



McGill



**MAX BELL SCHOOL
of PUBLIC POLICY**

ADDRESSING EDUCATIONAL GENDER INEQUALITY THROUGH ED-TECH SOLUTIONS IN SIERRA LEONE



July 2021



**60 million
girls**



EXECUTIVE SUMMARY

How can stakeholders in developing countries, such as Sierra Leone, leverage **innovative technologies** to ensure equal access to **quality education** for children, especially **girls**, in **remote communities** by 2030?

Many countries, including Sierra Leone, face a **crisis in providing quality education to girls**. There are several challenges around this issue, including high dropout rates, overage girls in classrooms, low literacy levels, etc. One possible way to address these disparities is through **Mobile Learning Lab (MLL)** technology.

The MLL is a particular application of another technology called Remote Area Community Hotspot for Education (RACHEL)—essentially a portable server that can be accessed without the Internet. RACHELs are **simple, inexpensive, and do not require the Internet**, a crucial feature in remote villages where online connectivity is not always readily available. They are pre-loaded with **customizable educational content**. What distinguishes MLL from other RACHEL applications is its **portability**. MLLs do not replace local curricula or compete with local teachers, but supplement their efforts. MLLs' focus on **self-directed learning** allows students to pursue learning objectives independently, building confidence and technological literacy.

The MLL is not itself specifically designed to address gender disparities in education. But it has many elements integral to its design and application that make it well suited to serve this purpose. By providing learning materials that are self-paced, students, including girls, can use MLLs to **expand their knowledge** in topics of interest, to **bring them up to speed** in subjects where they are falling behind, and **enhance the quality of their education** which varies widely in rural settings.



The MLL can also be preloaded with important content that is not often addressed in school or home settings, such as sexual and reproductive health. The mobility of an MLL means it can be targeted directly at girls in localities that are at-risk of dropping out or failing school.

We mainly used a **Human Rights-Based Approach to Education (HRBA-E)** as a framework to guide our research and recommendations.

Our research indicates a **preliminary set of best practices** for the MLL, based on previous interventions. These include designing targeted and time-limited interventions for specific age groups; setting clear learning objectives aligned with the national curriculum; collaborating with local implementation partners; and cultivating community ownership.

MLLs have already been deployed in Sierra Leone, Guatemala, and Uganda, among other **twenty jurisdictions from Central America, Africa, and Asia**. The experiences from these jurisdictions shows that the MLL builds numeracy and literacy skills as well as human skills such as self-confidence. These experiences can be used to inform the implementation plan for a scalable model in Sierra Leone and other places with similar characteristics.

Stakeholder engagement is an essential, however challenging, element of MLL deployment. Aside from local communities, other key stakeholders include the girls themselves, the government, businesses, not-for-profits, local schools, and parents/caregivers.

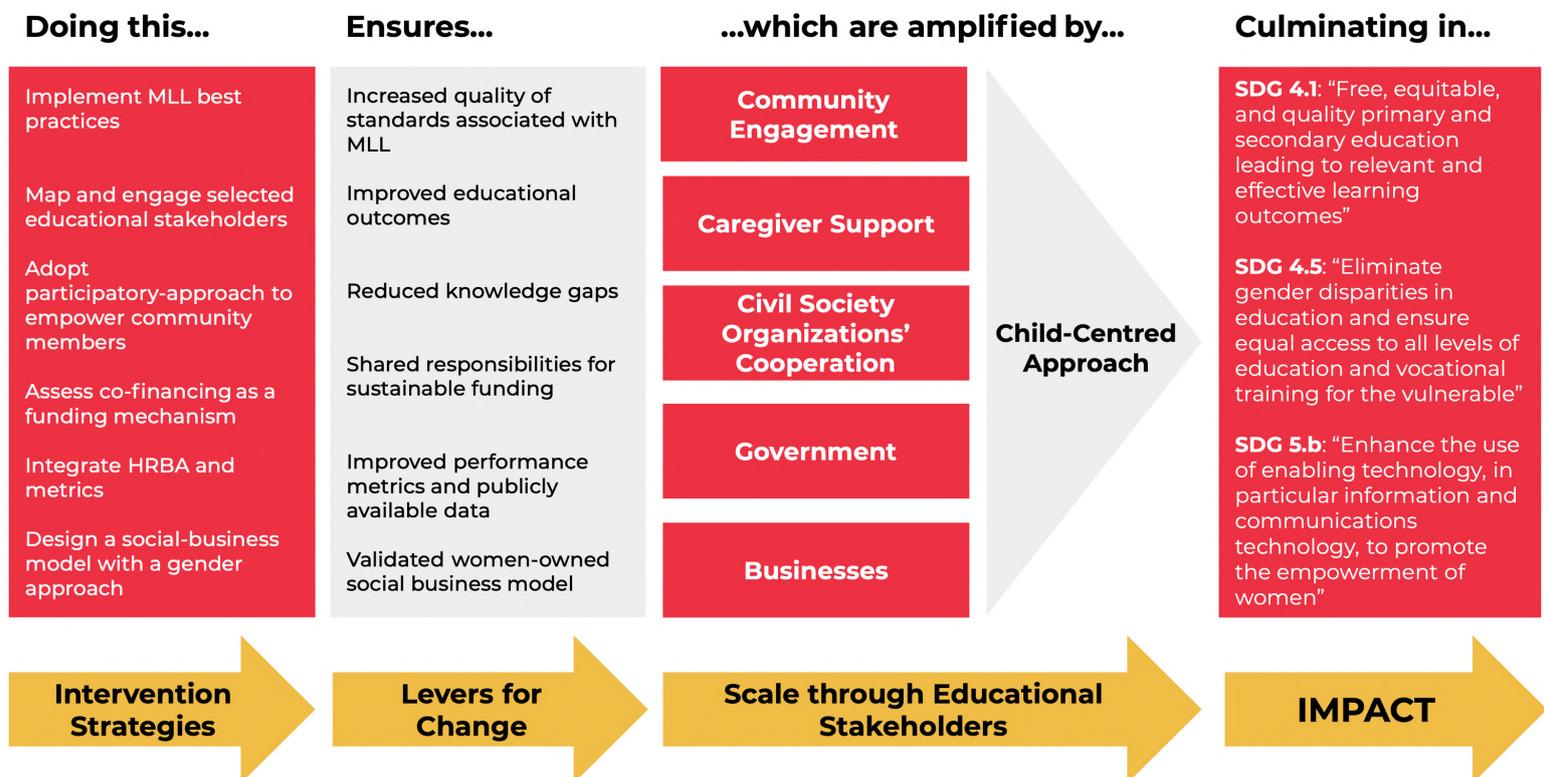
MLL projects should identify stakeholders, establish just information-sharing practices, and uphold participatory decision-making and implementation. The voices of the most vulnerable groups must be included, which can be encouraged by incorporating, for example, a **Grievance Redress Mechanism**.



There are **several pathways to funding MLL projects**. The government is currently interested in digital learning projects. Private sector infrastructure in Sierra Leone is modest, but there are larger mining and telecommunications companies that may have an interest in MLL from a Corporate Social Responsibility perspective. Public-Private Partnerships may be a promising model. Another pathway may be private foundations focused on Africa, education, and technology. Micro, small, and medium enterprises can also be a valuable source of working capital finance for the project through a minimum-fees-based approach.

MLL projects should **respect and adapt to the socio-cultural context** in which they are deployed. Projects should be validated with all stakeholders, not only sponsors or funding organizations, but also local executing partners and beneficiaries. To make MLL interventions financially sustainable, they need to be conceived of as a social investment rather than as a short-term intervention. In the interest of financial sustainability and feasibility, MLLs may be best thought of as a **social business model with a gender approach**: an opportunity for empowering women through a capacity building program supported by initial funds from the private or public sector.

Theory of Change





SOLUTIONS ROADMAP

Issues	Phase 1	Phase 2	Phase 3
MLL Capabilities and Offerings	<ul style="list-style-type: none"> • Socialize best practices with local implementing partners. • Contact organizations like OneBillion to understand their model and potentially use solar-powered tablets that are given to caregivers. • Liaise with World Possible (tech developer) to replace old devices to get newer RACHEL devices that could track student's performance outcomes. 	<ul style="list-style-type: none"> • Assess the implementation of best practices. • Engage Team4Tech (capacity building NGO) to try and sign an agreement for a teacher training program. • Leverage educational training platforms such as E-Kitaboo for teacher and student training. 	<ul style="list-style-type: none"> • Identify and review new best practices learned in collaboration with local implementing partners. • Partner with OneBillion to establish a community hub similar to OneBillion's model to develop a sustainable strategy for MLL deployment in the long run, removing the need to hire a local coordinator.

Assumptions

- Identified potential allies are interested in working with 60MG.
- Local implementing partners have the interest, resources, and capacity to integrate best practices in their operational frameworks.

Risks

- Funding/donor organizations may not be willing to pay the additional cost of acquiring the updated version of the RACHEL technology.
- Caregivers in rural communities may be too preoccupied with their other day jobs to be able to devote time for a more hands-on role in MLL deployment.
- Teachers may not be willing to undertake the training program due to fear of eventually being replaced by this new technology.

Stakeholder Management	<ul style="list-style-type: none"> • Conduct MLL stakeholder mapping for regional actors that are specific to education. • Categorize them using stakeholder interest influence matrix • Identify local NGOs and civil society organizations as MLL "ambassadors". 	<ul style="list-style-type: none"> • Establish strategic alliances with relevant and interested organizations. • Ensure the inclusion of vulnerable groups including in remote communities specifically, women/girls. 	<ul style="list-style-type: none"> • Create a feedback loop that will both allow the stakeholders to be informed on efforts to promote quality access to education and be able to provide their own feedback. • Share newsletters and reports with cooperating organizations and local stakeholders to keep them involved and engaged.
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Assumptions

- Local NGOs are respectable, and communities look towards them for validation of new projects.
- Key stakeholders do not have significant competing interests that will prevent their collaboration.
- Stakeholders will use a feedback loop to provide and access feedback.
- Vulnerable groups have needs that differ from broader communities.

Risks

- Local NGOs may not have the authority needed to convince communities to adopt the MLL.
- Local NGOs may have a bad history with communities which could be counterproductive to gathering support from the community.
- Key stakeholders have competing interests, and those stakeholders who have more power will have their interests met at the expense of less powerful stakeholders who may be more centric beneficiaries to the MLL model who may be more centric beneficiaries to the MLL model.
- Stakeholders may drop out due to receiving feedback they do not welcome.



SOLUTIONS ROADMAP

Issues	Phase 1	Phase 2	Phase 3
Community Engagement	<ul style="list-style-type: none"> Contact teachers, caregivers, community leaders, businesses (mobile operators and mining industry), Ministry of Basic and Senior Secondary Education. Arrange consultation sessions (meetings and focus group discussions), one general and one exclusively for mothers, female caregivers, and women entrepreneurs. 	<ul style="list-style-type: none"> Work with MLL ambassadors to organize a demonstration of the MLL that will assist in providing an understanding and sharing information of how the MLL will enhance quality education. Share information about the MLL demonstration through the local radio and town criers/posters, village/chieftdom meetings. 	<ul style="list-style-type: none"> Design and implement a Grievance Redress Mechanism (GRM) which allows for the identification and resolution of issues affecting the project.

Assumptions

- Having an exclusive focus group session for women will provide a safe space for them to share their concerns relating to education technology/MLL.
- A demonstration will provide the community with the relevant information that will address their questions and concerns.
- Users will use the grievance redress mechanism to voice their feedback and concerns.
- Key stakeholders do not have significant competing interests that will prevent their collaboration.
- Stakeholders will use a feedback loop to provide and access feedback.
- Vulnerable groups have needs that differ from broader communities as opposed to simply boycotting the MLL.

Risks

- Women may be siloed from conversations in the broader community regarding the MLL, dialogues between women and other community members are needed to move the conversation about girls' education forward.
- Women may not want to come to women-only focus groups due to fear of being judged by community members.
- The demonstration may reinforce negative stereotypes or perceptions of the MLL.
- Feedback may include suggestions/comments that deviate from the goal of MLL, and respondents will attempt to hold MLL implementers accountable for things they realistically cannot control.

Awareness and Knowledge Gaps	<ul style="list-style-type: none"> Reduce the communication gap between service providers (teachers, non-academic staff, and school admin) with community members. Conduct focus group discussions, brainstorming sessions, individual touchpoints with community members to educate them in best practices. 	<ul style="list-style-type: none"> Create an assessment framework focused on reducing the communications gap between the service providers and community members. Integrate data gathered from community members to inform Monitoring and Evaluation practices. 	<ul style="list-style-type: none"> Adopt a participatory approach to share data and insights at stakeholder meetings to help reduce the knowledge gaps. Develop a continuous learning mechanism to identify and address ongoing awareness and knowledge gaps.
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Assumptions

- Educational stakeholders (service providers) are willing to get involved in 60MG projects and they are convinced of the MLL benefits.

Risks

- There could be a high rotation in service providers and new knowledge gaps between old and incoming educational facilitators.
- Data gathered may not reflect real perceptions due to lack of trust in the local implementing partners.

SOLUTIONS ROADMAP

Issues	Phase 1	Phase 2	Phase 3
Financing Alternatives	<ul style="list-style-type: none"> Explore and leverage existing funding opportunities offered by development partners such as Ireland, UK, Canada, and NGOs. Identify potential possibilities of partnerships with Micro, Small, and Medium Enterprises, mining industry, and mobile operators as CSR. Evaluate and prioritize the identified funding opportunities and potential partnerships. 	<ul style="list-style-type: none"> Meet with potential funders to present MLL as a solution to educational disparities and as a business case for private ventures. 	<ul style="list-style-type: none"> Develop an action plan for carrying out the feasible options of financing with both the public and private sector including the mining sector and MSMEs.

Assumptions

- Funding partners will see the value addition of MLL in the educational landscape of Sierra Leone and would be willing to invest in its projects.
- MLL aligns with the normative priorities of funding governments, INGOs, and other CSOs.

Risks

- Potential funders may be more interested in funding alternative opportunities or projects targeted towards addressing educational gender disparity, apart from the MLL.
- An actionable financing plan in collaboration with potential funding partners may take a longer period of time resulting in a more long-term financing alternative.
- Potential funding withdrawal from partner.

Social Business	<ul style="list-style-type: none"> Design a social business model with the participation of potential women entrepreneurs. Map out potential CSOs (Opportunity International) interested in training women. 	<ul style="list-style-type: none"> Execute a management skills training pilot with communities. Run a practical and efficient Monitoring and Evaluation system to collect data online and in the field. 	<ul style="list-style-type: none"> Validate and scale up the business model to a larger number of communities. Integrate women-owned businesses into national and regional entrepreneurship networks to continue the support through them.
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Assumptions

- Women are interested and willing to start a business. They also have the time to invest in a new venture.
- There are experienced CSOs interested in working with women entrepreneurs in rural communities.
- COVID-19 physical restrictions next year would be eased, and governments would allow in-person activities.
- The COVID-19 pandemic restricts the collection of data in the field.
- There are many potential communities where the business model can be scaled up.
- Women entrepreneurs have the time and interest to stay connected with supporting organizations.

Risks

- Women's burden of unpaid household chores has increased due to the pandemic and may deter them from starting a business due to lack of time.
- Due to current COVID-19 restrictions, a training program with in-person activities would be limited. Additionally, digital gaps due to lack of skills and resources might not allow many women to study online.
- Means of verification may not be reliable; digital surveys can be filled by anyone without guidance, and for the same reason, there could be a higher level of underreporting.
- The model is not profitable for women and it is hard to scale it up without considerable assistance (technical and financial) from local partners and 60MG.
- Due to the lack of provision of technical support, women might feel discouraged from continuing their businesses after completion of training.

SOLUTIONS ROADMAP

Issues	Phase 1	Phase 2	Phase 3
Communication Strategies	<ul style="list-style-type: none"> Identify audiences to whom MLL projects should communicate (internal stakeholders external, communities). Map out relevant communications channels (radio, newsletters, etc.). Plan strategy, combining communications products and roll-out timing. 	<ul style="list-style-type: none"> Begin executing strategy across multiple channels. Implement communications strategy putting special attention to build recognition of the MLL as a brand (design an institutional logo). 	<ul style="list-style-type: none"> Create a communications toolkit to be socialized with organizations interested in funding or participating in the MLL model. Improve communications strategy based on learnings.
<p>Assumptions</p> <ul style="list-style-type: none"> There are available resources for deploying a communication plan at a central level (60MG) and a local level (implementing partners). Partners understand the difference between the MLL and other 60MG projects. <p>Risks</p> <ul style="list-style-type: none"> Strengthening a brand around a project may create confusions around the general scope of 60MG and its other interventions. 			
Success Metrics	<ul style="list-style-type: none"> Review the current Monitoring and Evaluation system and adapt the means of verification to the “new normality” constraints. Integrate KPIs on the women-owned social business initiative. 	<ul style="list-style-type: none"> Construct a public data observatory (visually friendly and easy-to-read KPIs dashboard). 	<ul style="list-style-type: none"> Launch the public data observatory through 60MG’s webpage. Recruit UN volunteers to update data and upload news and information.
<p>Assumptions</p> <ul style="list-style-type: none"> The COVID-19 pandemic restricts the collection of data in the field. A public data observatory is a resource of interest for key stakeholders. 60MG’s website sustains sufficient Internet traffic to gain the interest of key stakeholders. There are enough people who are interested in volunteering for 60MG. And there is a partnership with a volunteer organization that can handle the recruiting and monitoring of volunteers. <p>Risks</p> <ul style="list-style-type: none"> Means of verification may not be reliable; digital surveys can be filled by anyone without guidance, and for the same reason, there could be a higher level of underreporting. Some Key Performance Indicators (KPIs) results may be used against the existing project and compared to other similar organizations KPIs. Volunteers’ work may need supervision; uploading the wrong information could be counterproductive. 			



This Solutions Roadmap can be used and referred to by any parties interested in implementing an MLL project. While some of these recommendations are specific to Sierra Leone and our findings in that context, the roadmap has broader utility for other jurisdictions. It details the various considerations pertaining to MLL implementation and offers a phased approach to completing the project.

60 MILLION GIRLS CHALLENGE



“Healthy, safe, empowered girls transform families, communities and countries.”

MAX BELL POLICY LAB TEAM

THE AWESOME PEOPLE BEHIND THIS PROJECT



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