



Forum: SDG 4- Quality Education

Issue: Promotion of STEM-based education in post-conflict zones

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PART 1 of the Research Report: Root Causes of the Issue

The issue of promoting STEM-based education in post-conflict zones is of great importance. Unfortunately, conflicts create environments where the basic right to education is severely limited, which may ruin lives. The destruction of educational facilities and the displacement of communities mean that many children and young people are deprived of their right to learn and explore the STEM subjects (Science, technology, engineering, and mathematics). STEM education is crucial for modern skills development and future job markets, becoming a distant possibility rather than an accessible reality.

The issue becomes even worse when the specific requirements of STEM education is seen. STEM usually relies on many things such as equipment, electricity, internet, etc. These are made unavailable in conflict zones. The lack of these essential resources makes it difficult to reintroduce or sustain STEM education post-conflict. Furthermore, the displacement of skilled educators during conflicts makes the situation even worse by creating a gap in the required knowledge and experience to teach these subjects. In many post-conflict settings, the focus is



primarily on rebuilding basic infrastructure and meeting immediate survival needs, with education, particularly in specialized fields like STEM, becoming less of a priority.

1. The Problem:

In regions affected by war or conflict, the challenges to education, particularly in the fields of Science, Technology, Engineering, and Mathematics (STEM), are often extreme and have many political and economic issues. First of all, the physical destruction of infrastructure significantly impedes the learning process. Schools unfortunately are often targeted or caught in the crossfire, which causes them to be destroyed. This can be seen in many cases such as in Syria, Afghanistan, Yemen, Nigeria, etc. This physical destruction goes beyond just the buildings. It also extends to the loss of essential learning materials and resources crucial for STEM education, such as laboratories, equipment, textbooks, and so on. The lack of a safe and conducive learning environment not only disrupts the continuity of education but also acts as a barrier to the introduction/ continuation of STEM-focused curriculum as it relies on heavy and expensive equipment.

The socio-economic aftermath of conflict adds on to these educational challenges. Families displaced by conflict must prioritize basic survival and safety, often at the expense of education. The instability that follows in the wake of conflict leads to a disruption of community structures and support systems. For many children, this means an interruption in their schooling and education. In such environments, the focus on STEM education becomes an even lower priority against the backdrop of immediate survival needs. Trauma, anxiety, and the loss of family members or friends deeply affect the ability of students to engage in learning, particularly in subjects that require high levels of concentration, like STEM.



Many teachers become displaced or harmed during conflicts, leading to a significant gap in educational expertise. Recruiting and training new educators in these specialized subjects is a time-consuming and resource-intensive process which makes it challenging in the post-conflict recovery phase. Also, the disruption of education systems during conflicts often results in a generation or even more of students with gaps in their basic education. This makes it even more challenging to introduce advanced subjects like STEM.

2. Why It Happens:

Social Factors: In the aftermath of wars, imagine homes, schools, and neighborhoods being broken. Families have to leave their homes, and sometimes even their countries, to find safety. This chaos makes it really tricky for students to go to school. Schools might be damaged or too far away, and sometimes families are too worried about safety to send their kids to learn. So, the social part is like a big puzzle with missing pieces. The communities are scattered, and it's hard for students to find their way back to school.

Economic factors play a crucial role in the sustainability of education, particularly in post-conflict zones. During conflicts, regular funding streams for schools are much less, which leads to a decline in educational quality. The economic impact extends to families as well. Many lose their livelihoods due to the conflict, reducing their ability to support their children's education. This becomes worse when trying to support STEM based learning without the proper financial resources. For example the need to maintain school operations and ensuring that there is continuous learning. For example, in the aftermath of the Syrian conflict, many schools were either destroyed or repurposed, and families faced severe financial hardships.



Political Factors: Politics is the decision-making game for a country. When there's conflict and wars, the leaders get busy trying to solve the problems, and don't see education as an important priority. Examples of neglectance can be seen in South Sudan, Central African Republic (CAR), Democratic Republic Of Congo (DRC), and so on.

4. How Long It's Been a Problem:

This has been an issue for a long time and still continues to happen to this day. According to a UNICEF report in 2017, around 27 million children of primary and lower secondary school age were out of school in 24 conflict-affected countries. This long standing issue underscores the chronic nature of educational disruption in these regions.

Out of School Population (Millions)

Region	Primary	Lower secondary	Upper secondary	Total
Central and Southern Asia	15.8	16.2	57.6	89.7
Eastern and South-eastern Asia	7.2	8.2	15.8	31.6
Europe and Northern America	1.2	0.9	2.0	4.2
Latin America and the Caribbean	2.2	2.2	5.4	9.7
Northern Africa and Western Asia	6.3	2.8	5.9	14.9
Oceania	0.3	0.1	0.3	0.7
Sub-Saharan Africa	35.9	28.6	34.0	98.4
WORLD	69.9	59.1	121.5	250.0



5. Why It Needs Fixing:

Education, especially in STEM, is fundamental for individual and national development. It helps young people with receiving and learning essential skills for participating in the modern economy. It also aids in national rebuilding efforts. Secondly, lack of education opportunities can leave youth vulnerable to exploitation as they are not educated enough to understand what is right and wrong.. For instance, UNICEF found that uneducated people were more likely to report exploitation compared to those with primary or secondary education. Education in these settings is not just a matter of individual growth but also a matter of national security and development.

6. Who Benefits and Who's Hurt:

Children are the ones who get hurt the most. They are unable to receive proper education. It makes them more susceptible to exploitation and involvement in conflict. often caused by those who benefit from a lack of education among the population. This could be militias, corrupt politicians, extremist groups and so on. Countries also suffer, as a lack of educated populace hampers development and stability. For instance, in Syria, young men and boys faced threats to their education due to conscription and the necessity to work in hazardous jobs, impacting their educational prospects.

7. Potential helpers:

The United Nations, donor countries, and international NGOs specializing in education are key players. These organizations are instrumental in providing resources, developing educational frameworks, and implementing programs on the ground. For example, in 2016, UNICEF reached 11.7 million children in emergencies, providing educational materials, teacher



training, and life skills classes. Additionally, institutions like UNESCO provide critical support in terms of policy development, research, and educational planning in crisis-sensitive contexts. Other organizations such as the Education Cannot Wait (ECW) have also helped. For example in 2020 they were involved in Afghanistan and helped over 500,000 children have safe learning environments. Another case was seen by the International Rescue Committee (IRC) where they helped over 100 schools in The Democratic Republic of Congo.

PART 2 of the Research Report: UN Treaties/Policies/Resolutions

PRST/2020/8 - Attacks On Schools

Focus: This Presidential Statement centered on continuing education during armed conflicts, with a particular emphasis on leveraging digital technology and distance learning.

Positive Aspects: It highlighted the crucial role of technology in ensuring education continuity during conflicts. The emphasis on digital solutions offered a practical approach to circumventing the physical dangers and infrastructure damages in conflict zones.

Limitations: The effectiveness of this resolution largely depended on the availability of technology and internet infrastructure, which can be scarce in many conflict-affected areas. Additionally, it required significant investment in digital literacy and resources, which might not be feasible in all situations.

Resolution 2601 - Protection Of Education In Armed Conflict



Focus: As the first resolution explicitly dedicated to protecting education during conflict, it underlined the importance of safeguarding, respecting, and promoting the right to education in these settings.

Positive Aspects: It represented a significant step in international policy, specifically targeting the protection of educational institutions, students, and staff in conflict zones. The resolution brought international attention and political commitment to the issue.

Limitations: The resolution's impact has been constrained by the ongoing nature of many conflicts and the complexity of their dynamics. The 17% increase in attacks on educational settings in 2022 points to the challenges in implementing such resolutions effectively on the ground. Enforcement remains an issue, with non-state actors frequently involved in attacks.

PART 3 of the Research Report: Possible Solutions

Digital platforms are highly effective in bridging the gap in education in remote or conflict-affected areas. For instance, in areas where schools are destroyed or inaccessible, mobile learning apps and online courses can provide essential education. Once set up, digital platforms can be more economical compared to traditional classroom settings. They also allow for rapid updating with the latest STEM content and methodologies. Furthermore, telecommunication equipment should be in place to support such apps and online courses.

Training local teachers ensures that the education system becomes self-sustaining. Local teachers, once trained, can continue to educate new generations without constant external support. Furthermore, local educators are more likely to understand the cultural and social



nuances of their students, making them better equipped to address specific needs and barriers to learning.

Effective Engagement, Students learn best when they feel safe. In post-conflict zones, creating a secure learning environment is essential for students to focus on their studies without fear. Safe educational spaces can provide a sense of normalcy and stability for children who have experienced trauma, supporting their overall mental health and well-being.

PART 4 of the Research Report: Bibliography

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