Problem Statement

Agam Wuha Primary School, situated in a remote village in the Blue Nile valleys of the Amhara region in Ethiopia, exemplifies the critical educational and technological disparities that exist between rural and urban communities. This area suffers from persistent infrastructural limitations, including the absence of reliable electricity, inadequate road connectivity, and a lack of access to information and communication technologies. These structural challenges have significantly hindered the educational experience of the students attending the only primary school in the vicinity. As a consequence, the children residing in this community are unable to acquire even the most basic digital skills, which places them at a substantial disadvantage relative to their peers in more developed areas.

This situation is further exacerbated by ongoing conflict in rural Amhara, which has disrupted normal schooling operations over the past two years. The closure of schools during this period has intensified the pre-existing educational gaps, depriving students not only of routine instruction but also of any opportunity to engage with modern learning tools. The implications are particularly severe for female students, who already face social and cultural barriers to accessing education and technology. In the absence of digital literacy and technological access, students' academic growth, future employability, and lifelong learning prospects are severely constrained.

The root causes of this problem are multifaceted. Foremost among these is the lack of electrical infrastructure, which renders it practically impossible to operate computers or establish ICT-based learning environments. The geographic remoteness of the village further contributes to its isolation, limiting connectivity with neighboring towns that may have better access to technology. This remoteness also presents logistical barriers to the recruitment of volunteers or experts who could provide training or support the implementation of digital education programs. In addition, the scarcity of trained teachers in the region who possess the requisite knowledge to deliver computer education perpetuates the digital literacy gap.

There is also a general lack of awareness among local stakeholders, including community members and educational authorities, regarding the importance of digital skills in contemporary education and employment contexts. This results in limited advocacy and minimal local demand for technological investments in schools such as Agam Wuha. While the conflict in the area has added another layer of difficulty, it is not the principal cause of the persistent digital exclusion. Instead, the continued marginalization of rural communities in national and regional education and technology agendas is a significant contributing factor.

The consequences of this situation extend beyond the school itself. Each year, between five hundred and eight hundred students are directly affected by the absence of digital access. Moreover, an estimated five hundred to one thousand women and youth in the broader community are

similarly deprived of opportunities to gain digital competencies that could improve their livelihoods. Teachers and school administrators also face limitations, as they are unable to adopt modern pedagogical methods that integrate digital tools and resources. Over time, this contributes to a widening development gap between rural and urban populations.

Addressing this challenge is therefore of critical importance. In the current global landscape, digital literacy is a foundational skill that underpins access to quality education, formal employment, and broader socio-economic participation. Enhancing digital access and computer education in Agam Wuha has the potential to empower students, particularly girls and boys, to participate more fully in the digital economy in the future. It would also support national efforts to bridge the rural-urban divide, promote gender equity, and advance inclusive development. However, without deliberate interventions, including infrastructure development and capacity building, the digital exclusion of communities like Agam Wuha will likely persist. As such, there is an urgent need for coordinated action from both public and private actors to address these disparities and support equitable educational advancement.

Project Plan

This project aims to implement a basic digital literacy training program for grade 7 and 8 students at Agam Wuha Primary School. These students, at the upper primary level, are at a formative stage in their education where digital exposure can significantly enhance their learning outcomes and future prospects. The training will be delivered through solar-powered infrastructure in response to the lack of electricity in the area, ensuring feasibility and sustainability.

The instructional team will consist of five university graduates in computer science or related science, technology, engineering, and mathematics fields. These volunteers will be selected based on their technical competence and familiarity with the local context. A support team drawn from the community will assist with coordination, logistics, and the setup of solar systems. Volunteers who own or can access personal laptops will be prioritized to optimize resources.

While the direct beneficiaries of the training are students, the surrounding community will also be engaged through awareness-raising sessions. These sessions aim to build an understanding of the importance of digital literacy and to encourage parents and guardians to support student attendance and motivation. Community awareness is expected to strengthen participation and ensure the seriousness with which students approach the training.

The estimated budget for this pilot phase is approximately one thousand six hundred United States dollars. This includes five hundred dollars allocated for solar panels, two hundred dollars for a power bank, four hundred dollars for training materials and equipment, and five hundred dollars to support transportation and meals for volunteers. Support from the district education office and

coordination with community leaders will also be critical for the effective implementation and sustainability of the initiative.

The project will be carried out over a period of six weeks. The first two weeks will focus on planning, resource procurement, and community sensitization. Week three will be devoted to preparing the training venue and installing solar systems. Training will take place in weeks four and five using a localized curriculum designed for beginners. Week six will focus on evaluating student progress, collecting feedback, and documenting lessons learned for future scaling.

Table 1. Activity and Timetable

Activity	**Timeframe**	**Responsible Team**
Planning, procurement, and community sensitization	Week One to Week Two	Project Coordinator and Support Team
Recruitment of volunteers and student participants	Week One to Week Two	Local Organizers and Education Office
Installation of solar system and training setup	Week Three	Technical Volunteers and Support Team
Delivery of digital literacy training	Week Four to Week Five	Volunteer Instructors
Evaluation, feedback collection, and reporting	Week Six	Project Coordinator and Trainers

Intended Outcomes

The primary objective of this initiative is to enhance digital literacy among Grade Seven and Eight students at Agam Wuha Primary School, a rural institution in the Amhara region of Ethiopia. This intervention responds to the significant digital exclusion faced by students in this community due

to a lack of infrastructure, electricity, and access to information and communication technologies. The project aims to provide foundational computer training to help students develop essential skills that support their education, improve future employment opportunities, and enable them to participate meaningfully in an increasingly digital society. While the program is inclusive of all students in the targeted grades, particular attention will be given to the participation and empowerment of girls.

Through this intervention, students will acquire basic digital competencies such as computer operation, word processing, internet use, and responsible online behavior. These skills are expected to enrich their academic experience and improve their readiness for future educational and occupational pathways. The project seeks not only to impart technical knowledge but also to build students' confidence and digital awareness in a context where such exposure has historically been absent.

The project's effectiveness will be assessed through a structured monitoring and evaluation framework. Baseline assessments will be conducted prior to training to establish initial skill levels. Throughout the training period, students' progress will be monitored through practical exercises, active classroom engagement, and periodic feedback sessions. Upon completion of the program, an endline assessment will be conducted to measure learning outcomes relative to the baseline. These evaluations will guide improvements and inform potential expansion strategies.

Implementation will involve the development of a context-appropriate syllabus tailored to the needs of the students and the limitations of the local environment. Volunteer instructors, preferably with backgrounds in computer science or related disciplines, will be recruited to deliver the training. These individuals will be selected based on their technical qualifications and familiarity with the community's cultural and linguistic context.

Sustainability will be pursued through engagement with local stakeholders, including school administrators, community leaders, and former students. Partnerships will also be sought with education offices and non-governmental organizations to support continued implementation and potential replication in other schools with similar needs.

Recognizing the fragile security conditions in rural Amhara, the project will engage trusted local actors, such as elders and religious leaders, to facilitate a safe and effective delivery process. The involvement of community-based volunteers is expected to strengthen local ownership and support operational resilience.