Global STEAM & Leadership Challenges – Case Study

Programmatic Area: STEM

Cultivating Hope: Addressing Hunger Through STEM

> 66 *In the fertile soil of education and community, we plant the seeds of hope, nurturing young minds and cultivating a future where no child learns on an empty stomach* 99

—Mary Ameh, STEAM educator
and Teach For Nigeria alumna

Planting Seeds of Change

My name is Mary Ojonogeicha Ameh, a second-year Fellow at Teach For Nigeria. I am an educator and an enthusiastic advocate for the Sustainable Development Goals (SDGs), particularly in the areas of quality education, zero hunger, climate action, and gender equality. My placement school, Imo Methodist Nursery and Primary School, is situated in a low-income community called Oke Yeke in Abeokuta South, Ogun State, Nigeria. This community is primarily composed of petty traders and artisans who, despite their concern for their children's education, often struggle to provide basic school supplies and three square meals due to financial constraints. Many students arrive at school on empty stomachs and are frequently absent to help their families through hawking.

Hunger and Education: A Battle for Survival

According to the 2022 National Bureau of Statistics from the Food and Agriculture Organisation (FAO), 66 million primary school-age children go to school hungry every day. In Nigeria, 1 out of 3 children in underserved communities lack access to fresh produce, contributing to childhood hunger and inadequate nutrition (Feeding America, 2023). At my placement school, a needs assessment revealed that 6 out of every 10 students who missed school did so due to hunger. We even recorded cases of students fainting from lack of food. Childhood hunger, defined as the consistent inability to obtain sufficient nutritious food, significantly impacts students' concentration, energy levels, attendance, participation in school activities, and academic performance. This systemic problem affects not just our school but others within the community as well.

From Hunger to Hope: Creating the STEM Garden Initiative

When my partner and I realized that many students were coming to school hungry, we knew we had to act. At first, we used our own stipends to buy food, but we soon realized this wasn't enough—we needed something that could last. That's when we decided to plant a different kind of seed: the STEM Garden Initiative. Our project not only tackled hunger but also gave students and their families the skills to grow their own food. We brought together parents, community leaders, and teachers, and it was amazing to

see how quickly everyone embraced the idea. Together, we built a project that was about more than just food—it was about empowering a whole community.

Implementing the Solution: From Vision to Reality

We organized an excursion to Soilless FarmLab in Awowo to inspire both students and teachers about the potential of agriculture. Through the STEM Garden Initiative, we established school gardens in 11 schools across three Local Government Areas (Abeokuta South, Obafemi Owode, and Ijebu-Ode), directly impacting over 2500 students. Climate Clubs, managed by agricultural teachers and Teach For Nigeria fellows, were set up in all participating schools. Our partnership with Ogun SUBEB aims to expand this project to all 56 schools in Abeokuta South, with the ultimate goal of reaching all 20 local government areas in Ogun State. We developed a structured curriculum, launched, and distributed 300 copies of the STEM Garden Initiative's Training Manual and notebooks to students and teachers.

Our approach also included hands-on learning experiences, such as excursions to large farms, and innovative practices like converting plastics into irrigation systems and nurseries. We emphasized purely organic practices and the upcycling of plastic waste, bridging the gap between STEM and nature.

Harvesting the Fruits of Our Labor

The STEM Garden Initiative has led to significant positive outcomes and valuable lessons::
- **Empowerment Through Education and Community Engagement:** The results of the STEM Garden Initiative have been nothing short of transformative. Students who once struggled to focus in class now attend school with full stomachs, eager to learn. Attendance soared from 65% to 95%, and academic performance improved dramatically—students who used to fall behind are now thriving. More importantly, this project didn't just teach students how to grow food; it taught them resilience, teamwork, and confidence. One of our students, Amina, shared that for the first time, her family had enough food at home, thanks to the garden. Seeing the pride in her eyes showed us that we weren't just growing vegetables—we were growing hope.
- **Sustainable Impact Through Innovation:** 50 families were empowered with seeds, leading to the creation of backyard gardens that supported their children's education. Additionally, 81.8% of learners showed increased engagement. Our approach to sustainability included purely organic practices and upcycling of plastic waste, bridging the gap between STEM and nature. By providing resources and training, families can contribute to their children's education and well-being. Furthermore, 81% increased knowledge of climate education among students was evidenced by their performance at the Global Climate Championship League, where they secured second place twice. Innovative and hands-on learning experiences, such as climate education and practical STEM applications, significantly enhance student engagement and knowledge retention.
- **Measuring and Scaling Impact:** Our project didn't just change the lives of students in one school—it's growing every day. Families across the community are now starting their own backyard gardens, providing food for their children and even selling the extra produce for a small income. By partnering with organizations like Garbage Free India and Theirworld, we're spreading these ideas far beyond our local area. As we measure the impact, it's not just numbers

on a page—it's the difference we see in the smiles of families who no longer worry about where their next meal will come from.

In conclusion, the STEM Garden Initiative has successfully addressed food insecurity and improved student attendance. It has also fostered hands-on learning engagement in STEM fields. In the next five years, we aim to leverage innovations like greenhouses, extend our reach to more schools across Nigeria, and help at least 10,000 children in underserved communities attain education without the barrier of food insecurity.

We have engaged relevant stakeholders and plan for continuous engagement. We have trained and involved TFN fellows and school agricultural teachers, introduced STEM Clubs, and produced training manuals and workbooks for STEM education. Our sustainability plan includes partnerships with agencies and enterprises, such as a partnership with Garbage Free India for a global impact and ongoing collaboration with Theirworld, a global NGO.

For **more information** about the **Future of Work initiative** visit the official website
Register in the **Global STEAM Community** through this link