market.” Bano et al. (2024) to add environmental education to the curriculum; in fact, doing so is critical to encouraging people to think about climate change and sustainability. Yet many traditional curriculums do not cover such skills, leaving students unprepared for the shifting demands of the job market. STEAM education (Science, Technology, Engineering, Arts and Mathematics) is an interdisciplinary approach that will have students learning to solve real problems with a hands-on, project based approach bringing together multiple subjects. According to Rafiq-uz-Zaman & Imtiaz (2024), STEAM education creates a culture of innovation, problem-solving, and collaboration- thinking very important in living in the complicated world today. Incorporating environmental and sustainability lessons into the curriculum will allow students to understand the critical global issues — such as climate change — and give them the knowledge and skills required to develop green technologies or to use eco-friendly approaches. "Outdoor, this approach does ensure that students are able to work and be responsible citizens in the world" (Rafiq-uz-Zaman et al., 2024).

## **Environmental Sustainability and Policy Creation**

Pakistan is in deep trouble regarding environment, threatening the health of its people and its eco system too. Issues such as air pollution, garbage management and the impacts of climate change have become more acute in recent years, threatening public health, food security and the broader economy. And because the country is on climate-change steroids and home to a plethora of natural disasters — floods, heatwaves and rising sea levels — protecting the environment now tops the agenda. A second part discusses Pakistan environmental issues and the need to create environmental laws and teach people about them in order to promote sustainable behaviors to reduce these risks.

## **Reducing Air Pollution and Smog**

Air pollution is one of the biggest environmental issues in Pakistan, including smog in cities such as Lahore and the wider South Punjab region. (Smog, for the most part pollution byproducts of factories, cars and the burning of crop waste, has become a serious hazard to public health. The studies have indicated that smog is a principal contributor to both respiratory and heart diseases as well as premature death (Bano et al., 2024). Rafiq-uz-Zaman et al. (2024) have claimed that environmental education for air pollution and smog in Pakistan is not adequate and yet more is to be done to engage people in how to reduce smog. Good policy changes are required to resolve this issue. Some of these include using cleaner technologies in businesses, tightening rules around vehicle emissions and launching large public transportation projects that will encourage more people to use public transportation instead of driving. Education system reform is also crucial to make people more conscious of what's bad about air pollution and to get them to adopt cleaner practices. Introducing environmental education into the curriculum can teach students about the causes of air pollution, and how they can make choices that are better for the environment on both a personal and community level. If we can raise a generation of environmentally concerned citizens, saying no smog might finally become a reality (Khalid et al. 2024).

## **Waste Collection and Solid Waste Remove**

Waste management remains a big problem in Pakistan, particularly in fast-growing cities. The larger a city becomes, the more waste it generates, but the means of disposing of and recycling waste are still not good enough. Khalid et al. (2024) report that cities such as Bahawalpur are grappling with a solid waste problem that not only undermines the environment but also harms people's health. Add to that the fact that there are not enough recycling programs, waste isn't sorted correctly and the government isn't doing enough to fund waste management projects, and the issue worsens. To address these issues, Pakistan needs to create effective waste management policies that prioritise reduction, reuse and recycling of waste. Local governments should promote environmentally friendly methods of trash disposal by joining hands with companies, enhancing infrastructure and launching programs that sort trash. The only way to get kids to recycle and manage their waste in a way that doesn't trash the environment is to teach them about the environment while they are young. Schools, especially in urban areas, must include waste management in their curriculum for students. This should involve potential environmental impacts of the waste, as well as the behaviours that can lower people's

personal environmental footprint (Bano et al., 2024). Those measures, combined with government policy changes, have a big impact on the environment by reducing the amount of waste that isn't dealt with.

### **Resilience and Climate Change**

Pakistan is one of the most vulnerable countries to climate change. It's evident in the regularity of flooding, droughts and heatwaves that drive many people from their homes and kill many more. Bano et al. (2024), Pakistan is very prone to climate change therefore, it requires a strong and urgent climate change strategy for climate resilient. This plan should include both mitigation and adaptation actions, such as improved disaster management infrastructure, sustainable agricultural practices and biodiversity conservation. The policies should also encourage shifting to renewable energy sources such as solar and wind to mitigate the damaging impacts of climate change. As well, other educational changes including awareness about the climate are also necessary to prepare future generations for issues associated with global warming. Rafiq-uz-Zaman and Imtiaz (2024) argue that climate change education should be offered in the national curriculum to build awareness about a deteriorating environment and promote the use of green technologies, water conservation, and sustainable agriculture. It's practical skills and novel ideas that students need to acquire in order to address the problems created by climate change. This will ready them to contribute to making society stronger.

### **Schools Teach About the Environment**

Educating people about their environment is a critical part of a culture of sustainability and climate resilience. Including environmental matters into the school curriculum can cause the way children think and act on the environment to change. Khalid et al. (2024) highlight the increasing necessity for environmental education at primary and secondary levels, particularly in environments under threat. Teaching children about climate change, about air pollution, about how to handle trash, can have a significant impact in making sure the next generation has an interest in maintaining the environment. The most effective way to improve environmental education is to include more hands-on learning opportunities in the curriculum. Some things that can encourage students to learn more about environmental concerns are school gardens, recycling programs, and outings to local environmental locations. Rafiq-uz-Zaman et al. (2024) argue that sustainability ought not to be presented as something we learn about, but something we do every day. Both in their personal and professional life, learners need to be promoted to be environmentally friendly. If students are included in such hands-on projects benefiting the environment, through schools, it's possible for schools to create a generation primed to take action against the environmental challenges and take a lead in sustainable initiatives.

### **Some Ideas to Aid the Environment in Remaining Healthy**

Pakistan requires radical changes in the policy in a number of areas, from education and waste management to adapting to climate change, to address its environmental challenges. There are a handful of policy measures that can slow the rate of environmental damage:

Pollution from factories and cars should be severely regulated; clean technologies and energy-efficient practices should be encouraged in every possible sphere. In order to reduce Pakistan's reliance on fossil fuels and mitigate carbon emissions, the government must provide incentives for the use of renewable energy sources such as solar and wind power, particularly in the rural and underprivileged sectors. Invest in public transportation: One of the best ways to relieve congestion, bring down air pollution, and create mobile cities in general, is to invest more money in transit and long-term planning in cities. Reforming Waste Management: Campaigns have to be initiated to create the demand of recycling that enforces a strong message on reducing the amount of waste that is produced. Embedded environmental education: Curricular changes that bridge subjects should integrate EE into every one of them but with solutions that can be implemented in the world such as waste management plan, energy saving program and sustainable agriculture (Rafiq-uz-Zaman et al., 2024). Pakistan's environmental issues are complicated and require a comprehensive approach that involves creating new policies and rethinking the way people receive an education. Broad, flexible policies are necessary to address issues from smog to trash collection to climate change. Environmental education is also very important to make people aware of the environment and to be able to understand and reduce the negative impacts of environmental damage. Pakistan would be able to guarantee a stronger and more sustainable future for its people, by incorporating environmental sustainability in the school curriculum. The government, schools and companies will need to collaborate around these initiatives to ensure that environmental sustainability is addressed in a comprehensive and transparent manner.

### **Social Challenges and Inclusion**

In Pakistan social problems are highly interconnected with issues related to education, environment, and community development. While much has been achieved in addressing these problems, social inclusion, gender equity and taking people from marginalized groups into the school system are still very significant concerns. These challenges are exacerbated by endemic culture norms, limited professional opportunities and institutional blockades that prevent people from climbing the social ranks and continue to perpetuate inequality. This dish tackles Pakistan's major social issues and how inclusive education and policy changes are key to correcting them.

### **Men On the Outside Included**

Teaching and including eunuchs. Eunuch clan is the one of the biggest social issues of Pakistan. Once again, the acts that enforce the education of eunuchs are not well implemented because of social barriers and inhuman acts blocking the way for eunuchs to have a better education. Rafiq-uz-Zaman et al. (2025) stress the importance of the schools that are free to all, so that the most marginalized groups (such as eunuchs) can receive their education without feelings of exclusion or shame. Although the state has made efforts to provide for the formal education of eunuchs, social discrimination is proving to be a strong barrier for their enrolment into the formal schooling system. It is important to include inclusive education in Pakistan's syllabus so that all students—male or female, rich or poor, transgender or straight—have equal rights and opportunities. Education:



Provide gender sensitive curriculum to girls if possible, counseling programs, policy against discrimination promote intergration in societal institutions, reduce bias in society.

### **Disparities in Access to Education between the Sexes**

Gender inequality remains a major problem in Pakistan's schools. While there have been recent moves to close the gender gap, girls in rural and conservative areas still struggle mightily to get an education. Rafiq-uz-Zaman et al. (2025) discuss certain cultural norms and financial issues that deter girls from going to school, particularly in remote areas where traditional gender norms are adhered to extremely closely. It's less likely that girls, and more likely that boys, are in school, and society signals to them that they should be in college. Girls in particular face logistical barriers, social norms and lack of family support in securing vocational and skill-based education. Nadeem et al. (2024) argue that gender-responsive changes in the curriculum are needed to improve the attractiveness of vocational training programs for women and help them gain the skills they need to achieve economic independence and social advancement. This also resonates with pleas to integrate 21st-century skills in schools so that girls also have the same opportunities in the job market.

### **Does Hypnotism Really Work?**

In Pakistan, it remains difficult to integrate children with disabilities in mainstream schools. There has been improvement in some dimensions in the provision of special education, but the combination of a blatantly inadequate number of both resources and trained special education teachers in the schools makes it very difficult for children with disabilities to receive an education commensurate with that of the nondisabled. Rafiq-uz-Zaman et al. (2024) explain that a lot of special education schools in Pakistan don't have the proper facilities, such as adaptive technology, accessible learning materials, and teachers who've been trained to assist special needs students. So that all young people have an opportunity to learn, we need to make policy changes that cause students with disabilities to be in the regular schools and provide the assistance that is necessary for holding their own educational interests. That includes training teachers in methods of teaching special education, ensuring all students can learn and giving schools funds to make their facilities accessible to people with disabilities.

### **Social and Economic Deprivation as Barriers to Education**

The rural-urban divide in schools is a major problem in Pakistan. Khalid et al. (2024) reveal that rural schools particularly Madaris (religious schools) are facing challenges in terms of infrastructure, sanitation and instructional materials. "This disparity in the nature of education directly affects the capability of students to perform well, particularly in the backward and remote areas where modern education is not easily accessible. "A lot of rural students, particularly from Madaris, are unable to match the competition in and around urban centers, which means poverty and social exclusion continue". The solutions will require a lot of money being invested in infrastructure of rural education. This means constructing schools that have basics, providing teachers the resources they need, and allowing scholarships and financial aid to ensure that low-income students can actually go to school. Local stakeholders are key for education in rural areas, and people in the

community must participate. Many schools, including many in rural areas, have very little money and, consequently, cannot provide their students with a good education. Rafiq-uz-Zaman et al. (2024) emphasize that disparities in funding make it difficult for many schools to modernise their infrastructure, purchase teaching materials or allow teachers to develop professionally. It is these schools and special education schools, Madaris says, where members of underrepresented groups tend to go to school that suffer most from this lack of money. When government invests in education, the investment should be about ensuring that all schools have the same level of resources so that underfunded schools can achieve educational needs. And to do that community-driven educational programs should be promoted, such as people from the area working with schools and NGOs to help students learn better and to give them what they need to do well.

### **How Education Can Address the Divide**

Education could play a part in making these people feel more included as Pakistani citizens, but this potential is not being maximized in much of Pakistan. Rafiq-uz-Zaman (2024) argues that Pakistan's education system can help marginalized people of society to equip for a fast changing world by introducing modern subjects like STEM (Science, Technology, Engineering and Mathematics) in the curriculum and through inclusive education. Including a range of subjects and offering inclusive teaching methods, for example, might contribute to bringing people from different backgrounds together or to offering everyone equal opportunities. Further narrowing of inequality can be accomplished by expanding the curriculum to include life skills and social justice. Students should be taught not only school subjects, but also taught to be accepting of others, understanding of others and tolerant of others. This may be key to building a society in which individuals of all gender identities, backgrounds and social status have equal opportunities to thrive.

### **Community-Based Efforts to Include Everyone**

Community-based initiatives are “immensely important to inspire any sense of social inclusion and helping those communities on the margins to address their problems. Nadeem et al. (2024) emphasize the need for local communities to collaborate with schools and government agencies in developing curricula and programs to meet the needs of under-represented groups. These grass-roots efforts have the potential to narrow the gap between policy and practice and ensure that the school system is inclusive of all students and meets their needs. The federal and provincial governments need to provide funding and incentives to enable these community-driven initiatives to succeed. Collaboration with local community, teachers and policymaker will ensure marginalized groups such as eunuch, women, differently abled students got the opportunity to learn and associate themselves with society. Pakistan has many cultural problems that make it difficult for individuals to be educated and rise in society.” Such problems as gender disparity, marginalization of the socially excluded and economic hurdles can all be addressed by holistic educational reforms. There should be broad-based education facility for all kinds of students – the disabled persons, inverts and women, so that everybody in the society get equal educational opportunities. And addressing the disparities between

socioeconomic status and improving schools in rural areas will also narrow the urban-rural education gap. Pakistan can ensure a more equitable education system for all through attention to social inclusion, gender parity and community-driven interventions.

### **Different Studies Use Different Methods**

The studies under considerations use diverse tools to explore the challenges that Pakistan is encountering at educational, environmental and social levels. These approaches are designed to respond to specific research questions and receive quantitative and qualitative information in order to have a comprehensive view of the issues and potential solutions. The methods used in the studies are summarized according to their approach, and emphasis is placed on how these methods serve to offer practical policy make use of suggestions.

### **Quantitative Methods**

Several studies, such as those on curriculum requirements of Madaris (Rafiq-uz-Zaman, 2024), utilized quantitative surveys to collect data on a wide scale. Most of these surveys are in the form of structured questionnaires with Likert scale items, designed with an aim to determine what people think and have experienced in a range of issues. Statistical techniques are being applied in madaris infrastructure studies to assess the problems of the classroom building and access to modern educational materials as well as to analyze learning outputs. Data are analyzed with descriptive and inferential statistics, and programs such as SPSS or Excel are often employed to ensure the findings are accurate and dependable. This approach has the advantage that it can give us a big picture view of systemic issues, providing us results to inform policy recommendations on a population level. The trouble with it, however, is that it may not simply capture how complex, contingent factors shape educational practices and outcomes. Descriptive statistics is employed to present the responses of the respondents in studies like "Assessing Health and Environmental Risks: Educational Awareness about Plastic Usage and Solid Waste Disposal in Bahawalpur" (Bano et al., 2024). This type of analysis is useful towards discovering trends, patterns, and main concepts in the data. It speaks to how attuned the participants are to such environmental issues as plastic pollution and waste management. Descriptive analysis is key to gaining a basic understanding of how well the public is informed, which can guide future educational and policy efforts.

### **Qualitative Methods**

For understanding the private experiences and points of view of people who are dealing with trouble in school, the environment or with society, qualitative research is very important. A number of education and eunuch inclusion (Rafiq-uz-Zaman et al., 2025) and eunuch inclusion in Madaris education (Rafiq-uz-Zaman, 2024) studies combined semi-structured interviews and focus group discussions as a way of uncovering the experiences of frequently marginalized groups. Interviews address issues such as access to education, cultural perceptions and social stigma. Focus groups, on their part, allow people to share experiences and discuss potential solutions. We employ thematic or content analysis to examine the data from the interviews and focus groups. "They enable us to identify common themes and patterns which can in turn inform policy

recommendations and changes in the education system. This approach provides researchers with a much better sense of what it is like to experience this as an individual than more quantitative methods can. Case studies are a powerful medium to get a deep and empathetic appreciation of any educational or statewide challenge. Researchers in publications such as “Smog Mitigation and Climate Resilience in Pakistan” (Rafiq-uz-Zaman et al., 2024) employed case-study research to explore how certain environmental policies and measures worked based on the profiles of small urban places such as Lahore and Bahawalpur. The case studies enable a deeper dive into local experiences, and demonstrate how certain areas have addressed issues such as air quality and climate action. By identifying the effectiveness and failure of these policies, researchers can make a more specific recommendation for policy.

### **Mixed-Methods Approaches**

Other studies, such as “A Critical Analysis of Infrastructure Facilities for Students of Madaris” (Rafiq-uz-Zaman, 2024) blend quantitative and qualitative data gathering and analysis for an in-depth perception of obstacles. Here, surveys are used to collect data on the infrastructure shortcomings in Madaris and interviews with teachers, students and members of the community provide qualitative data on how these shortcomings affect the experiences and educational success of Madrasa students. The value of this triangulated mixed-methods approach is on its capacity to triangulate findings by using both numerical and narrative findings that contribute to a richer understanding of the phenomenon. This approach guarantees that the research result will be not only statistically significant, but realistic, thus more applicable and actionable for policy makes and educated.

### **Questionnaire and Observation**

The research on academic need of Madaris in South Punjab (Rafiq-uz-Zaman & Ashraf, 2025) used mixed method including structured questionnaires for quantifying perceptions of the students and the systematic observation was to determine the level of physical infrastructure of these Madaris. Through the combined use of questionnaires and observational methods, scholars were able to perform a triangulated confirmation of findings; and were able to present a comprehensive picture of the problems faced by Madaris students. This approach is particularly helpful in the representation of perceptions, internal representations, and objective realities, yielding greater depth of view of the educational context.

### **Document and Policy Analysis**

#### **Reviewing Policy Documents**

In a study that aimed to assess the influence of education policies (Bukhari et al., 2025), researchers used document review to scrutinize the consistency of policy objectives and desired outcomes. This includes analyzing government reports, policy documents, and official publications to examine whether policies such as the Single National Curriculum (SNC) and gender equality initiatives in education have been effective. Policy documents Crime and participation policies are used to identify what is promised and what is being delivered. This approach is useful for tracing the translation of policy into practice, but is

likely to benefit from further fieldwork to verify results and to address contextual factors that shape implementation of policy.

### **Comparative Analysis**

Comparative studies like “Comparative analysis of skill-based education curriculum of Pakistan and India” (Rafiq-uz-Zaman & Nadeem, 2024) are also employed to compare two educational systems of two countries. Through these comparisons in curricula, pedagogical approaches, and learning outcomes, researchers may be able to find both promising practices and practices in need of change in the system as a whole in Pakistan. This comparative study provides insights from other countries, bridging gaps where the education system in Pakistan can be enhanced. Comparative analysis is beneficial as it may generate cross-national learning that may help to make the policy changes in Pakistan and improved the educational system of Pakistan by replicating the successful strategies of other nearby countries.

### **Thematic Synthesis and Literature Review**

#### **Narrative Reviews**

Some studies like STEAM education (Rafiq-uz-Zaman, 2025) adopted the narrative reviews to integrate literatures on certain educational phenomenon. A narrative review is the systematic exploration of a body of literature focusing on a topic or theme to gain an overview of its general contents. Researchers can use this method to describe what is known and where there are knowledge gaps that might inform future research and policy development. Narrative reviews can be key for elucidating the big picture and developmental processes of a specific line of research that enlightens researchers so that they can integrate into a retrospective view the historical perspective of a field into current developments.

#### **Environmental sustainability**

Thematic analysis is applied in environmental sustainability research works to classify and interpret information from qualitative data including interview, questionnaires, and secondary data (Khalid et al., 2024). This approach enables researchers to mine valuable information in relation to environmental education, waste management and smog control by structuring data around key concepts/topics. The pattern identification process that thematic analysis enables can underpin actionable strategies for policy making and community engagement.

### **Integration of Multiple Approaches**

The works in the area of educational, environmental and social challenges in Pakistan, therefore, present an eclectic account of issues by employing a variety of techniques and approaches. This methodological pluralism is better suited to ensure the strength of the results and the external validity to the "real word". The methodologies used in the studies range between quantitative, qualitative and mixed-methods design, thus leading towards a comprehensive overview of Pakistan's education, environment and societal problems. These approaches enable the gathering of diverse statistical insights complemented by verbatim personal narratives so that the resulting research findings are both wide-

reaching and applicable. Using multiple methodologies, the reports present a complete view of the difficult issues that confront Pakistan and valuable lessons for policy makers, educators, and community leaders.

### **Key Findings and Contributions**

The researchers examined in the papers supplied provide new perspectives of education, environment and social problem in Pakistan. These researches immensely enrich the knowledge about systematic problems of the education system, environmental problems, socio-cultural obstacles in the development. The research results not only illuminate the major obstacles, but also offer practicable advice on how to overcome them. We summarize the main findings and contributions in what follows by themes.

### **Educational Challenges and Curriculum Gaps**

**Madaris and Traditional Curricula** A key recommendation from the research study “Academic needs of Madaris in the 21st century “(Rafiq-uz-Zaman & Ashraf, 2025) is that religious schools (Madaris) are still bound by the traditional Dars-e-Nizami curriculum, which does not incorporate modern subjects like computer literacy, vocational training and STEM education. By not having it, students are not prepared to enter the current labor market, sustaining the exclusion processes of social and economic integration in place. The researchers’ study suggests that there is a need for introducing contemporary studies in the Madaris curriculum to prepare students for the challenges of a dynamic world (Rafiq-uz-Zaman & Ashraf, 2025). The study of “Empowering Women through Skill-Based Education” (Nadeem et al., 2024) highlights the curriculum modernization program is essential which combines professional education as part and parcel – specifically for women. The findings of the paper suggest that despite the increasing requirement of the skilled labour in urban and underserved parts of Pakistan, the nearby human capital (i.e. the women) do not have access to the local educational institutes. Gender disparity in access to education is more pronounced, particularly in rural areas where women are less likely to avail themselves of vocational education and learning, to be in a position to improve their economic status. The author recommends that curricula be gendered in order to ensure accessibility and inclusion in vocational training programs. The findings from the research “Improving Environmental Education for Smog Reduction” (Khalid et al., 2024) show that teachers do not get training in environmental education. Teachers are not informed enough and do not have enough resources to teach students about the urgent environmental issues, namely smog and generally climate change. The research also suggests development of a series of teachers’ training programs in environmental education to enable teachers effectively deliver this important program.

### **Social Challenges and Inequality**

The gender gap in education is a common theme in many of the studies. The research “Met social and environmental challenges: A mixed-method study of eunuch education and inclusion” (Rafiq-uz-Zaman et al., 2025) indicates that the eunuch community in Pakistan suffers from severe social exclusion and education discrimination. Although legislative measures to facilitate inclusion drive eunuchs have been put on place,

prejudices prevent many from availing a proper education. The study calls for more inclusive education and social sensitization for reducing the pangs of social stigma towards education of marginalized population. SEIs in Pakistan are commonly beset with inadequate physical facilities and skilled manpower to cater to the needs of children with disabilities (Rafiq-uz-Zaman et al., 2024). This results in social ostracism and disempowerment for special needs students. The research suggests policy shifts that would emphasize better infrastructure, specialized training for all educators, in order to provide equal access to education for students with disabilities.

### **Environmental Challenges and Sustainability**

The key results of “Smog Mitigation and Climate Resilience in Pakistan” (Rafiq-uz-Zaman et al., 2024) is that the level of environmental education at schools is inadequate to deal with rapidly emerging environmental disaster, specially smog in urban areas such as Lahore. The research also suggests that public recognition of smog and its health impacts is low, thwarting efforts to protect against it. The report suggests including environmental education in the national curriculum, particularly in urban areas, to sensitize the future generation toward sustainable living. 6 The study on “Solid Waste and Environmental Sustainability: Educational Approaches for Managing Urban Waste” (Khalid et al., 2024) highlights poor waste management in the city, similar to Bahawalpur. The research discovered that a troubling lack of public knowledge and education around recycling and waste is a factor in the environmental decline. The study suggests that schools should include waste management as a subject in the curriculum and focus in particular on recycling and sustainable lifestyles so we can all play our part in preventing pollution. Findings of the Study The research study conducted, “A Critical Analysis of Infrastructure Facilities for the Madaris Students” (Rafiq-uz-Zaman, 2024) recognized absence of infrastructure as a significant obstacle which retarded both the educational progress and the ecological sustainability. 2- Madaris in particular, in the countryside, where he can’t get proper ventilation, sanitation, no safety, which does not only have impact on students’ health but also their learning. The research recommends the construction of better facilities and incorporating green technology in school buildings to minimize environmental effects and to enhance a better learning environment.

### **Policy Gaps and Recommendations**

The research “Analyzing the Impact of Education Policies” (Bukhari et al., 2025), identified major delays that exist from foundation to implementation of policies in the education sector of Pakistan. The so-called solution of such problems, like the single national curriculum etc., could not be enforced due to the lack of regular monitoring of systems through committees; lack of involvement of the stakeholders and resource starvation of such projects. The research urges policy changes for facilitating the process of reforms and improving its quality, highlighting the community engagement and accountability. The report on Madaris “Academic Needs of Madaris in 21st Century” (Rafiq-uz-Zaman & Ashraf, 2025) recommends policy instruments like standardized funding formulas linked to achievement for addressing deficiencies in infrastructure and syllabus. The report recommend that such reforms would moderniseMadaris and bring

them into the mainstream educational system, preparing students for religious education and employment in the contemporary employment markets.

### **Technological Integration in Education**

STEAM Learning and Teacher Training “STEAM: A Modern Concept and a Set of Initial Early Childhood Education” (Rafiq-uz-Zaman, 2025) illustrates the prospective of Science, Technology, Engineering, Arts and Math (STEM/STEAM) education in promoting critical thinking, imagination and problem-solving among learners. The research recommends teacher professional development programs to be developed for teachers so as they can adequately teach and integrate STEAM in the classroom. By incorporating STEAM education students will be more prepared to meet the needs of society in the 21 century and beyond in our ever changing technological world. The main contributions from this research point out the critical barriers the Pakistani education encounter, in particular, lesson plans and curricula, gender-bias curriculum, marginal communities excluded, and no teacher training. Environmental problems such as smog and waste disposal add to these struggles. The policy proposals in all the studies emphasize curriculum reform, gender-related reforms, teacher training, and solutions that involve the local community to tackle these diverse issues. The findings of these studies plug a serious research gap and are most helpful in the current debate on policy to reform education in Pakistan and for making society more inclusive, sustainable and equal. The recommendations, that have been given, provide a roadmap for policy makers, educators and community leaders to collaborate toward a better future for all, and more immediately for those who are most vulnerable.

### **Discussion**

The research studies reviewed in the earlier sections present a holistic picture of Pakistan's educational, environmental and social issues. This paper will synthesise results and relate them to broader policy, practice and community development themes, identifying how these themes illuminate, and are illuminated by, broader tapestries of social life.

### **Relationship Between School and Social Inclusion**

The studies repeatedly emphasize the importance of education in promoting social inclusion. Society and structural inequalities pose obstacles for marginalized groups, especially the women and the eunuchs, in seeking educational opportunities. It is such a contradiction that works like “Tackling environmental and social challenges: a mixed method study on the education and inclusion of Eunuchs” (Rafiq-uz-Zaman et al., 2025) demonstrate; the gap between laws on the one hand and their perceived or real exercise down to the grassroots on the other. There are laws in place for the welfare of the less privileged classes like eunuchs; however, social discrimination and harassment by educational institutions are still common, and so, less privileged communities including them have very limited access to appropriate education. Combine gender biases are equally the order of the day, as observed in the results of “Empowering Women through Skill Based Education in Pakistan” (Nadeem et al., 2024). Women in Pakistan, particularly in the rural areas, continue to be at the raw end of the deal as far as



educational and skill-building chances are concerned. Although some strides have been made, considerable cultural and economic obstacles persist. According to the research, the societal norms and economic pressures as well as lack of affordable and accessible education that have for decades kept women out of the workplace, thereby denying them financial autonomy and perpetuating the traditional gender role pattern. A comparison of Madaris (Rafiq-uz-Zaman & Ashraf, 2025) demonstrate how the religious schools, where a large percentage of underprivileged students are studying, are also devoid of contemporary education system. The absence of relevance to present day studies such as computer literacy and vocational training means that the posted chances for the future to the students are next to non-existent and the terminal arm continues to extend to the poorer bulging sector within this class divide.

### **Obstacles to Education and the Infrastructure**

structure continues to be one of the major hindrances in the way of realizing the education equity in Pakistan. The literature on Madaris (Rafiq-uz-Zaman & Ashraf, 2025) shows that many of them do not even have elementary educational facilities (e.g., access to appropriate classrooms and toilets) or the student-teacher ratio. The overcrowding and lack of resources in the classrooms compromise the quality of learning and hinder the students' educational experience. Inadequate investment in infrastructure affects the quality of education and contributes to cycles of poverty and exclusion. The results of the study "Critical Analysis of Infrastructure Facilities for Students of Madaris" (Rafiq-uz-Zaman, 2024) also highlight the differences of infrastructure facilities in urban and rural areas. Practical limitation: The rural schools and Madaris don't even have basic facilities like electricity, ventilation, and benching system which are direct effects on the environment for learning. This infrastructure gap does more than directly impact students' achievement; it affects their health and well-being as well, serving as a physical and psychological impediment to learning.

### **The Challenges of Environment and the Implications On Education**

Environmental problems, smog, refuse handling and disposal is one more example of how education is instrumental in solving social problems. According to "Smog Mitigation and Climate Resilience in Pakistan" (Rafiq-uz-Zaman et al., 2024) research work, educational institutions are failing to tackle the environmental issues on their part which is not only affecting human health but also impinging on the national economy. No Environmental Education: There is no public awareness to the long-term impact of such smog and pollution as the environmental education is really missing, especially in the urban area. Environmental problems must be included in school programs so students can learn to contribute to solutions, thus enhancing education about the environment. Moreover, waste disposal is common problem in many urban schools especially in Bahawalpur (Khalid et al., 2024). The study suggests that, although environmental education has a role in enhancing waste management practices, the availability of resources and institutional support is a barrier to schools in adopting effective waste management. When students are taught about reducing waste and recycling, students start school cultures that reflect respect for the environment, which is the beginning of the end of toxic urban neglect for the environment.

### **Curriculum Modernization and Teacher Training**

Another crucial challenge is the mismatch between our existing curriculum and the skills required for the 21st century. Results similar to this study are found in "Innovative Integration of Environmental Awareness into Mathematics Education" (Rafiq-uz-Zaman, Shamim, Winiewski, Lewandowski & Bukhaky, 2024), which indicate the necessity for updating curricula to incorporate interdisciplinary courses such as environmental science, technology and vocational training areas. The fact that the curriculum has not been revised will have a great effect on the students who will miss out on acquiring critical thought, creative and problem-solving skills—the very skills needed in today's market. Another area of professional development identified in many of the studies for development is teacher preparation. "The role of enhancing environmental education for pre-emptive smog mitigation in urban areas of south Punjab " (Khalid et al., 2024) stresses the need for teachers to be trained (teaching skills and training in the subject matter of environment) to better teach environmental subjects.

3.3\_No\_Proper\_Professional\_Development\_Our teachers are not able to communicate important concepts of sustainability and environmental issues. A properly trained and enlightened teaching staff is necessary to carry out the changes that these environmental and social problems call for.

### **Policy Gaps and Institutional Challenges**

Studies show large policy deficiencies in education and environment; sustainable funding is needed. For instance, "Analysing the Impact of Education Policies" (Bukhari et al., 2025) points out how the mismatch between policy making and implementation has hindered the development of education reforms. Although new policies are being introduced such as the Single National Curriculum that seeks to standardize education across the country these are more often than not unable to transcend the urban-rural divide in education and tackle the particular needs of the marginalized groups. Poor stakeholder involvement and monitoring mechanisms also limit the enforceability of policy. As reported by Rafiq-uz-Zaman et al. (2025) are to be flexible and participatory, welcoming input from local communities, teachers and students to tailor these policies to their own communities to make a difference. It is also for more effective monitoring and evaluation of progress of educational reform and of environment action.

### **Role of Community and Government Partnerships**

The government also decided to involve local government studios and mass organizations at village level because they know better the environment and more closely interact with the population.

In multiple studies, the importance of community-based programmes is highlighted for promoting social inclusion and educational achievements. Research such as, "Revealing Critical Success Factors for skill-based Educational Programs in Pakistani Schools" (Rafiq-uz-Zaman et.al, 2025) indicates that community-institutions governments collaboration produce better results in the development of curriculum, improvement in infrastructure, and providing access to marginalized groups. The role of the government in providing financial support to educational institutions and advocating inclusive policies is also observed to play a vital role in addressing social and educational

challenges. Reform also remains constrained by limited financial means and lack of policy coherence and accountability. Research consistently advocates for more spending on education and infrastructure, and for government policies to favor social inclusion, gender equality, and environment. Based on the studies reviewed, systemic reforms in terms of Pakistan's education and environmental policies and practices in social inclusion are strongly recommended. Major findings indicate that the lack of infrastructure, curriculum weakness, and teacher ill-preparedness are major impediments to successful schooling. It is also due to lack of environmental education, it is due to the challenges that are experienced by minority communities, that we also demand for an earth sustaining education, as well as policy development. The researches tale significance of the linkage between education, social inclusion and environmental sustainability and lend a blueprint to future reforms intended to address these gnawing challenges in Pakistan.

### **Comparative Analysis of Key Findings**

Comparative Analysis of Key Findings: The key findings of the report seek to address the crucial educational, environmental, and social issues confronting Pakistan, and compare these to global scattered trends to places like India and Singapore. Through special emphasis on specific domains like skill-based education, gender discrimination, underprivileged community's involvement, environmental education and infrastructure, this section illuminates the strengths and limitations of Pakistan's education. It also proposes areas for action to be taken and draws lessons from successful policies in other countries.

### **Skills Education and Vocational Pakistan vs. World scenario**

Vocational sector in Pakistan is not up to the mark even other countries in region like India is very far ahead in the development of skills. According to study "Comparative Analysis of Skill-Based Education Curriculum in Pakistan and India" (Rafiq-uz-Zaman & Nadeem, 2024), the India has well established skilled training programs under the banner such as National Skill Development Mission (NSDM) aimed at empowering the youth to make them eligible for the job market with the demand of the time in the field of IT, motor mechanic and many more. Compare to Pakistan, who rely on traditional vocational education, and are not market oriented (Ali, 2023). Sánchez-Triana et al. (2014) is that in comparison with Brazil and Mexico, India has a more comprehensive strategy to include training within its education system for the youth and this in turn leads to lower youth unemployment. Vocational education in Pakistan is not yet industry–academic jointed that is an important obstacle to skill-based training (Ali et al., 2020). Recommendation: Pakistan extend its vocational education system to modern industries and market-based skills to converge better with the global ask and global job-markets, similar to India's NSDM.

### **Education and Women's Empowerment Gender Discrimination in Education**

The research paper "Empowering Women through Skill-Based Education in Pakistan" (Rafiq-uz-Zaman et al., 2024) claims that gender inequity is still an impediment to women's access to education in Pakistan, especially in rural and conservative areas. Even with initiatives like the Benazir Income Support Programme (BISP), gendered

expectations and economic constraints are still preventing women from attending school. In India, efforts to increase participation of women in vocational fields like beauty services, retail, and health care through gender-responsive policies such as PMKVY have met with success (Schultz et al., 2013). India's strategy overcomes cultural barriers, while Pakistan is in the process of-policy development to take on those hurdles at scale. Recommendation: Like India's PMKVY, Pakistan should encourage gender inclusive policies focusing on equal share of vocational and skill based education for women, particularly in rural sector.

### **Education of Marginalized Communities Eunuchs**

“Common fate and social discrimination: The education exclusion of eunuchs in Pakistan” (Rafiq-uz-Zaman et al., 2025) exposes the continued discrimination that underlies the eunuchs' lack of access to education. The stakeholders dedicated to child welfare never be strict with the role offers for children's development. Social prejudice and discriminating things get in their way to education even when there are laws to protect the disabled and promote their inclusion. Current Indian Legal Reforms Opportunities The country has been currently putting forth efforts toward increasing inclusion of marginalized communities through legal pursuits (NALSA Judgment, 2014) enabling transgender persons to avail rights and inclusive education and job opportunities (Schmidt & Hesse, 2018). Pakistan, on the other hand, continues to grapple with enforcing such policies which leave minority groups like eunuchs without necessary resources. Recommendation: Pakistan needs to replicate Indian NALSA Judgment long passed and should have such inclusive policy where there is same education opportunity for all, including eunuchs.

### **Environmental Education & Awareness Environmental Challenges in the Education & Skills Sector**

This study “Augmenting XDML Instruction for Pre-emptive Smog Preventive Measures in Urban South of Punjab” (Khalid et al., 2024), focuses the weak environmental education towards Pakistan, in specifics about the smog and pollution limitation. The study stresses the importance of environmental knowledge to cope with urban smog, among other environmental problems. On the other hand, in, Singapore environmental education has been incorporated into the national curriculum, and which has resulted in success in environmental sustainability and waste management (Zhou et al., 2002). Singapore's preemptive actions have converted environmental consciousness into an integrated part of school curriculum, a move to which Pakistan has not completely responded. Recommendation: Pakistan should follow Singapore's lead by making environmental education part of its core curriculum on a national level, and emphasize hands-on learning and community participation in environmental projects.

### **Lack of infrastructure and social inclusion, Infrastructure and social inclusion Gaps**

The dissertation “A critical analysis of infrastructure facilities for students of madaris” (Rafiq-uz-Zaman, 2024) elaborates infrastructure deficiencies in fuctive lines, i.e., electricity, ventilation, sanitation etc. in madaris of Pakistan. The absence of basic infrastructure holds back students' learning and general well-being. The Indian

Government has contributed in enhancing the school system infrastructure in rural India through SarvaShikshaAbhiyan (SSA). This scheme has improved the infrastructure in government schools and has led to increased enrollment and retention in rural areas (Batra, 2009). There is one problem though, the infrastructure is weak even now, the impartation of quality education to the students is affected due to poor infrastructure. It is time for Pakistan to develop its school infrastructure, especially in rural areas (and Madaris) to provide safe and appropriate learning environment for all students which is being practiced in India through its SSA model. Comparative analysis of this kind underscores the shortfall between Pakistan and countries such as India and Singapore as far as the provision of vocational education, gender inclusiveness, access to marginalized communities, environmental education, and educational infrastructure are concerned. Schemes which appear to be comprehensive and inclusive on the part of India and Singapore are pragmatic examples for Pakistan to adopt such sorts of reforms which can alternative of those gaps. By improving vocational education, inclusive policies, environmental education, and infrastructure investments, Pakistan could move toward a more equitable, inclusive, and sustainable system of education.

## **Conclusion and Future Directions**

### **Conclusion**

The review has demonstrated that the educational, environmental and social problems that Pakistan faces are tightly inter-woven and a holistic response that is geared towards transformational change is required with the policy, curriculum and community development figure large in such reform. Barriers to the education system in Pakistan The education system in Pakistan is subject to several systemic constraints: the absence of demand-driven skills, gender parity, inadequate teacher preparation, infrastructure and more. These obstacles are detrimental for the quality of students academic achievement and limit their potential contributions to development and further social and economic autonomy. Simultaneously, the environmental issues like air pollution, management of waste, and impact of climate change further contribute to the public health complication and resist the sustainable development of the country. Element of environmental education is very necessary for citizens in order to act in sustainably and provide solution to the environmental crisis. Social incorporation Social inclusion remains an immense issue in Pakistan; there are many marginalized communities who are still ironing out their efforts to gain access to education (women, eunuchs, blind students). Socioeconomic inequities, particular urban-rural inequity, also contribute to exclusion of the disadvantaged group. This review challenges based on the experiences of India and Singapore, with valuable lessons for how to resolve these problems. This skill-based education system, gender-sensitive policies, environmental education and many more such reforms constitute a good model for Pakistan to follow. In the same vein, Singapore's approach to sustainable development and infrastructure is an indication of the need for cross-disciplinary educational reform and community-oriented initiatives.

### **Future Directions**

To properly confront these complex challenges, the following key areas ought to be the focus of future research and policy development: Curriculum Reform and Integration of

Modern Subjects Future research ought to investigate the development of national curriculum that incorporates modern subject areas including STEAM, vocational training, environmental education, and gender-sensitive curriculum. This fusion is the missing link between the education sector of Pakistan and a billion-dollar job industry across the World! Pakistan needs interdisciplinary curriculum that bridges religious education (sic – Madrassas) and modern subjects, to make sure every student has meaningful knowledge for the 21st century.

### **Gender Equality and Empowerment in Education**

One important future challenge is to consolidate gender-sensitive educational policies. Studies are needed to evaluate skill-based education programs for the empowerment of women and girls, especially in rural settings. Gender-inclusive education efforts, such as vocational learning, can assist in narrowing the gender gap in working and make those unwanted cultural and economic pressures against female schooling more surmountable.

### **Special Education and Disability Inclusion**

In future, more attention will be paid to infrastructure and teacher's training for special education schools. Research on inclusion of children with disabilities in regular schools is also necessary. Policies on integration education must be established to guarantee that students with disabilities equally access to education, and that they are not isolated from the social environment of the regular classroom.

### **Environmental Education and Sustainability**

In view of Pakistan being exposed to global warming and deterioration of environment, it would be very imperative to have an integrated approach for environmental education. These activities should include more than the usual academic classes and incorporate hands-on learning opportunities including school gardens, waste management projects, and trips to nearby environmental locations.

Furthermore, in fostering the long-term environmental sustainability, the curricula of the education system and the government regulations should include policies that promote green technology, renewable energy and sustainable waste management.

### **Infrastructure Development and Resource Allocation**

Prospective studies need to seek innovative ways to improve education infrastructure in rural and underserved regions, in a reliable and cost-effective manner. This includes digital classrooms, green school buildings and alternative learning spaces. Public-private partnerships should be considered to help fund and enhance the infrastructure of schools so that all students have access to safe, supportive learning facilities.

### **Policy and Institutional Support**

The efficacy of the existing policies of education (for example Single National Curriculum) needs to be critically analysed. Research must assess how these policies are being enacted and their impact on ground on quality, gender and social inclusion in education. There should also be an emphasis on and policies catering to equity and access particularly among the marginalised groups like eunuchs, women and students with disability.

### **Teacher Training and Professional Development**

CPD programs for teachers are necessary in order to successfully interpret new curricula. Recommendations The challenge of teacher training should be explored within the

Pakistani context which may help in enriching digital literacy, pedagogical skills and wholesome understanding of diverse cultural contexts. Environmental education, STEAM and inclusive education approaches should be integral part of training teachers.

### **Community-Based Educational Initiatives**

It would be interesting to explore the role of community-based interventions in enhancing educational performance. Further investigation is needed to examine the ways that community-based organizations may work with schools and governments to bring curricula to schools that is inclusive of marginalized populations, relevant and practical. Such local grassroots initiatives can fill the gap between policy and practice and provide tailor-made solutions for educational problems. Longitudinal Studies on

### **Educational and Social Outcomes**

Studies over time would also enable monitoring of environmental, social and educational outcomes for those students who learnt from the modern, inclusive curriculum and in schools that are models of sustainable practices. Such studies can also be useful to inform policy to improve and adjust educational policies and environmental programs in the future.

### **Final Thoughts**

The prospects of Pakistan's education system are shaped by its flexibility to respond to the changes in the requirement of society and the world economy." By tackling issues of interrelated compromised education, environment and social needs as highlighted in the review, Pakistan could lay the foundation of a more just, inclusive and sustainable educational system. Such an ambitious future can only be achieved through efforts and collaboration across policymakers, educators, communities, and the private sector, along with a commitment to long-range investments in education, infrastructure and social equity. By adopting bold policies, driven from the ground up by the communities living in rural and urban Sindh, and by collaborating with the international community, Pakistan can help create a more sustainable, fair future for its citizens -- and (especially those who are most vulnerable).

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