

CHALLENGES IN IMPLEMENTING SUSTAINABLE EDUCATION PROGRAMS IN DEVELOPING NATIONS

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Abstract

The premise of this research paper entails understanding the various obstacles that inevitably slow down the process of enhancing sustainable education programs in developing countries. Sustainable education helps to ensure academic success, social justice, protect environment and has ability to bring improvement to economy. But a number of challenges exist which hinder improvement in these areas. The main problems are the following: economic problems, which include inaccessible and inadequate infrastructure, a lack of funding, and deficiencies in the supply of education, which hampers people's access to this right. Inability to implement educational policies and standards, political instabilities and political corrupt additionally complicate the state of affairs by causing a shift in policy and program direction and lack of responsibly. However, the main challenges in the context of social and cultural mobilization are many and include the following; First, the inequality between girls and boys is a major problem and a major challenge when it comes to social and cultural implementation in any educational setting or context. Most important of them is the language barrier that does exist when translating social or cultural knowledge and information into any other form of language or brand of education. However, lack of proper requirement for qualified teachers and the inadequate training enhances the challenge of providing quality education that can support a sustainable practice in class. Moreover, the paper highlights the importance of highly complex and context-sensitive approach to these barriers and the definite need to address them. In its efforts to expand extant scholarship on the topic of sustainable education in developing countries, this study supports calls for more investment in education, community involvement, and technology, as well as for closer cooperation between governments and international organizations. Nevertheless, the results indicate that increased innovation and international collaboration offer the prospects for developing sustainable education in frames of the recognized difficulties.

Keywords: Sustainable Education, Multifaceted Challenges, Academic Excellence, Multifaceted Challenges, Educational Programs, Policy and Curriculum Issues

Introduction

Education is a key component of development in any given society and sustainable education is a cornerstone for any development that aims at having a long term solution. That again goes hand in hand with responsibility for the provision of quality education as well as the provision of education that is equitable, inclusive and sustainable. In the developing nations particularly, the attempt to advance sustainability education programs has the following problems: These nations experience implicit challenges like poverty, political problems, poor infrastructure, and poor technological adoption, problems that make it hard to implement sustainable education systems. The purpose of this study therefore is to establish these challenges, gaps and necessary remedial measures that could help develop solutions to the successful implementation of sustainable education programmes in the developing world.

Consequently sustainable education focuses to develop an education system that shall deliver education with efficiency and effectiveness to all people while enhancing social, economic and environmental sustainability. Nevertheless, the introduction of such programs in the developing countries has numerous difficulties related to economical, political, social and cultural aspects. Achieving these goals, for example the ones set in the United Nations' Sustainable Development 4 (SDG 4) of Quality Education for all by 2030 is challenging for these countries. Some of the most prevalent challenges include the following: Source of

funding is probably the greatest challenge. Most of the developing countries have increased poverty levels, and reduced governmental funding resulting to inadequate resources put in place in schools, training of teachers and improvement on curriculum. Schools in such areas are most of the time characterized by poor infrastructure including limited number and access to classroom, libraries, and other necessary amenities like sanitation, and electricity. A fact is that this poor infrastructure contributes to the poor quality of education as well as limited access especially in the rural regions. Additionally, issues of inadequate funding produce questions on how to raise enough money to buy such basic items as new books, computers and qualified teachers. Most of the countries depend on donors for most of their funds to support their education systems, but this kind of funding is very volatile due to changes in donor priorities or change of power. Consequently, this approach hinders long-term sustainability and when foreign mechanisms are implemented they may not meet local education requirements.

Political instability, corruption, and weak governance add to the challenges in the overall implementation of sustainable Education programs. In nations where political instability or conflict is rife, education falls by the wayside, with schools themselves being attacked and destroyed, and student learning disrupted. Corruption also majors and money allocated to the education sector is pocketed thus emasculating the effectiveness of the programs that are implemented. Besides, regular fluctuations in different levels of government may cause frequent amendments to the educational policies so that stable long-term educational planning can be affected.

Cultural beliefs and practices are also a disincentive towards the adoption of sustainable education practices. In many regions traditional gender, education and community perceptions hinder access to education and equity. For instance, cultural beliefs may limit the education of girls; early marriage, child bearing, and negative culture stereotypes may limit her. The other challenge is resistance to change, where community does not want to embrace newly developed system of education since this goes against their laid down cultural beliefs. Language is also a hindrance in multicultural communities nationwide or colonial languages are the main types of communication, which excludes students speaking the aboriginal languages. Education has to embrace these cultural dimensions to cater for all, but such cannot be done effectively in practice.

Technology is progressively being appreciated as a vital solution toward sustainable education, and primarily in the delivery of quality education to far-flung locations. However, technological difficulties can not be overlooked in numerous developing countries. The difference between those who are able to make effective use of networks, computers and other forms of educational technologies and those who cannot because they are either from rural or impoverished backgrounds results to an increased differentiation in education. Technology is still not readily available and developed in the schools especially in the urban areas, power interruptions, slow internet connection and old hardware hampers the application of the ICTs. However, this remains an empty promise because teachers are not trained on how to implement technological tools in their classes in the first place.

Another major challenge that relates to human resource matters or human resource management issues may also be highlighted. This shortage undermines not only the quality of education, but also the potential for maintaining substantial future enhancements to education. Moreover, even where teachers are available, many of them have little or no education on sustainable education strategies. A relatively few amount of possible new professional development for teachers exists, which hinders the overall teacher quality and implementation of sustainability in current school curriculum. Moreover, low wages, and

difficult conditions of work and lack of a promotion path, result in high levels of teacher turnover, which destabilizes education systems and contributes to a lack of sustainability. The business is also challenged by perishable and unsuitable environment for the population such as natural disasters, the results of climate change. Learning disasters such as floods, earthquakes and droughts are common in many developing countries and these result to school destruction and prolonged education disruption. Replacement of damaged facilities and equipment in education sector is a tremendous task for many countries particularly those in the third world. These problems are worsened by climate change most especially with the poor and marginalized groups of society. Still, despite the understanding that sustainable education must include the approach to the environmental issues and readiness in combating them, this aspect is excluded from the curriculum of any country's education system.

Last, the other challenge that affect the success of sustainable education includes policy as well as curriculum issues. Most of the developing countries have old curriculum that has no features of having students learn through critical thinking, problem solving and being inventive as well sustainable. These illusions do not prepare a learner to be a problem-solving person for the contemporary world challenges. Moreover, education programs are usually developed with reference to imported models that are irrelevant to the local context and imply a discrepancy between education programs and the community needs.

In short, the integration of sustainable education reforms in countries of the third world is a multifaceted process that depends on various economic, political, social, technological, as well as environmental factors. Still, these are not uncontestable barriers, but changes that foster innovation and shed new light on organizational practices. Across the learning infrastructure lack, lack of teachers training, insufficient stakeholder involvement and inadequate utilization of technology, developing nations can aspire to design education systems that are worthy of great spirits. The purpose of overcoming these barriers will call for collective endeavours of Governments, Non Governmental Organizations and international organizations wherein sustainable education for all becomes a reality.

Limitations of Research

Despite the broad framework of this study, there are several limitations with potential impact on the scope and transferability of the findings.

Some of the economies analyzed in this research paper are selected developing nations, thus restricting the ability of generalizing the results to all developing nations. It is important to note that each country might have the different political, economical and cultural environments that were not described in chosen examples. Furthermore, There might be some restrictions in addressing all cultural differences and using cultural perspectives to resist sustainable education practices, due to the differences in cultures from one region to the other. Cultural factors could be too numerous or subtle to have researched and discussed in the framework of this study. In addition, For some of the countries that are still in the developing world there can be challenges in tracing reliable data base due to nondescript record systems or even bureaucracies. This could lead to some inconsistencies in the process of data collection as well as the type and depth of research results produced. Moreover, Technological intervention in addressing education problems in developing countries undergoes a dynamic process of transformation. Thus, the conclusions may be quite obsolete if new technologies or policies appear post research, complicating the application of provided recommendations at the future time. Besides, as it has been mentioned, qualitative data collection methods are rather useful, but contain participant or researchers' bias. This subjectivity could further impact the conclusions of the study in a negative way thus making it hard to really generalize the results.

Significance of Research

Thus, this research on the issues of implementing sustainable education programs in the developing countries has importance in various ways.

The findings of this research paper may be useful for policymakers in the context of developing countries. Thus, this present study will contribute an understanding of important barriers to the provision of Sustainable Education in selected nations and provide recommendations for policy change, resource distribution, and strategic planning that might help improve Education systems in these countries. In addition, The study fits into The United Nations Sustainable Development Goal 4 that calls for inclusive quality education for everyone and lifelong learning opportunity. The study will aim at establishing the current state of affairs and the existing deficits and barriers to this in developing countries to enrich the global discussion on how to attain these objectives by 2030. Also, Education plays an essential role in social promotion as well as in empowering the economy. Through the identification of challenges to sustainable education, the research may contribute towards improved inclusiveness and give marginalized groups in developing states a better chance at achieving their potential and, in the process, contribute towards the attainment of the sustainable development goals. Sustainable education as a means, can eliminate poverty, increase health, and produce well-educated employees. Moreover, For educators, NGOs, and international organizations engaged in education and development, the study will reveal intervention procedures for addressing the challenges. This will help out other stakeholders to enhance accurate contextualized interferences that can prompt enhanced educational results. Also, The study will provide information about infrastructural challenges that limit the sustainability of education; and poor school infrastructure, lack of technological resources and lack of teachers' professional development will be outlined in this section. Despite this, resolving such challenges may enhance learning ambiance and teaching techniques for student and instructional personnel. Also, One of the main objectives of the development for the sustainability of resource is the making of education system as much as possible. The findings of this research will contribute to the understanding of disparities within education systems in LIDs especially in relation to gender, social class and region. The recommendations are to be provides as to making education more broad, integrated, and equitable process. In addition, Although the study is conducted on developing countries, the results obtained are generalized and may be useful when analyzed in terms of educational policies in countries at a similar stage of development. Multilateral Intentional Development Organizations and Donor Agencies will be able to apply lessons from this paradigm of the study to better assist the developing nations. In brief, the importance of this study lies in the fact that it focuses on the problem of educational system construction and development in the context of countries of the third world, which has a vital character for any modern state. Therefore, by establishing what hinders people with disabilities from an education and giving probable solutions, it will advance the progress in creating a better environment for education for people with disabilities.

Research Questions

1. What are the challenges that affect the implementation of sustainable education programs in developing Nations?
2. What role does socio-political, economical and cultural characteristic play into adoption of sustainable education?
3. In what way technology can help to overcome these challenges?
4. To what extent are policy reforms needed for promoting and enhancing post-primary efforts in developing countries?

Objectives of Research

- To review the main issues in teaching and learning , and quality education fail to reach in the burgeoning nations.
- This paper seeks to analyze the socio-political and economic barriers to sustainability of education.
- To understand how such factors as technology, and policy frameworks and cultural contexts enhance or hinder success of the programs.
- In order to come up with tangible and realistic solutions to the given barriers for the improvement of educational systems for sustainable future.

Literature Review

This paper will discuss some of the challenges encountered when realizing sustainable education programmes in developing nations based on the following socio-economic, political and cultural factors. UNESCO (2021) has further noted that education plays the critical role of enabling sustainable development, however, the education systems in developing nations remain hugely challenged for enhanced sustainability on account of such challenges as insufficient financing and other resources. From the available literature, it found that limited financial resources are the main challenge; due to which most of the developing countries spend limited amount of money on education which affect the infrastructure and training of teachers (World Bank, 2020). Instability in political area adds another layer of complexity to education situation in these areas. Chankseliani and McCowan (2021) therefore observe that due to conflicts, and political instabilities the continuity of education is often interrupted thus affecting learning and hence the espousing of sustainable education projects and diplomas. Hence, social and cultural factors also have a great influence in this regard – apart from the political factors discussed above. Gender inequalities persist to remain a key hindrance because girls in developing nations are locked out of school because education in most cultures is a preserve of males only (Malala Fund, 2019). The fact that different people are able to learn at different paces means that this disparity is not only a blow to the learners but to the whole society as well. Technology limitation also plays a significant role in defining the problems of sustainable education. Due to the digital divide that exists in many developing countries learners are denied equal access to information and education resources hence hindering the delivery of education (Mishra & Singh, 2022). Lacking modern technology, both teachers and students cannot consider themselves as being able to work with the existing approaches which can improve learning performance and its sustainability. In addition, temporary conditions, such as climate change and natural disasters, are huge barriers to the educational stability. Pursuant to the Intergovernmental Panel on Climate Change Report 2021, climate change effects are most devastating in the developing countries since the countries cannot mitigate environmental disasters. These environmental challenges call for a coordinated approach to learning that empowers a learner to face and cope up with these issues.

A number of research papers indicate that such an issue requires an urgent solution of the rockager obstacles of sustainable education in the developing world. For example, Tilbury (2019) points out that education for sustainability should not only be supported by resources but also need changes in knowledge transmission. Rote learning that is common in many developing nations provides no incentives foster critical thinking skills that are needed to promote sustainability. Education systems must thus, be transformed to include a concern for the environment, the ethical, and the reason in the development of sustainable solutions according to Tilbury. In highlighting issues related to sustainable education, Aikman et al., (2020) emphasize the inequalities in enrolment of the genders. According to them they opine

that after several international campaigns, the withdrawal of girl child from school and poor access to formal education remain a sharp concern more so in developing world rural settings. This paper's authors argue that sustainability cannot be attained in education without a focus on gender since empowerment of females is linked with better health, economy, and environmental conservation. Also, Knappe et al. (2021) focus on the role of 'bad' governance and corruption in education-related reforms. They point out that corruption compromises planning and leads to negative outcomes in development and implementation of programmes hence inadequate facilities for teachers and students. Corruption and other governance related problems do not only erode the integrity of public entities but also discourages international actors to support long-term education project. The other major problem is that there is little teacher training and development. According to Moon (2020), chronic teacher scarcity particularly in developing countries is a problem that affects the quality-decacy of education. Even in cases where students and teachers understand the sustainable development concepts, the teachers do not have adequate training on how to develop sustainable education programs or to complement the efforts of the programs in their teaching. This poor professional development is accompanied by bad working conditions and low financial rewards that make teachers exit from the profession. Similarly, Farrell and Hartwell (2021) have mentioned the value of such community participation for overcoming the barriers described above. They suggested that the most popular sustainability initiatives for education programs occur when implementation involves local stakeholders. This makes it easier to provide the right education to the members of the community because programs can then be oriented towards this goal which is sustainable. They also emphasise the role of foreign non-governmental organisations (NGOs) and local groups and movements as key actors in the process of mobilizing people and helping to fill the gaps left by the state and local administrations. There are potential mechanisms in technologies, but, as stated by Ghani et al. (2022), digital gap still persists as a problem in many developing areas. Having expounded a number of the potential benefits of new developments in online learning platforms and educational technology, it is important to stress that many students in the developing world do not have access to the internet or computing devices. Ghani and colleagues also suggest that solving the problem of the digital divide is necessary to achieve the sustainable development agenda of education for communities in remote areas.

Research Methodology

This research paper generates several live maps of the issues encountered in practice within different developing nations in the implementation of sustainable education programs. Furthermore, A discussion of the nature of these challenges in light of socio-political and economic factors. To some extent, this research enhances a subject of sustainable education discussion by outlining the emerging difficulties associated with the development of many countries. The proposed research will therefore use both quantitative and qualitative data collection tools and therefore be able to establish the challenges fully. This is done to garner information about impressions on the efficacy of contemporary sustainable education programmes, funds deployment, and structural readiness. Semi-structured interview and focus group discussion would be used prominently with government officials, school officials, and Non-Governmental Organizations working in the sphere of education. Such conversations will seek to elicit understanding of political and cultural factors which are more difficult to measure. As a consequence, this research paper aims at identifying the complex issues with the implementation of sustainable education programmes in the developing countries. Thus, using both quantitative and qualitative approaches, the study will cover all the factors that can endanger independent learning and present corresponding

recommendations. The findings will be important to policymakers, educators, and other organizations who work towards achieving improved conditions and more equitable schooling environments.

Discussion & Analysis

Several challenges arise when it comes to the implementation of sustainable education programs in developing nations. The most significant challenge is of course the financial pressures: Most developing countries have poor education finance which results into poor infrastructure, inadequate resources and poor investment in areas such as teachers and curriculum. This causes school infrastructures such as; classrooms, libraries and sanitation to be inadequate or absent entirely across schools thereby compromising quality and access to education. In addition, Political instability and corruption add to education a number of challenges. Where there is a political instability or conflict, education is considered least important, and as a result school infrastructure is destroyed or closed and learning interrupted for students. It also contributes to embezzlement of funds that are likely to be used in improving education hence restructuring a sustainable education fund. In addition, there are the Bread and butter issues, Social and cultural barriers are also another challenge. They include social culture and beliefs of society and tradition perceptions towards education especially in the developing world where gender inequalities are deep rooted. Boys and girls both drop out of school early because of early marriage, having own families to take care and prejudices against girls. Furthermore, traditional culture within communities rejects modernity approaches to education therefore limiting the implementation of sustainable practices needed in the development process. On that same note, inadequate and inexperienced teachers compound the problem of education delivery because of scarcity. There is tendency of shortage of qualified teachers in many of the developing nations; particularly in rural and remote regions. On many occasions, teachers are available, yet the opportunities for professional development are scarce; thus the quality of the educations given and the standards by which sustainable practices may be put into fruition are also poor. Natural and man-made disasters, effects of climate changes are other serious issues as well. Natural calamities such as floods, earthquakes and droughts may hinder the delivery of nascent education by destroying facilities and / or evacuating the learners and their instructors. However, the process of reconstructing schools and guaranteeing children's education after such disasters is a big problem for the countries with a limited budget. Lastly, I will mention curricula and policy that is often outdated and creates another level of difficulty in the way that sustainable education programs are to be put in practice. To present day, many nations still employ curricula, which are based on knowledge retention rather than knowledge negotiation inclination, reasoning, and coping mechanisms. Besides, educational programs lack focus to meet local needs and are incompatible with global education development goals, and thus student challenges cannot be met effectively. These challenges show that sustainable education programs are hard to put in place in developing countries as they require specific approach, funding and international cooperation efforts to tackle these problems.

Socio-Political, Economic, and Cultural Factors

Social political, economical, and cultural factors are among the key components that define and determine the extent of sustainability in education system of developing countries in regard to how the Education Ministries as well as the Education Institutions within the different countries are prepared to embrace change that will enhance sustainable practices in their provision of education.

- Socio-political factors are known to act as a leverage and/or constraint to the implementation of sustainable education. Due to politics instabilities, war like situations, or bad governance, education is sometimes the least priority in such countries. Schools could be completely demolished, and education is interrupted when programs placed in schools are deactivated—education becomes inconsistent. This also has an effect of misdirecting resources within the various education undertakings, hence diminishing their efficiency. On the other hand, where governments are stable, and value the education sector, and where there is sound legislation in place, there is long term sustainability. The authors observe that political will and commitment are vital in ensuring that reforms for achieving sustainable education aims, proposed in the SDGs are incorporated into national education systems.
- Economic barriers are most likely the fundamental drivers to prevent sustainability in education. There are usually some socio-economic challenges that affect developing countries, and one of them is inadequate finance for delivering education. Consequently, there is low spending on infrastructure, teachers, IT and curriculum- all the basics of the education system. Moreover, the schools attending by students from economically disadvantaged families may prove to be unaffordable because of tuition fees and costs of transportations as well as schooling materials. Socio-economic factor also make the matter worse when the current system is compared between urban and rural settings, where the rural areas rarely have the required resources and infrastructure needed to support such changes in education towards sustainable development.
- Cultural factors also extensively impact the adoption of sustainable training. In many developing international locations, conventional norms and values can conflict with current instructional beliefs. For example, gender inequality stays a pervasive issue in a few regions, in which cultural ideals approximately the jobs of women and men limit women' get right of entry to to education. Without addressing these gender-primarily based disparities, it's miles tough to acquire equitable and sustainable education for all. Furthermore, language obstacles, mainly in multicultural societies, can have an effect on the inclusivity and effectiveness of schooling programs. Resistance to changing long-standing academic strategies, consisting of rote mastering, can prevent the integration of innovative teaching practices necessary for fostering important wondering and sustainability.

In short, socio-political instability, monetary hardships, and deep-rooted cultural norms all pose substantial demanding situations to the adoption of sustainable training. Addressing those factors calls for a holistic technique that consists of coverage reform, adequate funding, community engagement, and cultural sensitivity to ensure training systems are inclusive, equitable, and aligned with sustainability goals.

Technology Role in Implementing Sustainable Education

Sustainable education programmes face many barriers when implemented in developing nations and these barriers can all be solved by technology. In the following manner, technological removal of access, quality and equity barriers can be considered solutions that can sustain education in the long-run.

Bridging the Digital Divide: A main issue in developing countries is an insufficient level of school education and, specifically, an inability to attend a quality school in rural and remote regions. In this case, technology can help fill this divides by offering learning and study materials online , virtual classes among others. By the help of low-priced smart phones, and

tablets as well as reasonable internet connection, students in the remote area can get the educational materials that was difficult for them to get. This form of learning unfettered by the confines of physical structures enables students to learn even where physical schools are closed due to politically instable environments, disasters or pandemics, and it was witnessed during the shutdown by the COVID 19 pandemic.

Enhancing Educational Quality: Education is thus enriched through technology bringing in modern teaching style and developed facilities. Technological products such as softwares, simulations and videos may be more helpful in this task than mechanically teaching the students. This is might also be handy for teachers to access online professional development courses, teaching aids, interaction platforms among themselves and other resources to enhance their standards and database. This technological incorporation leads to better and qualitative change in education, encouraging constructive, creative, and critical nature in education necessary for sustainable education.

Increasing Inclusivity and Equity: Innovations can help narrow the learning gap since teachers and education administrators can have materials for learning that address the needs of all students. For instance, students with disabilities may require gadgets such as screen readers, voice recognition systems as well as the ability to speak to get to learning content. Also it is important to combine the Internet capabilities and fight Language barriers by offering translation services along with multi language educational resources that will allow every student to understand the materials. The use of technology also opens doors for girls and other such deprived communities with concern to education especially in areas where some culture and society might not allow them to be educated.

Cost-Effective Solutions: Economic challenges remain a problem in numerous developing countries; however, technology provides cheaper solutions to standard education facilities. For instance, through virtual learning, coursework, and instructional handouts, which can be expensive to develop and dispatch, might be eliminated. Virtual classes can be conducted besides or instead of traditional classes, so there is no need to build additional school facilities for children as the classical schools becomes overcrowded. Organizations and especially governments can support effective innovations that can impact larger numbers of students at a cheaper price making education affordable.

Fostering Global Collaboration: Education technology enables educators, students and institutions around the world to communicate and share knowledge. International cooperation can be useful for developing nations in terms of partnerships for presenting and receiving examples, objects, and outcomes of scientific research on sustainable education. This network helps educators in the developing countries to be more informed on the new innovations in sustainability education and how they can be adopted in the teaching curriculum. Open online modules, workshops, and conferences help educators and policy makers approach local issues as the tasks for worldwide cooperation, new ideas implementation and solutions finding.

In short, the socio-political, economical and cultural challenges that are likely to slow down the achievement of the sustainable education in the developing nations has got powerful technological solutions. As it accessible, quality, inclusion and resilient, Technology will be possible to have a good progress in context of Education for change that students need for future. Nevertheless, to achieve maximum effectiveness of technology enhanced learning, there is needed to overcome the technology gap, develop professional competence of teachers, and apply suitable technologies at appropriate for learners and cultural settings.

Policy Changes to Support Sustainable Education

The policies which should be implemented and interventions that should be made for promoting sustainable education in the developing countries. These changes should address

structural barriers and local requirements but should be assumed within the framework of changing global sustainability. Priority for education spending is one of the major policy change that has took place in most countries. To achieve all of these the governments need to come up with more funding to put up structures or develop the infrastructure to deliver their learning materials and teachers. International financial aid and the engagements of such public-private partnerships can also go along way in addressing the funding issue. There are measures talked over, like education bonds, or tax credit for the companies that would contribute to education, thus ensuring that education receives funding support in that long run. Furthermore, capacity build of a skilled and well-supported teaching workforce is very important to strengthen the system sustainably. If policies are set then they ought to aim at increasing and empowering the human capital that is teachers. Teddy 235 argues that there is a need to develop training programs that would respectively adopt sustainability concepts and teaching approaches that include student centeredness, technology and active learning. Promising incentives such as better remuneration packages, improved conditions of service, and prospects of promotions can help to correct the teacher dearth in many of the developing states.

In addition, Outdated curricula require updating whereby the issue of sustainability education should be integrated into units of study; out comes of learning ; thinking skills, problem solving, environment, and ethic. Making curricula responsive to cultural, social and physical settings in each country helps students and communities for which education is intended. The integration of UNSDGs guarantees compatibility with sustainability paradigms in a country's education systems. Furthermore, Inclusiveness and equity should underlie the education systems to ensure that all children of any gender, poor, disable or in remote areas are afford the same standard education. It is recommended that specific action should be initiated towards gender inequity like awareness making regarding girl attendance to schools and elimination of check points like fees and cultural 障碍 obstacles to school attendances. Inclusive education policies should include measures to help student with disabilities through special arrangements, facilities, and services; use of special devices and pedagogy. In order to promote successful sustainable education then good governance is mandatory. There is the need to ensure that all policies pushed in the education sector have supporting factors on issues such as corruption and proper use of funds. Collaborative boards of diverse supervisory authorities can track the expenditures in education, while efficient transitions in anti-corruption provisions in administration can help enhance the relevance of education regulation. Devolution ability; which means decentralizing the power of governance and, allow authorities at the local levels to have more control over education management can enhance accountability and assertiveness to the local requirements. It is refreshing to observe that education policies in many a developing country have set many a social goals dealing with environmental issues especially in the general areas of natural disasters and climate changes. Countries should ensure that schools in their states are constructed with climate resilience and schools should have emergency kits to cater for children when disasters occur. Evaluating climate change, and incorporating it into school curricula informs students about the resultant phenomenon while helping them to learn how they can face it in their societies.

Conclusion

Sustainable education programs should be implemented successfully in developing nations to meet the educational equity processes set by the Sustainable Development Goals (SDG 4). This research demonstrates that regulating and implementing the development of such programs in these contexts is challenging because technology adoption is constrained by systemic, social, and economical factors. These are some of the following imperatives;

financial constraints and ineffective infrastructure; political instabilities and interferences; and cultural barriers. The paper has argued that overcoming these barriers must a multi-sectoral approach pursuing policy changes and additional resources, community participation, capacity development, and effective use of technology. However, there are possibilities of making headway in the following ways. Successful case study analysis and solutions specific to country situations indicate how developing nations can create better equipped and more sustainable education systems. This paper further emphasizes a call for integrating different behaviors towards the development of acceptable multi-national and government, NGO and intercessor lasting and elastic approaches to education that can respond well to national contexts' sensitivity to sustainability. In the next stage, it will be possible to learn more about these challenges with a view of formulating interventions to help shift educational outcomes and proactively support the socio-economic development of these nations.

In short, there are vast opportunities for the establishment of sustainable education programs for developing nation students despite the challenges mentioned above. It comes down to the fact that with the help of proper approaches and aid, the process of shaping effective kinds of education might be continued not only in the **long** term but also might impact the future generations making it possible to create a society that is both fairer and wealthier.

Recommendations for Future Related Studies

- More studies should be planned for long-term to measure the effectiveness of sustainable education programmes. It would have given more information about these programs to know the improvements in the educational sectors of the developing nations for several consecutive years.
- Future research could also consider the ways by which different technological advancement could help break barriers to sustainable education. Research could explore the utility of digital learning resources and of the tools used for distance learning and how they could be scaled up in low resource settings and what innovative possibilities these might offer.
- There is research gap that arises from understanding the general challenges teachers face while implementing sustainable education. Further researches should focus on how many and which formats of teacher training and continuous professional pedagogy development is required to help teachers manage to embrace and foster sustainability in their classrooms, as well as the support structures required.
- Another area for future work is the measurement of the outcomes of the existing policies in education for sustainability. This will involve assessing the efficacy of current state and federal policies in relation to the strategies adopted by different governments worldwide, and by major NGOs currently engaged in the provision of education for developing nations, to identify specifically which of these paradigms has been most effective in conceiving, supporting and enabling sustainable education and learning and why?
- Subsequent research should address the extent to which international organisations and inter-country cooperation contribute towards the enhancement of education for sustainable development in the developing countries.

In short, through pursuing these steps, the future works can extend the existing findings, present more specific directions for enhancing the successful usage of learning strategies for peoples in developing countries as well as describe the attempts and practical endeavors required in achieving the sustainable education goals of the respective country.

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