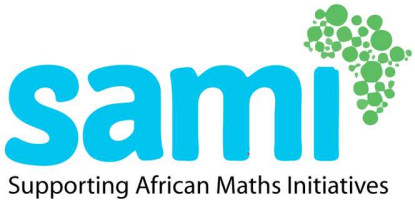


Supporting African Maths Initiatives

(A company limited by guarantee)

Report and Financial Statements for the year ended 28th February 2021

Charity number 1161994
Company number 9458921

Supporting African Maths Initiatives - Report of the Management Committee for the year ended 28th February 2021

The Management Committee presents their report and the financial statements for the period ended 28th February 2021 and confirm they comply with the requirements of the Charities Act 2011 and the Charities SORP (FRS 102).

Reference and Administration Information

Charity name: Supporting African Maths Initiatives
Charity registration number: 1161994
Company registration number: 9458921
Registered address: Haydown Great Buckland, Luddesdown, Gravesend, Kent, England, DA13 0XF

Management Committee

Executive Directors
Mrs Emily Fleming (Chair)
Mr Jeff Goodman
Mr Chris Clarke

Non Executive Directors
Dr Franca Hoffmann
Prof Balázs Szendröi
Dr Georg Osang
Dr Danilo Lewanski

Other members
Alexandra Gessner
Amy Fletcher
Anda Chisster
Andrew Harris
Artur Donaldson
Benjamin Walker
Danny Parsons
David Stern
Esmee te Winkel
Filippo Mancini
Gabriel Diaz-Aylwin
Giacomo Bighin
Gianmarco Bet
Giovanna De Giusti
Iordan Ganev
James Robson
Joanna De Silva
Kelly Pickerill
Lily Clements
Livia Mitson
Mairi Walker
Marc Jeannin
Marta Maggioni
Matteo Levi
Matteo Parisi
Michal Rolinek
Michela De Giusti
Monica Mancini
Nicos Starreveld
Oliver Dann
Pafue Christy Nganjimi
Peter Hull
Rachel Knott
Rafael Sanchez
Rose Teague
Santiago Maria Borio Peñaloza
Sharad Keshari
Tom Denton

Chair's report

It would be an understatement to say that 2020 has been an incredibly challenging and pivotal year for SAMI. Following the huge growth in our in-country maths camps and members during 2019, the global pandemic has forced us to drastically rethink not only how we support our projects, but also how we can structure the organisation in a way that prepares us to respond quickly as situations evolve.

The decision to cancel in-country activities for international volunteers was one not taken lightly, but was essential to decide quickly so that volunteers and partners had as much time as possible to organise their own plans and strategies to manage the months ahead. Quickly after making the decision SAMI turned to address the question of what we could do to both support project teams on the ground, and adapt our initiatives to be able to reach students in new ways.

The concept of a Virtual Maths Camp was conceived, through which we would try to develop and deliver a novel range of educational resources and activities, to continue driving us on our mission to promote a love of mathematics across Africa. These included producing a unique pack of cards with 52 engaging maths problems (delivered to partners in-country), designing a new website and an interactive chatbot for use with the cards, creating video content to deliver additional content in a novel way, and helping to facilitate various online events.

We were extremely grateful to receive significant donations from the Lars Windhorst foundation and personal contributions which funded many of the new developments, and a number of generous personal contributions and fundraising efforts which enabled us to fully support our existing team and projects in Kenya.

We are also thankful for the incredible lengths that our in-country partners went to in order to continue to provide educational opportunities at a time when local schools and universities were struggling to be able to. In spite of all of the challenges that the year has presented, we are left feeling inspired by the dedication, commitment and resilience we have seen this year within the SAMI network and beyond. We thank everyone for their support during this time, and look ahead with hope and optimism for the future of SAMI.

More information about SAMI and our initiatives can be found at www.samicharity.co.uk.

Emily Fleming
Chair
12 November 2021

Aims and Objectives

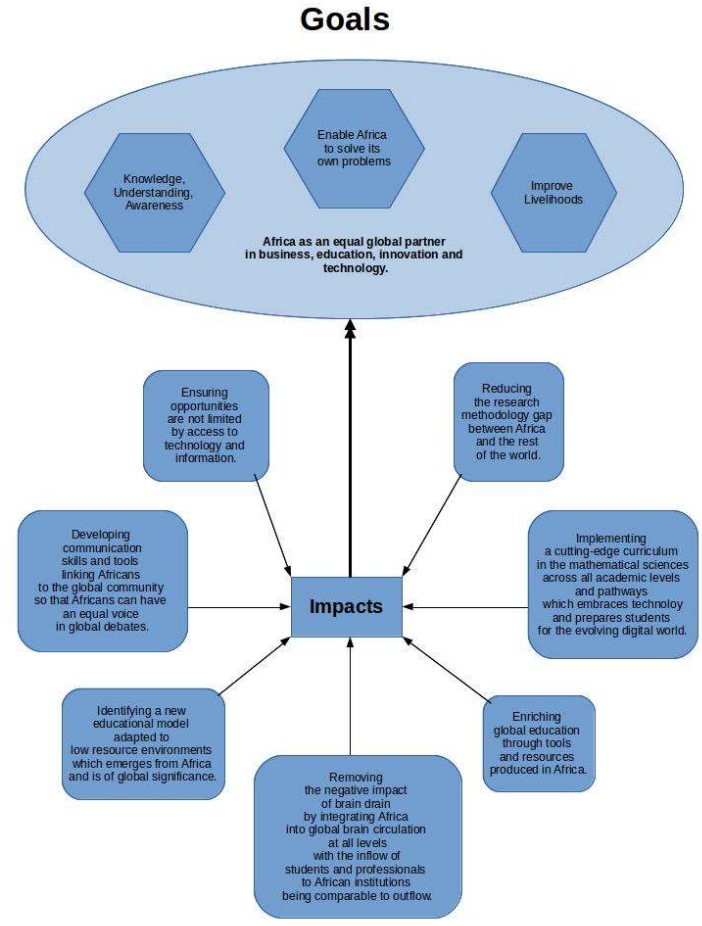
Our charity's objectives as set out in the company's memorandum of association are:

To advance education in mathematics for the public benefit, in particular but not exclusively by:

a) supporting initiatives that promote mathematics and improve the standard of mathematics education in Africa through the provision of advice, funding, consultancy services and volunteers designed to support such initiatives;

b) carrying out research into the effectiveness of new teaching and learning initiatives in mathematics, the useful results of which will be disseminated for public benefit.

Our aims as a charity can be summarised by the following infographic:



Virtual Maths Camps (VMC)

A cornerstone of our work, Maths Camps took on a different format this year, as we converted to virtual experiences. Proving that necessity is the mother of all invention, the challenges presented by the COVID-19 pandemic gave us the opportunity to bring countries together and collaborate to create a collection of events and learning resources. IDEMS, led by David Stern, took on much of the leadership of this project, along with SAMI director Franca Hoffman and the global team that worked together ensured that the resources created are available across different platforms and have delivery mechanisms that will have a lasting impact. Existing resources have been refined to be used with ease by students, teachers and facilitators, regardless of their previous experience, and entirely new resources created.

Pause and Go Videos

Pause and Go Videos are 10-minute videos designed with planned pauses to help facilitate a 45 minute learning session. Each has its own facilitator guidelines and the option of subtitles. Facilitators willing to deliver one of the sessions can watch the videos in advance, prepare the materials, and read the guidelines on the suggested activities. Engaging in this way gives the students time to explore and discuss solutions as they would in a face-to-face maths camp but with the potential to reach a far wider audience. SAMI is very grateful to Danilo for leading this project so well.

Chatbot

A Telegram chatbot was developed by IDEMS as a dynamic way of interacting with students using the RapidPro platform. Volunteers have created a fun way for learners to choose how to challenge themselves, be it through puzzles, games or fun facts. Through the Telegram App students can begin a conversation with a chatbot. The Chatbot can not only ask the question and say if it is correct or incorrect but also offer further extension tasks with the goal that every user continues to be challenged no matter their level. Georg Osang and Chiara Facciola did an incredible job of converting our puzzles in his new format.

Playing Cards

We have developed a set of 54 playing cards, each with a different engaging maths activity, game or fact. Each card has enough information for a stand-alone activity so the deck is in effect a “maths camp in a box”. Further extension work and information can be found by using the QR code on each card, which link to a dedicated website. There are also links on each card to the VMC Chatbot. For those without digital access there is a printed booklet which has hints, solutions, extensions and game instructions. Tens of volunteers helped make the playing cards a reality, with particular mentions to Emily Fleming, Balázs Szendröi, Oliver Dunbar, Samuel Okoth, Georg Osang and Agnes Borszeki.

SAMI Maths Club App

SAMI ran a small mentorship program to further develop a mobile app for accessing maths club resources created by SAMI. Through the program a Uganda-based recent graduate and an aspiring app developer named Mike Nsubuga, was provided a small stipend, and worked under the guidance of an experienced developer to create the app. The first version of the app was released in August, and available for download in the Google Play Store. All the code was also published as open-source on GitHub. By the end of December 2020, the app had been used by around 200 users, with many continuing to use the app to host a maths club on a weekly basis.

SAMI also enlisted support from another local postgraduate named Grace Kebirungi to help add additional problems to the app and translate them into French. With the help of Peter Hull and other SAMI volunteers including Ariana Kitten, we translated 100% of the content into French for our partners in West Africa in January. We have also released the app on IOS.

This is just a snapshot of the impressive body of work developed by our volunteers and supporters. For more details please visit virtualmathscamp.com.

Kenya, Ghana and Togo all hosted a virtual maths camp this year using the new resources.

Kenya - Pilot event 18th and 20th November 2020

The Kenyan Virtual Maths Camp pilot was 3 days of activities with around 2 hours per day on Zoom. 5 facilitators from AMI ran the camp for around 20 participants. Each session had a lead facilitator assisted by 2-3 co-facilitators. Co-facilitators meant that breakout rooms could be incorporated where participants were split into small groups each led by a volunteer.
The facilitators choose content from the VMC components, with each session designed to act as a taster to other VMC resources namely the SAMI Maths Club App, pause-and-go videos, and card decks.

The 3-day virtual camp served as a great opportunity for students and a helpful pilot to see how a virtual camp would work, learn from the experience, and then implement a camp with a wider audience. SAMI paid for the internet for students who couldn’t afford it.

Ghana - 23rd - 27th November 2020

The 2020 Virtual Allotey Maths Camp was run by AMI Ghana on WhatsApp and Telegram. WhatsApp was used to host the volunteers group, where volunteers discussed and planned lessons for the camp, one major group for both participants and volunteers, where general discussions and announcements were made, and four other smaller groups representing

houses, where lessons were held after a brief introduction on the major WhatsApp group. Whilst on Telegram, participants were introduced to activities on the Virtual Maths Camp bot.

There were a total of 19 volunteers (11 males and 8 females), of which 3 were international volunteers. There were 44 registered participants (27 males and 17 females) for the virtual camp of which 8 of them were male teachers. Thirty four of the participants were actively involved during the camp, from 10 out of 16 regions in Ghana. Lack of internet and smartphones were the major difficulties to overcome.

Students and volunteers worked on pause and go videos and many puzzles from the card deck online and learnt new skills and enjoyed the variation in the different aspects of maths presented.

Togo - 28th - 30th December 2020

IMTogo with the support of SAMI and local partners AscIN and CROP, organised the second Togo Maths Camp. This second camp was organised in a hybrid fashion (face-to-face in three separate locations and online on Zoom and Facebook) to comply with the preventive measures introduced by the Togolese government. 64 pupils from 5ieme to Terminale (Year 8 to Year 13) were together led to do mathematics through fun and educational activities. An activity on the spread of the COVID19 pandemic in Togo enabled instructors to present in a succinct and understandable way the application of mathematical sciences in real life.

This exceptional camp could not have taken place without the initiative and commitment of IMTogo, led by Dr. Amouzouvi Kossi. Particular thanks also to SAMI volunteer Alex Gessner for volunteering online after facilitating at the first Togo camp.

With Kenya, Ghana and Togo having already demonstrated the efficacy of the new formats and held successful camps in 2020/21, we look forward to expanding the Maths Camp into more countries in the coming year.

Facebook Live teaching in Togo

In response to the closing of schools during lockdown in Togo, we are really proud to have been part of #Maths@Facebook, a collaboration with Initiative Mathèmatiques au Togo and Centre for Research and Opinion Polls. Starting in April 2020 a maths course for middle and secondary school students was delivered directly on IMTogo's Facebook page. Facilitating 8 classes a week, inspiring instructors enabled students to continue their core studies at home, with further fun extension classes on Sundays.

During the initial 8 week phase, the project reached 1800 followers. However, these posts have been shared further between students, even beyond the Togolese area: the reach has been remarkable.

The second phase focused on preparing the students for their exams. There were some internet connectivity issues which led to compromised video quality but the resourceful instructors found a work-around by posting images. Indeed, during the second phase there was an interest in using more images as they required less costly internet access.

SAMI provided £176.14 towards the project with further logistical support from CROP. A report on the first phase is here.

Supporting AMI work

SAMI has been honoured to support the work of the Kenyan NGO African Maths Initiatives (AMI) throughout the pandemic as new opportunities have been explored to improve maths education within the new constraints. The 21st century skills course run by IDEMS which was reported on last year turned out to be even more useful than first imagined. Flexibility, independent learning, and adapting to unexpected changes were a major part of the course. Even though most of the classes were in a physical place, assignments, communication, and learning were online through platforms such as MOODLE. A few weeks after the end of the course, the coronavirus pandemic hit the world and virtual work became the only option for the team so it was lucky that the AMI team had this experience in advance.

The AMI team were heavily involved in the virtual maths camp resource creation, and in the following projects, which broadly come under the heading “Enhancing Maths Education in Primary, Secondary and University Levels”.

Geogebra

During lockdown interns created Geogebra apps, and began to develop a scheme of work for Form 2 in Kenya where all aspects of the syllabus are supported by a Geogebra activity. A survey was sent to teachers and educators to identify the need for technology usage in the teaching and learning of mathematics in Kenya asking which topics and areas they find difficult to teach using a blackboard and which would be easier with an app on a computer or a phone. Online training on the use of Geogebra was then launched over Whatsapp and Zoom, while the teachers waited for communications on the reopening of schools.

Soma Nyumbani

During lockdown, the Kenyan government announced a new Community Based Learning programme. Teachers were required to deliver 4 hours of teaching to groups of 15-20 learners from their local community allocated by the government. Only very basic guidelines on how this should be achieved were given, so the team in Kenya stepped in to support teachers in a meaningful way. This involved planning 4 daily ready-to-use sessions for teachers to be distributed from this website https://somanyumbani.com/. After only a few weeks the government announced a change of heart, but these resources will continue to be useful for classroom teaching.

STACK

Santiago Borio, with the support of Laetitia Christine, has trained an international group of educators and volunteers to write online formative maths questions using software called STACK.

STACK has huge advantages over other online assessment systems as it was particularly defined for formative assessment and the questions are specifically written to detect common misconceptions and give automatic relevant feedback to students. Also, students can attempt quizzes multiple times with new variations of questions generated with each new try. Finally, STACK has the potential to ask open questions that help students develop higher order skills, for example questions where students have to create their own examples for specific situations.

During lockdown the team in Kenya, IDEMS and teachers at the Lycee Francais in London worked together to create a Bridging Course for students in the UK who missed out sitting their GCSE exams but who wanted to go on to do A-level Maths. The process of helping to write this course has trained a team who are now writing questions to match the syllabus in their own country.

Happy Classrooms

We have continued to raise money for our Happy Classroom’s project, most notably through Gaye Banfield securing a generous £1000 grant from St. James's Place Charitable Foundation. The project is to deliver 50 'Happy Classrooms' for primary schools in Kenya. Inspired by the incredible initiative of BongoWorldwide in Malawi, we work with schools to redesign and paint classrooms to be much brighter and full of rich learning resources. Our local and international teams work closely with local teachers, to develop resources and help deliver exciting lessons and promote a joy of learning for all.

With the school closures this year and travel restricted we have been unable to begin the work beyond the preliminary visits but we have a large budget in place and are ready to start as soon as possible. The lockdown has afforded the opportunity to create many more accompanying lessons for the classrooms and to make some changes to the design of the walls.

Maths clubs online

The AMI interns created a few maths club videos and engaged with students and teachers on Whatsapp. Feleria Adinda specialised in special needs in her teacher training, so was able to film one video with accompanying sign language. SAMI is incredibly grateful to Dan Kelly who joined the SAMI team at the start of 2021 to volunteer during his gap year and has already been working with the Kenyan team to support maths club sessions and been writing new material for the SAMI maths clubs app.

Financial support for Samuel Okoth has come from Lars Foundation and Stats4SD this year and he has mentored Dickson Namasaka and continues to mentor Feleria Adinda through funding from Sam Hyatt Twynam. Samuel has worked tirelessly this year on all of the projects in Kenya and has been highly creative in the response to Covid.

SAMI does not provide any financial support to Zach Mbasu but greatly values his leadership when partnering on projects with Innodems and AMI.

Projects completed

We were pleased to be able to wrap up the finances from the successful Cross-Pollination Workshop and the Cameroon Maths Camp which were both held in 2019.

Fundraising

SAMI has been fortunate to receive donations and raise money in many varied ways this year. Special mentions go to Sam Hyatt-Twynam for his continuing support, and Jeff Snyder who chose SAMI as the charity for his company's employee's donation of $5000.

Virtual Maths Camp

Franca Hoffmann and Balázs Szendröi led a campaign to raise funds for the Virtual Maths Camps through Virgin Giving. There were many generous donations, including £5000 from Andy Burnett, owner/founder of Knowinnovation and £1000 from Jocelin Harris who has helped SAMI in the past. By the end of February £7149 has been raised.

Happy Classrooms

We continued to attract donations on Global Giving for our Happy Classrooms project and are very grateful to St. James's Place Charitable Foundation for their £1000 donation.

Lars

In the first few years of SAMI it was a challenge to fundraise to ensure our activities could take place, and when we received large donations they were for a specific project or activity. This year we secured £10,000 of unrestricted funds from Lars Windhorst foundation which has made a big difference to how we can now operate. We are very grateful for the confidence they have shown in us and are proud to report every quarter on how their money is supporting maths educational projects abroad.

Honorarium from AIMS Cameroon

Roger Stern and Danny Parsons have taught statistics courses and supervised students at AIMS Cameroon over the last few years and received an honorarium for doing so. They have very generously given £3459 of this to SAMI to be used to support the Kenya team and others in activities such as workshops, courses and conferences

IDEMS

SAMI continues to be supported both financially and through consultancy support from the community interest company IDEMS.

IDEMS has a legal relationship with SAMI. SAMI is mentioned in IDEMS Articles of Association as a specified organisation which IDEMS is able to transfer assets (including money) within its requirements as a community interest company. IDEMS made an extremely generous donation of £2000 to SAMI in 2020/21 with the majority being used for the Cross Pollination conference.

Structure, governance and management

Governing document

SAMI is a charitable company limited by guarantee, incorporated on the 25th of February 2015 and registered as a charity on the 3rd of June 2015.

The company was established under a Memorandum of Association by which it is governed in addition to its Articles of Association, dated 13th of May.

Appointment of Trustees

One third of trustees of SAMI stand down at the following year's AGM. Members and supporters of SAMI are written to in advance of the meeting to ask if anyone would like to be a trustee. New trustees are voted in at the AGM, and trustee positions may include previous trustees, if there is no one else who would like to take over.

Organisation

The board of trustees, with a lot of help from other members, administers the charity. Trustees meet regularly throughout the year, and formally on at least three occasions.

Currently all members are voting members.

We contracted Laura Stonehouse this year to improve our communication and we are grateful for her help with our strategy, organisation and our newsletter.

Related parties and co-operation with other organisations

Before its incorporation, SAMI was set up after teachers helped at one of the maths camps in Kenya and wanted to extend the good work that was being done by AMI. AMI is a Kenyan NGO that SAMI continues to work with very closely. SAMI and AMI collaborate together on activities and make payments on behalf of each other in the appropriate countries.

Financial Review

Reserves policy

We don’t have premises to run or any overheads, but we are committed to keeping a core set of projects running in Kenya. We would like to build up a reserve of 6 months of one full time stipend and one part time stipend, so £6000.

We aim to allocate 10% of our bank account at the end of each year to build up this reserve. For next year we can therefore set aside a further £1149 so that our reserve fund is now £1500. Reserves can be allocated to charitable activities at the end of the financial year if the reserves are above the amount outlined. Reserves may only be used in exceptional circumstances if all executive directors agree.

This policy is reviewed on an annual basis at the time of our annual report.

Our policies require that requests for funding of projects come in writing and any expenditure must be approved by the Trustees. These requests are reviewed in line with our objectives, with our current financial situation and our risk management policy. The Trustees assess the likely risks to which the charity is exposed, in particular including those related to the operations and finances of the charity, and are satisfied that systems are in place to mitigate our exposure to the major risks.

Independent Examiner's Report to the Trustees of

Supporting African Maths Initiatives

I report on the accounts for the year ended 28 February 2021 set out on pages 14 to 23.

Responsibilities and basis of report

As the charity's trustees, you are responsible for the preparation of the accounts in accordance with the requirements of the Charities Act 2011 ("the Act").

I report in respect of my examination of the Trust's accounts carried out under section 145 of the 2011 Act and in carrying out my examination, I have followed all the applicable Directions given by the Charity Commission under section 145(5)(b) of the Act.

Independent examiner's statement

I have completed my examination. I confirm that no material matters have come to my attention in connection with the examination which gives me cause to believe that in, any material respect:

- the accounting records were not kept in accordance with section 130 of the Charities Act; or
- the accounts did not accord with the accounting records; or
- the accounts did not comply with the applicable requirements concerning the form and content of accounts set out in the Charities (Accounts and Reports) Regulations 2008 other than any requirement that the accounts give a 'true and fair' view which is not a matter considered as part of an independent examination.

I have no concerns and have come across no other matters in connection with the examination to which attention should be drawn in this report in order to enable a proper understanding of the accounts to be reached.

David Rutherford CA
Cowan & Partners Limited
60 Constitution Street
Edinburgh
EH6 6RR

Date: 12 November 2021

Statement of financial activities

Statement of financial activities (incorporating Income and Expenditure account)
For the period ended 28th February 2021.

Income

	Unrestricted funds (£)	Restricted funds (£)	Total 2021 (£)	Total 2020 (£)
Donations				
Personal fundraising and donations	4,803	-	4,803	4,023
Benevity donation	295	-	295	46
IDEMS	110	-	110	3,250
IDEMS donation for ADI	-	-	-	5,750
IDEMS donation for Cross Pollination	-	1,891	1,890	-
IDEMS donation for Cameroon	-	900	900	-
Happy Classrooms	-	1,322	1,322	2,948
Cameroon	-	-	-	3,945
Sam Hyatt-Twynam	-	5,000	5,000	5,000
Cross Pollination	-	-	-	1.937
Global giving foundation	-	-	-	223
Argus	-	-	-	2.500
Virtual Maths Camps	-	7,149	7,149	-
Jeff Snyder	-	3,740	3,740	-
Lars	10,000	-	10,000	-
Honorarium from AIMS Cameroon	-	3,459	3,459	-
Charitable activities				
Maths marathon	-	-	-	1,784
Pi Day	312	-	312	198

Statement of financial activities (incorporating Income and Expenditure account) - continued
For the period ended 28th February 2021.

Income continued

	Unrestricted funds (£)	Restricted funds (£)	Total 2021 (£)	Total 2020 (£)
Other trading activities				
Donations for used corks and cartridges	81	-	81	71
Using EasyFundraising online	58	-	59	161
Paypal Giving Fund	97	-	97	27
Amazon Smile	43	-	43	22
Charitable Giving	184	-	184	-
Total incoming resources	**15,983**	**23,461**	**39,444**	**31,885**

Expenditure

	Unrestricted funds (£)	Restricted funds (£)	Total 2021 (£)	Total 2020 (£)
Cost of generating funds				
London Bike place	-	-	-	114
Posting corks	-	-	-	6
Website admin	-	-	-	53
Communications	750	-	750	-
Charitable activities				
Maths Camps in Africa	-	-	-	1,614
Virtual Maths Camps	-	1,128	1,128	-
Supporting AMI work	2,926	-	2,926	8,943
African Data Initiative	-	-	-	5,750
Digital Communities Initiatives	-	-	-	4,141

Statement of financial activities (incorporating Income and Expenditure account) - continued
For the period ended 28th February 2021.

Expenditure continued

	Unrestricted funds (£)	Restricted funds (£)	Total 2021 (£)	Total 2020 (£)
Stats4sd	-	1,588	1,588	2,012
Maths Club Ghana	-	-	-	433
Cameroon	-	899	899	3,945
Happy Classrooms	-	68	68	923
Sam Hyatt-Twynam	-	3,138	3,138	1,554
Cross Pollination	-	328	328	7,014
SAMI App	910	-	910	2,000
Maths Club Togo	-	-	-	190
Online Togo	267	-	267	-
Governance costs - companies house registration	13	-	13	13
Total expended resources	**4,866**	**7,149**	**12,015**	**38,705**

	Unrestricted funds (£)	Restricted funds (£)	Total 2021 (£)	Total 2020 (£)
Net income/expenditure and net movement in funds	11,117	16,312	27,429	-6,820
Funds brought forward	1,012	7,997	9,009	15,829
Funds carried forward	**12,129**	**24,309**	**36,438**	**9,009**

Balance Sheet as of 28th February 2021

	Unrestricted funds (£)	Restricted funds (£)	Total funds 2021 (£)	Total funds 2020 (£)
Current assets:				
Debtors	-	-	-	-
Cash at bank and in hand	12,129	24,309	36,438	9,009
Total current assets	12,129	24,309	36,438	9,009
Creditors: Amounts falling due within one year	-	-	-	-
Net current assets or liabilities	12,129	24,309	36,438	9,009
Total net assets	12,129	24,309	36,438	9,009
Reserves				
Unrestricted funds			12,129	1,012
Restricted funds			24,309	7,997
			36,438	9,009

For the period ended 28 February 2021 the company was entitled to an exemption from the requirement to have an audit under the provisions of section 477 of the Companies Act 2006. No notice has been deposited with the company under section 476 of the Companies Act 2006 requiring an audit to be carried out.

The directors acknowledge their responsibility for:

(i) ensuring the company keeps accounting records which comply with sections 386 and 387 of the Companies Act 2006; and

(ii) preparing financial statements which give a true and fair view of the state of affairs of the company as at the end of the financial year, and of its surplus or deficit for that financial year in accordance with the requirements of sections 394 and 395 of the Companies Act 2006.

These accounts have been prepared in accordance with the provisions applicable to charitable companies subject to the small companies regime within Part 15 of the Companies Act 2006 and the Financial Reporting Standard for Smaller Entities (effective January 2019).

Approved and authorised for issue by the Directors on 12th of November 2021 and signed on their behalf by:

Signed:
Name: Emily Fleming (director)

Signed:
Name: Jeff Goodman (director)

Notes to the Accounts

For the period ended 28 February 2021

1. Accounting policies

Basis of Accounting

The charitable company is a public benefit entity under F*RS 102*. *The* financial statements have been prepared under the historical cost convention. They are in accordance with accepting accounting standards in the United Kingdom and comply with the provisions of The Charities Act 2011 and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Charities SORP (FRS 102).

Income Recognition

Donations and other income are accounted for when receivable by the charity. Investment income including bank interest is accounted for on an accrual basis.

Expenditure Recognition

The charity is not registered for VAT and accordingly expenditure is gross of irrecoverable VAT.

Charitable expenditure comprises donations to beneficiaries and related administration costs. Donations to beneficiaries are recognised when a constructive obligation arises that result in the payment being unavoidable.

Governance costs include those costs associated with meeting the constitutional and statutory requirements of the charity and include the costs linked to the strategic management of the charity.

Funds held by the charity are:

Unrestricted funds
These are the funds that can be used in accordance with the charitable objectives at the discretion of the directors.

Restricted funds
These can be funds that can only be used for particular restricted purposes within the objectives of the charity. Restrictions arise when specified by the donor or when funds are raised for particular restricted purposes.

2. Breakdown of expenditure on Charitable Activities

Expenditure (Unrestricted)	Supporting AMI work (£)	SAMI App (£)	Online Togo (£)	Total (£)
Costs directly allocated to Charitable activities				
Stipends	2,587	910	89	3,586
Internet	294		171	465
Support costs allocated to Charitable activities				
Foreign transfer bank fees	45		7	52
Total expended funds (unrestricted)	**2,926**	**910**	**267**	**4,103**

3. Breakdown of expenditure on Charitable Activities (continued)

Expenditure (Restricted)	Virtual Maths Camps (£)	Stats4SD (£)	Cameroon (£)	Happy Classrooms (£)	Sam Hyatt-Twynam (£)	Cross Pollination (£)	**Total (£)**
Costs directly allocated to Charitable activities							
Stipends		1,566			3,069		**4,635**
Supporting volunteers running the Cameroon camp			899				**899**
Food, accommodation, transport, equipment hire and resources for students and local teachers for a camp	552						**552**
Flights and visas for Cross Pollination conference						327	**327**
Internet and call credits	529						**529**
Labour, transport and supplies for Happy Classrooms				65			**65**
Support costs allocated to Charitable activities							
Bank charges	47	22		3	69	1	**142**
Total expended funds (restricted)	**1,128**	**1,588**	**899**	**68**	**3,138**	**328**	**7,149**

3. Funds

	At 29 Feb 2020	Income	Expenditure	At 28 Feb 2021
Unrestricted funds				
General funds	1,012	15,983	(4,866)	12,129
Total unrestricted	1,012	15,983	(4,866)	12,129
Restricted funds				
Virtual Maths Camp	0	7,149	(1,128)	6,021
Jeff Snyder	0	3,740	(0)	3,740
Stats4sd	1,588	0	(1,588)	0
Cross Pollination	-1,562	1,890	(328)	0
Cameroon	0	900	(900)	0
Sam Hyatt-Twynam	3,446	5,000	(3,138)	5,308
Happy Classrooms	2025	1,323	(67)	3,281
Honorarium from AIMS Cameroon	0	3,459	(0)	3,459
Argus	2,500	0	(0)	2,500
Total restricted	7,997	23,461	(7,149)	24,309
Total funds	£9,009	£39,444	£ (12,015)	£36,438

3. Funds

Details of restricted funds

Virtual Maths Camps
Funds raised to continue to provide a maths camp experience for students, teachers, and facilitators from across the globe - in a new, dynamic, partially virtual and fully international environment.

Jeff Snyder
Jeff Snyder kindly chose SAMI to receive a grant through his company PDT Partners

Stats4sd
Funds received to support projects in Africa.

Cross Pollination
Grant received to enable facilitators at different maths camps in Africa to get together to share best practice.

Sam Hyatt-Twynam
Donation received to improve maths education in Kenya through teachers.

Cameroon
Fundraising for running the Cameroon maths camp, with any spare money to be distributed to other camps

Happy Classrooms
Funds raised to paint classrooms and train teachers to use the new resources.

Honorarium from AIMS Cameroon
Funds donated by Roger Stern and Danny Parsons to fund activities such as workshops, courses and conferences

Argus
Jon Fleming successfully pitched SAMI for a grant through his company Argus.

4. Trustee Remuneration

None of the directors (trustees) received remuneration or expenses during the period.

5. Average Number of Employees

The average number of employees during the year was Nil (2020 – Nil)

6. Related Party Disclosures

SAMI App work has been contracted out via a company owned by one of the trustees. This has been fully approved by the board.

There have been no further transactions with related parties in the year to 28 February 2021.

Appendix 1

Explanation of key words and phrases used in the infographic

- All academic levels – primary school all the way up to PhD and beyond. If activities are not designed with the scope of creating PhD holders then whatever change is attempted lower down (e.g. primary schools) could be undermined by people with higher qualifications but less knowledge.
- All pathways – maths for mathematicians, maths for scientists, maths literacy, vocational, other professions and walks of life.This is very important as a concept, because most people specialise, but particularly in the African context it is important and constructive to see this as a whole. We won't be constrained by thinking about one particular strain, we can turn this into an advantage and perhaps Africa can become an equal partner by taking on some of these bigger picture solutions because everyone else is looking at a smaller level.
- Brain drain – The intellectual elite are integrating and migrating into the global system due to better pay and employment opportunities, however in developing countries, the local system cannot afford to lose them. (In some small countries, losing individuals as a result of brain drain is a problem. For example, in the case of Madagascar, graduates did not want to return to their country as they would face academic isolation. Alternatively, when individuals do not leave this can result in people developing in isolation, which can also be problematic. In some instances brain drain can be beneficial, as those individuals who choose to return after going away share their knowledge and skills with the local population.)
- Brain circulation – There is a need to improve the system by improving the circulation of people into the system, there are opportunities for dynamic individuals.
- Low resource environment - aims to dispel the myth that low resource environment means no access to technology, problem solving, extra curricular. Many low resource environments have time in abundance to do extra activities. Thinking about Kenya and South Africa, there are large chunks of the school day where pupils are waiting or simply having their time filled without much of an educational purpose. There is no way to create enough good skilled teachers to have a good teacher to pupil ratio. That is the essence of a low resource environment. But this lends itself to technology based approaches. At some stage the technology will need to be a tool to help pupil based learning activities. Modern day technology can now provide feedback which is the revelation. A myth of low resource environment is that there is no funding. But actually governments do invest in education, but often the money is not spent wisely. The maths camp in Maseno in 2014 broke even on local funds. Another myth is that extra-curricular is a luxury, but it is actually easy and does exist in Africa.
- Educational model - The concepts, ideals and values behind the educational system. A model that has the values of formative assessment and feedback. An educational model encompasses concepts, the what and the why, the role of school, the aim of education, the teacher-student role. The educational model stands for the concepts without the implementation. Research methodology gap - The research methods used throughout

Africa for most areas of research from universities to professionals are the same methods as were used in the 1960s. Now we have big data and large data sets. People in e.g. Agriculture and medicine, are taught statistics as a service subject. Tools they are taught and the tools that are available are from the 1960s. There has been an explosion in tools and data that are available. These make the research much easier.The tools used by global research are growing exponentially. The gap in terms of the methodologies used has been getting worse and worse. Difficult to overstate the size of this problem. Pretty much all the money spent on agricultural research in Africa is wasted due to this problem.

Appendix 2

Underlying Dimensions: Situational constraints and choices

Before considering how we hope to move towards the high level outcomes via a lower tier of activities, outputs and outcomes it is important to discuss some of the dimensions that may constrain or guide us. We will start by discussing those we view as imposed by choosing to work in an African context and can be chosen to be seen from positive or negative perspectives.

Young*/Old Demographic*
Africa has the world's youngest population which could be its greatest asset or greatest threat. For example, we could not begin to think that in the future there will be anywhere near enough highly trained and skilled teachers to teach all of Africa's youth, and therefore we cannot consider anything that would depend on this fact.

*I****ndividuals****/Institutions*
Individuals have large amounts of responsibility and influence. They can really make a difference. This has some clear negative connotations when considering issues such as corruption, however this can also be turned into a strength given the ability for these individuals to provide information and communicate between a much wider target audience. An example might be the importance of formative feedback being pushed within school and university contexts by the same small groups of individuals who have a great deal of influence within both contexts.

Demand*/Supply-Driven Change*
Change is driven by demand. There is potential for large-scale systematic reforms.

Low*/High Resource Environments*
Working in low resource environments is challenging, but has the potential to impact universally. One might argue that the diversity of Africa does indeed provide a number of high resource environments (strong-performing private schools for example, akin to many of those in Western countries), however we could not possibly feel justified focusing within this specific domain and claiming it representative of wider Africa. It is clear by example that if you were to create a set of resources that helped young children fundamentally grasp concepts through 1:1 student-teacher interactions, this model could not then be transferred into a situation where the ratio may in fact be 1:50. If however we take the converse and find something that works within a 1:50 environment then it will hold many of the same benefits when implemented back in our initial high resource environment.

Whilst the previous dimensional *choices* are already made through the decision to work within the wider African context, there are still numerous further dimensions where choices have to be made. We have identified the following 4 pairs as significant for what we want to achieve:

Top-down ***Bottom up***
Adaptive ***Disruptive***

Formal ***Informal***

Content ***Implementation***

These dimensions all have the ability to drastically change the appearance and nature of an initiative. If we were to just take 2 we could represent such choices and outcomes by the following diagram:

	Adaptive	Disruptive
Formal	Improving current school curricula to include problem solving	Completely replacing current school curricula to take a different approach
Informal	Build on existing community literacy programs	Create a new set of microworlds that enable education to become a core component of daily life

We would assert that when considering how to move in the direction of our proposed outcomes, it is important to consider how it is possible to provide progress across all dimensions in which we have choices; from grassroots initiatives to government-backed schemes, building on work which has already been done, as well as bringing in completely fresh and new ideas, influencing within defined instructional institutions as well as anywhere else learning can take place. We could see how these different approaches could all potentially add value and move towards a specific long term outcome.

Appendix 3

Key values

- **Sustainability:** From its inception, the first maths camp - the Maseno Maths Camp - was an initiative instigated and supported by lecturers at Maseno University as a locally sustainable initiative. All camps are not-for-profit ventures, with local and international educators volunteering their time freely. In 2014, the Maseno Maths Camp was able to run with all local expenses covered by student registration fees. Full fees for the week including accommodation and food are 5000 Kenyan Shillings (around $60) with a large number of local students paying reduced fees. There is a similar scenario in the Ghana maths camp, and in Ethiopia the students are funded from the university budget. Volunteers at the camps include a mix of local and international mathematics students, teachers, educators, lecturers, academics, researchers, PhD students and mathematics enthusiasts, a mix designed to maintain engagement of participants whilst ensuring that the event does not rely on any given individual. Exceptional participants are encouraged to become volunteers and are mentored into a new role once they finish school.

- **Extra-curricular mathematics:** The camps are designed to open students' eyes to the world of mathematics and show that mathematics is not all about calculations. The aim is to introduce mathematics not found in a classroom, both through the choice of content and through the delivery of the subject material. Each camp focuses on five or six different "themes" in mathematics, such as modelling, combinatorics, programming, code breaking, statistics, non-Euclidean geometry and game theory. Whatever the theme, the focus is on understanding concepts and problem solving situations, very different from the calculation and formula emphasis students experience at school. Moreover, the organisers believe in making high level mathematics accessible to high school students. Even though the camps are not tailored to help students with the mathematics covered in the school curriculum, students often find that their achievements in mathematics improve on their return to school, and even see improvements in other subjects. The case studies of Cabrine and Evans, in our research paper for EDULEARN, illustrate this point even if they are exceptional rather than representative students.

- **Inclusive:** All high school students (aged roughly 14 to 18) are welcome to attend the camps. There are no entry requirements and the camps aim to have a mix of pupils with different socio-economic backgrounds and different achievements so far in maths. Equal numbers of boys and girls at the camps is a target, with a good mix every year so far, and there is a maximum number of students from any one individual school to ensure that a variety of schools are represented. Many students come from local public schools, but private and national schools are also represented. Students are not separated by any of these factors during sessions at the camps and despite the wide range in ages, schools, backgrounds and mathematical ability of students who attend the camps, this has never caused an issue. The focus at the camps is not on the facts and formulas memorised in school but on critical thinking, creativity and being logical and persistent in solving puzzles and problems, so any student can succeed at the camp by applying themselves.

- **Everyone Learns:** The camp is set up to allow learning opportunities for everyone, not just the students attending. Local university student volunteers learn ideas applicable to their university maths clubs and get valuable new input to their studies. They meet and

work alongside local and international lecturers, teachers and PhD students and integrate themselves into a wider professional network. Teachers who accompany their students are given a few separate sessions to discuss what they have observed and learned from the sessions, how they could take this back to their classrooms and how they can receive support from the organisers in doing so. In general, teachers attend the sessions together with the students and learn alongside them. Local and international teachers have the opportunity to interact with mathematics lecturers and researchers and learn new academic depth and background to the material they teach at school level. Local lecturers and teachers see a different style of teaching in action. Volunteers learn new branches of mathematics from being involved in a dynamic group with different specialisms. Mathematics researchers gain hands-on teaching experience alongside experienced teachers and receive feedback on their input. Thanks to this sharing of expertise across all levels the maths camps have been attracting enthusiastic and skilled volunteers consistently over the years, facilitating the smooth running of the camps.

- **Technology:** Technology plays a key role in the camps. Software such as Geogebra and Scratch are used to give students an opportunity to explore mathematics and programming in an interactive environment. Many students have not used a computer before; but rather than teach them how to use a computer, mathematical activities are designed which will allow them to learn how the computer works at the same time as doing the maths. Whenever possible free open source software is used and all the resources that the students are exposed to are given to them at the end of the week on a DVD.

- **Development of New Educational Material:** Each camp week is preceded by a preparation week where local and international organisers and volunteers get together to prepare the maths camp. This model has proven to be very successful given the challenge of organising such an event with facilitators being engaged in other full-time work both locally and abroad. The preparation week does not only serve as a training for local and international volunteers and as important team building in preparation for the camp week, allowing to share expertise, to learn new mathematics and to explore new teaching methods, it is also a valuable opportunity to create new educational material. This is where new ideas and concepts are developed and tested with local and international partners working together on a tight deadline. Since 2011 a large number of resources have been created, both within and outside the preparation week, that are now more widely available. A secondary aim of the preparation week, in the last few years, has been to develop and improve the Maths Camp Starter Pack, a collection of mathematics resources that can be used by students, teachers, academics and interested individuals to run a similar event independently, be it for a half-day or a full week.

- **Immersive environment:** Students are immersed in mathematics throughout the whole week. The structure of the camp is designed to make time for physical activities and card games. Links between card games and mathematics are highlighted and physical activities are chosen carefully to involve teamwork, critical thinking and logic. It is a core belief of the camps that mathematics can be learnt through games. Students work in pairs and groups throughout the week to encourage mathematical discussion. There are puzzles of the day which students work on during their free time, and the computer labs are open outside formal sessions so that students are given the opportunity to explore the programmes they have been introduced to independently.

- **Community:** Students enjoy the opportunity to meet peers from other schools and to interact with local and international students, teachers, lecturers and researchers. Breakfasts, lunches and dinners are all taken together; these and other activities outside of lessons create a good working relationship between all camp participants. They help create an environment that breaks through the traditional hierarchies in educational institutions and gives mental space for critical thinking, allowing to challenge each other and learn from each other across all academic levels and backgrounds. A key value of the camps is that there are no barriers between students and facilitators, there are interactions between everyone and everyone has a voice. This sense of community builds with a few students returning year after year, in some cases even becoming volunteers after they leave school. Students are keen to share what they have learned on their return home, and almost universally state an enjoyment of mathematics when leaving the camp. This is a small but important step towards creating a community of individuals enthusiastic about mathematical ideas, and eager to embrace mathematical concepts in their future endeavours.