



## What we do

SAMI is a UK-based charity that looks to address concerns about access to and quality of mathematics education in Africa. We support initiatives, working with passionate, enthusiastic and talented individuals locally, to provide the expertise and funding necessary to implement effective and sustainable high impact solutions where they are needed the most.

SAMI currently works in Kenya, Ghana, Ethiopia and Tanzania and supports a wide variety of projects crossing education, research and global development. We run maths camps in these countries and support maths clubs at primary and secondary schools and programming and maths clubs at universities. SAMI works closely with partners in Africa to develop materials for use in the maths clubs which encourage learners to engage with mathematical puzzles, problem solving and critical thinking.

SAMI runs the Digital Communities Initiative in Kenya, a holistic approach to improving communities using tablets in primary schools, secondary schools, with farmers and to aid women's businesses.

SAMI has been a big supporter of the African Data Initiative, which is an ongoing drive to develop world class statistical software with programmers from Kenya.

Key to all our projects is to encourage local volunteers and support them where necessary with small financial contributions.

## Cabrine's story

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*"My journey to success started in 2011, when I attended my first maths camp. Since then I have had a different story to tell about my performance in Maths and generally all subjects. The camp gave me a wider perspective in Maths and helped me discard the negative stereotypes surrounding the subject. The various sessions and activities I took part in helped me to acquire a positive attitude towards the subject and, with time, I became a bit of a Maths guru at school! My school also became a beneficiary of AMI, after the installation of maths packages into the school computers."*

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When Cabrine was 15 she hated maths. A Grade C student at Kapsabet Girls School, she had little enthusiasm for the subject. You can imagine her displeasure when, back in 2011, her mother informed her that she was to spend a portion of her summer holiday attending a maths camp.

After her return, Cabrine's teachers contacted the camp organisers. "What have you done to her?" they asked. "She has completely changed."

The following year, Cabrine couldn't wait to attend the maths camp, and by this stage the NGO African Maths Initiatives (AMI) had been created. By her third return visit in 2013, the UK charity SAMI (Supporting African Maths Initiatives) had been set up in order to support the work of AMI.

In her final year of school, with exams looming, Cabrine was worried about being forced to go to extra revision lessons put on by her school – but to her delight she was able to make it to camp for a fourth time, meaning she is one of a few students who had attended all the camps throughout her school years.

She completed her high school studies in 2014, having obtained an average grade A- in her final exams. This former Grade C student had received straight As in Maths for her final exams, something she attributes to her attendance at maths camp. In addition, as her abilities and interest blossomed in maths, this had a ripple effect on her understanding of other subjects too, such as Chemistry and Physics.

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*"In Kenya Secondary Certificate Examination (KCSE), I attained grade A in Maths – and I am glad this will give me a wide range of careers to choose from. Due to my exam performance, I have been given letters of invitation from various schools to give maths talks, in order to encourage the students to have a passion for the subject and not give up. Lastly, I would like to give a lot of gratitude to the AMI team, for creating a new dawn in my life that has given me such a bright future."*

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After leaving school, Cabrine worked as an intern running maths programmes for schools before embarking on a degree course in Statistics and Economics. During her holidays, she continued to attend maths camp, this time as a volunteer. She has also completed an internship which developed the Digital Communities Initiative (DCI), learned some basic programming through the African Data Initiative (ADI), and ran sessions at the African Week of Code. She has been approached within her university to run similar programs.

This has led to her being invited to the Young African Leaders Initiative Regional Centre in April 2018.



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*I just got back from the Young African Leaders Initiative Regional Centre yesterday safe and sound. I want to take this opportunity to appreciate your support towards this great milestone and the key roles every individual played. I acknowledge that without availing your ray of opportunities it would have been impossible.*

*I gained a lot from the rigorous training ranging from networking, human-centred design thinking, social inclusion, leadership communications, pitching to investors and design challenges. These were my main take-aways. I also came in second in designing a suitable apprenticeship framework for both formal and informal sector in agriculture, a design challenge presented to us by CAFE an agricultural firm.*

*From the knowledge and skills gained from human-centred design thinking, I'm hoping to initiate a social enterprise that will be aimed at promoting, growing and nurturing homegrown social innovation ideas that would help solve the dynamic challenges faced in communities.*

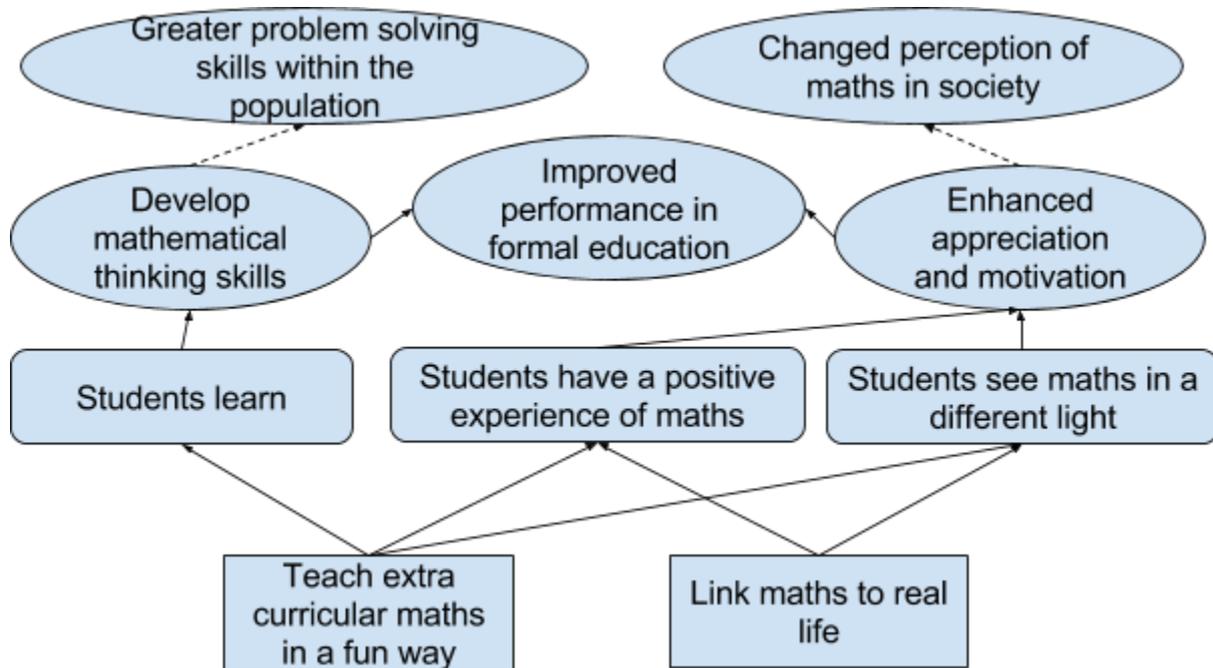
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## **SAMI Theory of Change**

Throughout the years, Cabrine has been supported by AMI with help from SAMI. Her story has also helped SAMI understand how aspects of our approach can contribute to long term impact. This thinking has been discussed and over time is developing into a formal theory of change which provides both a framework for the bigger vision of SAMI activities and more concrete pathways to change which attempt to explain how some of our approaches can lead to bigger outcomes.

She is a clear success story, and we hope she brings life to the following two excerpts from our Theory of Change. These are two pathways to change which capture elements of the AMI/SAMI approaches which we think have been influential in the story.

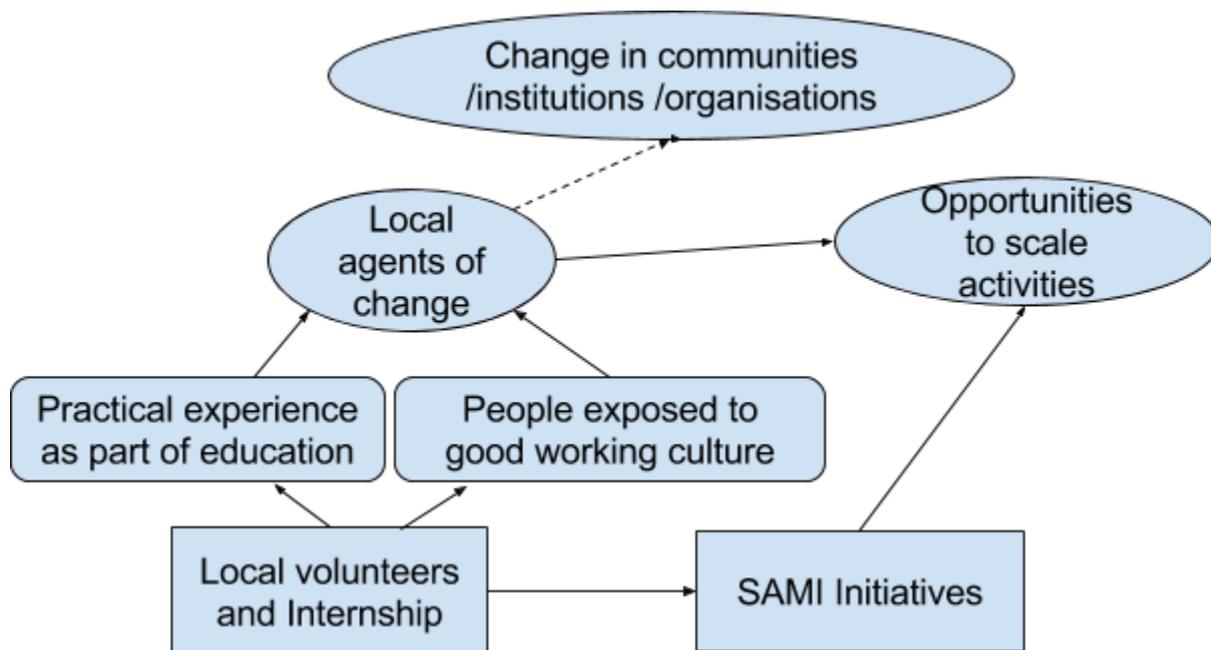
The diagrams are best read from the bottom up, with the rectangles representing activity objectives, the rounded rectangles desired outputs and the ovals as outcomes. The full arrows have the potential to be direct while the dashed arrows recognise the need for further intervention.



The diagram above relates to our extracurricular maths activities such as Maths camps and maths clubs.

One of the notable elements of this pathway to us is that the link to improved performance in formal education can be considered a direct outcome. When we started we were not expecting this to be direct and were thinking of these extracurricular activities as gateways towards curricula activities for improved performance. Our thinking on this has been changed by stories like Cabrine's, who has gone back to schools and attribute their improved performance on the extracurricular experience.

A lot of the stories have a common thread that they attribute much more to the right-hand than the left-hand pathway. They almost all talk about their change in attitude which leads to a change in their behaviour which brings the improved performance.



This diagram illustrates our volunteering model and lies behind the inclusion of local volunteers and interns in almost all SAMI activities. There are cases where this may not be the most efficient option in the short term, but stories like Cabrine’s show that these volunteers can indeed become positive role models and agents of change.

In reading this diagram it is important to remember that the direct arrows do not mean that these outcomes will happen, rather that they can happen. Over the years we have had large numbers of volunteers and interns coming through, but not all go on to become true agents of change.

This pathway is at the heart of the SAMI approach. It illustrates that our goal is not for us to make changes in Africa maths education, but to support other people to make these changes by providing long-term mentorship.

Cabrine is not alone, there are other individuals like her. We have been running the camps for seven years, for 1156 students, with 366 volunteers. Our approach is volunteer focused with very low costs; the average external support for a maths camp is £600.

SAMI is maturing in its understanding of what it is able to do successfully. However, we are reaching a point where we need more core infrastructure to support the expanding activities on the ground. We want to scale in a way which means we can offer mentorship and this sort of long-term follow up we have found to be so valuable to our local partners.