



# Annual Report 2015

camara  
transforming education



Front Cover Photo:

Kipawa Libermann Pre & Primary School in Dar es Salaam, Tanzania

# Table of Contents

Chairperson’s Report .....	02
Treasurer’s Report .....	03
Chief Executive Officer’s Report .....	04

## About Camara

About Camara .....	06
2015 In Numbers .....	07
Celebrating 10 years of Camara .....	08
2015 In Stories .....	10
Fundraising .....	12
Partners .....	13
Funders .....	14
Technology Donors.....	15

## Education

16

Update on “Prove” strategy .....	20
Education Hubs .....	22
Kenya .....	22
Ethiopia .....	24
Tanzania .....	26
Zambia .....	28
Lesotho .....	30
Haiti.....	31
Uganda & South Africa .....	32
Ireland .....	34
Hub Accounts.....	36

## Resource and Refurbishment

Dublin, Ireland.....	38
London, England.....	39
Belfast, Northern Ireland and San Jose, USA.....	40
EWaste.....	42

## Audited Accounts

44

## Monitoring and Evaluation

62

## Contact Us

110



# Chairperson's Report

**Maria Mahon**  
**Chairperson of Camara Education**

2015 was a seismic year in the world of international development. The Millennium Development Goals expired, with most goals being largely achieved, and the Sustainable Development Goals were born. From an education perspective, primary school enrolment in developing regions rose from 83% to 91% over the fifteen years. However this had the unintended consequence of diluting quality which is why there is now a dedicated goal to address this; Goal #4 Quality Education. As such, the need for organisations like Camara Education who are using technology to improve the quality of education has never been greater. In addition, as global goals they very much validate the role of our Irish education hub.

2015 also represented the middle year of our three year strategy; to prove the impact of technology on educational outcomes, to improve the offerings to the educational institutes we serve and to scale to increase our impact. I am very pleased to let you

know that progress to achieving this strategy is on track with educational data now emerging that is changing the perception of the impact of ICT in education.

In May 2015, I had the pleasure of visiting Addis Ababa, Ethiopia to meet staff, volunteers, partners and most importantly schools. It was wonderful to experience first hand the transformative effect of technology in education. Students totally engaged in learning maths, english and other subjects through technology. Teachers and principals saying how much their education had improved and how much better the students are performing.

Finally, I would like to thank all who engaged so positively in Camara in 2015 to make it once again a record year; staff, volunteers, partners, supporters and my fellow directors whom it is a pleasure to work with. The power of the collective is truly inspiring.



*Jerusalem School, Addis Ababa, Ethiopia.*



# Treasurer's Report

**Robina Walshe**  
**Treasurer of Camara Education**

Camara recorded a net surplus of €149,065 in 2015, compared to €199,738 in 2014. Incoming resources in 2015 increased by 35% overall to €4,041,640, where charitable activity increased by 41% to €3,648,097. This growth has been driven by an increase in educational services projects.

Resources expended by Camara in 2015 increased by 40% to €3,892,575. The main reason behind the increase in total resources expended in 2015 is the associated costs of delivering projects. Delivering projects is the biggest expenditure of the organisation, followed by the wages and salaries, the cost of refurbishment of computers and support to our Hubs.

Camara's reserves increased significantly to €1,827,827, compared to €858,762 in the previous year. The financial reserves at 31 December 2015 were greater than one quarter of operating costs, in line with the reserves policy adopted by the Board.

Costs associated directly with our Charitable Activities in 2015 represented 93.7% of our total resources expended, which is 0.4% higher than

previous years. The balance of our costs in 2015 consisted of Costs of Raising Funds (3.3%) and Governance Costs (3.9%).

For every €1 Camara spent on fundraising it generated €23 for its charitable activities.

**Summary of our major financial results are presented below:**

	2015 (€)	2014 (€)
Total Incoming Resources	4,041,640	2,988,930
Total Resources Expended	3,892,575	2,789,192
Net Income Resources	149,065	199,738
Cash at Bank (year-end)	802,733	836,909
Staff Costs	1,209,954	989,434
Costs of Generating Voluntary Income	128,127	102,126
Governance Costs	116,351	92,969
Charitable Activities	3,648,097	2,594,097



*Edom Mesfin, Assay Secondary School, Ethiopia*



# Chief Executive Officer's Report

**John Fitzsimons**  
CEO of Camara Education

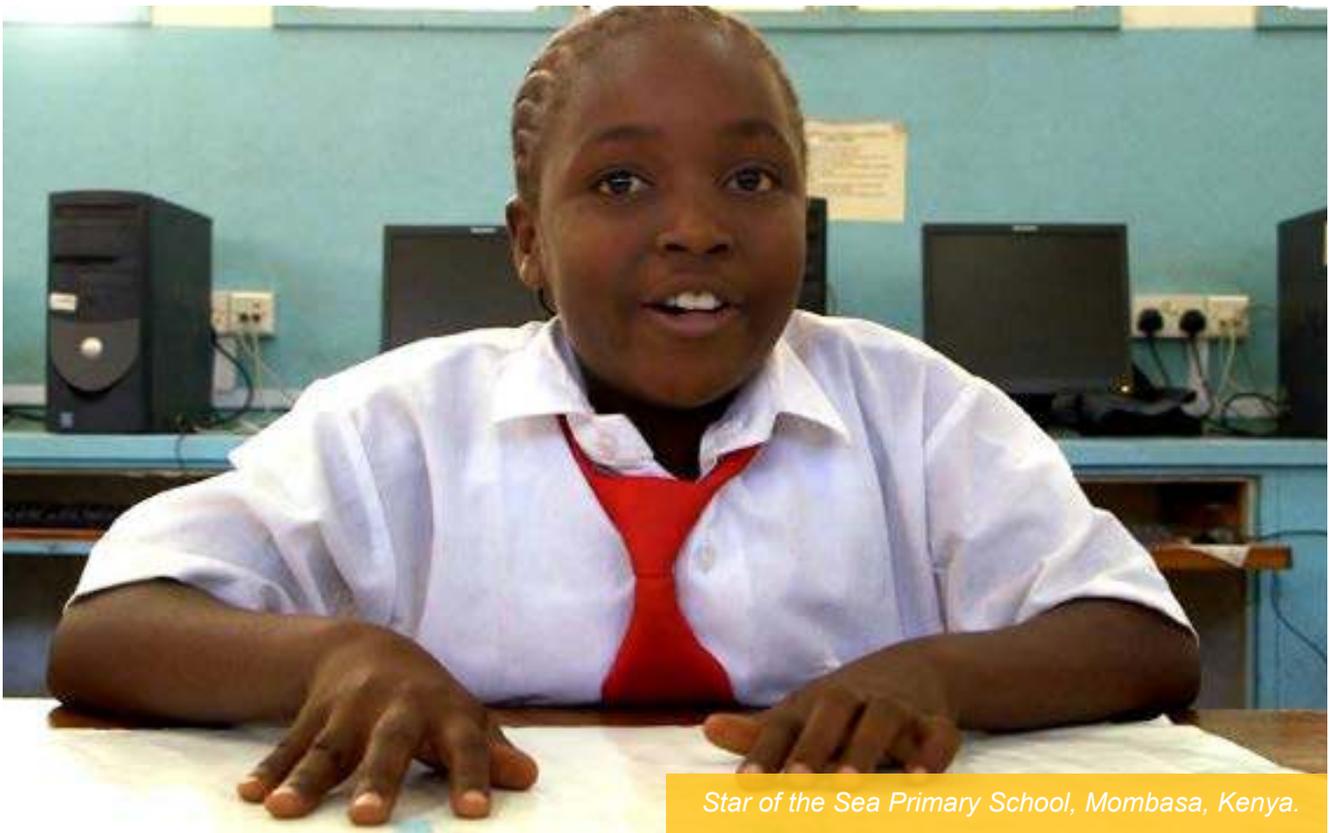
2015 was once again a huge year for Camara Education. Our income rose 35% to over €4m, 6,256 educators were trained in using ICT to deliver an improved education (up 46% on 2014) and 12,303 computers were installed in educational institutes (up 6% on 2014). Aside from the numbers, the quality of what we offered to schools improved significantly. Our monitoring and evaluation exercise showed that school leader ratings of Camara's performance improved by 4% since 2014, up to 80%. Camara now runs a number of high profile ICT in Education projects in each of our countries, including the hugely successful LearnStorm maths competition in Ireland. Most significantly of all is the data that is emerging from these projects that prove and quantify the educational impact of using ICT in education.

Our biennial conference in Addis Ababa also took place in 2015. It was great to have a dedicated week with staff and board members sharing, reviewing and strategising, not to mention an inspirational school visit to finish the week off. We celebrated our 10 year birthday where we had

friends and supporters, old and new, join us to mark the huge impact the organisation has had in this period.

More recently there has been a real change in what Camara delivers over and above technology provision. As a result you will see a change in our communication on what our work does (increases the chances that young people have of getting an innovative education), rather than our traditional focus on the technology and other inputs that makes that work possible. In future we aim to share a mix of impact data and stories. The major strides made in M&E during 2015 will support this.

I would like to personally thank all staff, partners, supporters and especially volunteers for continuing to change life opportunities for so many. Like Patience Kamuche whom I met in Mombasa, Kenya last year who having had access to technology in school now wants to become (and no doubt will) a neurosurgeon when she grows up. On behalf of Patience and the other millions of children, thank you.



*Star of the Sea Primary School, Mombasa, Kenya.*



Photo: © Fabian Boros 2015

TechFest, Dublin, Ireland.

# About Camara



Camara Education is an international charity, operating as a social enterprise, that uses technology to deliver 21st century skills and as such improve education in disadvantaged communities around the world.

## Vision

Our vision is a world-class technology-enabled education accessible to all.

## Mission

Camara's mission is to transform education using technology to empower disadvantaged students.

## Values

- We are focused solely on social change.
- We are customer-focused to meet local needs.
- We deliver value to our donors.
- We want to measure our impact.
- We want to effect a change on a large scale.
- We are honest and transparent in our work.
- We adapt, respond, learn and innovate.
- We value our loyal team of staff and volunteers.



Camara Education has been a signatory to the Dochas Code of Conduct on Images and Messages since 2009. By signing the Code, we commit to a set of principles, ensuring that we will avoid stereotypical or sensational images. The adoption of the Code means that Camara will choose images and messages that represent the full complexity of the situations in which we work, and that we will seek the permission of the people portrayed in the photos we use.



The Governance Code is a Code of Practice for Good Governance of Community, Voluntary and Charitable Organisations in Ireland. In February 2014 Camara started its adoption journey of the Code and became compliant in 2015.

Camara Education is a registered charity in Ireland (CHY 16922), the UK (1135540), the USA (EIN: 38-3804011), Ethiopia (1923), Tanzania (00NGO/00006076), Lesotho (Schoolnet, Reg No. 2008/221) and Kenya (OP. 218/051/11-0118/7087).

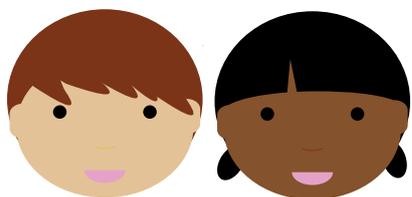
**“Computers give me more knowledge, more than the books I find in the library.”**

*Rukia Mbaita,  
Garjoni Primary School, Mombasa, Kenya*

*Photo: Tim Mansel*

# 2015 In Numbers

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**258,363**  
learners impacted

**6,256**  
educators

were trained  
to use ICT  
in education



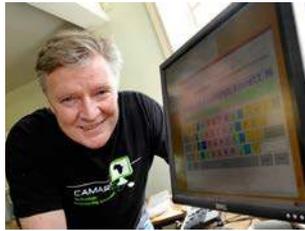
PCs were installed in  
educational institutions

**39,680** volunteer  
hours logged



**€2,915,547**  
was fundraised

# Celebrating 10 Years of Camara



## 2005

- Founded in November by Cormac Lynch in Dublin, Ireland



## 2007

- Camara honoured by President of Ireland
- Camara computer workshop opens in Mombasa, Kenya



## 2009

- Camara Ireland Education Hub established

- Camara CEO Cormac Lynch wins Social Entrepreneurs Ireland award

## 2006



- Refurbishing & training centres established in Ethiopia, Kenya, Lesotho & Uganda

- Cormac Lynch wins the David Manley award 2008 for Camara Education

## 2008



- Camara wins Arthur Guinness Fund award 2010

## 2010





## 2011

- Camara Jamaica opens
- 25,000th computer shipped
- Camara Rwanda wins the prestigious 'Japanese Award for most Innovative Development Project'
- Camara Wins First Prize in CSR at ISA Industry Awards 2011



## 2013

- 500,000 children achieve digital literacy
- 40,000th computer shipment
- Camara wins ICT excellence Award
- Camara Haiti opens
- President of Ireland opens new Dublin refurbishment centre
- Camara Kenya becomes first point of collect for East African Compliant Recycling (EACR)



## 2015

- Camara's 10th Anniversary
- 17,000th computer sent to Ethiopia
- 1,000,000 children achieve digital literacy

- Camara Tanzania opens
- 30,000th computer shipped
- Camara honoured for outstanding service by the Lord Mayor of Dublin
- Camara was recognised in the annual Deloitte Technology Fast50 awards

## 2012



- 50,000th computer shipped
- Launched 3 year strategy to improve education outcomes including digital literacy for 2,000,000 learners
- Camara London sends first computer to Tanzania

## 2014



# 2015 In Stories

March

## Project iMlango Roll-Out Begins



Camara Education announces that computer dispatches are complete for the iMlango project, with fully functioning computers labs now set up in all 205 schools. Project iMlango (derived from the Swahili word for door or portal) seeks to improve learning and educational outcomes to 150,000 children, including 68,000 marginalised girls. This is a groundbreaking educational initiative, in partnership with the UK Department for International Development (DFID) and corporate partners Avanti Communications, sQuid and Whizz Education.

## iKnowledge project begins in Tanzania

March

Camara Education's latest innovative partnership provides an online interactive learning platform for teachers in 250 schools across Tanzania. The year long iKnowledge project is a sustainable educational platform funded by the UK Space Agency's International Partnership Space Programme (IPSP) and powered by Avanti Communications' leading satellite technology that will create an invaluable learning opportunity to thousands of communities in Tanzania.



May

## Camara Technology Inspiring Young Entrepreneurs



On Tuesday 26th May, the students of Gaelscoil Bharra in Cabra, Dublin, launched their innovative new school technology product with the support of our Irish Education Hub, Camara Ireland. As part of the Young Social Innovators program, the students researched, designed, and sourced a special school-specific wearable USB wristband.

Aodh Ó Máirtín, the teacher coordinating the USB Wristband project, has introduced many new initiatives both in his classroom and across the school, using the Camara technology and training to great effect, "we take it for granted that kids have laptops but there are always those kids that don't have access, Camara has given access to what should be available readily."

June

## Camara Education Announces Landmark 1 Millionth Digitally Literate Child



An extraordinary landmark in the organisation's history. In June, we reached the milestone of 1 Million children that have had in excess of 35 hours access to Camara technology. They have gained the crucial 21st century skill of Digital Literacy and a much improved education as a result. In the last decade Camara has undergone a lot of work to reach this landmark. 3,300 E-learning centres have been installed in communities across Ireland, Africa and the Caribbean.

## Camara Education Sends 17,500 Computers to Ethiopian Schools to Create Opportunities for the Next Generation

July

Camara sent a container of over 900 computers to Addis Ababa, Ethiopia. These computers were sent out to schools across Ethiopia's Regional Education Bureaus as part of an eLearning package which Camara provides, including teacher training and support and maintenance. They marked the completion of Camara's agreement with Ethiopia's Ministry of Education to provide 17,500 computers and training of a minimum of 1,750 teachers over 5 years, a target that was met with the delivery of this final container.

Camara's partnership with the ministry has worked to close not only the huge gap in ICT access in remote areas, but also has provided the much needed capacity building and teacher training.



Nov

## Camara Education celebrates its 10th Anniversary and pledges to improve educational and learning outcomes for two million children by the end of 2016



Camara has provided 75,000 computers into schools around the world, established 3,750 eLearning Centres, trained 20,000 teachers to use ICT and ultimately, improved educational and learning outcomes for over 1.4 million children. On its 10th birthday, the social enterprise paid tribute to the staff, volunteers and partners who helped the organisation reach this significant milestone and set out the organisation's intent for the year ahead.

Governments and schools are realising that technology has to be prioritised in education or run the risk of young people falling behind in today's digital age.

# Fundraising

Camara Education continued to build on its partnership approach to fundraising in 2015. Across a growing number of corporates, foundations and private individuals we were able to secure a 35.2% rise in income from 2014. This funding has enabled us to Scale, Improve and Prove our work in delivering eLearning centres and training teachers in schools across Ethiopia, Kenya, Tanzania, Zambia and in Ireland. This was done not least through ground-breaking projects such as iMlango, iKnowledge funded by DFID and the UK Space Agency through our partnerships with Avanti Communications and the ICT Education Project funded by Dubai Cares through the Aga Khan Foundation.

These projects, along with vital work supported by Irish Aid in Zambia, will enable us to reach more schools, teachers & students, testing new models of ICT education delivery. This will also provide us with crucial monitoring & evaluation data on the educational improvement we have been able to achieve for the learners involved.

This is a leap forward in demonstrating the impact of Camara's work and will give us the opportunity

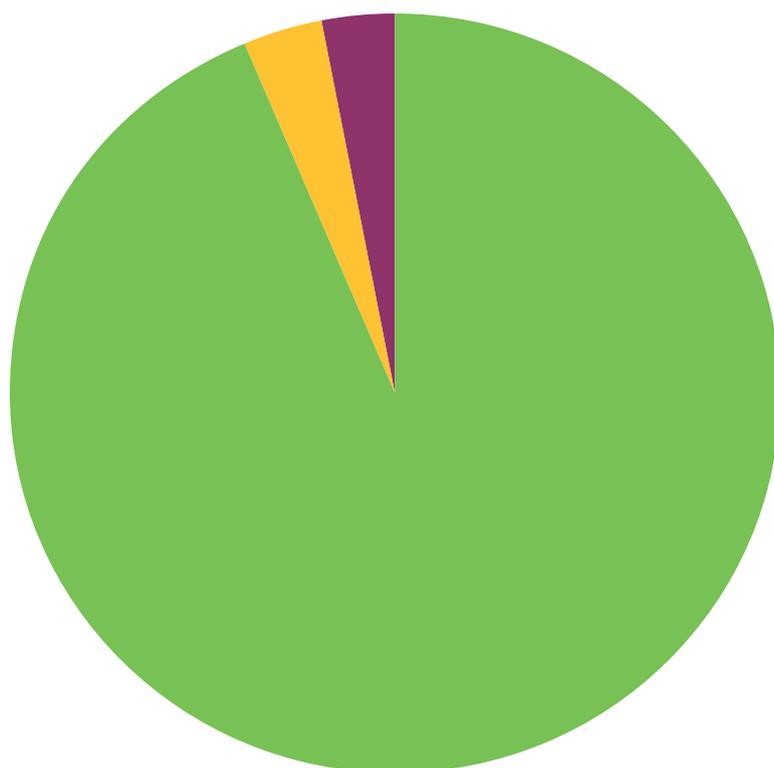
to leverage more support and funding from other partners in the future.

Continued support from corporate partners organisations, trusts, foundations and private individuals play an important part in the sustainability of Camara's work. They provide funding for core activities, development and M&E work as well as supplying a host of volunteers to work in our refurbishment centres in Dublin and London and in our African education hubs.

2015 also saw a successful Educating Educators Fundraising Concert in London, raising funds to support our teacher training programme. Our Chairman in the UK once again led a group of Trekkers, this time to see our work in action on the ground in Tanzania and raising much needed funds through The Big Give.

Our thanks go out to all of those who have supported and raised funds for Camara Education. Your continued support allows us to support our social enterprise work and have a lasting impact on children across Ireland, Africa, and the Caribbean.

## How Our Funding is Spent



**93.7%** Charitable activities

**3.3%** Fundraising

**3.0%** Governance

# Partners

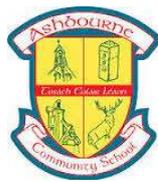
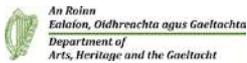


# Funders



Facebook staff volunteering at Dublin workshop.

# Technology Donors



# Education

2015 has been a breakthrough year for Camara internationally. Last year we highlighted that all our education hubs were focused on improving learning outcomes in the areas of student numeracy, literacy and computer studies grades. Further to this, projects and programmes were designed to improve educational outcomes including quality of teaching, student attendance, retention in school and transition between primary and secondary school. We are proud to report that this strategic focus is now starting to yield measured positive results for learners across our network.

With data starting to come in from projects in Zambia and Kenya in late 2015, the positive impact on education and learning outcomes in schools that Camara has supported is emerging. This includes substantial improvements in maths grades and attendance for primary school students in Kenya and improved grades for computer studies students in Zambian secondary schools.

Over 2016 Camara Ireland's three educational programmes, in both the formal and informal education sector, as well as projects in Kenya, Uganda and Tanzania will start to feed into this increasing body of evidence of the positive impact of ICT in Education. As detailed reports from our

Monitoring and Evaluation teams emerge over 2016 and beyond, we invite you to keep engaged with Camara on our website or via social media as we continue to report our impact internationally.

## Focus on Impact, Achieve Results

Camara's current strategic plan focused on proving the impact our educational models had on learners acquiring Digital Literacy. As we improved our educational offerings and became involved in focused projects, it was quickly established that our impact evolved beyond learner acquisition of Digital Literacy. Now our programmes focus on learners impacted in specific areas of education and learning outcomes, some of which are listed above. The following section on our Prove Strategy update will elaborate in detail on what this evolution looks like and how Camara will report on impact going forward.

Designing for impact involves thorough research, thoughtful design and comprehensive implementation and support of educational programmes. Camara believes this is central to achieving a desired sustainable impact. As Camara has been proclaiming for years, provision of and access to technology alone does not guarantee such impact.



*Star of The Sea Primary School, Mombasa, Kenya.*

In 2015, Camara’s education hubs incorporated a systems design approach to its programme and projects, which is described below. The formal and informal sectors that Camara operate within are complex environments that required a systems approach to acknowledge and factor in all enablers and challenges to successful impact driven programmes. Figure 1. visually describes at a high level how Camara implements such an approach. Given this, the nature of an educational hub’s activities have now expanded far beyond technology provision and training.

At the micro level, comprehensive engagement focuses on solutions that factor in appropriate hardware, software and curriculum aligned content and what Camara likes to call “warmware”; the ongoing support and engagement with educational institutes to support effective use of content and hardware.

At a meso and macro level, activities focus around educational leadership, lobby/advocacy and capacity development at the various structures of Ministries and Departments, engagement with other education partners, funders and donors and all relevant stakeholders.

Partnerships and multistakeholder initiatives are key to achieving the desired impact especially on a large scale. Implementing projects such as iMlango, iKnowledge and Aga Khan Foundation ICT project have only been possible through the rigorous input and involvement of multiple partners and stakeholders.

In the formal education systems that Camara works within, be it primary or secondary schools, infusing ICT into education systems and teaching and learning practices, to achieve measured results, is a challenging process. Change process in a very defined system takes time, support and a clear direction and vision. Progress needs to be marked by demonstrated results and evidence of positive change. In light of this, Camara believes that the introduction of ICT should take place in a deliberate, staged fashion, and that the focus for each stage should be the desired educational/skill outcome to be achieved. Core to this strategy is the ‘School Progression’ which details the stages that schools should progress through, in line with the systems driven approach.

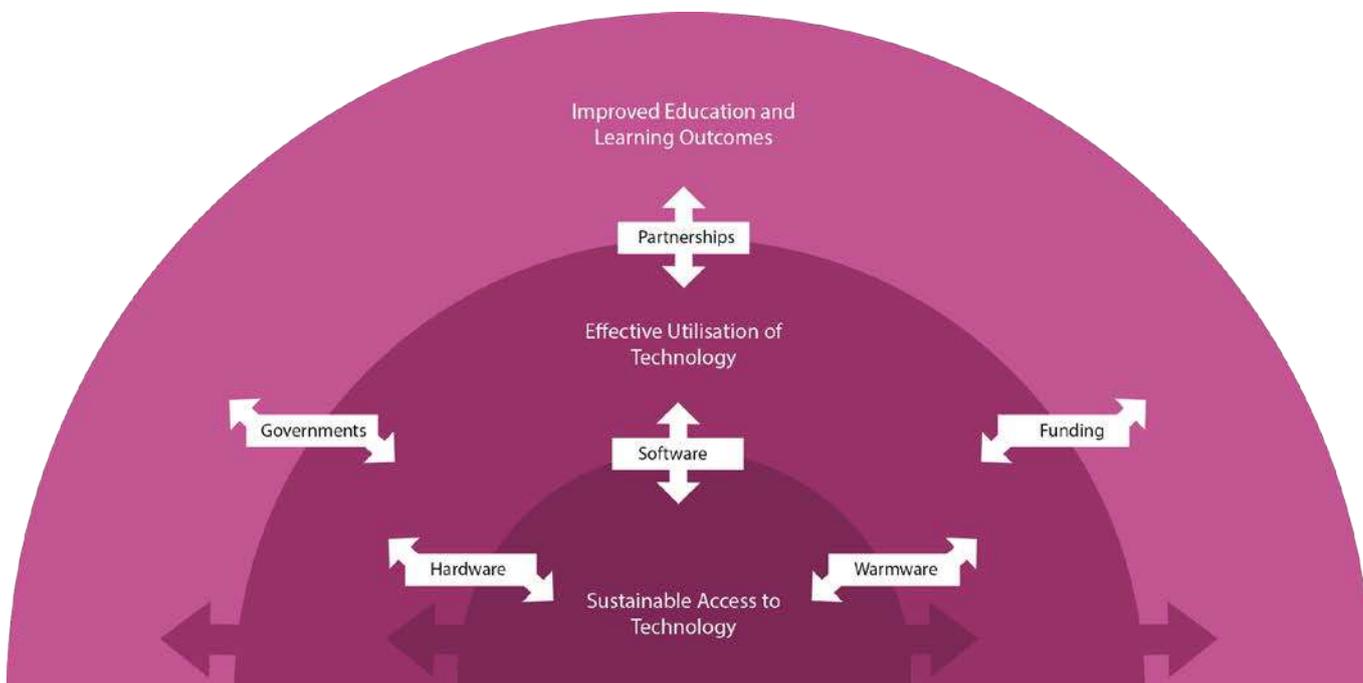


Figure 1

## Technology

2015 has seen Camara's education hubs diversify in the technology platforms and solutions that are being deployed. Such platforms and solutions are driven by the desired educational outcome and appropriate pedagogy that is required to achieve the outcome.

This includes the first deployments of mobile and in class technologies such as tablets, rugged laptops and solar solutions in Kenya and Uganda as well as eLearning Centres. The Techspace programme developed "Maker Kits" to facilitate STEM competence development in the youth centres throughout Ireland.

## Software and Educational Content

In 1996, Bill Gates was quoted saying "Content is King". 20 years later, this statement still holds true. The ICT in Education sector is seeing flux in activity in innovative and groundbreaking content platforms and solutions that have the explicit intent of improving educational outcomes.

Depending on the context, educational need and desired outcome, Camara provides content packages and solutions that teachers and educators can utilise to transform their educational delivery. Either online or offline, the focus is on resources that are appropriate and aligned to the curriculum being delivered, built in measurability of usage and learning attainment and to make learning exciting and engaging for students and youth across all our programmes.

Whether it is adapting and deploying open source solutions such as EdUbuntu, RACHEL or Learning Equality's Khan Academy Lite and Offline Wikipedia or partnering with proprietary providers like Whizz Education, Adobe or Ubongo Kids, learners will be presented with resources and content that actively engages them in their learning process. Teachers and Educators have, at the touch of a screen or the click of a mouse, the resources or platforms that make their job simpler, classrooms and learning spaces more exciting and their profession driven through quality.

**"Education is the single most important factor in breaking the poverty cycle."**

UNESCO

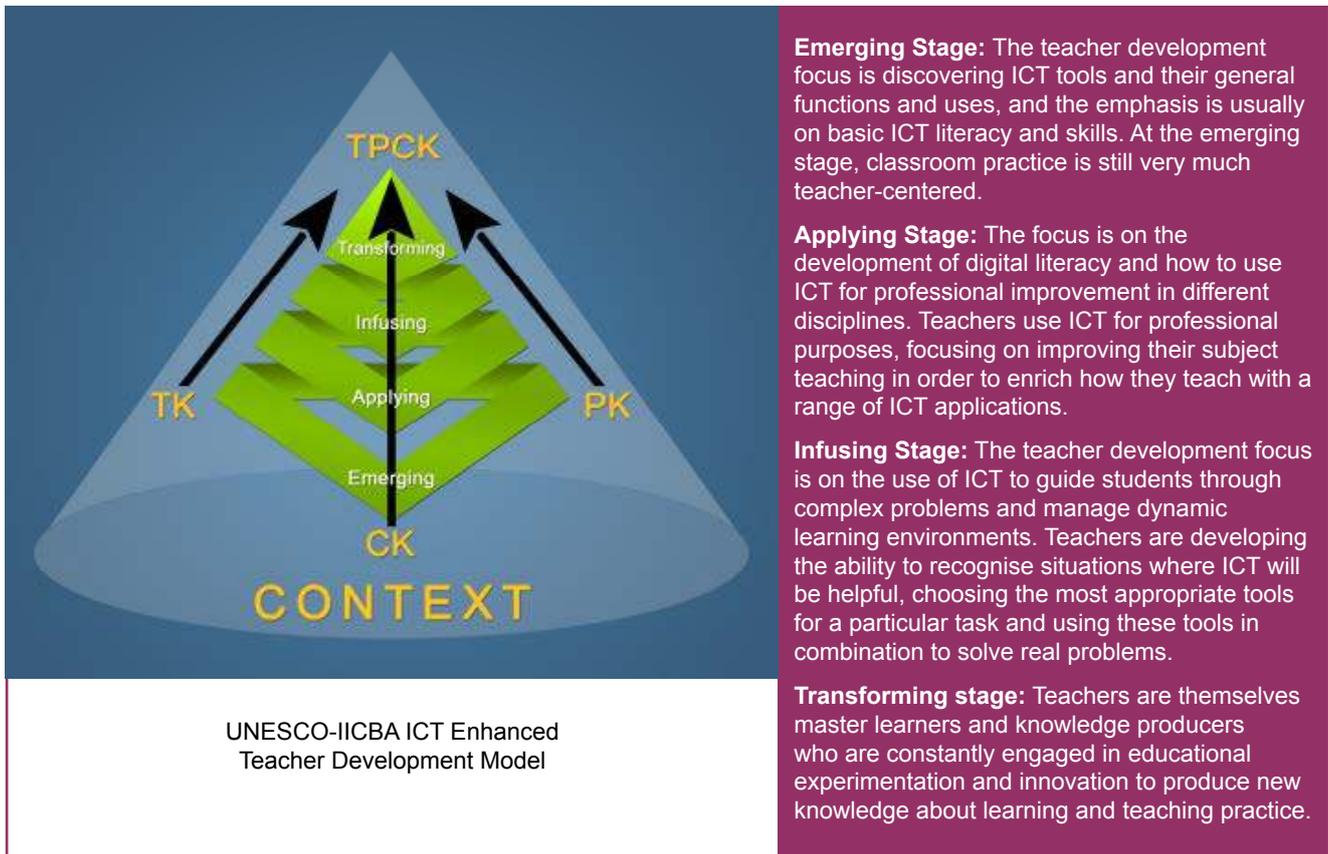


*Ganjoni Primary School, Mombasa, Kenya.*

## Warmware

The term Warmware has become increasingly part of the Camara Education ethos when it comes to our education programmes and ensuring their success. So what is Warmware? Warmware are the people who use or operate the software running on the hardware. This is an area that is often not invested in correctly when considering ICT in Education initiatives or programmes and also not understood or acknowledged from an overall systems perspective. Camara see it as our responsibility to recognise, engage with and, if required, support and develop these people; teachers, head teachers and educational leaders, technicians, government partners and youth leaders with the necessary skills and competencies to provide sustainable warmware within their respective institutes or sectors.

A key component to this ongoing engagement is through the training programmes Camara provides and delivers through respective Education hubs.



## Teacher and Educator Training and Continuous Professional Development

Camara follows the ICTeTD model as a framework to identify competency levels and to provide a progressive learning path for teachers to deal with individual competence gaps. This allows Camara to build a continuous professional development (CPD) path for teachers. Camara's commitment to each school is to bring teachers to a level where they have the capacity to transform their educational environment through ICT.

Camara now delivers close to 30 different training programmes and courses which are delivered through Instructor Led Courses, e-Learning courses or a blended approach. These include ICT Skillbuilder for Teachers in both Windows and Ubuntu, Camara Zambia Computer Studies Teachers Programme, Google Apps for Education suite, Creative Digital Media, Maker Training, Using Freeware in the Classroom and Internet Resources for Classrooms. 2015 saw the development of a large number of project specific training programmes to support teacher orientation of the iMlango, iKnowledge and Aga Khan Foundation ICT projects.

School and Educational leaders are supported through our Educational Leadership in the 21st Century programme which is localised to suit the context in each country. Focusing on vision,

leadership models, learning culture and planning and sustaining ICT enabled learning in respective educational contexts, leaders are empowered to support the change process that technological innovations bring to their environments.

Finally, School Technicians receive high quality training in our Cisco Academies through the Cisco IT Essentials for School Technicians programme.

Through acknowledging and recognising all of the supporting systems, and the warmware that enables quality education and learning, Camara's training programmes seek to provide and build in a culture of sustainability with the educational context it works within.

## The way forward

2016 is the final year of Camara's current three year strategy. With the progress made and results delivered in 2015 and the positive strides already made in 2016, we expect to bring you exciting news on our 2016 results and impact and the successful accomplishment of the objectives of our strategy. In addition, expect to see communication on Camara's new strategic objectives for 2017 and beyond. It is exciting times in Camara Education and we look forward to sharing this journey with you.

# Update on “Prove” Strategy

Camara Education’s 2014 Annual Report presented an outline of our ‘Prove’ strategy. This strategy grew out of the organisation’s 2013 strategic review and runs until the end of 2016. Everyone in Camara knew we were achieving meaningful educational change but couldn’t point to the evidence to support this. The ‘Prove’ strategy aimed to fill this significant gap. This section provides an update on the achievement of the goals of the ‘Prove’ strategy and the evolution in thinking regarding how we measure our educational impact.

The ‘Prove’ strategy itself had the following three goals:

- Prove in quantitative terms the success of the Camara model in delivering Digital Literacy
- Measure the impact of Digital Literacy on educational outcomes
- Build a comprehensive Monitoring and Evaluation system

Last year, we reported on our plan to achieve these goals by the end of 2016. This year, we are happy to report that 2015 saw significant progress in implementing this plan.

## Proving Digital Literacy

As was pointed out in the Education section, the Strategic Plan and, consequently, the ‘Prove’ strategy was mainly focused on proving our impact in terms of young people made digitally literate. The results of the Irish Aid funded project have proven, in quantitative terms, the ability of our model to deliver digital literacy. This is a two-year project running until the end of 2016 that aims to improve the learning environment for Junior Secondary students in 70 schools in Zambia. The main educational outcome is focused on the new compulsory Computer Studies curriculum. Camara Zambia is supporting schools to achieve higher results in this new exam through providing access to ICT equipment and educational content and training teachers and school leaders.

Camara performed a curriculum analysis of the Computer Studies curriculum and mapped the components to the Camara Digital Literacy framework. The analysis showed that most of the curriculum components closely aligned with the framework. Therefore, upon successful completion of the curriculum, students will have acquired key Digital Literacy skills.



For further information on the mid-term results of this project, refer to the Zambia country report on pages 28-29. Therefore, this proves the effectiveness of the Camara model at delivering digital literacy focused projects, and supporting students digitally literate education. However it does not tell the full story of the impact Camara aims to achieve.

## Evolving to Educational Outcomes

As Camara’s overall education aims evolved since the last Strategic Plan, it became apparent that this focus was too narrow and did not adequately capture the ambitious impacts Camara wants to achieve. These impacts can vary depending on country and project and demonstrate the importance of taking contextual needs into account. It also demonstrates the realisation that providing one specific set of digital skills will not deliver the impact Camara wants to achieve. This, we believe, allows Camara to be a more relevant and adaptable education organisation.

Moving beyond digital literacy requires that we update our method for communicating our impact on education. As noted in the Education section, we will move towards reporting on the number of learners impacted. The rest of this section will focus on how this will be measured and reported.



aw, Student at Kidus Giorgis KG and Primary School, Ethiopia

Accurately measuring the number of learners impacted requires two key strategic activities to be implemented:

- The creation of education focused country programmes
- The development and implementation of a comprehensive Monitoring and Evaluation system

Agreement was reached across the entire network in 2015 that the development and adoption by each hub of an education-focused programme is essential. This means that each education hub will identify the key education goals that it wants to achieve over a 4 year period and map out a plan to achieve these goals. The goals will be contextually relevant to the hub and should, ideally, be aligned to the country's key education aims, as set out by the government. This approach allows for projects aligned to the programmatic goals to also be implemented.

The development of the Monitoring and Evaluation system continued apace during 2015. Zambia and the Irish Aid funded project was the main testing site for the activities and approaches that will comprise the overall system for the wider Camara network.

The main purpose of the M&E system is to provide accurate information on the achievement of the educational goals of the country programmes and projects. This allows Camara to report on the number of learners impacted and also provide information on how these learners were impacted. For example, this system will allow us to state that of the 23,205 learners that were impacted in Zambia in 2015, 13,476 were impacted as a result of the Irish Aid funded project. In the project schools 10,395 learners passed their Junior Secondary Computer Studies exam and of those, 4,039 achieved a higher grade than they would have in non-project schools.

This example shows how we intend to report on our impact in the future. An overall impact figure will provide the headline number of learners impacted but the information collected by the M&E system will allow for disaggregation of this figure into the various country and project levels. Our website will be a key tool in conveying this information. Transparency is an important value for Camara. We want to provide any interested individual the ability to assess our impact on a range of education indicators, such as numeracy and literacy, or science and technology, by simply visiting our website. An effective M&E system will be able to keep these figures as up-to-date as possible.

Overall, this evolution beyond digital literacy represents the exciting opportunities that Camara is keen to explore. Ultimately, these opportunities will allow us to improve life opportunities of young people wherever we operate.

### Learners Impacted Calculation

1. Total learners impacted is estimated at beginning of partnership with school or educational institute. This number will depend on the nature of access to ICT within the project or programme.
2. Impact figure will be validated by ongoing monitoring with school or educational institute over the programme or project duration.
3. Specific Education and Learning outcomes of learners impacted will be measured throughout the duration of the project or programme

# Education Hubs



Mji Wa Salama Children's Home, Mombasa, Kenya.

Kenya



2015 was a busy year for Camara Kenya as it executed its core activities together with the implementation of 3 different projects – iMlango, the Aga Khan Foundation (AKF) Project and Concordia LTK project. The highlights of these projects are as follows:

## iMlango Project

This project aims to improve the learning outcomes for 150,000 children, including 68,000 marginalised girls. There are 195 eLearning centres installed, training in effectively integrating the resources and tools the iMlango Project provisioned into teaching and learning practices is completed in all schools and technical support is provided when necessary, thus ensuring the smooth running of the project.

2015 highlights:

- Measurable learning outcomes M&E (monitoring & evaluation) being produced in real-time, where average maths age of learners has been determined to be over four years under the international average.
- The stipend initiative pilot provides the first indication that it can help improve attendance; 72% of the stipend recipients improved their attendance during the pilot period.
- The teachers are very engaged and making significant usage of the iMlango service and elements. The average number of unique teacher logins per week is 550.



Learners Impacted **44,877**



Teachers Trained **3,131**



Schools Supported **276**



Devices Delivered **2,137**

## LTK Project

Led by the Aga Khan Academy Mombasa (AKAM) and the Centre for the Study of Learning and Performance (CSLP), this project is designed to improve the early literacy and numeracy skills of Kenyan children through the integration of tools within the evidence-based Learning Toolkit. Camara provided support to the project in the form of maintenance of the computers.

To date, the project has focused primarily on the professional development and use of ABRACADABRA (ABRA) literacy software in standard 1-3 classrooms in selected schools in Mombasa and Nairobi.

## AKF Project

The AKF Project is a joint partnership of Aga Khan Foundation (AKF) with Dubai Cares and the Governments of Kenya and Uganda. It involves the transformation of students learning and teacher professional development through Information and Communications Technology (ICT) in both countries.

The project aims to test and demonstrate the transformative potential of ICT to strengthen teaching and learning in formal primary education, using mobile phones and computers – improving the learning outcomes of lower primary students.

Camara, in collaboration with AKF and Ministries of Education, developed the selection criteria for the 63 schools that will receive the hardware component of the project (Kenya 43 and Uganda 20).

Camara Kenya has provided its input to the development of the Kenya Institute of Curriculum Development (KICD) Manual on ICT integration for Kenya and the National Training Guide for ICT Integration in Uganda. This manual has been central in the development of training modules used for school teachers in ICT integration and learning in schools.

Camara also supported the refurbishment of classrooms in the target schools and local technical team will proactively provide support to the teachers in the respective schools for the duration of the training. We have also provided ICT hardware and we have worked with all education stakeholders to have a greater impact / or to foster ICT Integration.

In 2015 Camara led a 4 day Train the Trainer (TOTs) session, 2 day Leadership training for Head Teachers from the schools and a one day orientation session for Ministry of Education officials from the regions where the intervention takes place. Camara local trainers will also be providing peer support to the TOTs as they deliver training to 500 targeted teachers in both countries.

## Case Study

Sheila Akinyi is from Mombasa and has over 10 years teaching experience, with 6 of these in Burhaniya Primary School. She has completed English, ICT and Guidance and Counselling courses.



Sheila Akinyi, teacher at Burhaniya Primary School, Mombasa.

She has received training in different packages, including spreadsheets, typing (Word), calculations, emails, blogs and Skype. Her previous experience with computers was from a cyber cafe. When the computers arrived at the school she felt that they were going to be dynamic. She also knew the students would improve and the truancy rates would be reduced as the students would be encouraged to use computers.

*“The Camara e-learning centre has made learning interesting and also it is easier for teachers to use. They find the materials they need in the softwares available, and it also has improved scores in classes.*

*The students can hear a word’s pronunciation which has helped them to spell and pronounce words correctly. The students’ educational performance has improved a lot. It has made them more interested in learning. In addition, truancy has been reduced, hence improving their performance. Now, teachers and students have become digital learners.”*



# Ethiopia



Camara Education Ethiopia is a registered foreign NGO operating in direct partnership with the Federal Ministry of Education to deliver the Camara Package to primary and secondary schools across all regions of Ethiopia. At the end of 2015, Camara Education successfully completed a 5 year project agreement by delivering over 17,500 refurbished computers to about 600 primary and secondary schools across 7 regions. These regions include Addis Ababa, Afar, Amhara, Benishangul-Gumuz, Gambella, Southern Nations Nationalities People Region and Oromia.

2015 has been the best performance year for Camara Ethiopia since it began its 5 year agreement with the Federal Ministry of Education. In addition to expanding to more regions, the Camara Ethiopia team has been working to ensure schools have adequately prepared their eLearning Centers, and teachers are trained properly in order to ensure students and teachers make the best use of the Camara package.

**“Students get motivated when they learn and use computers.”**

*Martha Yohannes, Principal of St. George Kindergarten and Primary School, Ethiopia*



Learners Impacted **141,330**



Teachers Trained **1,578**



Schools Supported **265**



Devices Delivered **6,730**

## Special Focus

Camara Education Ethiopia partnered with SAP to bring the language of code to the youth across Ethiopia during Africa Code Week 2015. Africa Code Week was the first-ever, continent-wide coding event that took place in 17 countries, reaching over 88,000 youth.

This unique opportunity provided Camara Education the ability to increase teacher capacity in their partnered schools by providing trainings to teachers on how to host coding workshops for the youth. Africa Code Week utilised a program called Scratch, which was already installed on the Camara learning packages implemented in schools across Ethiopia. After the training sessions, teachers were required to host coding workshops with their students during Oct 1-10 to help increase student interest in coding and computer science.

Camara helped coordinate the outreach, marketing, and implementation for the teacher training and, as a result, Africa Code Week workshops within the prepared budget given by SAP.

In brief:

- 250+ teachers from regions in Jimma, Ensaro, and Addis Ababa were trained by SAP professionals on how to host youth coding workshops using Scratch and Meteor.js
- Partnerships with regional education offices were strengthened with the training and workshop offerings
- Marketing materials and certificates were distributed to participating teachers
- 15+ student workshops were reported to Camara Education during Oct 1-10

## Case Study



Martha Yohannes was born in Addis Ababa. She received her Diploma from Kotebe TTC, taught at M.G Hayelom Araya primary school since 2008 and for the past year has been working as Principal of St. George Kindergarten and Primary school.

*“Here at the school, the first problem was to make our students learn and teachers teach using technology in day to day learning activity but with the help of Camara Education Ethiopia we make our students use technology in their learning activity. And I would like to thank Camara for giving us this opportunity.*

*There was a big impact on the students after they start using Camara’s computers. Students get motivated when they learn and use computers.*

*They began learning things quickly. It also helped students to be creative and remember things easily.*

*Bringing these computers to our school makes parents, teachers and students very enthusiastic”.*





Reginald Mengi Jangwani, Tanzania.

# Tanzania



2015 was a busy year for the Education Hub Team. Camara Education Tanzania have worked tirelessly to provide students with access to ICT educational resources and content in Tanzanian schools. The team continued its six year partnership with University College Dublin's Volunteers Overseas (UCDVO).

The team has also grown considerably to deliver the hub's largest project to date - iKnowledge.

**“iKnowledge allows Camara to further its goal in Tanzania of poverty reduction through high-quality, technology-enhanced learning interventions.”**

*Justin Keane,  
CEO Camara Education  
Tanzania*



Learners Impacted **11,718**



Teachers Trained **233**



Schools Supported **71**



Devices Delivered **558**

## Special Focus

iKnowledge is a collaborative technology-enhanced learning project funded by the UK Space Agency's International Partnership Space Programme and delivered by partners Camara Education, Camara Education Tanzania, Avanti Communications, Infinity Africa and Ace Africa.

iKnowledge will increase the capacity of teachers across 25 regions of Tanzania through the integration of ICT in teaching and learning. The project will see ICT hardware and Internet connectivity installed in 250 schools, with Camara delivering multiple training courses to 600 educators from 100 schools. Each Academy school will be equipped with a laptop-based, mobile ICT classroom and supported by a Camara teaching and learning server, which in turn is supported by Avanti Communication's broadband satellite connection. The connected nature of the project allows for measurable results, individualised learning paths and an upgradeable, modular learning platform.

The hardware component of the project is a blend of donated, refurbished technology and new equipment; the latter designed both for education and the rigours of the local context.

A teacher-focused intervention, the programme sets out to provide long term, measurable benefits to educators across Tanzania. iKnowledge will improve the quality of teaching in rural and remote areas in core curriculum subjects, alongside advancing teachers' digital literacy skills. iKnowledge will grant access to an online interactive learning platform to enable teachers to further their professional development even after the life of the project through self-paced learning and tailored training courses devised specifically for Tanzanian Primary Education by Camara.

A team of 10 on-the-ground trainers and technicians have already visited hundreds of Tanzanian schools across an immense geographical area to survey and ascertain schools' suitability for inclusion in the project. A project pilot has been undertaken on Unguja, Zanzibar, where schools have been using the educational resources with success.

The Tanzanian state agencies consortium assembled to support project delivery comprises of representatives from the Ministry of Education and Vocational Training, the Prime Minister's Office, Regional Administration and Local Government, Tanzanian Education Authority and Universal Communications Services Access Fund.

## Case Study



Talhiya Shaban Hassani,  
Msasani Secondary School, Tanzania.

Talhiya Shaban Hassani is a 16 years old secondary school student at Msasani Secondary School in Kilimanjaro, Tanzania. She lives with her mother and is the youngest among her three brothers and one sister. Her mother is a business woman.

She lives in Kaloleni, Moshi, Kilimanjaro and walks to school every day. She has been in the school for 4 years and this is what she has to say about the school's new eLearning centre.

*"There are several changes after the introduction of the eLearning Centre. It has facilitated things such as easier learning, and motivates students through getting different materials from the computers. It also makes it easier for students to do research by using different programs like Wikipedia and other programmes. I have learnt about global warming, environmental conservation and also how to use a computer. It is my dream that one day I will be a geography teacher."*

**iKnowledge will increase the capacity of teachers across twenty five regions of Tanzania through the integration of ICT in teaching and learning.**



Tum School, Lusaka, Zambia.

# Zambia



Photo: Tim Mansel

In 2015 Camara Education Zambia underwent significant operational and organisational change and expansion. This involved a move to a much larger new Educational Hub in Lusaka, greatly increased staffing and capacity, and improved systems and policies. This reforming and operational strengthening process resulted in greatly increased capacity in Camara Zambia.

We have seen great improvements in our training and dispatches of eLearning centres as a result of the reforms. This progress means that many more children will benefit from improved educational outcomes. We are confident that 2016 will be an even greater improvement on previous years as a result of our expansion and progress throughout 2015.



Learners Impacted **23,205**



Teachers Trained **485**



Schools Supported **86**



Devices Delivered **1,105**

**“The training from Camara helped me improve my ICT skills in teaching.”**

Emmanuel Muzhila, teacher at Tick School, Lusaka, Zambia

## Special Focus

In 2015 Camara began a two-year Irish Aid funded project in Zambia. This project focuses on improving educational outcomes for Junior Secondary girls and boys across three provinces - Copperbelt, Lusaka and Southern. It will achieve this by focusing on the new, compulsory Computer Studies curriculum. This was introduced as an examinable subject at this level from 2015, however many schools lacked the resources to effectively deliver the curriculum. This presented Camara with an opportunity to help improve the educational outcomes of Zambian students. This will be achieved through the following activities:

- Curriculum aligned Computer Studies training for Computer Studies teachers;
- ICT leadership training for school leaders and education officials;
- Installation of ICT equipment with learning content in project schools;
- ICT skillbuilder training for Computer Studies and non-Computer Studies teachers;
- Systematic educational support for schools, district education offices and Ministry of General Education;
- Technical support to schools.

Across the 52 project schools 13,476 students sat the Computer Studies with 10,395 of these achieving a passing grade. The mid-term results for the project, in the form of the 2015 Computer Studies exam results, were released in February 2016. These results were highly encouraging for the project and the Camara model of project delivery.

The specific figures from the analysis of the results are as follows

- Project schools had an overall pass rate (male and female) 14.14% higher than comparison schools. The pass rate for project schools was 77.14% against 63% for comparison schools.
- For female students, project schools had a pass rate 15.40% higher than comparison schools (75.24% vs 59.84%).
- For male students, project schools had a pass rate 12.73% higher than comparison schools (79.35% vs 66.62%).
- 4,039 students (29%) achieved a grade higher than they would have been expected to achieve in a non-project school.

These figures show that the project had a greater impact on female students when compared to male students. Female students generally underperform when compared with male students in Zambian schools so this project goes some way to addressing this gap. Furthermore, the project had a greater effect on low to mid performing students as the highest grade improvements were seen at the merit, credit, and pass grades.

The project proved Camara's theory of change that access to higher levels of ICT equipment has an effect on student education outcomes in the short term. The results from project schools show that more time with access to computer labs of 10 computers or more is correlated with higher results.

## Case Study



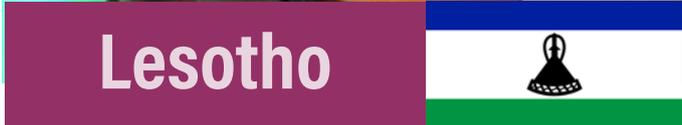
Lubezhi Mutembo, Zambia.

Lubezhi Mutembo is 13 years old. He is studying at Munali Boys Secondary School in Lusaka, Zambia.

*"I am the last born in a family of four with three sisters. My parents run their own business. I go to school every day in Daddy's car. I am in Grade 8.*

*The eLearning centre has led to me knowing how to operate a computer. It is where we learn Computer Studies from. It has helped me improve my ICT skills. Computers help us calculate things we can't easily calculate on our own and it reduces time you spend on calculations.*

*When you have knowledge about computers you can be employed in a shopping mall or any other place where they require technology use. I now know how to use Microsoft Publisher, Word and Excel. It is my aim to get a distinction in Computers Studies in my final exam. I got a distinction in last term's end of term test."*



Operations have continued throughout 2015 at a slower pace than previous years but plans for 2016 are promising with the arrival of the first container of donated ICT equipment since mid-2014.

Some political stability has returned to the Mountain Kingdom and with it one of Camara's community-based partners. Discussions with government are ongoing and support has been forthcoming, if slow.

Camara hubs are still present in Lesotho's capital, Maseru, and in the northern Leribe district, where the organisation has had a base for more than five years.



Learners Impacted **3,087**



Teachers Trained **135**



Schools Supported **14**



Devices Delivered **147**

**“Education is the most powerful weapon which you can use to change the world.”**

*Nelson Mandela*



In 2014, Camara signed a new partnership with Fondation Digicel to provide access to ICT in Education in communities across Haiti, through the delivery of 14 eLearning Centres per year, over two years. Following 2014's solar lab partnership with University College Dublin (UCD), Camara Education and UCD Volunteers Overseas signed a Memorandum of Understanding to install Camara's next generation of low energy solar powered computer labs in Gros Morne, Haiti.

This year, Camara and UCDVO were improving upon that model by implementing a low-energy networked computer lab to reduce the cost of the solar installation while still providing increased access to education. A team of 25 volunteers from UCDVO joined Camara's team in Haiti to work on the project.

This was the first solar-powered computer lab installation Camara has implemented in Haiti, representing a new opportunity to address a fundamental problem with access to ICT in Haiti - electricity.

Camara Haiti is strongly focused on how to use computers to improve literacy and numeracy skills. Not only teachers, but also single mothers and at risk youths are targets for training in basic IT skills, to ensure that they are given the opportunity to learn and to develop their repertoire of teaching skills and have greater opportunities to access more literacy and reading materials in French and Mathematics in particular.



Learners Impacted **6,951**



Teachers Trained **282**



Devices Delivered **331**

**Camara is investing in empowering girls so they can grow to be role models in their community and achieve gender equality for all.**



Primary School, Uganda.

Camara Uganda was established in 2009 in Fort Portal, in the West of the country. In 2010, the Government of Uganda introduced a complete ban on refurbished computers. As a result of this, Camara was forced to downsize our Hub there to a Maintenance Hub, servicing the existing schools and institutions and providing ongoing training to its teachers.

We have been working in the country through Camara Education Kenya, delivering the AKF Project which involves training 160 teachers in Literacy, across 20 schools in the West Nile region of Uganda. The project is in its Pilot Stage and it will run from June 2015 to March 2018.



Lukhanyo Primary School, South Africa.

Our operations in South Africa are suspended and will remain so until we have sufficient resources to recruit and build a team in South Africa and carry out projects that meet our standards.



*Jerusalem Primary School, Addis, Ethiopia.*



Photo: © Fabian Boros 2015

## Ireland



Camara Ireland is a social enterprise that changes the lives of disadvantaged young people in Ireland. We build the capacity of youth organisations, schools and other education organisations to integrate ICT into the teaching and learning environment and to run Creative Technology and STEM education programmes. Through these interventions young people build key 21st Century Skills, vital for their successful futures.

We do this by providing ICT training for youth workers and teachers, sustainable annual programmes, national online and in-person challenges, world class curriculum, ongoing support from our education experts, and low cost software and IT equipment.



Teachers Trained **367**



Schools Supported **137**



Devices Delivered **1,182**

### Camara Ireland Education Programmes:

#### Schools programme:

We offer a comprehensive and affordable package of continuous professional development (CPD) training courses for primary and secondary schools. As part of this package, we supply refurbished computers to support the integration of ICT into schools. The package includes open source software and support.

#### TechSpace programme:

TechSpace is a not-for-profit, open consortium of organisations established to create a major impact on creative digital youth education on a national scale. We are developing a national network of digital 'TechSpaces'

within youth services, converting young people from being passive users into active creators of digital content.

#### LearnStorm:

LearnStorm is a free, 9-week maths challenge designed to build confidence and competence in maths. Last year, 13,000 primary and secondary students took part in the challenge and spent over 3 million minutes learning maths on Khan Academy. LearnStorm rewards progress and perseverance equally, giving students of all abilities an opportunity to succeed. Additional growth mindset activities engage the mind and help students develop effective learning strategies. Camara Ireland delivers LearnStorm in Ireland on behalf of Khan Academy.

## Case Study



Jessy is a former pupil of Coolmine Community School, West Dublin and is a participant in the TechSpace program. In 2014, through this, Jesse applied to the Adobe Youth Voices Scholarship.

Talented youth from around the world - young filmmakers, social entrepreneurs and artists like Jessy - were selected for the foundation's Creativity Scholarship 2015 in recognition of their strong academic performance, leadership, global awareness and creativity.

The scholarship will fund Jessy's third-level fees for the duration of his course at BIMM/DIT. "I'm extremely excited," says Jessy. "Getting this scholarship has opened so many doors of opportunity for me. I'm really excited to start college in September now knowing I don't have to worry about how I'm going to pay for it."

Siobhan Hennessy, Jessy's youth worker and coordinator of TechSpace in Blanchardstown, said Jessy's time spent on the programme had had a great impact on his ability to write songs and compose lyrics and music in a way that makes people stop and listen.

"Jessy's enthusiasm and passion for song-writing and music production is infectious amongst younger members and his audience," she says. Ms Hennessy said the Techspace AYV Programme allowed her, as an educator, to work with extremely talented young people on a daily basis:

"We provide the space, the skills and the technology, enabling them to take their creativity one step further so they can express themselves through using the best tools technology has to offer. We have programmes in every aspect of multimedia and are now offering opportunities for young people to explore making, coding and electronic arts."

## LearnStorm

LearnStorm was piloted in Ireland in 2013/2014 and 2014/2015 as MATHletes. In 2015 Camara Ireland took over the delivery of the national maths challenge, LearnStorm Ireland.

LearnStorm Ireland brings STEM education to life, transforming the way young people learn maths. Students and schools complete weekly online maths challenges and can earn invitations to represent themselves and their school at in-person celebration events in April and May, with great prizes up for grabs. Flipping the structure of 'traditional' academic competitions that pit a limited number of students from one school against other schools, Khan Academy's online platform enables a scalable, social challenge where every student's points matter throughout the challenge.

Powered by Khan Academy and delivered locally by Camara Ireland, the challenge provides all students with a fun, engaging and rewarding educational experience. LearnStorm helps students not only to get excited about maths, but to cultivate higher order learning skills that will permeate other life challenges, too. In 2015, 30,000 primary and secondary students signed up for LearnStorm Ireland.

*"It's a fun way of learning in the classroom because they're doing the work you've assigned to them but they think it's a game, it's a challenge, and they really rise to it as well."*

**Ciara Chaney, Secondary Teacher,  
Fingal Community College, Swords**

*"[LearnStorm] is uniquely rewarding and it transformed the teaching and learning of maths in our school. Maths is now cool, fun and engaging: that's no mean feat! The energy of the teachers transferred onto parents and students, as the school community worked towards a common goal."*

**Sharon McGrath, Principal,  
Fingal Community College, Swords, Co. Dublin**



# Hub Accounts



Since 2011, Camara has a standardised financial system for the whole network. As such, all entities produce monthly accounts. The table below includes all accounts for 2015.

- Accounts have been converted into € using the respective average FX rates during 2015.
- Camara Ireland and Haiti are part of Camara Education and therefore do not produce separate accounts.
- Not all accounts are externally audited, this is either due to size or the audit is in progress.

	Income (€)	Expenditure (€)	Surplus / Deficit (€)
London	181,704	158,048	23,656
Zambia	53,798	91,442	( 37,645 )
Ethiopia	538,481	558,363	( 19,882 )
Kenya	590,910	537,089	53,821
Tanzania	258,703	246,687	12,015
UK	77,465	73,969	3,496

# Resource and Refurbishment

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*Dennis Fernández, Camara Workshop, Dublin, Ireland.*

# Dublin, Ireland

## Summary of Centre strategy

2015 was another extremely successful year for Camara Dublin, seeing a record number of computers being donated, and a record number of computers being shipped.

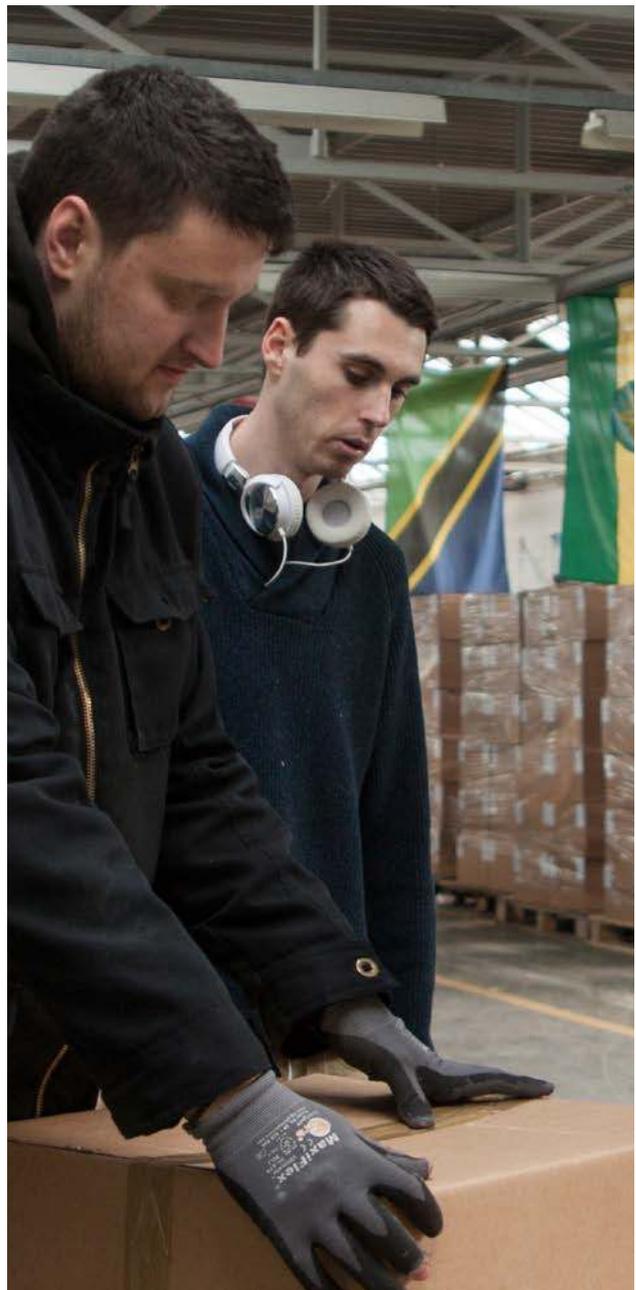
In November, after a long process of negotiation & assessment, Camara Dublin secured its largest ever single donation from Allied Irish Bank plc, consisting of 9,200 PC's and Monitors. Additionally self generated funding reached a record level of €189,037, increasing 28% on 2015.

## Plans for 2016

The strategy for Camara Dublin for 2016 will be to position ourselves to meet the changing needs of the organisation over the next 3 to 5 years. We will leverage the positive impact that securing the AIB donation will have to better market ourselves to corporate donors, whilst pursuing accreditation in Quality, Environmental & Data Security standards.

## Volunteering

In 2015 volunteers continued to be an integral component of the workforce in the Dublin Workshop. Camara has further strengthened its relationship with a number of local colleges and established some new and successful partnerships with additional colleges. Camara offers students structured work placements which provide the students with hands on experience. In addition Camara continues to work with global agents, educators and associations who provide educational travel experiences for students and interns, resulting in a culturally diverse workforce in the Workshop. The Workshop simply could not function without the dedication of commitment of our many volunteers.



Computers In

**25,080**



Computers Out

**11,514**



Self Generated Revenue

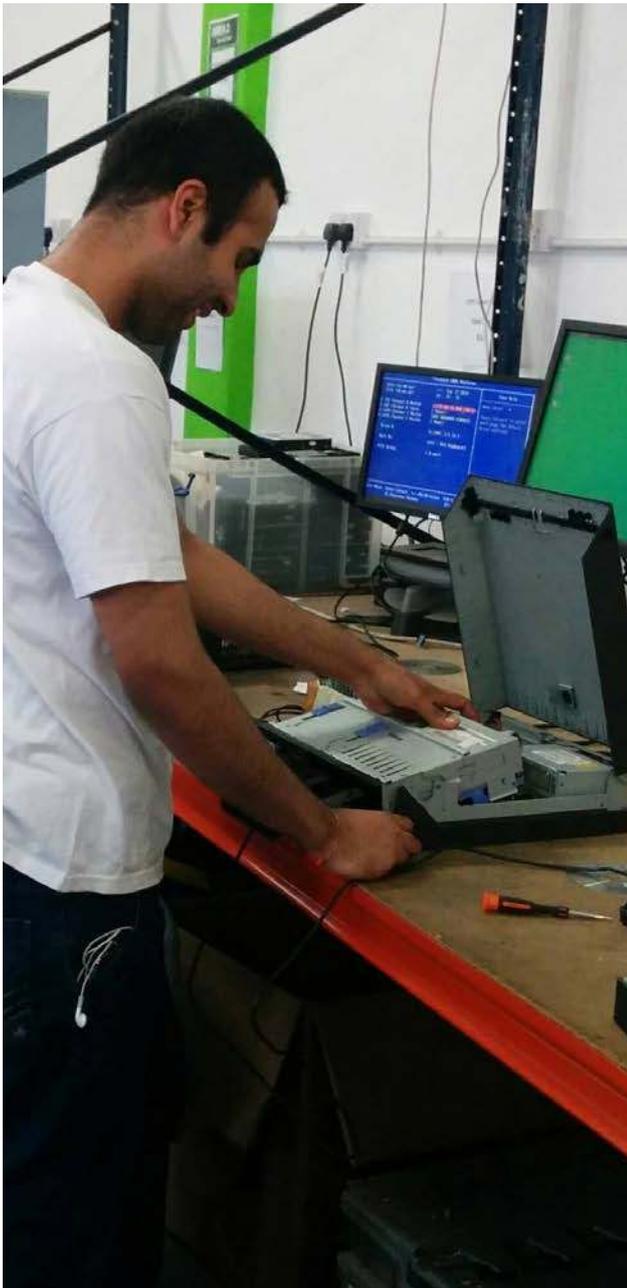
**189,037**



No. of Volunteers

**208**

# London, England



## Summary of Centre strategy

Camara London is making steady progress in the expansion of their operations. Numbers of computers shipped were double vs 2014 with many new computer donors gained, including large corporates, setting us up for further growth and expansion in 2016. A relocation to a larger premises in West Dulwich mid 2015 has helped to support growth.

## Plans for 2016

The strategy for Camara London in 2016 will be to continue to build on the successes of 2015, with expectations of continued expansion of their operations. Planned growth areas include expansion of paid-for services and corporate volunteering. This will allow the operation to continue to scale up, whilst having a secure funding base.

## Volunteering

Camara London has seen expansion in their volunteer base including attracting and engaging corporate volunteers to help with production activities as well as provide a further source of funding. We regularly attract volunteers through our presence on [www.do-it.org](http://www.do-it.org) as well as placement students through the Central Europe Initiative and Kairos Europe.



Computers In

**3,922**



Computers Out

**1,085**



Self Generated Revenue

**56,805**



No. of Volunteers

**40**

# Belfast, Northern Ireland

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2015 marked the 6th year of Camara Belfast. The progress made in 2014 continued into 2015 with 2 shipments made to Zambia in the first half of the year.

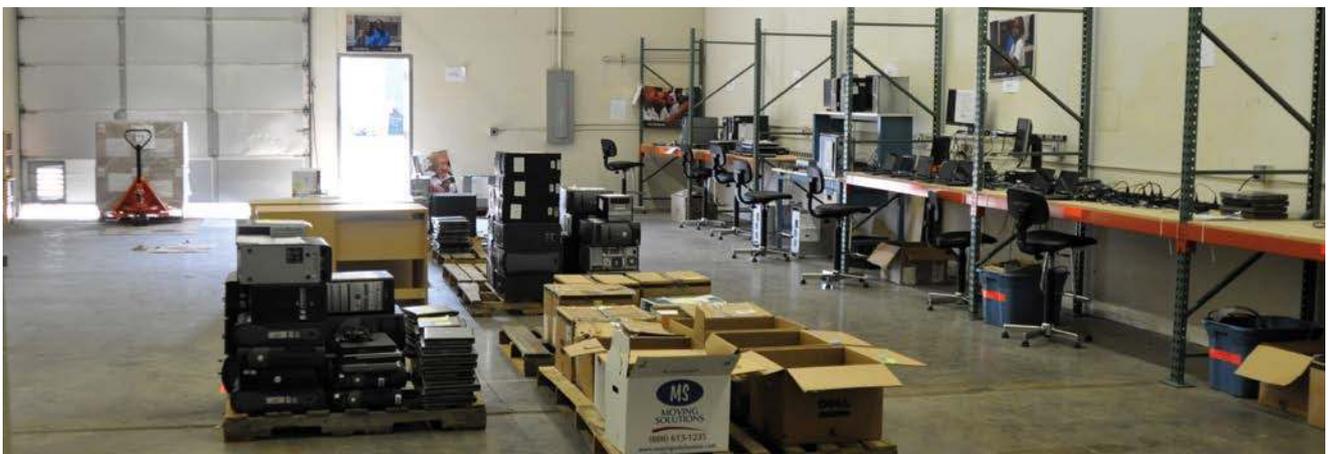
However, despite this progress, the costs of maintaining a smaller production operation continued to be a significant concern. This, coupled with an increasingly efficient operation in Dublin led the Board of Camara Belfast, in conjunction with the Board of Camara Education Ltd. to make the difficult decision to close the Refurbishment Hub in Belfast and to consolidate all refurbishment operations to the Dublin Hub.

Refurbishment operations in Belfast ceased in October 2015, with all existing hardware and fundraising donor relationships then being managed from Dublin. The existing collection network in the Republic expanded to include Northern Ireland, and many collections have already been received and processed in Dublin.

A controlled wind up of all operations will be completed in January 2016.

# San Jose, USA

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In June 2015 Camara made the difficult decision to cease operating a refurbishment hub in San Jose. This was primarily due to difficulties attracting adequate volunteer participation to run the operation. The Board of Camara USA will continue to look for an opportunity to revive the hub but this will depend on the ability to get a low cost/free workshop space and the commitment of a few volunteers who are able to contribute a significant number of hours per week. We continue to have charitable status 501(c)3 and to fundraise there.



Eden Garden, Tanzania

# E-Waste

E-waste management is still at its early stages in most of the countries where we operate, and Camara Education is constantly on a lookout to identify the best partners with the most comprehensive electronic waste management systems. In addition, Camara Education offers a rebate to educational hubs for every computer recycled. This incentivises the hubs to deal with their e-waste proactively as well as gives them the financial resources to deal with the transport and logistical issues involved in shipping e-waste.

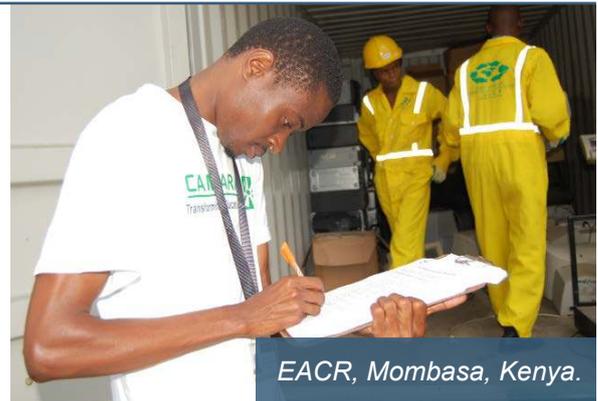
Camara Education is committed to the development of a full e-waste management system that works best in each of the contexts of the countries that vary greatly. E-waste is a recognised challenge in the countries where Camara operates. However, the local solutions and systems are still being developed, and local legislation and regulations around e-waste management are progressing very slowly. To address the challenge, Camara has partnered with local and regional e-waste management bodies and seeks to expand the network constantly for the most efficient e-waste solution.

Camara collects end of life computers from schools together with government bodies and private enterprises. This way we can ensure that the E-waste will not end up burdening the ecosystem of the communities that we strive to serve. The schools get discounts and other incentives for each computer that they return to Camara for E-waste.

## Challenges

A lack of certified facilitators throughout Africa has led to challenges in safely disposing of e-waste. The distance between hubs and recyclers makes most shipments expensive. The difficulties in acquiring the necessary documentation and permits for transboundary shipments continue to be a challenge in effective e-waste collection and processing in most Camara operational countries.

Camara continues to look for partners and to form partnerships in the countries with educational hubs.



EACR, Mombasa, Kenya.

## Key Achievements 2015

- Camara Kenya has established a relationship with Computers for Schools Kenya (CFSK) and Waste Electrical and Electronic Equipment Centre (WEEE Centre), based in Nairobi. Camara Kenya collects e-waste at the hub in Mombasa, which in turn is collected by CFSK, who are also actively advocating for better management of e-waste in many counties in Kenya.
- Camara Lesotho has established a relationship with a local aggregation facility. They have already collected all Camara e-waste and will continue to do so.
- In Tanzania, partnership has been established with Worldloop by partnering with Chilambo Ltd. to hand over all e-waste.
- Camara Zambia has established a relationship with Crescent Future Kids Zambia (CFKZ), who are the only organisation in Zambia with a Zambia Environmental Management Agency (ZEMA) certificate to store and process e-waste in country. Camara Zambia collects e-waste to a joint collection container in Kitwe, in the Copperbelt province.



EACR, Mombasa, Kenya.



E-Waste scrap

# Audited Accounts

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*Photo: Tim Mansel*

*Mbheni School for Girls, Mombasa, Kenya.*

# Directors Report

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The Directors submit their report and financial statements of the Company for the financial year ended 31 December 2015.

## REVIEW OF ACTIVITIES

Camara is a registered business name of CAMARA EDUCATION LIMITED.

## OBJECTIVES AND ACTIVITIES

- A) Camara is an international charity that operates as a social enterprise that uses technology to deliver 21st century skills, and as such improve education in disadvantaged communities around the world.
- B) It is a company limited by guarantee, without having share capital. It is governed by a Board.
- C) The Board met seven times in 2015.
- D) The business offices of Camara are in Chapelizod Industrial Estate, Dublin 20.
- E) The Camara network consists of Education Hubs, which are independent local entities responsible for the front-line delivery of the Camara model to educational institutes (abbreviated as schools below) within their respective countries. Camara operates through Education Hubs in Africa (Kenya, Lesotho, Tanzania, Uganda, Zambia, Ethiopia), the Caribbean (Haiti) and in Ireland. In addition, there are Resource Centres in Dublin, Belfast, London and San Jose. The ultimate governance and decision making authority of the Hubs are the local boards. The Chair of these boards in developing hubs is a direct employee of Camara Education Ltd. The balance of the Board is made up of other Camara and local appointees.
- F) Our Education Hubs work with educational institutes in country to deliver better educational outcomes for their students. How this happens varies country by country however the overall objective of achieving a measurable improvement in learning outcomes is common to all of them. Crucially Camara first understands the educational need of the institute, the level of ICT integration and then constructs a solution to best meet the local need. This support takes three forms:
  - 'Warmware' – Providing the motivation, leadership and training to schools to embark and continue a process of change. This takes the form of policy development, informal support and school leader and educator training. The training takes several forms based on the need of the educational institute:
    - Basic digital literacy skills.
    - The Pedagogy of ICT. Essentially how to integrate Information and Communications Technologies (ICT) into teaching and learning practices.
    - Leadership training.
    - Technical Support. For selected educators this would include: basic computer maintenance; networking; administration.
  - 'Software' – Camara, typically through partners, provides the educational software to the school. Ideally this is aligned to the curriculum and approved by the local ministry of education.
  - 'Hardware' – Camara provides the necessary support to prepare the school for the receipt of technology and then supports the school in the installation, support and end of life recycling.

G) Due to the prohibitive cost of technology in most cases, Camara collects redundant computers from organisations and individuals for refurbishment and reuse. These computers are refurbished and loaded with educational software before being shipped to our Education Hubs in Africa, the Caribbean, and Ireland. Any equipment that cannot be reused in this fashion is recycled according to the EU WEEE Directive. Between 2005 and 2015, 154,161 redundant computers were collected within the Camara network. Of these, 75,546 have been shipped to education hubs and the remainder recycled. Reused computers are shipped in bulk in 20 or 40 foot containers to our partner Hubs where further processing takes place.

#### H) Activities in 2015

During the year ended 31 December 2015, Camara:

1. Continued to deliver against our three year strategy: Prove, Improve and Scale.
2. Improved the quality of training and educational content and conducted more meaningful monitoring and evaluation.
3. Supported our hub network who training 6,256 educators and installed 12,303 computers into schools, both significantly up on the previous year.
4. Continued to deliver the iMlango project in Kenya with 205 schools who are now kitted out with an eLearning Centre as well as internet access, dedicated educational software, attendance monitoring and financial incentives to parents.
5. Were selected to deliver the iKnowledge project to improve teacher capacity in Tanzania in partnership with Avanti Communications, funded by the UK Space Agency.
6. Commenced delivery of the Aga Khan supported project in Kenya and Uganda with focus on improved literacy outcomes using ICT.
7. Strengthened relationships with many partners resulting in a significant increase in income.
8. Attended the second ever global hub conference in September 2015, hosted by Camara Ethiopia, where approximately 30 staff, directors and supporters gathered for a week in Addis Ababa and shared knowledge, conducted a mid-strategy review and commenced discussions on the next strategy cycle.

#### I) Monitoring & Evaluation (M&E)

The findings of all Camara's monitoring & evaluation reports can be accessed at;  
<http://camara.org/about-us/audited-accounts-and-me/>

#### J) Financial Review

Camara operates as a social enterprise and is financed by a variety of sources: certain revenue generating activities such as computer reuse and the sale of computers to Hubs; grants from institutional donors; private donations; and own fundraising activities. Camara places great emphasis on transparency and robust financial stewardship.

Camara recorded a net surplus of €149,065 in 2015, compared to €199,738 in 2014. Incoming resources in 2015 increased by 35% overall to €4,041,640, where charitable activity increased by 40% to €3,764,448. Resources expended by Camara in 2015 increased by 40% to €3,892,575. The main reason behind the increase in total resources expended in 2015 is the associated costs of delivering projects. Delivering projects is the biggest expenditure of the organisation, followed by the wages and salaries, the cost of refurbishment of computers and support to our Hubs.

Camara's reserves increased significantly to €1,007,827, compared to €858,762 in the previous year. The financial reserves at 31 December 2015 were greater than one quarter of operating costs, in line with the reserves policy adopted by the Board.

Costs associated directly with our Charitable Activities in 2015 represented 93.7% of our total resources expended, which is 0.4% higher than previous years.

The cost of raising funds in 2015 represented 4.4% of funds generated by fundraising activities.

For every €1 Camara spent on fundraising it generated €23 for its charitable activities.

## GOVERNANCE

The Board places great importance on appropriate governance at Camara and proper engagement with management and stakeholders. The Board meets on a regular basis throughout the year, usually every 2 to 3 months. Board members examine and approve all strategic plans, annual budgets, operational plans, and statutory audit outcomes. Camara has sub-committees for Remuneration, Finance and Audit, and Fundraising. Board members such as the Chairperson, Treasurer and Secretary are in regular contact with management in relation to the stewardship of the organisation between Board meetings. The Board maintains strong oversight of management and the overall direction of Camara. Management presents a comprehensive report at each Board meeting covering operational and financial targets, as well as ongoing activities, future plans, and other issues that would ensure good governance.

There are currently eight members on the Board. Members are drawn from diverse backgrounds such as business, legal, accounting, information technology, marketing, and the not-for-profit sector. Board members are sourced based on the strength of their existing experience of other reputable Boards, and also on the quality of the contribution they can make to the governance of Camara. The Chairperson inducts new members at the beginning of their term. The present Board has strong professional experience across a range of fields to ensure the highest level of governance.

Camara Education is compliant with *The Governance Code: a Code of Practice for Good Governance of Community, Voluntary and Charitable Organisations in Ireland*. The adoption of this Code can provide reassurance to donors that their money is being managed by a well-run organisation, increase transparency, avoid bad risks, achieve goals faster, and reduce costs.

## RISKS

### Financial

It is the policy of Camara to hold between 3 months and 12 months operating costs as reserves to safeguard the continuity of its operations. The proportion of restricted reserves to unrestricted reserves held is also monitored closely. The use of unrestricted reserves is governed by the annual budget that has been approved by the Board. The credit rating of financial institutions where money is held is monitored also on an ongoing basis. The liquidity risk is currently managed by ensuring that sufficient cash and deposits are held on short notice. The directors believe that Camara has adequate resources to continue in operational existence for the foreseeable future.

The financial policies, procedures and controls used by Camara across the network were comprehensively updated in 2015. Camara has developed detailed financial management and reporting systems to mitigate financial risks, which continue to be reviewed on an ongoing basis.

### Organisational and Operational

Management undertakes ongoing monitoring of the level of organisational and operational risks. Camara implements appropriate procedures to manage organisational and operational risks to provide reasonable assurance to the Board.

These risks include the impact of potential economic instability on income levels, staff safety and well-being across the global network, organisational cohesion where global standards are maintained but that also allow an appropriate degree of local contextualisation, the achievement and demonstration of impact by Camara's activities, stock leakage, sourcing sufficient quantities of stock to meet demand, and data-wiping integrity.

Overall, the Board is satisfied that systems are in place to monitor, manage, and mitigate Camara's exposure to major risks.

## CURRENT BOARD

Maria Mahon  
John Brown  
Jonathan Kelly  
Cormac Lynch  
Robina Walshe (appointed 22/01/2015)  
Justin Kilcullen (appointed 26/03/2015)  
Jean Cox Kearns (appointed 25/05/2015)  
Geraldine O'Neill (appointed 25/01/2016)

## LEGAL STATUS

The Company is incorporated under the the Companies Act 1963, is limited by guarantee and does not have a share capital.

## RESULTS

The surplus for the financial year was: €149,065.

## IMPORTANT EVENTS SINCE THE PERIOD END AND PLANS FOR 2016

1. Impact results from Irish Aid funded Zambia project will be published in July 2016 proving, for the first time ever in Camara, positive impact of ICT on education and learning outcomes
2. In March 2016, the Ministry of Education in Ethiopia signed an overarching federal agreement to enable Camara Education Ethiopia to install 31,622 computers into 1,265 schools and train 10,119 teachers and generate €2m locally.
3. In September 2015, a decision was made to cease operations in our refurbishment hub in Northern Ireland which had not quite made it to the point of sustainability. The legal registration and our charitable status will be retained.
4. In 2016 Camara Ireland will become an independent entity from Camara Education.
5. In May 2016 Camara won the Dóchas Most Innovative Programme award for iMlango.
6. Strategic planning for the next strategy cycle commencing 2017 has started.

## DIRECTORS' RESPONSIBILITIES

The directors are responsible for preparing the Directors' report and the financial statements in accordance with Irish law and regulations.

Irish company law requires the directors to prepare financial statements for each financial year giving a true and fair view of the state of affairs of the company for each financial year. Under the law, the directors have elected to prepare the financial statements in accordance with Irish Generally Accepted Accounting Practice in Ireland, including Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' and promulgated by the Institute of Chartered Accountants in Ireland and Irish law.

Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the assets, liabilities and financial position of the company for the financial year end date of the profit or loss of the company for that financial year and otherwise comply with the Companies Act 2014.

In preparing these financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgments and accounting estimates that are reasonable and prudent;
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for ensuring that the company keeps or causes to be kept adequate accounting records which correctly explain and record the transactions of the company, enable at any time the assets, liabilities, financial position and profit or loss of the company to be determined with reasonable accuracy, enable them to ensure that the financial statements and Directors' report comply with the Companies Act 2014 and enable the financial statements to be audited. They are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

### STATEMENT OF RELEVANT AUDIT INFORMATION

Each of the persons who are directors at the time when this Directors' report is approved has confirmed that:

- So far as that director is aware, there is no relevant audit information of which the company's auditors are unaware, and
- That director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the company's auditors are aware of that information.

### ACCOUNTING RECORDS

The measures taken by the directors to ensure compliance with the requirements of Sections 281 to 285 of the Companies Act 2014 with regard to the keeping of accounting records, are the employment of appropriately qualified accounting personnel and the maintenance of computerised accounting systems. The company's accounting records are maintained at the company's registered office at Chapelizod Industrial Estate, Dublin 20.

### AUDITORS

The auditor, Grant Thornton, who were appointed during the year, will continue in office in accordance with section 383(2) of the Companies Act 2014.

On Behalf of the Directors

**Maria Mahon**  
Chairperson

**Cormac Lynch**  
Secretary

**Dated:** 1st July 2016

# Auditor's Report

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We have audited the financial statements of Camara Education Limited for the financial year ended 31st December 2015 which comprise the Income statement, the Statement of financial activities, the Statement of financial position, the Statement of cash flows, the Statement of changes in equity and the related notes. The financial reporting framework that has been applied in their preparation is Irish law and accounting standards issued by the Financial Reporting Council and promulgated by the Institute of Chartered Accountants in Ireland including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland".

This report is made solely to the company's members, as a body, in accordance with Section 391 of the Companies Act 2014. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an Auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

## RESPECTIVE RESPONSIBILITIES OF DIRECTORS AND AUDITOR

As explained more fully in the Directors' Responsibilities Statement, directors are responsible for the preparation of the financial statements giving a true and fair view and otherwise comply with the Companies Act 2014. Our responsibility is to audit and express an opinion on the financial statements in accordance with Irish law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's [APB's] Ethical Standards for Auditors.

## SCOPE OF THE AUDIT OF THE FINANCIAL STATEMENTS

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the company's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the directors; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the Annual report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

## OPINION ON FINANCIAL STATEMENTS

In our opinion the financial statements:

- Give a true and fair view in accordance with Generally Accepted Accounting Practice in Ireland of the state of the company's affairs as at 31st December 2015 and of its surplus and cash flows for the year then ended; and
- Have been properly prepared in accordance with the requirements of the Companies Act 2014.

## **MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY THE COMPANIES ACTS 2014**

- We have obtained all the information and explanations which we consider necessary for the purposes of our audit.
- In our opinion the accounting records of the company were sufficient to permit the financial statements to be readily and properly audited.
- The financial statements are in agreement with the accounting records.

## **MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION**

We have nothing to report in respect of the provisions in the Companies Acts 2014 which require us to report to you if, in our opinion the disclosures of directors' remuneration and transactions specified by law are not made.

Molyneux House  
Bride Street  
Dublin 8

1st July 2016

For and on behalf of  
GRANT THORNTON  
Chartered Accountants  
& Registered Auditors

# Statement of Financial Activities

FINANCIAL YEAR ENDED 31<sup>ST</sup> DECEMBER 2015

Income and Endowments from:	Note	Unrestricted Funds (€)	Restricted Funds (€)	Total 2015 (€)	Total 2014 (€)
<b>Donations and legacies</b>					
- Iris O'Brien Foundation		150,000	-	150,000	200,000
- Puma Energy Foundation		-	-	-	99,320
- Other donations		39,269	-	39,269	63,896
- The King Boudouin Foundation US		-	-	-	131,982
- Digicel Foundation		-	112,030	112,030	212,838
- EMC Information Systems		-	-	-	19,188
- eLearning Centres Grant Events		-	18,338	18,338	47,253
- TechSpace Programme Grants		27,669	126,653	154,322	56,951
- Waterloo		-	13,595	13,595	12,687
- UNESCO		-	3,805	3,805	13,099
- Donations in Kind		-	209,500	209,500	232,460
- Salesforce		-	54,600	54,600	-
- UCDVO Haiti		-	25,035	25,035	-
- UCDVO Tanzania		-	6,250	6,250	-
- Dell Foundation		-	-	-	19,641
- Enterprise Ireland		-	-	-	11,206
- Benefit IIII Project		-	-	-	11,778
<b>Charitable activities</b>					
iKnowledge		-	1,257,925	1,257,925	-
- DFID iMlango Project		-	649,750	649,750	1,029,105
- Aga Khan		-	261,728	261,728	-
- Irish Aid		-	150,000	150,000	117,383
-Community Foundation		-	18,900	18,900	-
<b>Other trading activities</b>					
- Sale of computers (Africa & Caribbean)		195,490	44,150	239,640	316,184
Sale of computers (Irish Schools)		228,191	22,000	250,191	191,900
-Recycling		189,037	-	189,037	141,254
- Shared services		223,477	-	223,477	47,500
- FAS		13,063	-	13,063	13,229
<b>Investments</b>					
Investment income		1,185	-	1,185	76
<b>Total incoming resources</b>		<b>1,067,381</b>	<b>2,974,259</b>	<b>4,041,640</b>	<b>2,988,930</b>
<b>Resources Expended</b>					
<b>Raising Funds</b>	5	128,127	-	128,127	102,126
<b>Charitable Activities</b>	6	694,538	3,069,910	3,764,448	2,687,066
<b>Total resources expended</b>		<b>822,665</b>	<b>3,069,910</b>	<b>3,892,575</b>	<b>2,789,192</b>
<b>Net income resources</b>		<b>244,716</b>	<b>(95,651)</b>	<b>149,065</b>	<b>199,738</b>
Transfers between funds		-	-	-	-
Total funds at beginning of year		370,443	488,319	858,762	659,024
<b>Total funds at end of year</b>		<b>615,159</b>	<b>392,668</b>	<b>1,007,827</b>	<b>858,762</b>

All of the activities of the company are classed as continuing.

The company has no recognised gains or losses other than the results for the period as set out above.

These financial statements were approved by the directors on the 1st July 2016 and are signed on their behalf by:

**Maria Mahon** - Chairman

**Cormac Lynch** - Secretary

# Balance Sheet

AS AT 31<sup>ST</sup> DECEMBER 2015

	Note	2015 (€)	2014 (€)
<b>Fixed Assets</b>			
Tangible assets	7	1,500	2,792
<b>Current Assets</b>			
Debtors	8	515,240	185,288
Cash at bank		802,733	836,909
		<u>1,317,973</u>	<u>1,022,197</u>
<b>CREDITORS: Amounts falling due within one year</b>	9	(311,646)	(166,227)
<b>NET CURRENT ASSETS</b>		<u>1,006,327</u>	<u>855,970</u>
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>		<u>1,007,827</u>	<u>858,762</u>
<b>FUNDS</b>			
Restricted funds		392,668	488,319
Unrestricted funds		615,159	370,443
<b>TOTAL FUNDS</b>		<u>1,007,827</u>	<u>858,762</u>

These financial statements were approved by the directors on the 1st July 2016 and are signed on their behalf by:

**Maria Mahon**  
Chairperson

**Cormac Lynch**  
Secretary

# Cash Flow Statement

FINANCIAL YEAR ENDED 31<sup>ST</sup> DECEMBER 2015

	Note	2015 (€)	2014(€)
Net cash (outflow)/inflow from operating activities	12	(33,378)	449,704
Capital expenditure and financial investment		(798)	
(Decrease)/increase in cash for the year		<u>(34,176)</u>	<u>449,704</u>
		=====	=====
<b>RECONCILIATION OF NET CASH FLOW TO MOVEMENT IN NET DEBT</b>			
(Decrease)/increase in cash for the year		(34,176)	449,704
Net opening cash		836,909	387,205
Net closing cash		<u>802,733</u>	<u>836,909</u>
		=====	=====

# Notes to the Financial Statements

FINANCIAL YEAR ENDED 31ST DECEMBER 2015

## BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Financial Reporting Standard 102, the Financial Reporting Standard applicable in the United Kingdom and the Republic of Ireland and Irish statute comprising of the Companies Act 2014. Information on the impact first-time adoption of FRS 102 is given in note 18.

The preparation of financial statements in compliance with FRS 102 requires the use of certain critical accounting estimates. It also requires management to exercise judgment in applying the company's accounting policies (see note 1).

In preparing the financial statements, the association has referred to guidance included within the following Statements of Recommended Practice (SORP): Accounting and Reporting for Charities, 2014 FRS 102. The association has adopted best practice to the extent that requirements contained within the aforementioned SORP are applicable to the association.

## FIXED ASSETS

All fixed assets are initially recorded at cost.

## DEPRECIATION

Depreciation is calculated so as to write off the cost of an asset, less its estimated residual value, over the useful economic life of that asset as follows:

Fixtures & Fittings	-	Straight line over 5 years
Motor Vehicles	-	Straight line over 5 years

## INCOMING RESOURCES

Incoming resources have been included in the financial statements only when realised or when the ultimate cash realisation of which can be assessed with reasonable certainty.

## RESTRICTED FUNDS

Restricted funds consist of funds received which can only be used for the purpose for which they are specified by the donors. These purposes are the aim of the charity.

## UNRESTRICTED FUNDS

Unrestricted funds consist of funds received which the charity can spend based on its own discretion to enable it to achieve its overall aim and objectives.

## RESERVES

The directors consider it appropriate to retain the equivalent of at least one quarter of annual operating costs, and no more than the full annual operating costs, in reserves. The reserves at 31 December 2015 were greater than one quarter of annual operating costs and less than full annual operating costs.

## DONATIONS IN KIND

Donations in kind are recognised at the point when computers have been used for charitable purposes. They are recognised at the market value of such donations.

## GOVERNANCE COSTS

Governance costs comprise auditors fees, the cost of staff spending time on governance matters and a proportion of rent and general expenses that relates to governance.

## DEBTORS

Short term debtors are measured at transaction price, less any impairment. Loans receivable are measured initially at fair value, net of transaction costs, and are measured subsequently at amortised cost using the effective interest method, less any impairment.

## CASH AND CASH EQUIVALENTS

Cash is represented by cash in hand and deposits with financial institutions repayable without penalty on notice of not more than 24 hours. Cash equivalents are highly liquid investments that mature in no more than three months from the date of acquisition and that are readily convertible to known amounts of cash with insignificant risk of change in value.

In the Statement of cash flows, cash and cash equivalents are shown net of bank overdrafts that are repayable on demand and form an integral part of the company's cash management.

## FINANCIAL INSTRUMENTS

The company only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value with the exception of bank loans which are subsequently measured at amortised cost using the effective interest method.

## CREDITORS

Short term creditors are measured at the transaction price. Other financial liabilities, including bank loans, are measured initially at fair value, net of transaction costs, and are measured subsequently at amortised cost using the effective interest method.

## 1. JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

When preparing the financial statements, management undertakes a number of judgments, estimates and assumptions about recognition and measurement of assets, liabilities, income and expenses.

## 2. OPERATING (DEFICIT)/SURPLUS

Operating (deficit)/surplus is stated after:

	2015 (€)	2014 (€)
Directors' remuneration	-	-
Depreciation	2,090	1,913
	=====	=====

### 3. EMPLOYEES AND REMUNERATION

The average number of staff employed by the company during the year was 30 (2014: 26).

Staff costs were as follows:

	2015 (€)	2014 (€)
Wages and salaries	1,117,923	896,242
Social welfare costs	92,031	93,192
	<u>1,209,954</u>	<u>989,434</u>

#### Salaries above €60,000

	2015 Employee No.	2014 Employee No.
€60,000 - €69,999	0	0
€70,000 - €79,999	1	0
€80,000 - €89,999	1	1

The salary of the CEO in 2015 was €83,333 (€80,000 in 2014).

### 4. TAXATION

The company does not engage in a taxable activity and has been granted charitable tax exemption under reference Charity Regulatory Number 20062088.

### 5. RAISING FUNDS

	Unrestricted 2015 (€)	Restricted 2015 (€)	Total 2015 (€)	Total 2014 (€)
Rent	2,072	-	2,072	3,619
Wages and salaries	101,985	-	101,985	74,477
Fund raising	14,643	-	14,643	8,938
Insurance	710	-	710	1,158
Repairs & maintenance	242	-	242	463
Printing, postage and stationary	1,018	-	1,018	1,659
General expenses	2,463	-	2,463	8,342
Bank charges	154	-	154	272
Training	172	-	172	450
Telephone	1,640	-	1,640	1,141
Marketing	3,028	-	3,028	1,016
Workshop expenses	-	-	-	591
	<u>128,127</u>	<u>-</u>	<u>128,127</u>	<u>102,126</u>
	=====	=====	=====	=====

## 6. CHARITABLE ACTIVITIES

	Unrestricted 2015 (€)	Restricted 2015 (€)	Total 2015 (€)	Total 2014 (€)
Rent	36,051	-	36,051	29,674
Wages & salaries	188,455	822,717	1,011,172	835,802
Shipping & packaging	73,723	-	73,723	51,532
Insurance	16,140	-	16,140	10,421
Repairs & maintenance	4,606	-	4,606	4,165
Depreciation	2,090	-	2,090	1,913
Motor & travel	29,122	29,122	58,244	73,408
Printing, postage and stationery	1,882	1,882	3,764	3,752
General expenses	26,168	-	26,168	19,416
Bank charges	2,923	-	2,923	1,539
Training	973	-	973	2,551
Telephone	4,690	-	4,690	6,463
Marketing	9,085	-	9,085	2,372
Workshop expenses	94,332	-	94,332	72,898
Multimedia expenses	-	5,293	5,293	1,154
African Hubs	-	1,754,020	1,754,020	949,273
Caribbean Hubs	-	164,494	164,494	140,245
Irish Hubs	77,854	41,522	119,376	57,564
African Service Centre	-	-	-	29,912
Cost of computers donated	-	209,500	209,500	232,460
Bad debt provision	-	41,360	41,360	58,904
Foreign exchange	10,093	-	10,093	8,679
Governance Costs:				
Rent	3,315	-	3,315	2,895
Auditors fees & payroll services	13,750	-	13,750	8,506
Wages & salaries	96,796	-	96,796	79,155
General expenses	2,490	-	2,490	2,413
	<u>694,538</u>	<u>3,069,910</u>	<u>3,764,448</u>	<u>2,687,066</u>

## 7. TANGIBLE FIXED ASSETS

	Brought forward 1 <sup>st</sup> Jan 15 (€)	For the year Additions (€)	As at 31 <sup>st</sup> Dec 15 (€)
<b>COST</b>			
Fixtures & Fittings	26,541	798	27,339
	<u>26,541</u>	<u>798</u>	<u>27,339</u>

	Brought forward Accumulated 1 <sup>st</sup> Jan 2015 (€)	For the year Charges (€)	Accumulated 31 <sup>st</sup> Dec 2015 (€)
<b>DEPRECIATION</b>			
Fixtures & Fittings	23,749	2,090	25,839
	<u>23,749</u>	<u>2,090</u>	<u>25,839</u>

	2015 (€)	2014 (€)
<b>NET BOOK VALUE</b>		
Fixtures & fittings	1,500	2,792
	=====	=====

#### In respect of the prior year

	Brought forward 1 <sup>st</sup> Jan 14 (€)	For the year Additions (€)	As at 31 <sup>st</sup> Dec 14 (€)
<b>COST</b>			
Fixtures & fittings	26,541	-	26,541
	=====	=====	=====

	Brought forward Accumulated 1 <sup>st</sup> Jan 2014 (€)	For the year Charges (€)	Accumulated 31 <sup>st</sup> Dec 2014 (€)
<b>DEPRECIATION</b>			
Fixtures & fittings	21,836	1,913	23,749
	-----	-----	-----
	21,836	1,913	23,749
	=====	=====	=====

	2014 (€)	2013 (€)
<b>NET BOOK VALUE</b>		
Fixtures & fittings	2,792	4,705
	=====	=====

#### 8. DEBTORS

	2015 (€)	2014 (€)
Trade debtors - Hubs	361,810	136,105
Provision for bad debts - Hubs	(49,696)	(58,904)
Trade debtors - Other	100,568	66,454
Provision for bad debts - Other	(9,660)	(10,000)
Prepayments and accrued income	29,574	9,945
Other Debtors	82,644	41,688
	-----	-----
	515,240	185,288
	-----	-----

All amounts are receivable within one year

## 9. CREDITORS: Amounts falling due within one year

	2015 (€)	2014 (€)
PAYE & Social Welfare	2,757	21,812
Trade Creditors	40,923	85,154
Accruals	9,327	20,481
Deferred Income - iKnowledge	181,271	-
Deferred Income - Camara Ireland	38,000	-
Other creditors	39,368	38,780
	<u>311,646</u>	<u>166,227</u>

Trade and other creditors are payable at various dates over the coming months in accordance with the suppliers' usual and customary terms.

PAYE and Social Welfare are payable at various date over the coming months in accordance with the acceptable statutory provisions.

## 10. COMMITMENTS UNDER OPERATING LEASES

At 31st December 2015 the company had annual commitments under non-cancellable operating leases as set out below.

Land and Buildings	2015 (€)	2014 (€)
Operation leases which expire:		
Within 1 year	<u>23,436</u>	<u>41,438</u>

## 11. RECONCILIATION OF OPERATING CASH FLOW

	2015 (€)	2014 (€)
Surplus for the year	149,065	199,738
Increase in creditors	145,419	99,523
Increase in debtors	(329,952)	148,530
Depreciation	<u>2,090</u>	<u>1,913</u>
Net cash inflow / (outflow) from operating activities	<u>=====</u> (33,378)	<u>=====</u> 449,704

## 12. MOVEMENT IN FUNDS

	Opening Balance (€)	Income (€)	Expenditure (€)	Transfers (€)	Closing Balance (€)
Restricted funds	488,319	2,974,259	3,069,910	-	392,668
Unrestricted funds	370,443	1,067,381	822,665	-	615,159
	<u>858,762</u>	<u>4,041,640</u>	<u>3,892,575</u>	<u>-</u>	<u>1,007,827</u>
	=====	=====	=====	=====	=====

## 13. RESTRICTED FUNDS

Income received by the charity, the application of which is restricted to a specific purpose by the donor, is treated as restricted funds, and is unavailable for other charitable uses.

## 14. LEGAL STATUS OF THE COMPANY

The company is limited by guarantee and has no share capital. At 31 December 2015, there are 8 members whose guarantee is limited.

## 15. POST BALANCE SHEET EVENTS

No significant events have taken place since the period end that would result in adjustment to 2015 financial information or inclusion of a note thereto.

## 16. CONTROLLING PARTY

The company is controlled by the board of directors acting in concert.

## 17. FIRST TIME ADOPTION OF FRS 102

The policies applied under the entity's previous accounting framework are not materially different to FRS 102 and have not impacted on equity or profit and loss.

## 18. APPROVAL OF FINANCIAL STATEMENTS

The board of directors approved these financial statements for issue on 1st July 2016.

# Detailed Statement of Financial Activities

## FINANCIAL YEAR ENDED 31<sup>ST</sup> DECEMBER 2015

	Cost of generating income (€)	Charitable activities (€)	2015 (€)	2014 (€)
<b>Core costs</b>				
Rent	2,072	36,051	38,123	33,293
Wages and salaries	101,985	1,011,172	1,113,158	910,279
Fund raising	14,643	-	14,643	8,938
Shipping and packaging	-	73,723	73,723	51,532
Insurance	710	16,140	16,850	11,579
Repairs and maintenance	242	4,606	4,849	4,628
Depreciation	-	2,090	2,090	1,913
Motor and travel	-	58,243	58,243	73,408
Printing, postage and stationery	1,018	3,764	4,782	5,411
General expenses	2,463	26,168	28,630	27,758
Bank charges	154	2,923	3,076	1,811
Training	172	973	1,145	3,001
Telephone	1,640	4,690	6,329	7,604
Marketing	3,028	9,085	12,113	3,388
Workshop expenses	-	94,332	94,332	73,489
Multimedia expenses	-	5,293	5,293	1,154
African Hubs	-	1,754,020	1,754,020	949,273
Caribbean Hubs	-	164,494	164,494	140,245
Irish Hubs	-	119,376	119,376	57,564
Africa Service Centre	-	-	-	29,912
Cost of computers donated	-	209,500	209,500	232,460
Bad debts provision	-	41,360	41,360	58,904
Foreign exchange	-	10,093	10,093	8,679
<b>Governance</b>				
Rent	-	3,315	3,315	2,895
Auditors fees & payroll services	-	13,750	13,750	8,506
Wages & Salaries	-	96,796	96,796	79,155
General expenses	-	2,490	2,490	2,413
	-----	-----	-----	-----
	128,127	3,764,448	3,892,575	2,789,192
	=====	=====	=====	=====

# Monitoring & Evaluation

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## SUMMARY

For this year's annual report, Camara Education conducted data collection in 86 schools in Ethiopia, Kenya, Tanzania, and Zambia. A total of 86 school leaders, 260 teachers, and 1,513 students were interviewed during the data collection. The data gathered provides important insights into the results of Camara's activities. These range from the overall satisfaction levels of school leaders, to the utilisation of the ICT resources for teaching, and the effects students feel the computers have on their learning. This enables Camara to learn about how schools engage with and utilise the ICT resources and training and how our partnerships with new and existing schools can be improved.

This Monitoring and Evaluation section provides an overview and analysis of the data gathered. The sub-sections on demographics, performance scorecards, satisfaction levels, access, usage and integration display the results from the data collection conducted by the African education hubs. Following this, a separate report on Camara Ireland's 2015 training is presented. The Monitoring and Evaluation section is concluded by the hub audit, which was completed this year using a new methodology that captures a larger range of indicators and aims to be more objective. Some key findings from each sub-section are as follows.

### *Performance Scorecards*

The average percentage score achieved by the education hubs has increased from 77% last year to 80% this year. Each hub achieved a higher percentage score, apart from Zambia. The hub with the most improved score was Ethiopia, which increased by 13%.

### *Satisfaction Levels*

School leader responses on whether they have had a positive or negative experience with Camara remained largely unchanged from last year. This year, 92% of school leaders reported a positive experience compared with 92.5% from last year. Just like last year, Zambia received the lowest positive responses with 76%, a 4% regression from last year.

### *Access*

The average formal access time reported by students decreased by 4% from last year as a result of a reported 38% decrease in Tanzania. The combined reported access time for Ethiopia, Kenya and Zambia increased by 7%. Compared to data collected for the M&E exercise in years prior to 2013, this shows a significant decline. For example, school leaders in Kenya in 2013 reported formal access times of 12 hours per week compared to 90 minutes in 2015. The main reason for this variation is the method of data collection, with the 2015 methodology being more accurate as it is based on timetabled access. However, whenever there is a reported decrease in student access, education hubs are made aware of this so that they can engage with schools and encourage higher levels of access.

### *Usage*

On average, 71% of teachers reported to have brought their class into the computer lab to teach. This is an increase of 10% from the previous year.

### *Integration*

The percentage of teachers who received Camara training and use ICT to teach increased from 66% last year to 75% this year.

While these results are encouraging, some areas did not show improvement and others regressed. For example, school level satisfaction with the quality of support decreased across almost all hubs, as did satisfaction with Camara staff timekeeping. This shows that, while results have been positive overall, there are always areas for education hubs to work on.

By presenting an in-depth analysis of our data collection, we abide by our key value of transparency. The results presented here are an accurate snapshot of the measured outcomes of Camara's work. As we transition to more education focused projects and programmes, future reports will provide further results of student-level learning outcomes.

# Introduction

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In 2015, Camara distributed 12,303 computers to 580 schools, and trained 6,256 teachers on use of ICT in education, which impacted 258,363 students. Compared to last year, this represents a 6% increase in computers distributed, 46% increase in teachers trained and 6% increase in impacted students. As these numbers by themselves do not show the full spectrum of the impact Camara is making, we conduct an annual Monitoring & Evaluation exercise in order to assess the relevance, effectiveness and impact of activities we carried out. In the past years, Camara's M&E activities have been instrumental in:

- Measuring the outcomes and impacts we are making;
- Measuring the effectiveness of our approach in achieving our goals;
- Capturing lessons that contributed to our performance;
- Identifying gaps so that we can improve practices and activities;
- Promoting accountability of the resources used and results/outcomes achieved.

This year's M&E exercise was conducted in schools that received Camara computers and training in 2014 in Ethiopia, Zambia, Kenya, and Tanzania. Lesotho is not included in this report as the number of schools partnered with in 2014 was small. In Ireland, a different approach of analysing and reporting impact is utilised, which will be discussed in detail later.

This report includes a thorough analysis of the collected data, highlights key performance areas and presents recommendations on areas that need more attention. It also tries to see the progress made in the performance of the Camara hubs and the change in satisfaction levels of beneficiaries over the last two years. This is a key addition to this year's report as it is vital to see and measure the variations in the impact Camara is making through a specific period of time.

## RATIONALE

The core objectives of our M&E exercise haven't changed from the previous years. The main objectives of the evaluation are to:

- Collate data regarding reported usage of Camara computers through formal and informal learning processes, usefulness of Camara educational content, and perceived value of Camara's products and services;
- Measure the progress made in the performance of the Camara hubs and the changes in satisfaction level of school leaders, teachers and students in relation to Camara provided ICT equipment and training;
- Give an insight into the challenges that deter the utilisation of Camara computers by teachers and students in schools.

## SAMPLING

For this year's evaluation a representative sample of schools was selected from Ethiopia, Kenya, Tanzania, and Zambia. In 2014, there were 417 schools across the four countries who received Camara computers and training and a sample of 111 schools was selected. The purpose of choosing this sample size is to have a 95% confidence level and 8% margin of error. Due to unforeseen challenges which are discussed below, only 86 schools were visited representing a margin of error of 9.5% at a 95% confidence interval. The schools were selected based on criteria including location (urban, peri-urban, and rural), level of school (primary, secondary), ownership type (Government, International...etc.), and gender of students taught (female, male or mixed).

## QUESTIONNAIRE DESIGN

As in previous years, three questionnaires were designed and administered to students, teachers, and school management representatives with the intention of capturing a number of different views on the performance of Camara. These questionnaires are moderately modified from previous years and suggested questions from local hubs are added in order to gather more contextually relevant data. Performance Scorecards are also designed and used in order to highlight the perception of school leaders on the performance of Camara against key performance areas deemed important by the schools.

## DATA COLLECTION

Camara introduced an electronic data collection system using Android tablets through the use of Open Data Kit (ODK) and the Ona.io online repository in 2015. ODK Collect is an open source tool designed to collect data digitally in the field. Ona.io is an online data repository application that can be synced with ODK Collect and used for online questionnaire and data storage. Using these two applications proved to be time efficient and greatly minimised the possibility of errors occurring during data entry. Based on the positive experience from last year, the same method is employed this year to collect data from all hubs. Data collectors who were either Camara staff or externally hired for the exercise carried out the data collection. Refresher sessions on contents of the questionnaires, data recording and uploading were given to the Kenya data collection team via Skype. The Zambia M&E Officer delivered in-country training in the use of ODK Collect and the administration of the questionnaires to the data collectors. 'How to' guides on data recording and uploading were also sent to all data collectors in all countries. To facilitate the process of questionnaire design, data collection, analysis, and report writing, a Global M&E Assistant intern has been recruited in the Dublin office. This is in line with our continued effort to strengthen our M&E team so that robust M&E processes can be implemented throughout the organisation. The Global M&E Specialist and his assistant were available to provide assistance and support before, during and after the data collection and uploading process.

Reporting on the impact of Camara Ireland's activities will be presented differently this year. Last year, it was noted that conducting data collection in Irish schools is relatively more difficult for Camara when compared with our African partner schools. This is mainly due to the difficulty in arranging time to conduct questionnaires or interviews with school leaders and teachers. Last year, data collection was conducted through phone and email interviews. This was a time intensive method which resulted in a fraction of the sample size responding.



Additionally, an online survey also resulted in a low response rate. This year, we decided not to adopt the approach taken in previous years as the data gathered has tended to be incomplete and, therefore, unreliable. In this section, data from a pilot project called the Maker project initiated during 2015 as a part of Camara Ireland's TechSpace programme will be presented. This will accompany a teacher training satisfaction survey for school-based training conducted during 2015.

## **DATA ANALYSIS**

Once the data was downloaded from the online repository, it was cleaned and made ready for analysis. All the data analysis was done using Microsoft Excel as the volume of data collected was manageable through this application.

## **LIMITATIONS AND CHALLENGES ENCOUNTERED**

There have been a number of challenges to this year's evaluation process, including:

- Due to time and financial constraints, only 80% of the sample schools in Ethiopia, 90% in Kenya, 67% in Tanzania, and 70% in Zambia were visited. This has an impact on the confidence level and margin of error.
- Timing of the data collection in Zambia, Ethiopia and Kenya coincided with term tests, which made it difficult for data collectors to get school staff for interview. This caused a delay in data collection and subsequently impacted the number of schools surveyed and the timeline for completing analysis and reporting.
- As noted, performing data collection in schools in Ireland is difficult. The major issue is in getting sufficient access in sufficient numbers to make the data gathered reliable.

This section proceeds as follows: the demographics are presented, followed by the Performance Scorecards, Satisfaction Levels, and Access Usage and Integration. The report on Camara Ireland and the Hub Audit complete the M&E section.



*Primary School Students at Camara ICT Center, Ethiopia.*

# Demographics

In this section, the demographic breakdown of school management representatives, teachers, and students surveyed is presented first. Different characteristics of the schools surveyed including location and ownership type are also presented.

## SCHOOL CHARACTERISTICS

A total of 86 schools across four countries were surveyed for this year's evaluation exercise. In comparison with last year, this shows a 28% increase in the number of schools surveyed. Table 1 shows the breakdown by country.

Country	Number of Schools
Ethiopia	24
Kenya	27
Tanzania	14
Zambia	21
Total	86

Table 1: Number of schools surveyed

The sampled schools were chosen to be representative of the different characteristics that schools have. These characteristics are location, gender of students taught, school level, and school ownership type.

Location	Ethiopia	Kenya	Tanzania	Zambia	Average
Urban	29%	37%	36%	81%	46%
Peri-Urban	33%	30%	0%	14%	19%
Rural	38%	33%	64%	5%	35%
Student Genders					
Female only	0%	4%	0%	0%	1%
Male only	0%	11%	0%	5%	4%
Mixed	100%	85%	100%	95%	95%
School Level					
Primary	42%	70%	0%	38%	38%
Secondary	58%	26%	100%	29%	53%
Integrated	0%	4%	0%	33%	9%
School Ownership					
Government School	100%	59%	43%	76%	70%
Faith/Church School	0%	0%	7%	0%	2%
Community School	0%	4%	43%	5%	13%
Private School	0%	37%	7%	19%	16%
Voluntary School	0%	0%	0%	0%	0%

Table 2: Characteristics of schools surveyed

## STUDENT NUMBERS

The figures for student numbers in the surveyed schools were obtained from school management representatives. As it can be seen from the table below, Zambia has the highest average number of students and Tanzania the lowest. Zambia also has the highest standard deviation showing a relatively higher uneven distribution of students across the surveyed schools.

Student Numbers	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	1238	264	92	1349	898
Standard Deviation	712	352	242	886	744

Table 3: Breakdown of student numbers

In this report, we used Box and Whisker plots to shed more light on the data we collected and used in our analysis. This method is useful in showing the spread of a dataset using the minimum data point, first quartile, median, third quartile and maximum data point. The median, which is the line between the two boxes, shows the middle value of the data set while the boxes contain the second and third quartiles of the data points, and therefore highlight the middle half. The whiskers show the minimum and maximum points of the data set. The chart below shows that Zambia and Ethiopia have the highest student distribution variance while in Tanzania the distribution of students across surveyed schools is far smaller.

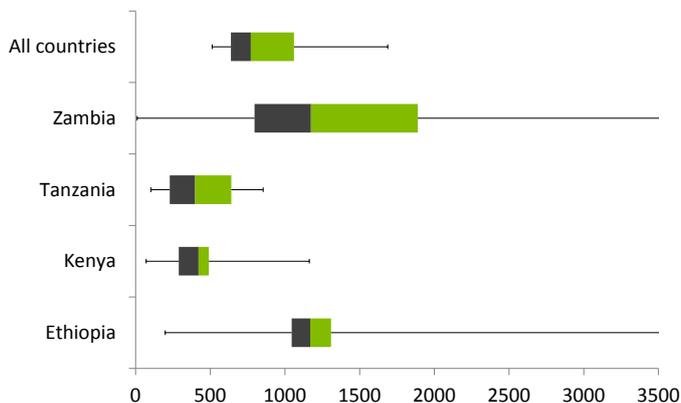


Chart 1:  
Distribution of Student Numbers

Student numbers is correlated with different characteristics of the school. Our data shows that in relation to school location, urban schools have greater number of students than peri-urban or rural schools. In terms of school level, integrated schools tend to have greater number of students than primary or secondary schools. Chart 2 shows the correlation between different characteristics of schools and average numbers of students across the surveyed schools.

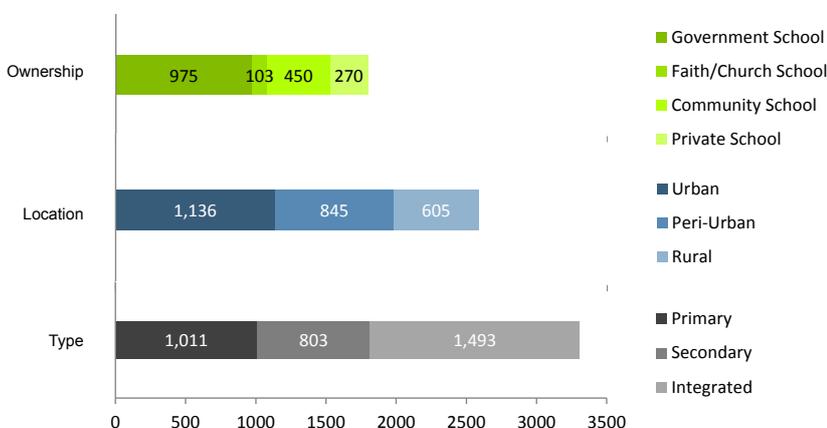


Chart 2:  
School Characteristics and Average Student Numbers

Chart 2 shows that the ownership type has the strongest correlation to student numbers, with government owned schools having greater numbers of students than any other type. However, it should be noted that there is a high level of variation in student numbers in government owned schools among the different countries.

## STUDENT GENDER

Table 4 presents the gender makeup of mixed schools surveyed.

Country	Male	Female	Number of Schools
Ethiopia	51%	49%	24
Kenya	51%	49%	27
Tanzania	48%	52%	14
Zambia	49%	51%	21
Total	50%	50%	86

Table 4: Gender representation in mixed schools

The overall gender makeup of the schools surveyed in all countries is almost equal. In Tanzania and Zambia, however, the number of female students tends to be slightly bigger with 52% and 51% respectively. Data collectors attempted to ensure an equal gender balance amongst students surveyed. However, it is not always possible to ensure this when visiting schools as the collectors must rely on student availability.

## TEACHER NUMBERS

School management representatives were asked how many teachers worked in their schools and the responses are summarised in Table 5.

Teacher numbers	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	43	19	30	43	34
Standard Deviation	18	9	17	21	19

Table 5: Breakdown of teacher numbers

Ethiopia and Zambia have the highest average number of teachers per school which is correlated to the fact that they also have the highest number of students compared to Tanzania and Kenya.

## ICT TEACHER NUMBERS

School management representatives were asked about the number of ICT certified teachers they have in their schools. The table below shows that the number of ICT teachers tends to vary greatly across the four countries.

ICT teacher numbers	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	1.1	4.0	0.6	1.2	1.7
Standard Deviation	1.3	4.5	1.0	1.1	3.0

Table 6: Breakdown of certified ICT teacher numbers

Kenya has the highest number of ICT certified teachers with an average of 4 per school while Tanzania has the smallest with 0.6 per school. The distribution of ICT certified teachers within the surveyed countries also varies greatly, especially in Kenya. This variation is illustrated in Chart 3.

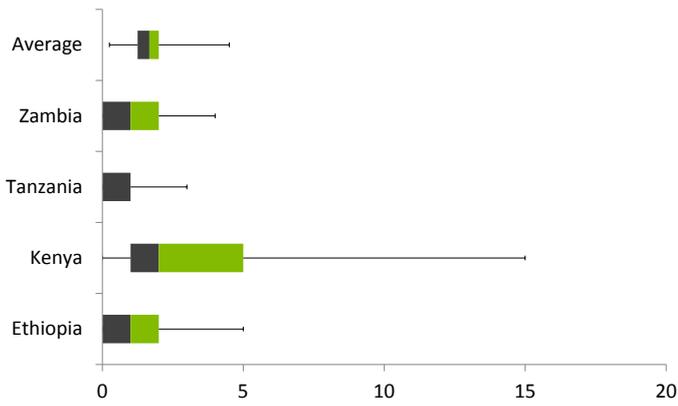


Chart 3:  
Distribution of  
Certified ICT Teacher Numbers

### STUDENT TO TEACHER RATIO

This has been calculated by dividing the number of students in each school by the number of teachers in each school. Hence, it includes teachers who are not currently class teachers but may also be administrative or resource teachers. Table 7 details the breakdown of student teacher ratio across all countries

Student to Teacher Ratio	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	29:1	26:1	14:1	32:1	27:1

Table 7: Student to teacher ratio

As the table above shows, Zambia and Ethiopia have the highest student to teacher ratio as a result of high number of students in their schools.

In addition to student to teacher ratio, the student to ICT certified teacher ratio in schools was also calculated. As the chart below shows, Kenya has the lowest ratio due to a relatively high number of ICT certified teachers and low students in the schools surveyed. On the other hand, the high number of students in Zambia stretched the ratio to 1 ICT certified teacher for 1133 students.



Chart 4:  
Student to ICT  
certified teacher ratio

## AVERAGE CLASS SIZE

Teachers were asked about the average number of students in their classes. As can be seen from the table below, Tanzania has the highest number of students per class while Ethiopia has the lowest.

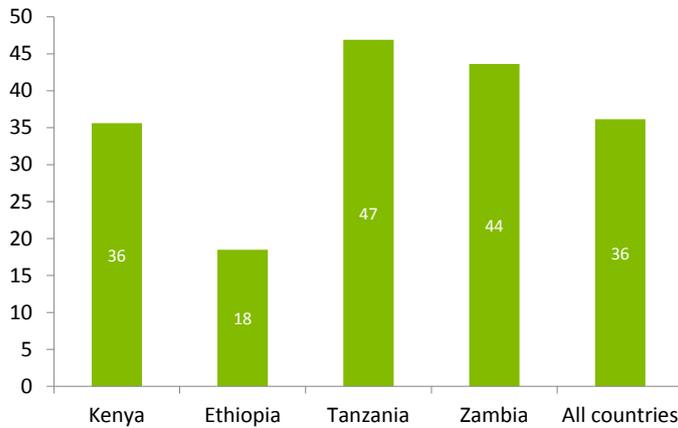


Chart 5:  
Breakdown of average class size

Chart 6 demonstrates the distribution of average class size across the four countries.

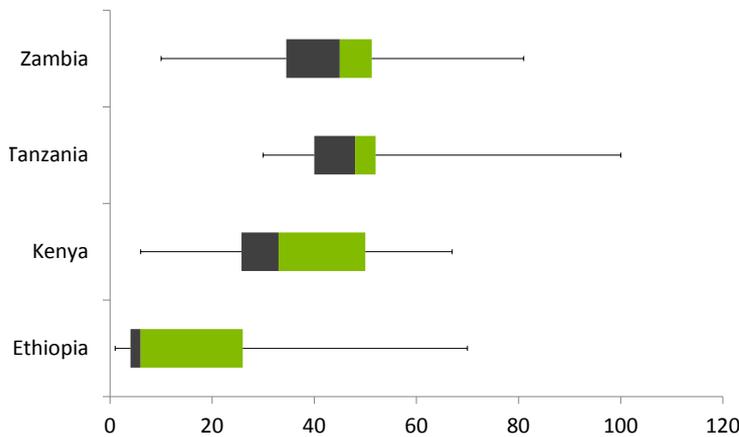


Chart 6:  
Distribution of average class size

## SCHOOL MANAGEMENT

A total of 86 school management representatives were interviewed across the four countries. This figure represents one representative per school. The demographic details of interviewed school management representatives are presented in this section.

### SCHOOL MANAGEMENT POSITIONS

Due to the different school administration frameworks across the various countries, a varied range of school management representatives holding different positions were interviewed. The breakdown of positions of school management interviewed is presented in Table 8.

Position	Ethiopia	Kenya	Tanzania	Zambia	Average
Coordinator	0%	0%	7%	0%	2%
Director/Head	75%	4%	0%	52%	33%
Head of Department	0%	0%	0%	5%	1%
Head Teacher	0%	59%	64%	0%	31%
Principal	0%	15%	0%	0%	4%
Senior teacher	0%	7%	0%	0%	2%
Supervisor	4%	0%	0%	0%	1%
Vice Director/Deputy Head	21%	0%	0%	29%	12%
Other	0%	15%	29%	14%	14%
Total	100%	100%	100%	100%	100%

Table 8: Breakdown of positions of school management interviewed

## GENDER AND AGE

Table 9 details the gender and age breakdown of school management representatives interviewed.

Gender	Ethiopia	Kenya	Tanzania	Zambia	Average
Female	4%	26%	0%	38%	17%
Male	96%	74%	100%	62%	83%
Age range					
26 - 35	54%	22%	36%	0%	28%
36 - 45	38%	30%	36%	24%	32%
46+	8%	48%	29%	76%	40%
Total	100%	100%	100%	100%	100%

Table 9: Breakdown of age and gender demographics of school management

The data shows that there is a big gender gap in school management: 83% of all school management representatives interviewed were male while the remaining 17% were female. It is worth mentioning here that this figure is a little skewed by the fact that 100% of the school management interviewed in Tanzania were male. Ethiopia has the youngest school managers of all the four countries with 56% of its school managers in the age category of 26 to 35 years old.

## TEACHING EXPERIENCE

Here, teaching experience of school management representatives is presented. Note that a relatively high standard deviation shows a large variation in the number of years of teaching experience among the representatives.

Years of Teaching Experience	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	15	19	17	28	20
Standard Deviation	7	12	10	8	11

Table 10: Breakdown of school management representatives' years of teaching experience

Table 10 shows that Zambia school managers have the most teaching experience. However, it should be noted that two of the interviewed school managers in Zambia have teaching experience of more than 47 years skewing the average figure for the country. Without these two cases, the average teaching experience of school management representatives in Zambia is 26 years which is still high compared to the other three countries.

## TEACHERS

A total of 260 teachers were interviewed for this year's M&E exercise. This represents 50% of the targeted figure with an initial aim of interviewing six teachers per school. In some situations, this was not always possible to achieve due to several factors, including:

- Unavailability of interviewees at the time of data collection;
- Low number of teachers in some small schools.

Regardless of the challenges, the data collectors aimed to achieve a gender and age balance among interviewees. Teachers who had attended Camara training were prioritised for interview. The table below shows the number of teachers interviewed.

Country	Teachers interviewed
Ethiopia	69
Kenya	50
Tanzania	49
Zambia	92
<b>Total</b>	<b>260</b>

Table 11: Number of teachers interviewed

## GENDER AND AGE

The gender and age demographics of teachers interviewed are shown in the table below.

Gender	Ethiopia	Kenya	Tanzania	Zambia	Total
Female	30%	58%	33%	45%	41%
Male	70%	42%	67%	55%	59%
Age range					
25 or below	19%	10%	0%	10%	10%
26 - 35	65%	54%	84%	46%	62%
36 - 45	14%	28%	14%	36%	23%
46+	1%	8%	2%	9%	5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table 12: Breakdown of age and gender demographics of teachers

Predictably, the overall female to male teacher ratio is balanced in favour of males at 41% to 59%, with Kenya being the only country to have a bigger female to male teacher ratio with 58% to 42%. The age range figures show that 62% of the interviewed teachers fall in the 26-35 years of age category.

## HIGHEST EDUCATIONAL LEVEL

This refers to the highest educational qualification the teachers have and the results show quite a variation among the countries. As Table 13 shows, Tanzania has the most teachers with a qualification of a Bachelor Degree or above while Zambia has the least. Note that the qualification framework is not exactly the same across the four countries but they can be broadly categorized and compared. The table below shows the details.

Education Level	Ethiopia	Kenya	Tanzania	Zambia	Total
Advanced Certificate	0%	2%	0%	4%	2%
Advanced Diploma	10%	2%	2%	0%	4%
Bachelor's Degree	29%	34%	76%	18%	39%
Certificate	0%	32%	0%	4%	9%
Diploma	59%	18%	16%	64%	39%
Master's Degree	1%	6%	6%	2%	4%
Postgraduate Qualification	0%	2%	0%	0%	1%
Other	0%	4%	0%	7%	3%
Total	100%	100%	100%	100%	100%

Table 13: Breakdown of highest educational level obtained by teachers

## TEACHING EXPERIENCE

Table 14 details teachers' average years of teaching experience and the corresponding standard deviation values.

Years of Teaching Experience	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	9	9	6	9	8
Standard Deviation	5	7	6	7	6

Table 14: Breakdown of teachers' years of teaching experience

As can be seen from the table, the interviewed teachers in Tanzania have less teaching experience compared to Ethiopia, Kenya and Zambia.

## STUDENTS

A total of 1,513 students were interviewed across the four countries. The two main criteria considered for selection of the students were, firstly, gender balance and, secondly, students who had access to Camara ICT equipment. Based on these criteria, it was planned to interview a minimum of 10 students from each school but this was not always possible to achieve as a result of different challenges, including:

- Time constraints of completing data collection within the timeframe;
- Unavailability of students when data collection was conducted during exam periods..

In Ethiopia, the data collectors interviewed close to 50 students per school, which was more than expected. This is mainly due to the fact that a group interview method is employed in which printed versions of the questionnaires were distributed to students. Then briefings on the questions were given and the students fill out the questionnaires under the supervision of data collectors. This method is used in order to get as many as possible interviews from students. The following table presents the number of students interviewed per country.

Country	Students Interviewed
Ethiopia	1196
Kenya	74
Tanzania	134
Zambia	109
Total	1513

Table 15: Breakdown of student numbers

## GENDER

The table below details the gender breakdown of students interviewed.

Student gender	Female	Male
Ethiopia	43%	57%
Kenya	58%	42%
Tanzania	46%	54%
Zambia	43%	57%
Total	48%	52%

Table 16: Breakdown of interviewed student gender

## AGE

Unlike school management representatives and teachers, students were asked their exact age as student ages would not be spread over as high a range. The table below shows the age breakdown of students interviewed.

Age of Students	Ethiopia	Kenya	Tanzania	Zambia	Average
Average	16	12	16	15	15
Standard Deviation	3	4	2	4	3

Table 17: Breakdown of student age

The average age of students across the surveyed schools is almost uniform at 15. The data also shows that students interviewed in Kenya were more likely to have a younger age profile than the rest of the three countries.

# Performance Scorecards

Camara Education uses Performance Scorecards to assess the perception of school management representatives of partner schools on the performance of Camara hubs against key performance indicators. Camara introduced this methodology in 2015 and the results shed light on our strong performance areas and areas that needed improvement.

## METHODOLOGY USED

The Performance Scorecard tool is an adaption of the Weighted Checklist methodology developed by renowned M&E Specialist Rick Davis and it is used to measure complex changes. There are three main objectives for using this methodology:

1. It is best used when a project or operation is complex and difficult to measure with a single indicator; such is the case in Camara's projects.
2. It helps to account for the different views and experiences of Camara's school partners.
3. It is a participatory form of evaluation as Camara products and service users determine the importance or weight to be attached to each performance area.

The template of the Performance Scorecard used in this year's M&E exercise is presented in Table 1.

No	Performance Area	Importance to you	Camara's performance
		1 = low, 5 = high	1 = low, 5 = high
1	Understanding your needs		
2	Provision of relevant training		
3	Provision of reliable hardware		
4	Provision of relevant software		
5	Provision of quality support (e.g. maintenance)		
6	Ease of communicating with Camara		
7	Meeting agreed deadlines		
8	Timely resolution of problems you have had		
9	Attitude of Camara staff		
10	Value for money		

Table 1: Performance Scorecard

The tool consists of three columns with ten core performance areas that respondents were asked to score against listed on the first column. In the second column, the respondents are asked to rate how important each performance area is to them on a scale of 1 to 5, 1 being the lowest and 5 the highest. The third column asked the respondent to rate how Camara performed in relation to each performance area. Then the average percentage score will be calculated for each respondent and both Camara's performance and beneficiary perception of importance will be compared.

The methodology provided by Davis for calculating the percentage score is as follows:

1. The score from the 'Importance to you' column is multiplied by the score from the 'Camara's performance' column for each performance area;
2. These are added together to obtain the actual raw score;
3. The score from the 'importance to you' column is multiplied by the highest possible rating (5) for each performance area;
4. These are added together to obtain the highest possible raw score;
5. Divide the actual raw score by the highest possible raw score to get a percentage score for each school management representative;
6. Calculate the average percentage for all school management representatives to get the overall score.

The final percentage score is a weighted score that factors the importance or weight of each performance area into the final score. A high percentage score shows a high degree of satisfaction amongst the school management, whereas a low percentage score shows a low degree of satisfaction. The final percentage score for each of the four countries is presented in Table 2. Note that the 'value for money' performance area does not apply for Tanzania as the schools surveyed were part of a donor funded project and did not pay for the ICT equipment in the eLearning centre. Instead, 'build quality of the computer lab' is used as a core performance indicator.

Country	2015
Tanzania	90%
Ethiopia	84%
Kenya	74%
Zambia	72%
Overall Score	80%

Table 2: Scores received

The overall Camara performance score is 80%, increasing by 4% from last year. For the second year in a row, Tanzania is the highest scoring hub while Zambia received the lowest score. There is a difference of 18% between the highest and lowest scoring hubs, which implies that there is a relatively high variation in satisfaction levels among the school administration representatives. This also suggests that there is a considerable level of difference in the quality of product and service delivered across the hubs. In order to see the change in performance of hubs, we compared this year's scores with last year's and the result is presented in Chart 1. Note that the chart on the right shows the change in score from last year.

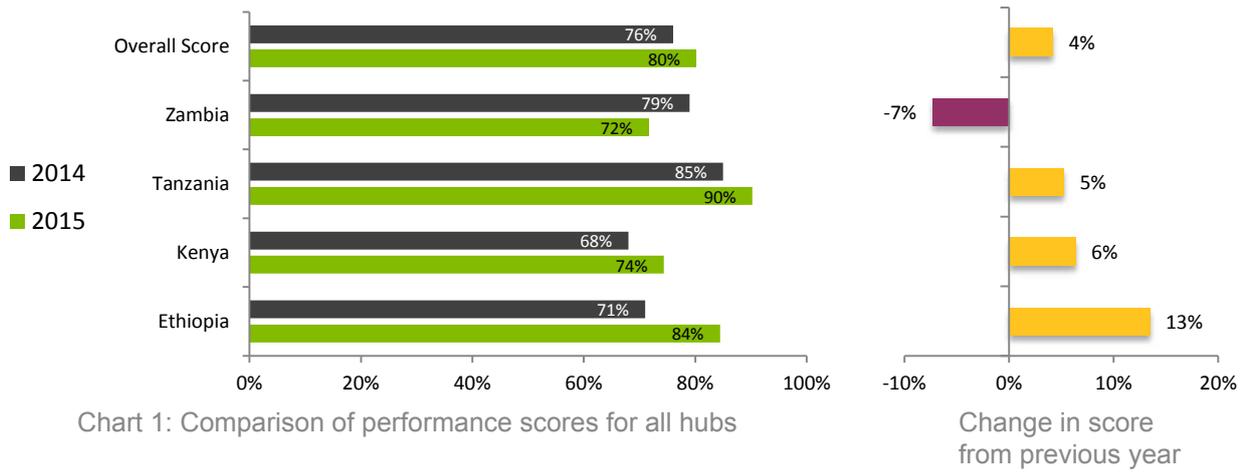


Chart 1: Comparison of performance scores for all hubs

Ethiopia recorded the highest improvement in overall performance scores with 13%, while Zambia’s performance showed a decrease of 7% from last year. Apart from Zambia, all the hubs showed an improvement from last year, which contributes to the increase in the overall score of Camara’s performance. Tanzania’s high score for two consecutive years can be partly explained by the fact that all the schools surveyed were part of a donor funded project that covered the cost of the eLearning centres. This may have lowered expectations and demands from the school management compared to those that did pay for the products and services.

The percentage scores of the individual performance areas was also analysed in order to highlight the areas that school management representatives are most and least satisfied with. Chart 2 presents the results.

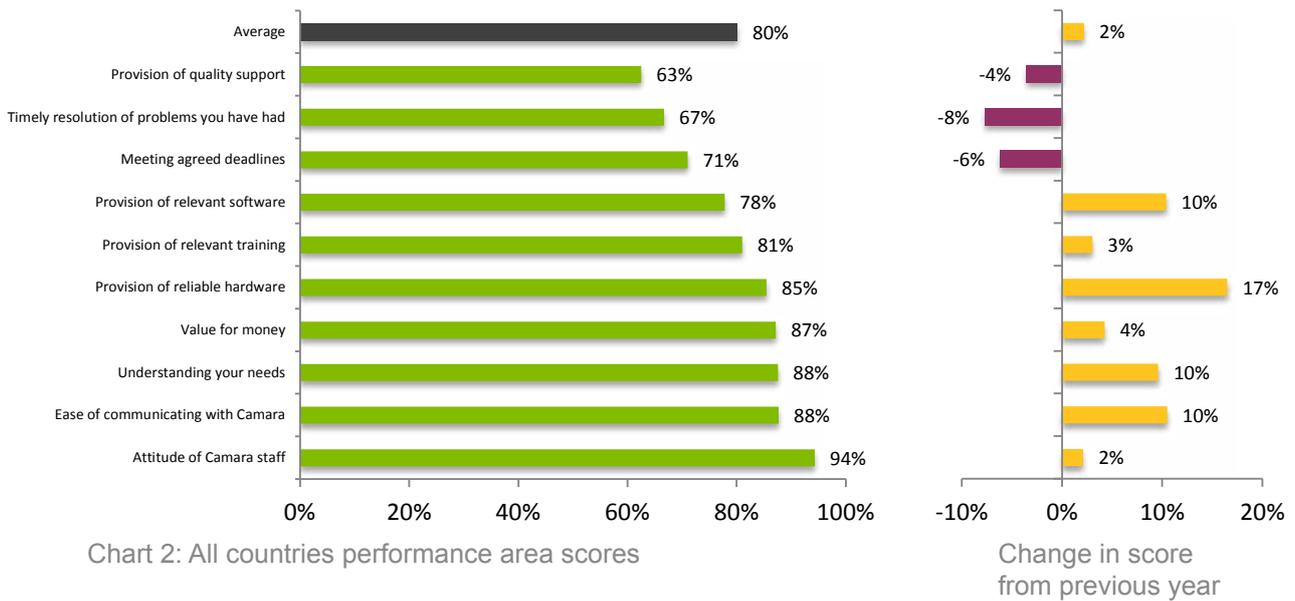


Chart 2: All countries performance area scores

The 'attitude of Camara staff' indicator scored the highest for a second consecutive year and showed a 2% increase from last year. 'Ease of communicating with Camara' also scored highly showing a 10% increase from last year. These two high scores indicate that school management is generally happy with the way Camara staff conduct themselves and communicate with the schools. 'Provision of reliable hardware' showed the biggest improvement from last year while 'understanding your needs' and 'provision of relevant software' also showed a big improvement from last year. On the other hand, 'provision of quality support' scored the lowest for the second year in a row and showed a 2% decrease from last year. 'Timely resolution of problems you have had' scored the second lowest and showed the largest decrease from last year. This indicates that there is a persistent dissatisfaction from school management on the quality and response time of support they get from Camara hubs. In order to better understand these changes, a country level analysis was conducted. Chart 3-6 shows the performance area scores for each country and the change in score from the previous year.

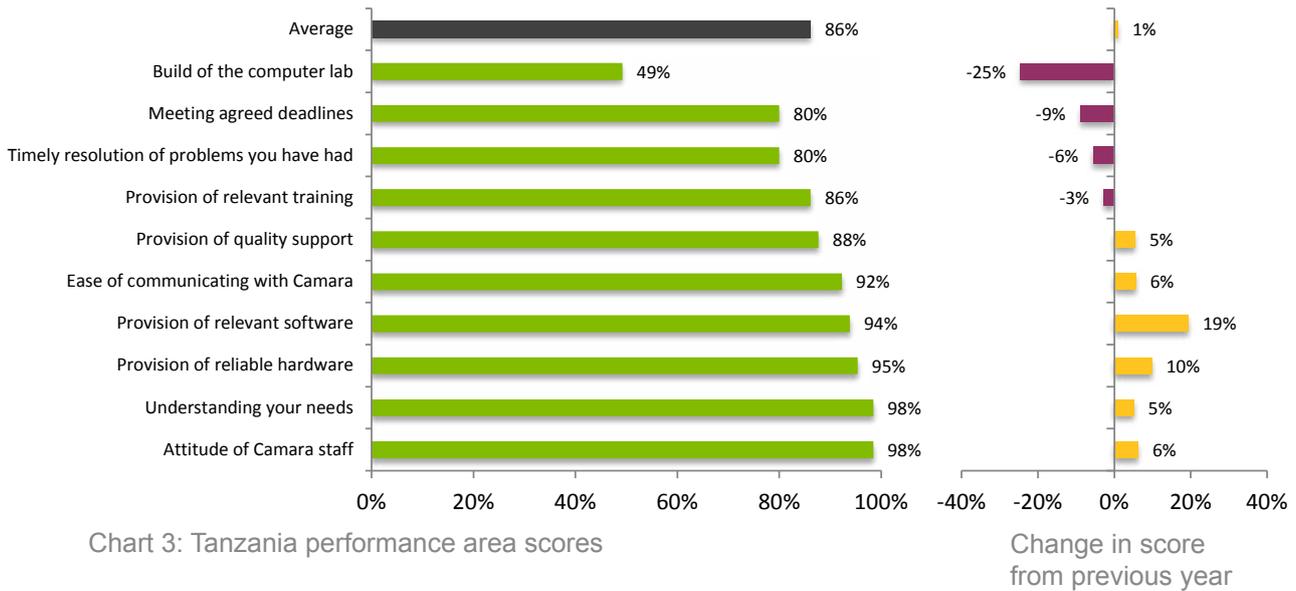


Chart 3: Tanzania performance area scores

As can be seen from Chart 3, 'attitude of Camara staff', 'understanding your needs' and 'provision of relevant hardware' scored in the top three. 'Provision of relevant software' showed a 19% increase from last year which is the biggest change recorded in Tanzania. On the contrary, 'build of the computer lab' scored the lowest and showed a decrease of 25% from last year. 'Meeting agreed deadlines' and 'timely resolution of problems you have had' also scored in the bottom three.

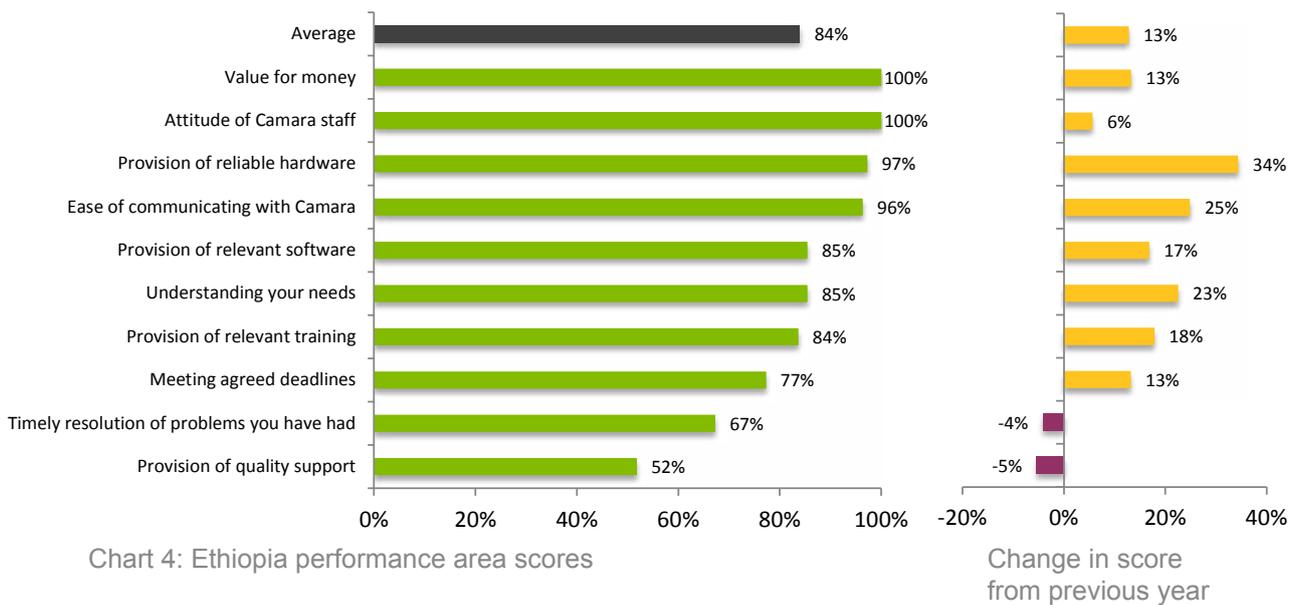


Chart 4: Ethiopia performance area scores

In the Ethiopian hub, 'value for money' and 'attitude of Camara staff' scored the highest. The score for 'provision of reliable hardware' greatly improved from last year scoring the biggest change. On the contrary, 'provision of quality support' and 'timely resolution of problems you have had' scored the lowest and are the only two performance areas that show a decrease from last year.



Chart 5: Kenya performance area scores

The overall performance score for Kenya increased by 6% from last year and 'attitude of Camara staff' scored the highest. 'Understanding your needs' and 'provision of reliable hardware' showed the biggest increase from last year. 'Provision of quality support' scored the lowest even though it showed a 2% increase from last year. 'Meeting agreed deadlines' and 'value for money' are the only two performance areas that showed a decrease from last year.

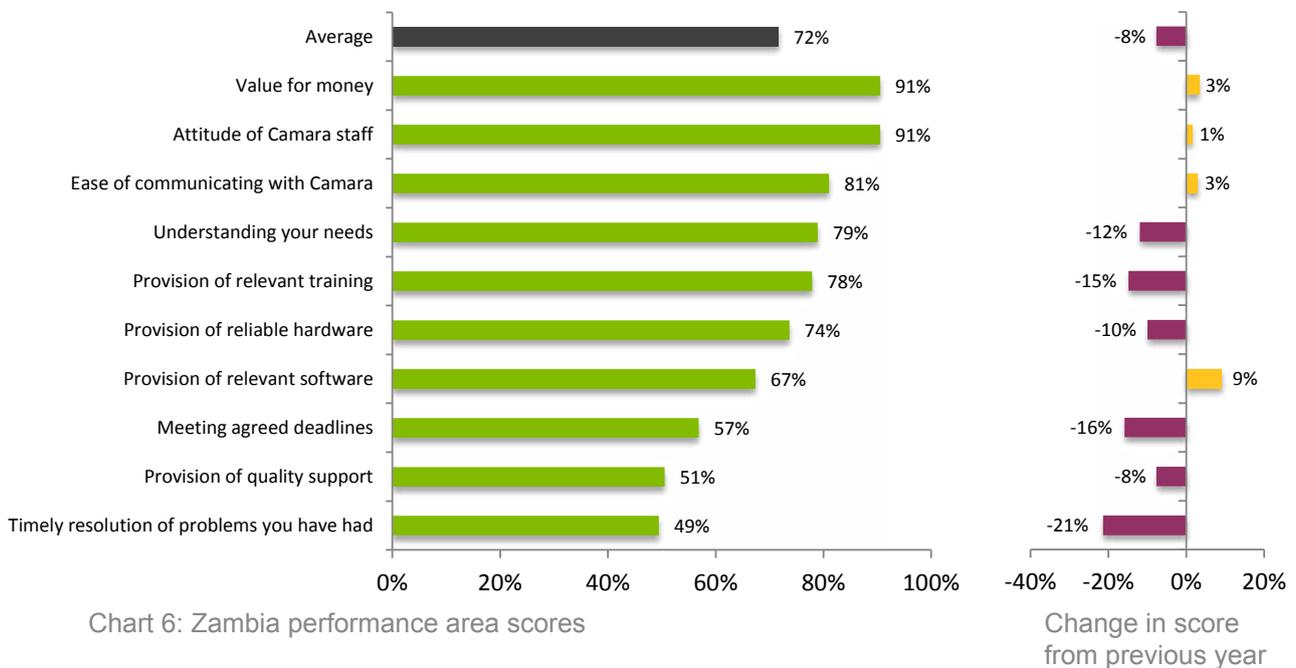


Chart 6: Zambia performance area scores

Unsurprisingly, 'attitude of Camara staff' scored the highest together with 'value for money'. 'Provision of relevant software' increased by 9% from last year, which can possibly be attributed to the introduction of the compulsory Computer Studies curriculum for Junior Secondary level. A noticeable change in Zambia's performance score is the decrease in six of the performance areas together with a decrease in the overall average score. 'Timely resolution of problems you have had' registered a 21% decrease from last year and four more performance areas scored a double digit decrease over the same period. The overall performance score for Zambia also decreased by 8%.

## PERFORMANCE AREA RATINGS

In order to get an insight into how important the performance areas for the hubs surveyed were, we compared the average rating and standard deviation of each performance area. In this case, a relatively high standard deviation shows a high variation in ratings across the four hubs.

Performance Area	Importance to the school		Camara Performance	
	Average	SD	Average	SD
Understanding your needs	4.39	0.44	4.38	0.41
Provision of relevant training	4.10	0.48	4.05	0.23
Provision of reliable hardware	4.58	0.31	4.27	0.63
Provision of relevant software	4.21	0.24	3.89	0.71
Provision of quality support	3.85	1.03	3.13	0.87
Ease of communicating with Camara	4.63	0.17	4.38	0.39
Meeting agreed deadlines	4.04	0.25	3.55	0.52
Timely resolution of problems you have had	3.98	0.34	3.33	0.64
Attitude of Camara staff	4.84	0.19	4.71	0.29
Value for money	4.37	0.75	4.36	0.74

Table 3 Average and standard deviation of ratings

As Table 3 shows, 'provision of quality support' and 'value for money' have the highest standard deviation both in terms of importance to the school and Camara's performance, implying that there is a high degree of variation in ratings among the four hubs. A deeper look into the data shows that a very low rating for 'provision of quality support' from Ethiopia skewed the overall ratings, hence the high standard deviation for that performance area. Other than these two cases, the standard deviation of the importance ratings is relatively lower compared to the performance ratings.

To summarise the major findings, most school management representatives are satisfied with the attitude shown by Camara staff and ease of communication with the hubs. On the other side, provision of timely and quality support from hubs is still an area that needs to be improved. This is a very important area that Camara values highly and the fact that it is the lowest scoring performance area for the second year indicates that more effort must be made to bring about the needed improvement.

**The average performance score achieved by hubs increased from 77% in 2014 to 80% in 2015.**

# Satisfaction Levels

Camara gathers feedback on satisfaction levels of its clients and uses it to improve the quality of its products and services. School management representatives, teachers and students were asked a range of questions in order to understand their level of satisfaction with Camara supplied ICT equipment and services. Teachers and students were presented with training, ICT equipment, and software related statements that they can agree or disagree with. To rate the responses, the standard Likert scale was used:

- Strongly agree,
- Agree,
- Agree nor disagree,
- Disagree,
- Strongly disagree.

## SCHOOL MANAGEMENT

The questions for school management representatives focused on their experience with Camara and whether or not Camara has had a positive or negative effect in their schools in a range of areas. Below are the questions asked to school management representatives.

- Overall, have you had a positive or negative experience with Camara?
- Has the Camara ICT equipment and training had a positive, negative or no effect on the ability of teachers to deliver their curriculum?
- Has the Camara ICT equipment and training had a positive, negative or no effect on the motivation of teachers?
- Has the Camara ICT equipment had a positive, negative or no effect on the ability of students to attain the curriculum?
- Has the Camara ICT equipment had a positive, negative or no effect on the motivation of students?

The result of the first question is presented in Chart 1.

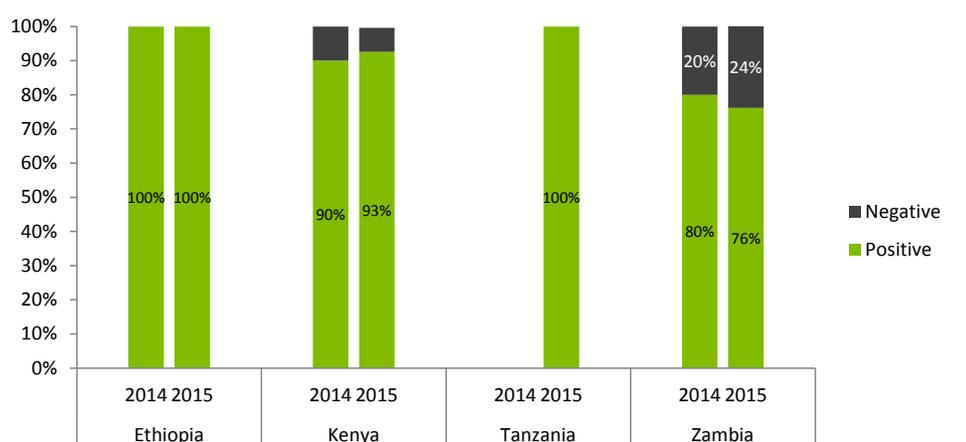


Chart 1:

Overall, have you had a positive or negative experience with Camara?

Chart 1 shows that all the school management representatives in Ethiopia and Tanzania reported to have a positive experience with Camara. In contrast, a quarter of the interviewees from Zambia reported to have a negative experience with Camara for the second year in a row. This dissatisfaction is also reflected on the Performance Scorecard whereby six performance areas registered a considerable decrease in score from last year. Timely resolution of problems the schools had and provision of quality support are the two lowest scoring performance areas in Zambia and the negative experience expressed by school management representatives may be related with these reasons.

The responses to the remaining four questions are presented on Charts 2-5.

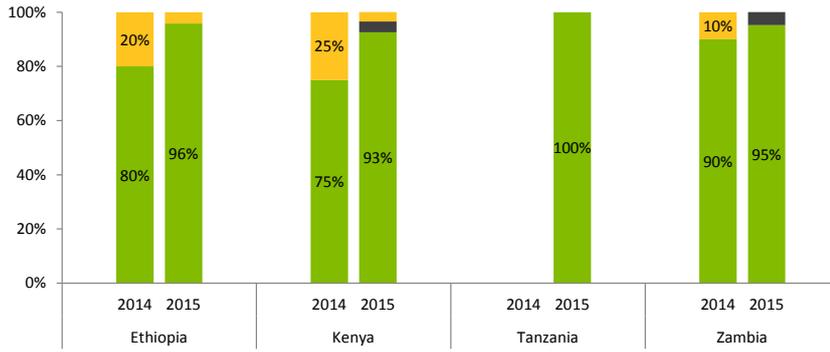


Chart 2:

Has the Camara ICT equipment and training had a positive, negative or no effect on the ability of teachers to deliver their curriculum?

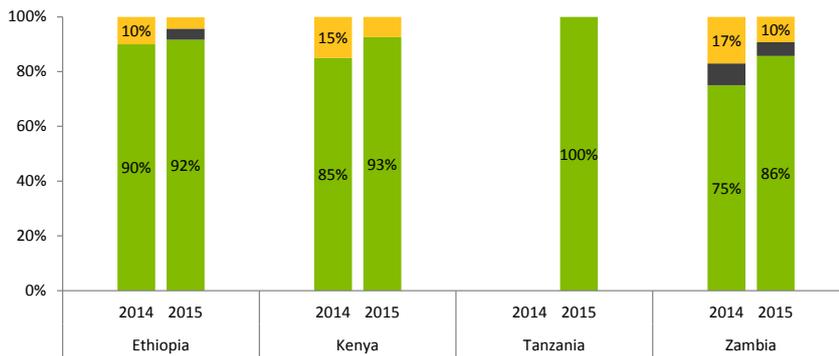


Chart 3:

Has the Camara ICT equipment and training had a positive, negative or no effect on the motivation of teachers?



Chart 4:

Has the Camara ICT equipment had a positive, negative or no effect on the ability of students to attain the curriculum?



Chart 5:

Has the Camara ICT equipment had a positive, negative or no effect on the motivation of students?

Generally, there is a positive response from school management representatives to all the questions. In Zambia, there is still some level of dissatisfaction from some school management representatives about the effect of Camara ICT equipment and training on the ability of students to attain the curriculum and on the motivation of teachers. Reported negative effects increased slightly for two of the questions. However, it should be born in mind that the vast majority of school leaders reported positive effects.

## TEACHERS

Teachers were asked to rate statements about their satisfaction level on the ICT equipment and training provided by Camara. The teachers also responded to the statements in the standard Likert scale format. The four statements related to training are as follows:

- The Camara training has made me more confident in using ICT.
- The Camara training has been relevant to my job.
- The Camara training has helped me to integrate ICT into the classroom when delivering lessons
- The Camara training has helped me to alter the way I approach teaching

The results from these statements and comparisons with last year's results are displayed in Charts 6-9.

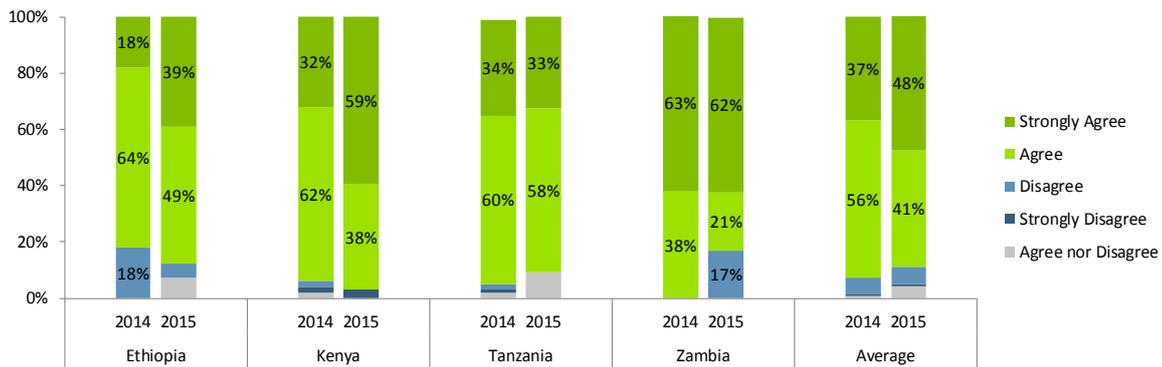


Chart 6: The Camara training has made me more confident in using ICT

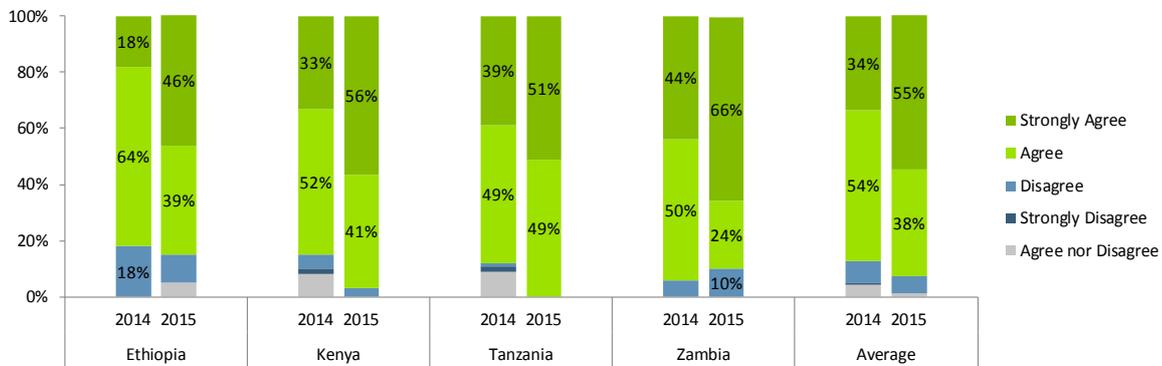


Chart 7: The Camara training has been relevant to my job

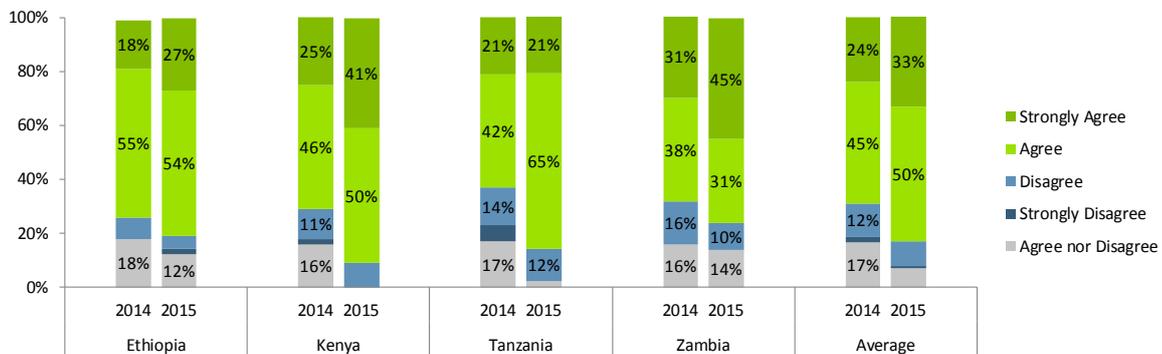


Chart 8: The Camara training has helped me to integrate ICT into the classroom when delivering lessons

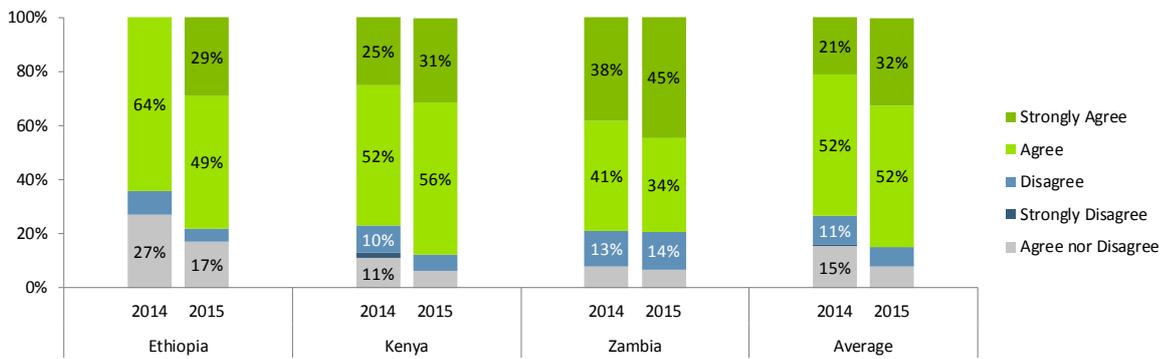


Chart 9: The Camara training has helped me to alter the way I approach teaching

As can be seen from the charts, teachers overwhelmingly either agreed or strongly agreed on the positive impact of training on their teaching process. An observable trend here is that the percentage of dissatisfied teachers shows a decrease in Ethiopia, Kenya and Tanzania while there is a general increase in Zambia. All in all, there is an improvement in the overall satisfaction level score from last year. This reflects a high level of satisfaction and is encouraging for Camara.

The ICT equipment and software related statements are as follows:

- The Camara provided software supports my curriculum
- Using the ICT equipment and software makes my job easier as a teacher
- Using the ICT equipment and software has had a positive effect on the enthusiasm and motivation of the students
- Using the ICT equipment and software has had a positive overall effect on the students curriculum attainment.

The results from these statements are presented in Charts 10-13:

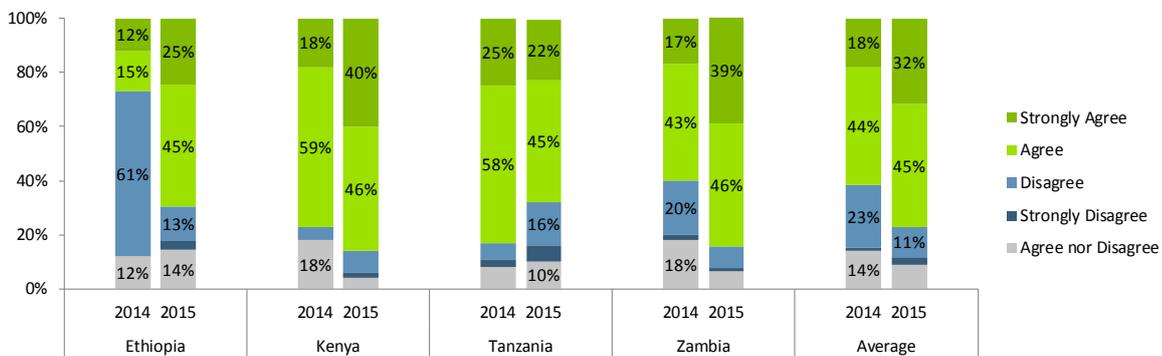


Chart 10: The Camara provided software supports my curriculum

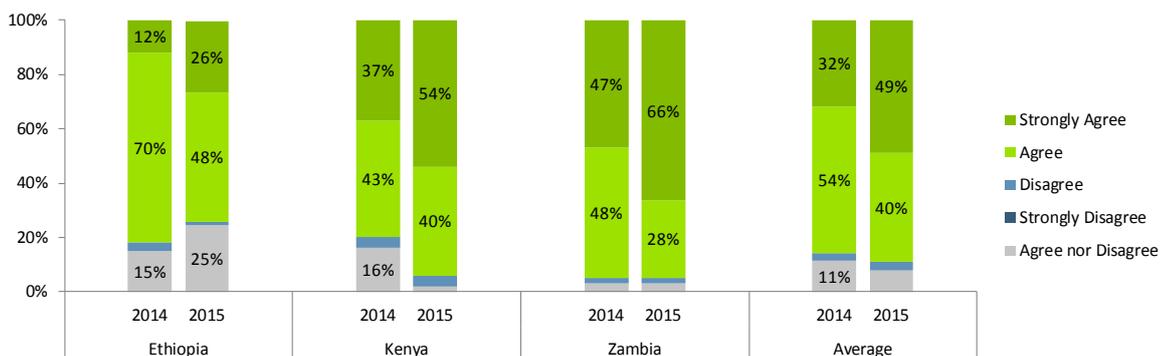


Chart 11: Using the ICT equipment and software makes my job easier as a teacher

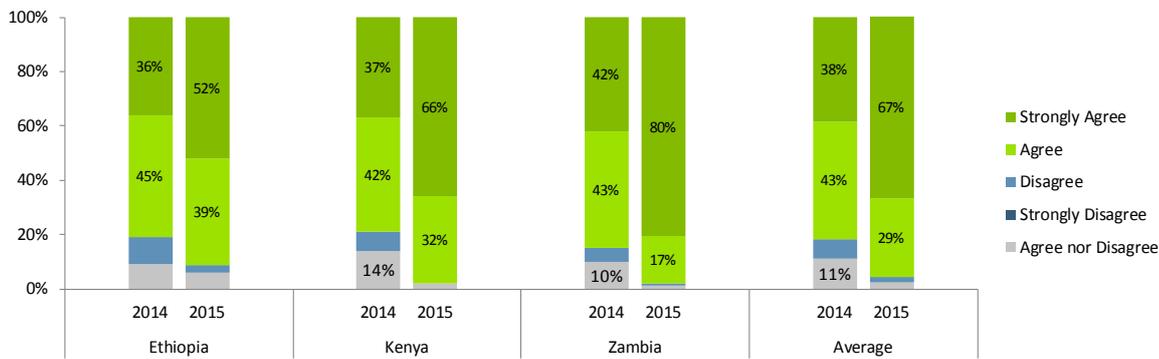


Chart 12: Using the ICT equipment and software has had a positive effect on the enthusiasm and motivation of students

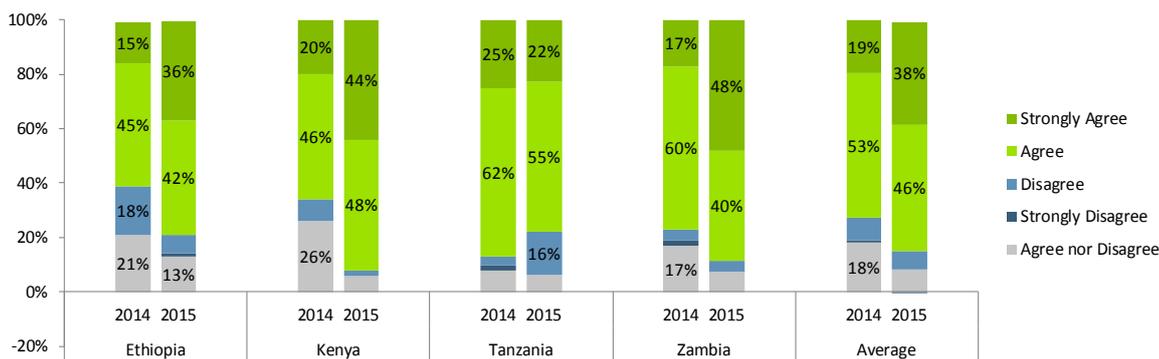


Chart 13: Using the ICT equipment and software has had a positive effect on students' curriculum attainment

Of all the above four statements, the positive effect of ICT equipment on the enthusiasm and motivation of students scored the highest satisfied percentage of teachers and also shows an increase from last year. Another encouraging improvement from last year is that more teachers agree that the Camara provided software supports their curriculum. An interesting trend here is that the overall satisfaction level of teachers increased from last year in Zambia. Overall, there is a positive trend across the four countries and the satisfaction levels on the positive effects of Camara provided ICT equipment and software increased from the previous year.

## STUDENTS

Students were presented with four statements with formulated options that correspond to the standard Likert scale of strongly agree to strongly disagree. The statements are as follows:

- Using a computer in school makes learning more enjoyable.
- Using a computer makes learning easier.
- The software programs make learning Maths easier.
- The software programs make learning English easier.

The results from these statements are as follows:

**92% of schools reported  
having a positive experience with Camara.**

The results from these statements are illustrated in Charts 14-17:

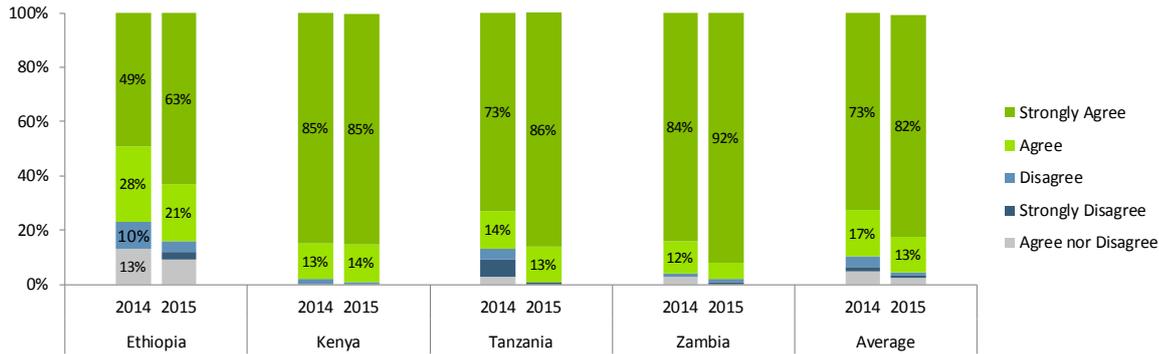


Chart 14: Using a computer in school makes learning more enjoyable

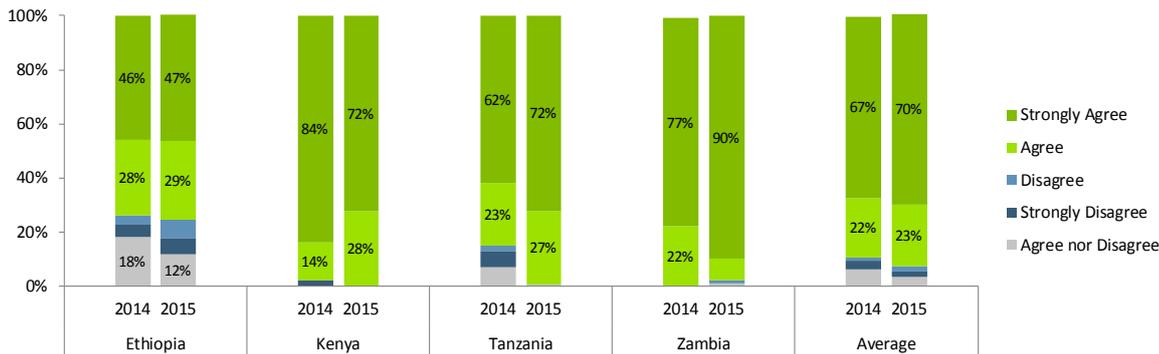


Chart 15: Using a computer makes learning easier

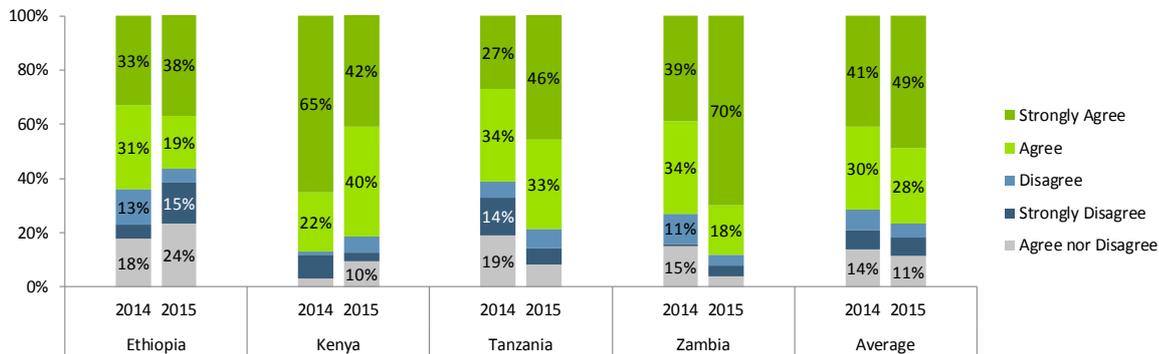


Chart 16: The software programs make learning Maths easier

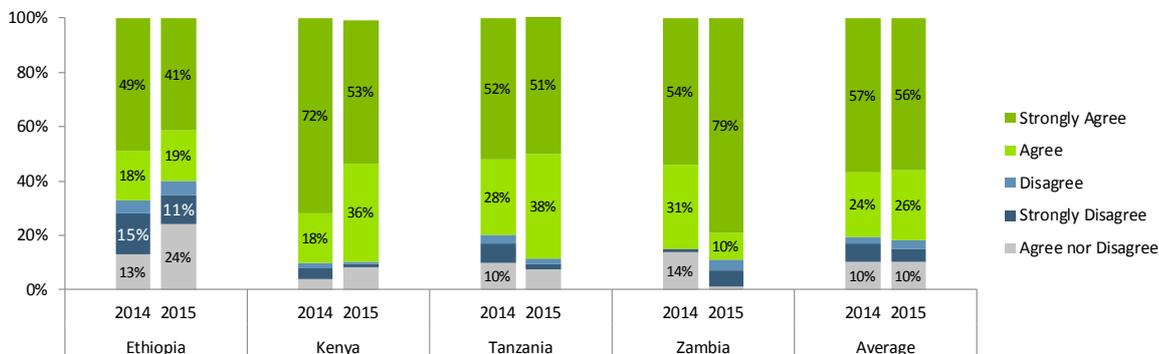


Chart 17: The software programs make learning English easier

Understandably, 95% of students agree or strongly agree that computers make learning enjoyable. Out of the four statements, 'The software programs make learning Maths easier' scored the lowest with 77% of the students agreeing with the statement but still shows an increase from last year. In general, again there is a positive trend across the surveyed countries and percentage of students who are satisfied with Camara provided ICT equipment and software increased from 2014.

# Access, Usage and Integration

This section is divided into three areas covering access, usage, and integration. The data is collected from school management representatives, teachers and students on the levels of access, usage and integration of ICT equipment and service that Camara provided for the schools.

## ACCESS

Camara defines access as the quality of means available to beneficiaries and agencies to utilize ICT resources. In addition to whether or not beneficiaries have physical access to ICT equipment, Camara is also interested in the nature of the institutional and personal channels that beneficiaries can utilize to access the ICT equipment. In order to capture all forms of access, questions related to formal and informal access of ICT equipment are asked. School management representatives are asked whether they have a timetable for the eLearning centre, and all levels of beneficiaries are asked if the eLearning centre is open for informal access. Each interviewee was also asked to provide details of time spent in the eLearning centre each week. Note that the figures in this section only represent reported ICT equipment access in minutes per week and do not represent the length of actual usage of ICT equipment by beneficiaries.

School management representatives play a vital role in facilitating ICT equipment access for students and with this in mind, they were asked which school years are timetabled to have access to the eLearning centre. The naming of school years differs from country to country and from school level to school level, so the question was formulated to be appropriate. The result is shown in Table 1.

Country	Average	Standard Deviation
Ethiopia	71%	23%
Kenya	80%	25%
Tanzania	43%	22%
Zambia	41%	27%
All countries	59%	24%

Table 1: Breakdown of % of school years timetabled to have eLearning centre access

The table shows that Kenya has the highest percentage of school years timetabled to have access to eLearning centres while Zambia has the lowest. Ethiopian and Kenyan schools timetable more than 70% of their school years for eLearning centre access and also registered the two highest increases from 2014. Zambia is the only country that showed a decrease in the percentage of school years timetabled to have eLearning centre access from 2014. The percentage for all the countries increased from 42% in 2014 to 59% in 2015.

## FORMAL ACCESS

Formal access refers to access of ICT equipment by beneficiaries during scheduled times. Information regarding the level of access and usage of the eLearning centres by students was obtained from school management, teachers and students. Additional data on number of classes timetabled in the eLearning centre per week was obtained from school management representatives. Teachers provided information on the number of times per week they teach a class using the eLearning centre and students were asked questions on how many times per week they have classes in the eLearning centre. All the interviewees also provided information on how long the access lasts in minutes. The table below shows the breakdown of reported formal access time by school management representatives, teachers, and students.

Country	School Management		Teachers		Students	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Ethiopia	317	256	337	490	66	48
Kenya	90	35	218	280	96	49
Tanzania	98	36	110	165	88	53
Zambia	167	102	241	246	117	60
All Countries	168	160	227	322	92	52

Table 2: Reported average length of access in minutes per week

As can be seen from the table above, generally, students reported a lower access time compared to school management representatives and teachers. The results also show that there is a high degree of variation of reported access time between countries and within countries across the three respondent types. This is reflected by the high standard deviation value across all countries implying that the length of reported access length varies greatly from school to school. The standard deviation values are especially high for teachers, which shows that there is a high variation in reported time of ICT equipment access amongst teachers within the four countries. Ethiopian school management and teachers reported the highest access figures, which may be related to the relatively high number of compulsory ICT classes scheduled in Ethiopian schools.

The response given by students about the length of access they have varies significantly across the four countries. The following chart shows the distribution of reported access time by students.

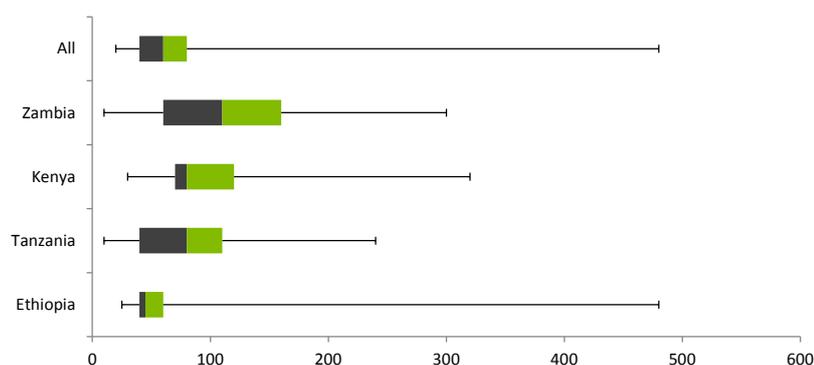


Chart 1:

Distribution of reported formal access time by students

The chart shows that there is a high level of variation of access time reported by students in Ethiopia. This can be explained by the fact that ICT classes are mandatory in secondary schools in Ethiopia which means that reported access figures from secondary schools are much higher than figures reported from primary schools.

In order to see the changes in reported formal access time by the three groups of respondents, the results for 2015 are compared with 2014 and the findings are presented below

	School Management	Teachers	Students	Overall change from 2014
	Change from 2014	Change from 2014	Change from 2014	
Ethiopia	73	57	1	44
Kenya	-34	92	17	25
Tanzania	n/a	-22	-34	-28
Zambia	-1	93	0	31
All Countries	-11	55	-4	14

Table 3: Breakdown of the change in reported formal access time per respondent and per country (in minutes)

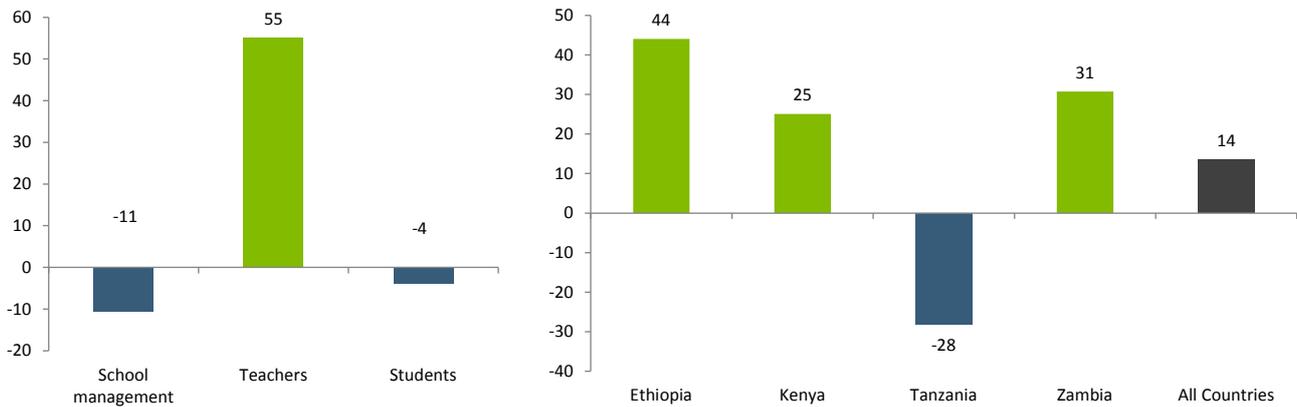


Chart 2: Change in reported formal access time per respondent and per country 2014-2015 (in minutes)

Generally, there is a large difference between 2014 and 2015 in reported access time by school management and teachers. Of all the four surveyed countries, only Tanzanian students and teachers reported a decrease in access time from 2014. This also leads to a decrease in the overall length of formal access reported by students across the four countries. As students are the main intended target in terms of impact, further studies are needed to understand the reason for the major decrease in reported access time in Tanzania overall. A deeper look into a possible correlation between access time and other factors like shortage of computers or maintenance issues in Tanzania did not show a clear cause and effect connection.

### CHARACTERISTICS AND FORMAL ACCESS

In order to see the impact of different school and student characteristics on access time, we compared some student and school characteristics with reported formal access figures. One of the characteristics considered for this purpose is gender of students as it is an important factor to consider in terms of student ICT equipment access time. Chart 3 shows student access time based on gender.

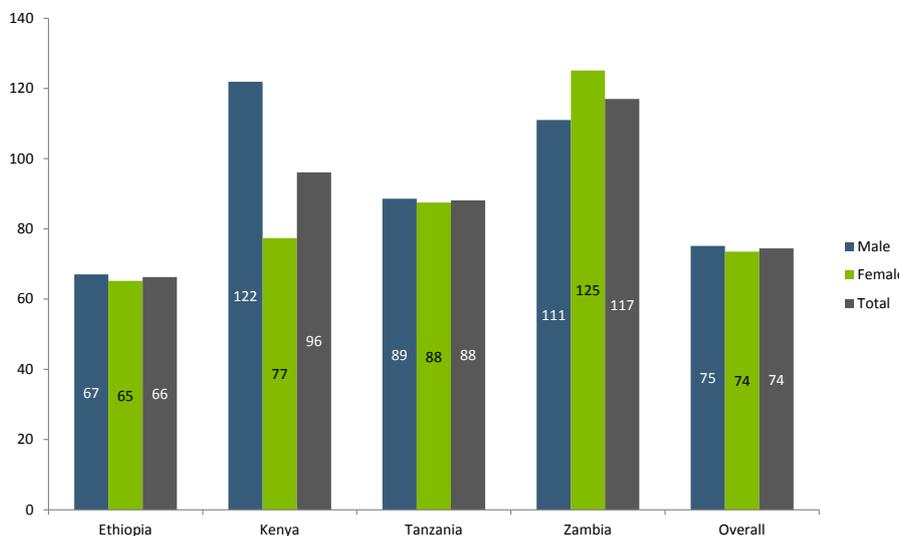


Chart 3: Breakdown of formal access by gender

Generally, the average access time of ICT equipment figures reported by students is uniform across the two genders and the surveyed countries. But in Kenya, male students reported to have accessed eLearning centres longer than female students.

Location of schools is the other important factor to consider as it can impact the level of access of ICT equipment by students. A breakdown of reported access time per location of schools is presented below.

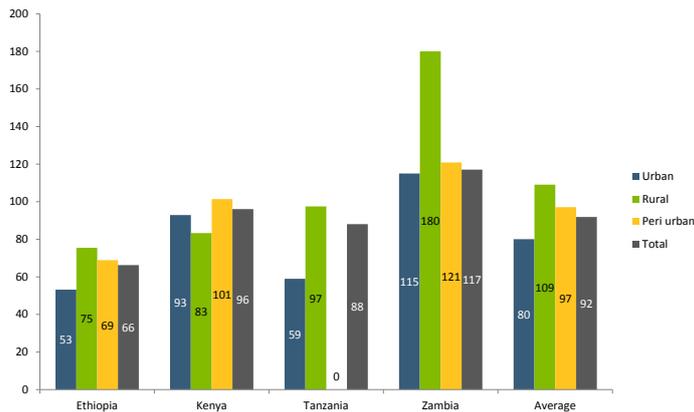


Chart 4:  
Breakdown of formal access by location of schools

As the chart above shows, students in rural schools reported a longer access time of ICT equipment compared to urban and peri-urban schools in general. This may be related to the fact that rural schools generally have fewer students enrolled compared to schools located in urban or semi urban areas. The only exception is Kenya, where students from urban schools reported 93 minutes of access per week compared to 83 from rural schools.

### INFORMAL ACCESS

Informal access refers to the access of eLearning centres by students outside the normal timetabled periods. This is an important factor to consider as students can improve their literacy and numeracy levels by using ICT equipment in their own time. School management representatives were asked whether students have access to the eLearning centre outside of class time and the results are presented below.

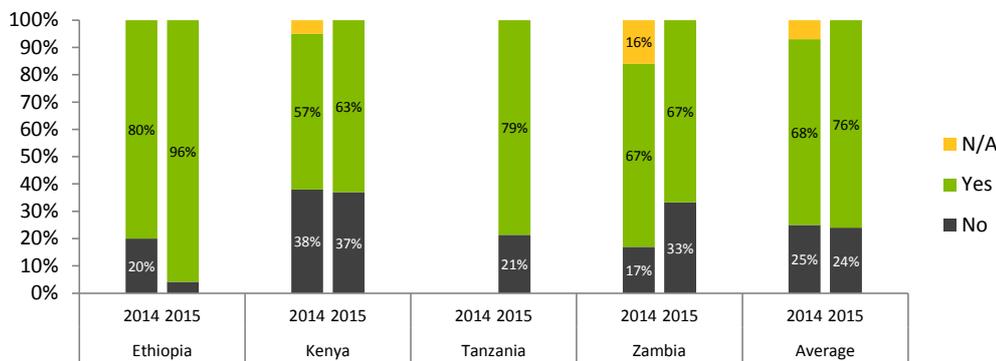


Chart 5: Are the Camara computers available for informal learning outside of class time?

As can be seen from the chart, 76% of the schools surveyed made the eLearning centres available for informal access. This is an 8% increase from last year which is very encouraging as it shows the recognition of importance of independent learning by students. All the countries surveyed showed an increase from the previous year, with Ethiopia scoring the biggest change.

**75% of teachers who received Camara training use ICT to help them teach.**

In order to validate the results from school management representatives, the availability of eLearning centres for informal access was asked for teachers and students also. Teachers were asked if students have access to the eLearning centre for informal learning and students were asked if the computer lab is open to use outside timetabled classes. The results are shown in the below charts.

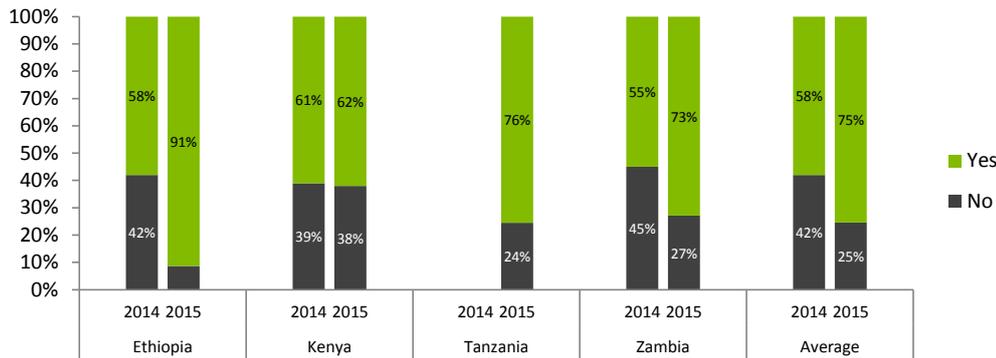


Chart 6: Do students have access to the eLearning centre/ICT equipment for informal learning?

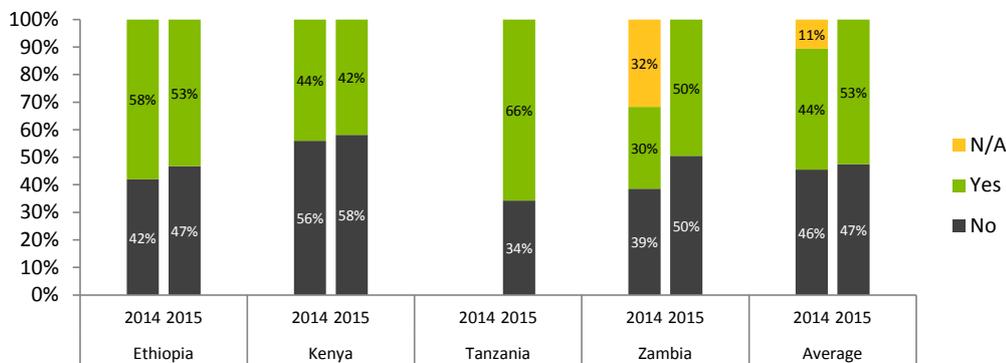


Chart 7: Is the computer lab open to use when you don't have class?

The results show that there is very little variation between the response given by school management representatives and teachers. On the other hand, the response from students is different from the other two responses. The lowest response was from Kenyan students, whereby only 42% of them reported that the eLearning centres are available for informal access even though 63% of school management and 62% of teachers gave a positive response. The overall figure shows that 76% of school management and 75% of teachers reported availability of ICT equipment for informal access while it is only 53% of the surveyed students that reported the same. This indicates that informal access is not uniformly available across the student population or that not all students avail of it.

#### Informal Access and Usage Times

Students were asked how often they use the lab per week when they do not have class and for how long this usage usually lasts. The result shows that Zambian students reported to have accessed the eLearning centre for an average of 105 minutes per week outside timetabled classes which is the highest of all the surveyed countries. At the same time, the high standard deviation for Zambia shows that the informal access of ICT equipment is not equal across different schools in Zambia. The breakdown is presented in the table below.

Country	Average	SD
Ethiopia	98	65
Tanzania	67	42
Kenya	63	58
Zambia	105	90
All	94	65

Table 4: Breakdown of reported levels of informal access by students

## Access to equipment

Students were asked to give their perception on the level of access they have to the ICT equipment. The questions focus on whether access to computers is limited because they are often not working or whether it is because there are not enough computers. The results are presented below.

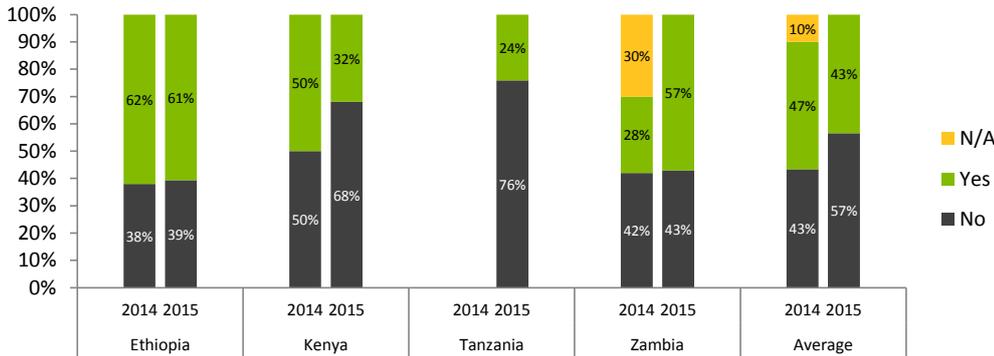


Chart 8: Do you feel that access to the computer is limited because they are often not working?

The chart shows that 43% of the students believe that access to computers is limited because they often are not working. Compared to last year, this figure increased by 5% which shows that quality of computers is still an issue for some schools.

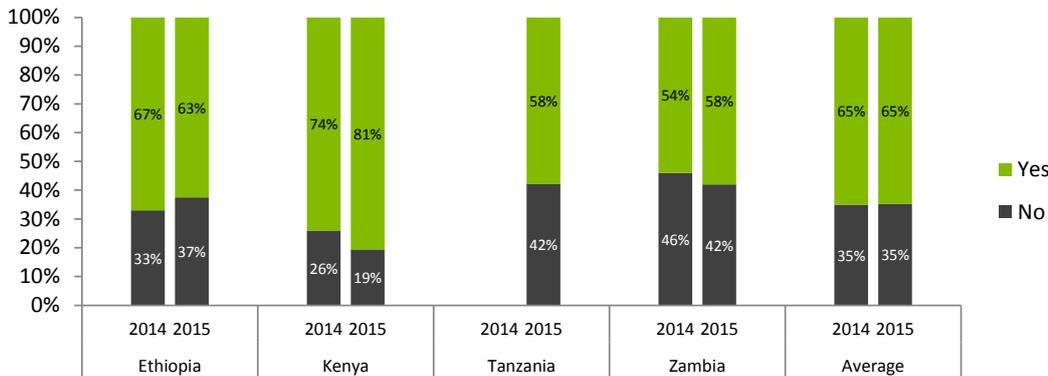


Chart 9: Do you feel that access to computers is limited because there are not enough of them?

Overall, 65% of the students surveyed believe that access to computers is limited as a result of shortage of computers. This figure showed a decrease of only 2% from last year. At a country level, the biggest change was observed in Kenya where by it increased from 74% in 2014, to 81% in 2015. Issues related to schools' ability to afford additional computers are commonly cited as reasons for the lack of enough computers in school.

## Equipment Attrition Rate

The rate of attrition of the Camara computers is an important aspect to consider for levels of access. As computers break and become unavailable, they limit the amount of access and usage by students. The table below shows the average number of computers received per school and the number of computers that are now not working. For comparison purposes, figures from 2013 and 2014 are utilised.

Country	2013			2014		
	PC received	PC broken	%	PC received	PC broken	%
Ethiopia	24	6	25%	23	3	13%
Kenya	15	7	47%	14	6	43%
Tanzania	25	1	4%	25	2	8%
Zambia	25	8	32%	25	8	32%
Average	22	6	25%	22	5	22%

Table 5: Comparison of computer attrition rate

The table shows that the overall attrition rate has decreased from 25% in 2013 to 22% in 2014. For the second year in a row, the highest attrition rate is reported from Kenya even though there is a decrease of 4% from last year.

## USAGE

The level of usage is an important factor in understanding and estimating the impact of Camara provided ICT services and equipment. In order to have an insight into the levels of usage in schools, school management representatives, teachers, and students were asked questions related to different aspects of usage.

### Teacher usage

Teachers were asked if they ever brought their class to the eLearning Centre to teach and the result is shown below.

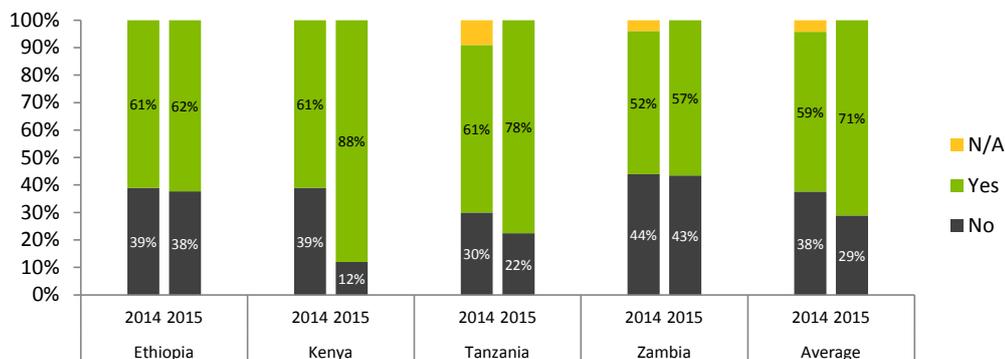


Chart 10: Do you sometimes bring your class to the computer lab to teach?

The result shows that overall; teachers are more than three times as likely to bring their class to the computer lab to teach. Compared to 2014, all the countries show progress and the total average across all countries increased from 61% to 71%. There are several factors that can influence the likelihood of teachers to utilise computer labs to teach. The tables below show the correlation between a teacher's qualification and the likelihood of computer lab utilisation.

Highest Educational qualification	I use ICT for teaching	Minutes/week	N
Certificate	70%	226	20
Advanced Certificate	80%	283	5
Diploma	68%	172	117
Advanced Diploma	78%	624	9
Bachelors Degree	70%	273	91
Masters Degree	56%	67	9
Postgraduate Diploma	100%	70	1
Other	38%	70	8

Table 6: Correlation between Teacher's qualification and likelihood of computer lab utilisation

Teachers age group	I use ICT for teaching	N
25 or below	7%	27
26 to 35	43%	155
36 to 45	16%	64
46 and over	3%	14

Table 7: Correlation between teacher's age group and likelihood of computer lab utilisation

The result above show that 78% of the teachers with Advanced Diploma qualification use ICT for teaching for an average of 624 minutes or more than 10 hours per week. This figure is high compared to other teachers as a result of the high proportion of ICT teachers with Advanced Diplomas. The qualification level of teachers does not seem to have a strong correlation with the likelihood of computer lab utilisation as those teachers with a Certificate qualification are as likely as those with Bachelor's qualification to use ICT to teach. When it comes to age range of teachers, high percentage of teachers in the age group of 26 to 35 reported using ICT to help them teach compared to teachers in the other age groups. Teachers aged 46 and above are least likely to utilise ICT for teaching and this is the case across all countries. This indicates that there is some degree of correlation between age of teachers and the likelihood of teachers using ICT for teaching. This is a different scenario compared to last year whereby the correlation between the two variables was very weak.

In order to have some level of understanding on the impact of Camara training on the likelihood of computer lab utilisation by teachers, the correlation between the two is examined in Table 8.

Did you attend Camara training?		Do you sometimes bring your class to the computer lab to teach?					
		Yes		No		Total	
		%	N	%	N	%	N
Yes		75%	109	25%	36	100%	145
No		59%	68	41%	47	100%	115
Total		134%	177	66%	83	100%	260

Table 8: Correlation of Camara training attendance and the use of ICT for teaching

The table shows that 75% of the teachers who received Camara training now use ICT to help them teach. This figure shows an improvement of 9% from last year showing the growing impact of Camara’s training on the utilisation and integration of ICT into the teaching process.

### Teacher usage before Camara

Only teachers who reported using ICT to help them teach now were asked if they used ICT in teaching before they received Camara training and equipment. This will shed light on how Camara’s services and equipment impacted the level of ICT usage in teaching practices. In order to understand whether it is the ICT equipment or the training that has the most influence on teachers decision to use ICT in teaching, two separate questions were asked. The results are shown in the charts below.

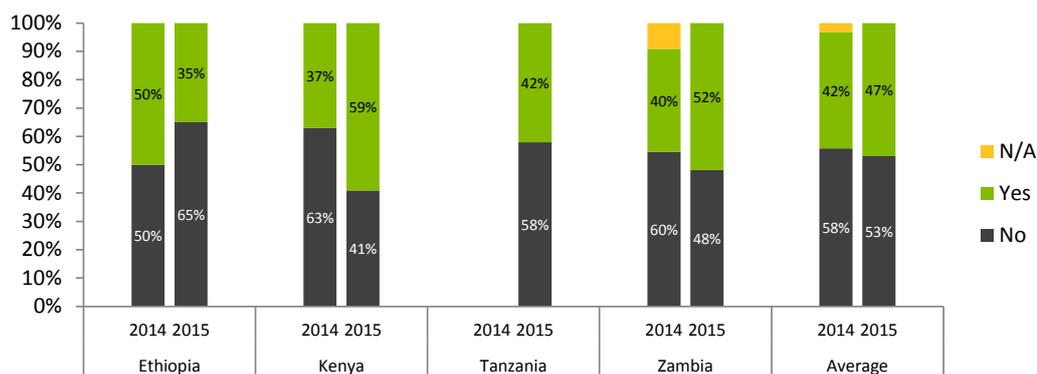


Chart 11: Did you use ICT to help you teach before you received Camara training?

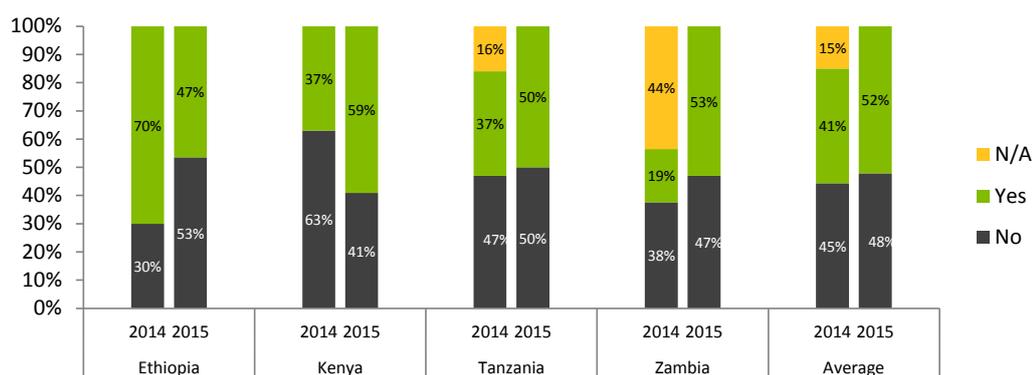


Chart 12: Did you use ICT to help you teach before you received Camara ICT equipment?

The results show across all countries, 53% of teachers stated that they did not use ICT before they received training while 48% stated they didn’t use ICT to help them teach before receiving Camara ICT equipment. This shows that the Camara training and equipment has had a great impact on the decision by teachers to utilise ICT in the teaching and learning process.

## Student usage

The quality of access and usage of ICT equipment by students can be affected by the number of computers shared by students during access and usage time. Table 9 shows teacher reported levels of sharing.

Country	2015			2014		
	Average	Standard Deviation	N	Average	Standard Deviation	N
Ethiopia	3	1	69	3	3	22
Kenya	3	1	50	4	3	61
Tanzania	3	2	49	2	1	38
Zambia	2	1	92	2	1	41
Total	3	1	260	3	2	162

Table 9: Breakdown of student computer share reported by teachers

The result shows that on average, 3 students share a computer in Ethiopia, Kenya and Tanzania. Compared to 2014, the average number of students that share a computer decreased in Kenya while this number increased in Tanzania. The relatively low standard deviation in Ethiopia, Kenya and Zambia indicates that the level of variation across schools is very low. All in all, the average number of students that share a computer across the four countries has not changed from last year. Students were asked the same question in order to validate the response obtained from teachers. The result from last year is also presented in order to allow comparison with the 2015 result.

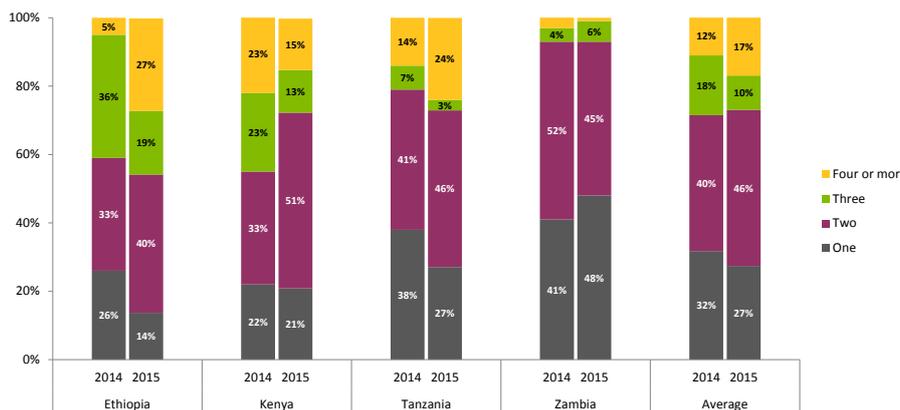


Chart 13:

On average, how many students share the same computer?

The results show that the number of students who reported to have shared a computer with just one or two other students declined from last year. In contrast, the number of students who reported to have shared a computer with four or more students generally increased from 2014. This contradicts with what was observed last year in which a trend in improvement from 2013 was the case.

## Trained teacher retention rate

As shown previously, trained teachers are more likely to use ICT in their teaching practices. As a result, it is important for schools to hold onto their Camara trained teachers in order to ensure a higher level of ICT usage. The table below shows the average retention rates of trained teachers in schools. The figures from 2013 are included for comparison.

Country	2014				2013		
	Teachers trained	Teachers retained		Teachers trained	Teachers retained		
		N	%		N	%	
Ethiopia	13.17	11.1	84%	5	2.6	52%	
Tanzania	7.65	5.6	74%	8	6.7	84%	
Kenya	7.08	5.8	82%	10.3	10.3	70%	
Zambia	4.5	4.0	89%	7	4.9	69%	
Total	9.298	7.5	80%	7.575	6.1	69%	

Table 10: Comparison of retention rate of trained teachers

As can be seen, the trained teacher’s retention rate for Ethiopia and Kenya increased from the previous year. In Tanzania, the retention rate decreased from 84% to 74%. Overall, the retention rate has increased by 11% from 2013.

### Software usage

Camara’s PCs are delivered to schools pre-loaded with a range of educational content aimed at supporting the curriculum taught in the schools. In order to know the extent to which teachers use the software, they were asked if they used the educational content on the Camara computers. Chart 14 displays the results.

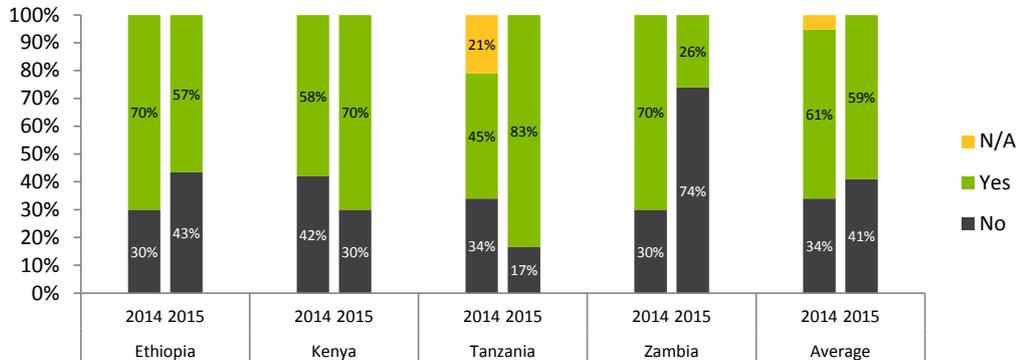


Chart 14: Have you used the educational software on the Camara PCs?

The results show that there is a high degree of the educational content usage in Tanzania and Kenya while in Zambia, only a quarter of the teachers used the educational software. In general, close to 60% of the teachers surveyed reported using the educational content on Camara computers. Compared to results from 2014, the figures for Ethiopia decreased from 70% to 57% and for Zambia from 70% to 26%. Despite these decreases, the overall usage for 2015 showed 1% improvement from 2014. However, the figures from 2014 include Lesotho with a reported usage figure of 70% while the 2015 figures do not.

### INTEGRATION

Camara considers integration as a deeper measure of ICT utilisation in the teaching and learning process in schools. In order to understand the impact Camara provided services and equipment are making, it is imperative to see beyond the reported access and usage of ICT equipment in schools. Teachers were asked different questions on the type and level of integration of ICT in the classes they teach. The questions ranged in levels of depth of integration into teaching and learning. They also included aspects of student use of ICT in the classroom, ranging from passive to active use. The options asked of teachers are as follows:

- To help deliver or demonstrate lessons
- To deliver presentations to the students, e.g. using PowerPoint
- To teach basic computer skills
- For students to research issues/areas
- For students to solve problems, e.g. Maths problems
- For students to develop their own digital content, e.g. researched essays or presentations

The results for all the questions are presented for each country in Charts 15-20.

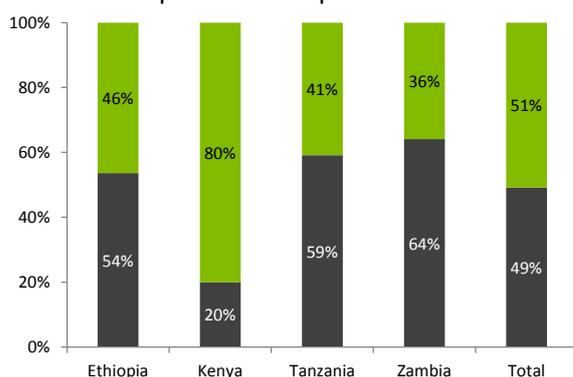


Chart 15:

Do you use the ICT equipment to teach basic computer skills?

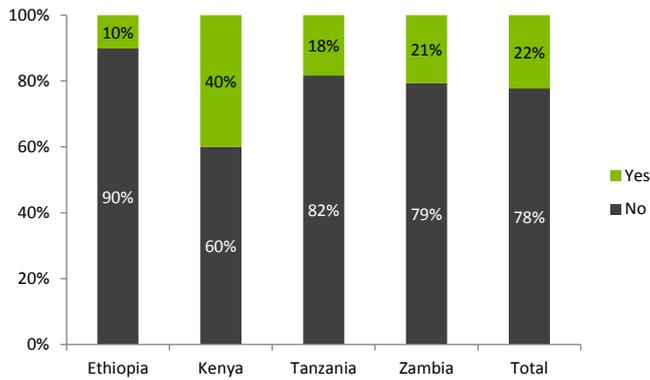


Chart 16:

Do you use the ICT resources to deliver presentations to students?

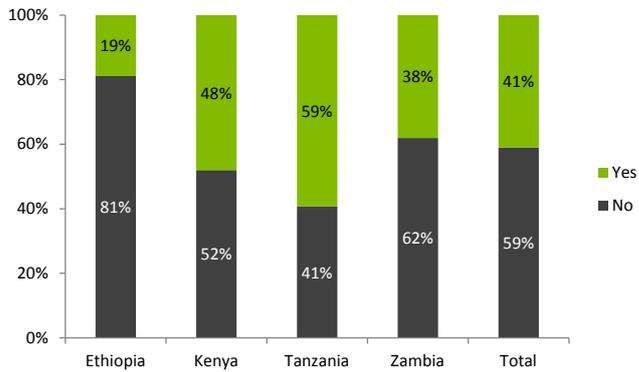


Chart 17:

Do you use the ICT equipment to help demonstrate lessons?

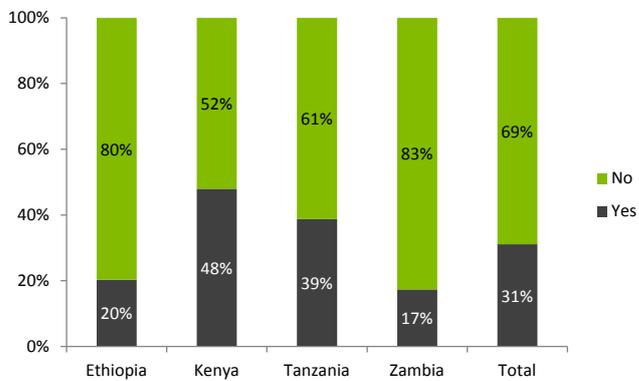


Chart 18:

Do you have students use the ICT equipment to research issues/ areas?

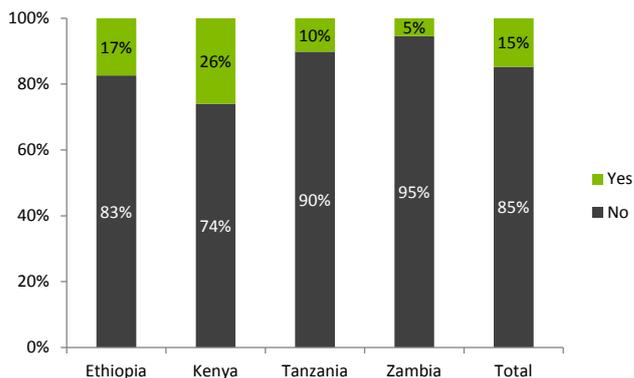


Chart 19:

Do you have students use the ICT equipment to solve problems?

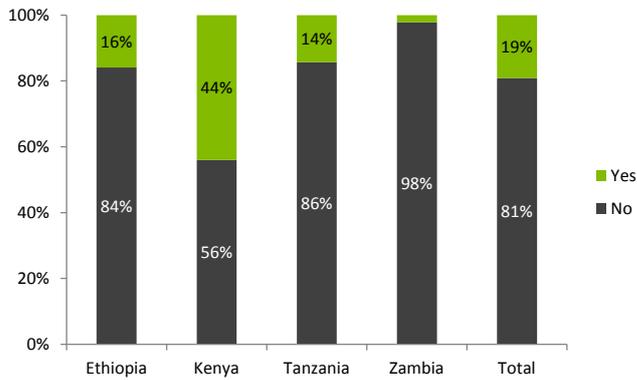


Chart 20:

Do you have students use the ICT equipment to develop their own digital content?

In Table 11, the response from the four surveyed countries in 2015 is aggregated and presented along with the 2014 result for comparison.

ICT integration questions	2015	2014
To teach basic computer skills	51%	N/A
To help demonstrate lessons	41%	46%
For students to research issues/areas, e.g. Their country's history	31%	47%
To deliver presentations to the students, e.g. using PowerPoint	22%	24%
For students to develop their own digital content, e.g. researched essays or presentations	19%	28%
For students to solve problems, e.g. Maths problems	15%	35%

Table 11: Average percentage of teachers across all integration questions

The result shows that half of the interviewed teachers use ICT equipment to teach basic computer skills and only 15% of students use it to solve problems related with their lessons. The noticeable trend here is that there is a decrease in the level of integration compared to 2014. All the integration questions scored lower than the previous year. But it is highly likely that this decrease is related to the fact that the high integration figures from Ireland and Lesotho skewed the figures for 2014.

### ICT integration challenges

Teachers were also asked an open question on what challenges they encountered in their effort to integrate ICT to their classroom. A wide range of responses were obtained across the surveyed countries. The responses are aggregated and the most common challenges are presented in Charts 21-25.

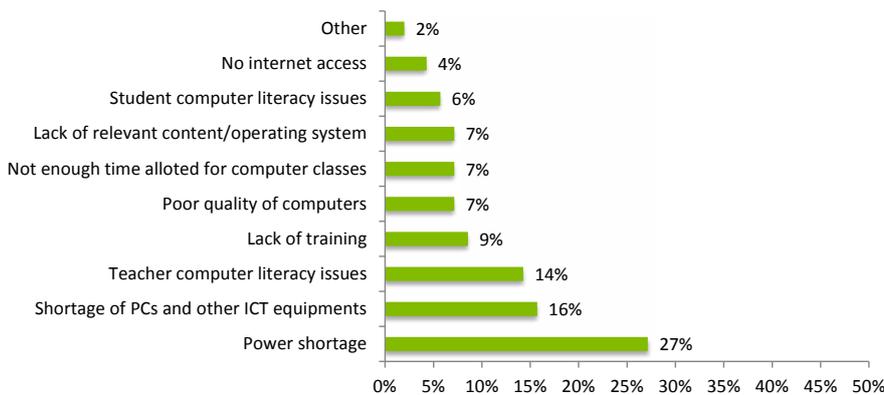


Chart 21:

Challenges for integrating ICT into classroom in Ethiopia

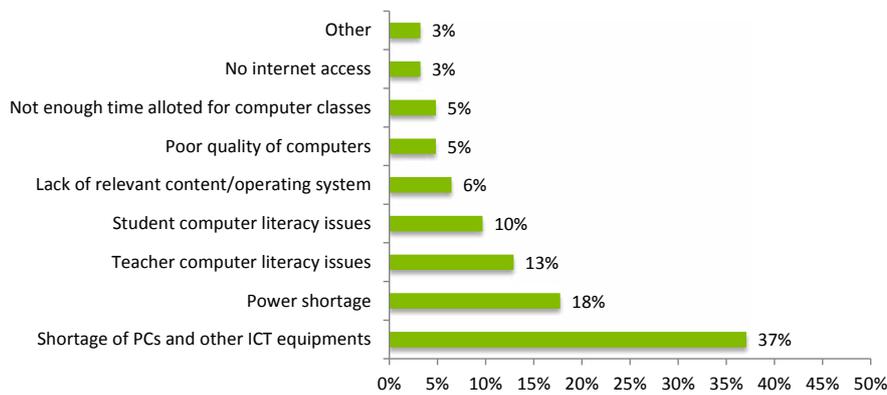


Chart 22:  
Challenges for integrating ICT into classroom in Tanzania

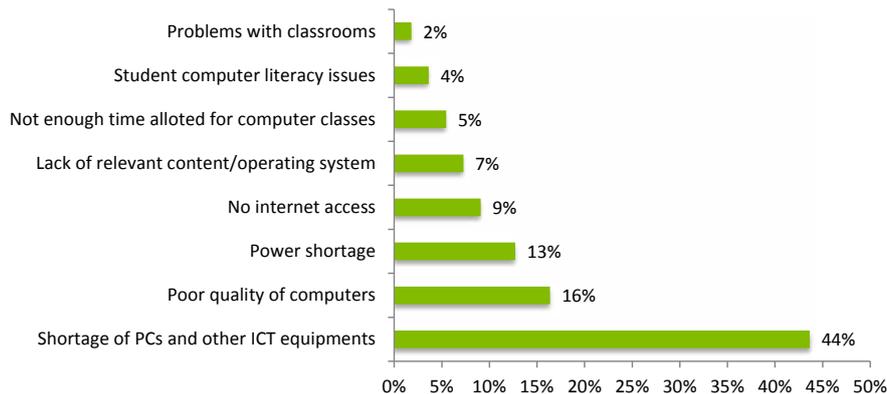


Chart 23:  
Challenges for integrating ICT into classroom in Kenya

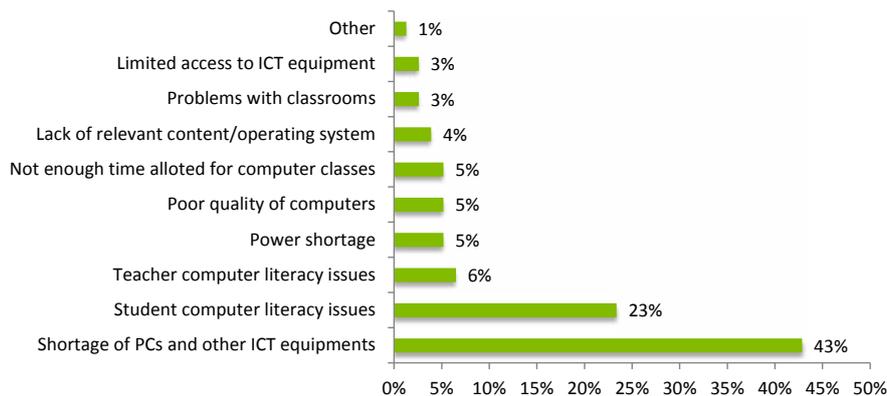


Chart 24:  
Challenges for integrating ICT into classroom in Zambia

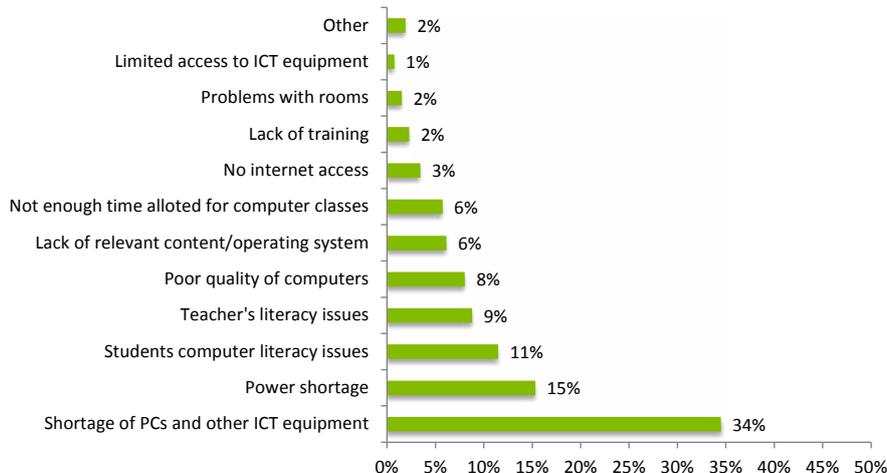


Chart 25:  
Challenges for integrating ICT into classroom in all countries

The charts above show that the main challenge for integrating ICT into classrooms by far is shortage of PCs and other ICT equipment. This shows that there is still a huge demand for ICT equipment in the schools of surveyed countries. Shortage of power supply and students' computer literacy issues complete the top three challenges. Teacher's computer literacy issue is also in the top three challenges for Ethiopia, Tanzania and Zambia which again shows there is a need for more training in the schools surveyed.

# Camara Ireland Report

This section presents a separate report on the outcomes of Camara Ireland's activities in 2015. These activities are related to two projects that Camara Ireland undertake: the Camara Ireland Schools Programme and the TechSpace Programme. Below, feedback from the training offered under these projects is presented. This report is a departure from the manner in which results from Camara Ireland's projects previously have been presented in Camara's annual reports. Prior to this annual report, results from Camara Ireland were reported in conjunction with the results from the other education hubs. However, data from Irish schools were always incomplete and unrepresentative, due to the relative difficulty in performing data collection in Irish schools. Using such data does not provide a complete or accurate description of the outcomes or impact of Camara Ireland's work and, therefore, is not properly comparable to the data collected in other education hubs. As a result, for this year's annual report, a different approach was taken. The results from Camara Ireland's Schools Programme training is presented before the results from the Maker Project training.

## CAMARA IRELAND SCHOOLS PROGRAMME

In 2015, Camara Ireland offered a suite of stand alone training courses for schools. In addition to this work commenced on developing a progressive framework to offer schools. The key component of these offerings is educator training courses, which also includes meeting schools' hardware requirements. The training courses include:

- Using Freeware in your Classroom
- ICT Level 1 & Level 2
- Custom Courses: Design Thinking & Basic Internet Refresher Course
- Digital Storytelling
- Google Apps for Education - Admin Training
- Google Apps for Education - Educators and Staff Training
- Leading Technology Integration in Your School
- Introduction to Scratch

As a part of conducting training, evaluations are conducted with all participants to help with quality assurance and continuous improvement. Throughout 2015, the feedback from attendees of Camara Ireland's school-based training courses was well documented. Trainees were asked to provide feedback by responding to a range of 17 questions and statements. These included positive statements with an accompanying Likert scale (strongly agree to strongly disagree), questions that asked trainees to provide a rating on a 1-5 scale, a binary yes/no question, and open-ended questions. The overall results from the 70 school-based trainees in 2015 were aggregated according to common themes and are presented in charts 1 and 2.

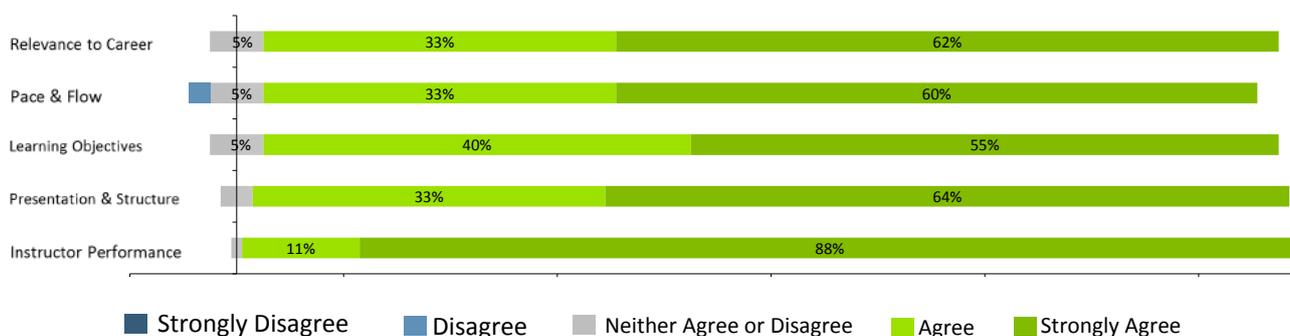


Chart 1: Likert scale responses to statements, organised by theme

Chart 1 shows the results from the first set of aggregated Likert scale responses. These statements are majorly concerned with training satisfaction. The results show that the respondents largely agreed with the spread of statements across all themes, with just the pace of training and amount of training time dropping below the other themes. Another important response came from the statement related to the relevance of the course to the trainee’s current work or career path. The 95% agreement rate to this question is especially encouraging for Camara Ireland as it indicates that its mission is relevant to educators.

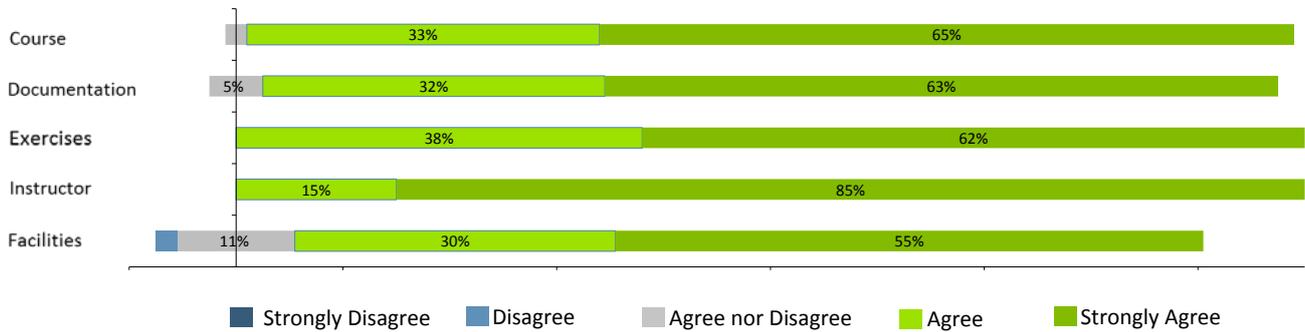


Chart 2: Rating responses organised by theme

Statements requesting respondents to rate specific elements of the course also followed a largely positive trend, as can be seen in Chart 2. Two anomalies came in the form of an overly positive rating for the instructors, a fact that is especially encouraging as most of the respondents are themselves instructors. There was a slightly lower rating for the facilities for the course, which is beyond the control of Camara Ireland as school or other organisational venues are used.

### QUALITATIVE FEEDBACK

The open-ended qualitative question sets encouraged the respondents to highlight their preferred elements of the course as well as suggest areas in which the course can be improved. In the case of the former, four major themes dominated these responses: the skill of the instructor, the practicality of the course, the content of the course and the clarity of presentation. Chart 3 illustrates these results.

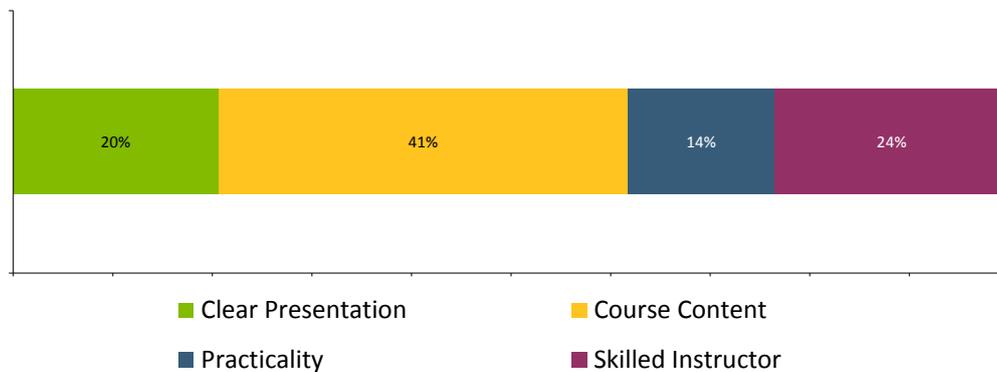


Chart 3: Question 6.2 What did you find especially good about this course?

In the suggested improvements section a wider variety of temporal themes were apparent, including the desire for a longer class, a slower paced class, and a class held earlier in the day. In terms of the course itself, a number of respondents stated that they’d like to see a course outline or copy of the material used in the class, as well as more technical info and clearer objectives. Other desires were for better hardware as it was felt that some of the equipment was not up to the task laid out by the class, and for a follow up session. Chart 4 on the following page illustrates these results.

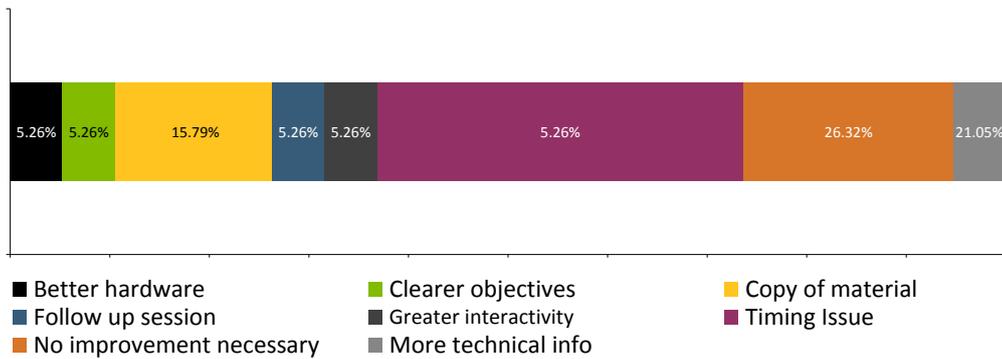


Chart 4: Question 6.3 How can the course be improved in the future?

Overall, the feedback for Camara Ireland’s 2015 school-based courses was overwhelmingly positive and a high standard of training was provided. The above feedback was used by the Education Team to make continuous improvements to the training.

### TECHSPACE PROGRAMME

TechSpace is a creative space within a youth service or project where young people are inspired to create, produce and have fun with digital technology. In 2015, a new component called ‘Maker Training’ was developed and introduced into the TechSpace programme. Through this component youth workers were trained in the ‘Maker’ process and advanced technical skills including electronics, circuitry, robotics and MaKey MaKey invention kits. Following training, these educators were equipped with the skills and confidence to pass on this new knowledge to young people who are engaged with their local youth service.

In order to monitor and evaluate the outcomes of this training, pre-test, post-test and post-facilitation questionnaires for educators and, subsequently, pre-test and post-test questionnaires for youth, were implemented. The results of these surveys are explored here.

#### Youth Survey

The youth questionnaire, which was filled out immediately before and following the course, included statements with standard Likert scale responses. The survey was completed by 84 respondents out of a total of 120. The results from both the pre- and post-course questionnaires are shown in the charts 5 to 8 below,. The statements are separated according to learning outcomes, with some designed to gauge growth in STEAM (Science, Technology, Engineering, Arts and Mathematics) and 21st century skills, the advancement of which are key to Camara Ireland’s mission. Note that responses which indicate more agreement are more positive for the training evaluation.

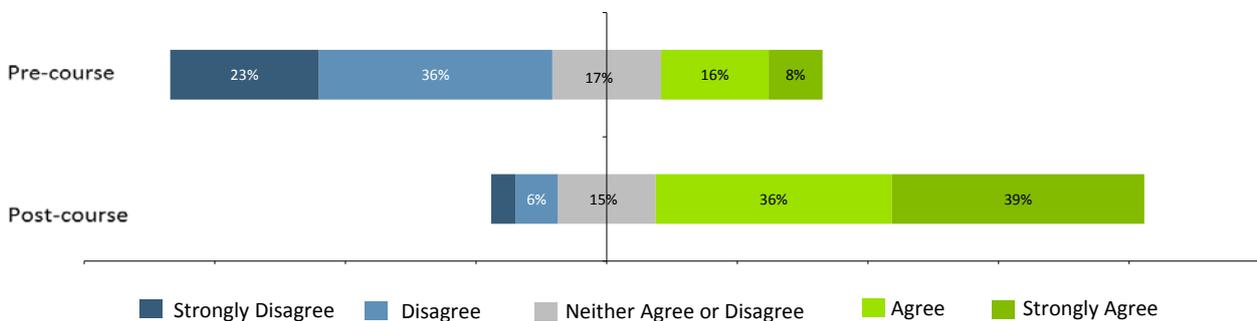


Chart 5: Youth Pre-course and post-course results for statements relating to the development of STEAM skills

At each stage, the training proved successful in meeting its targets. The young people, from the pre- to post-course phases, saw a drastic increase in their self reported abilities. The above chart demonstrates the success of the course in disseminating the knowledge of STEAM based skills, specifically relating to electricity, circuitry, soldering and the creation of simple musical instruments. The rate of young people who agreed or strongly agreed with the statements increased threefold from 24% to 75%, a spread of 51%.

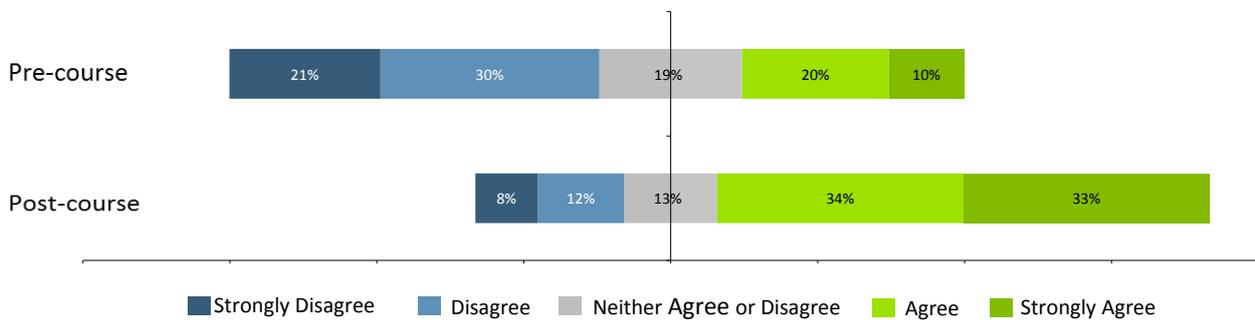


Chart 6 Youth Pre-course and post-course results for statements relating to the development of 21st Century skills

Similarly, chart 6 demonstrates the success of the course in disseminating the knowledge of 21st century skills (creativity, collaboration, communication and critical thinking), relating to brainstorming, innovating, designing and engaging with one’s community. In this case, the rate of youth people who agreed or strongly agreed with the statements increased threefold from 30% to 67%, a spread of 37%.

The spread of results across the questions varied, but in each case where there was a question with a lower spread from pre- to post-course, the initial result was much higher than for other questions. For instance, the increase of respondents who agreed (either strongly or otherwise) to question 4.2 (I am able to explore and research the needs of my community on my own or as part of a team) after the course was just 18.97%, less than half the overall average increase of 42.52%. However, when examined more closely, the proportion of young people who either strongly agreed or agreed with question 4.2 at the pre-course phase was 53.45%, the highest proportion of any of the questions. The reason for this can be attributed to the positive work of the youth sector in Ireland to support young people to be active citizens in their communities through participation in after-school activities. This is illustrated by chart 7.

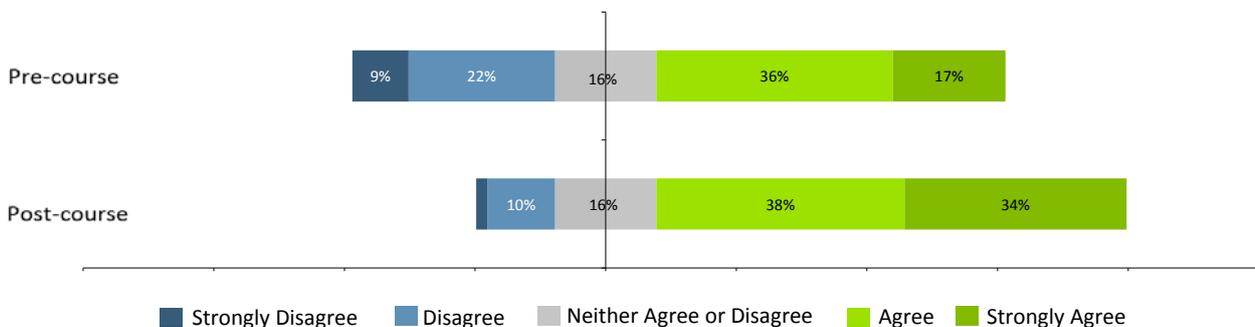


Chart 7: Question 4.2 I am able to explore and research the needs of my community on my own or as part of a team.

Additionally, while there were some results with a satisfying increase following training, there were other questions for which less than 50% of respondents replied either ‘strongly agree’ or ‘agree’. This specifically refers to questions 2.4 and 3.1, which asked “I am able to troubleshoot the applications connected to the MaKey MaKey if they do not work to try find a solution” and “I am able to explain what a design brief is” respectively. These results were subsequently noted and will be addressed in future Maker training.

On average, however, responses across all question sets showed noticeable improvement. Chart 8 details the extent of learners who answered either agree or strongly agree for each question.

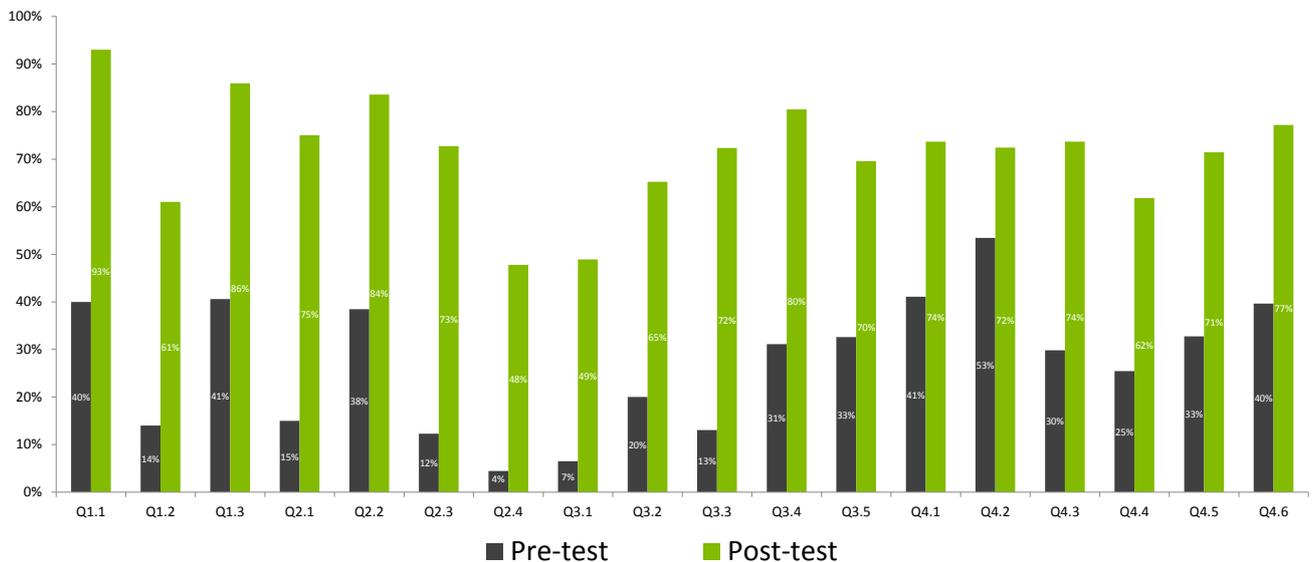


Chart 8: Percent of strongly agree and agree responses out of total youth responses

The overall increase across all young people and all questions demonstrates a clear improvement. Each of the negative and neutral responses decreased following the course while both positive responses increased, multiplying by a factor of nearly 2.5.

### EDUCATOR SURVEY

Much like the young people, the educators completed a questionnaire with a number of Likert scale statements. The educators filled out these questionnaires three times: prior to the training, immediately following it, and after the educators facilitated a 'Maker' workshop with young people. Out of the 21 who completed the training, a total of 9 educators completed all three questionnaires. As before, the results from both the pre-, post-course and post-facilitation questionnaires are shown in the charts below, separated according to learning outcomes related to STEAM (Science, Technology, Engineering, Arts and Mathematics) and 21st century skills. Charts 9 and 10 illustrate the results.

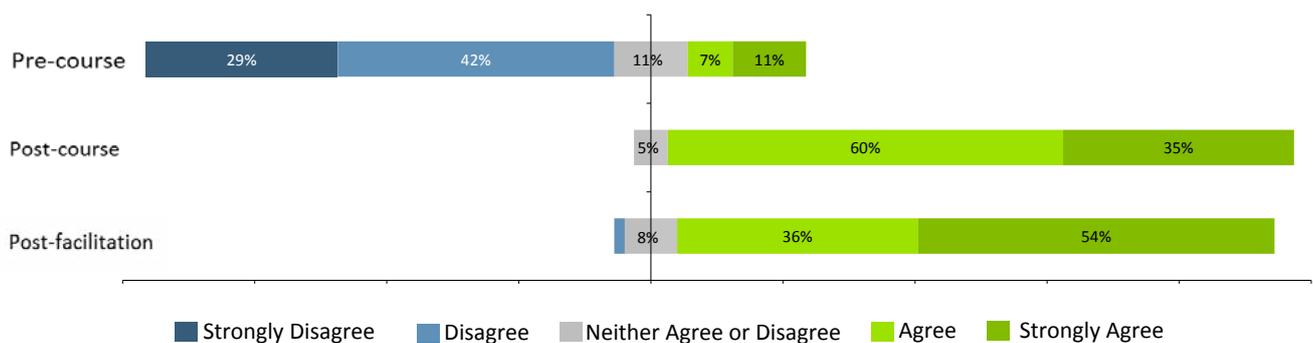


Chart 9: Educators: Pre-course, post-course and post-facilitation results for statements relating to the development of STEAM knowledge, skills and confidence

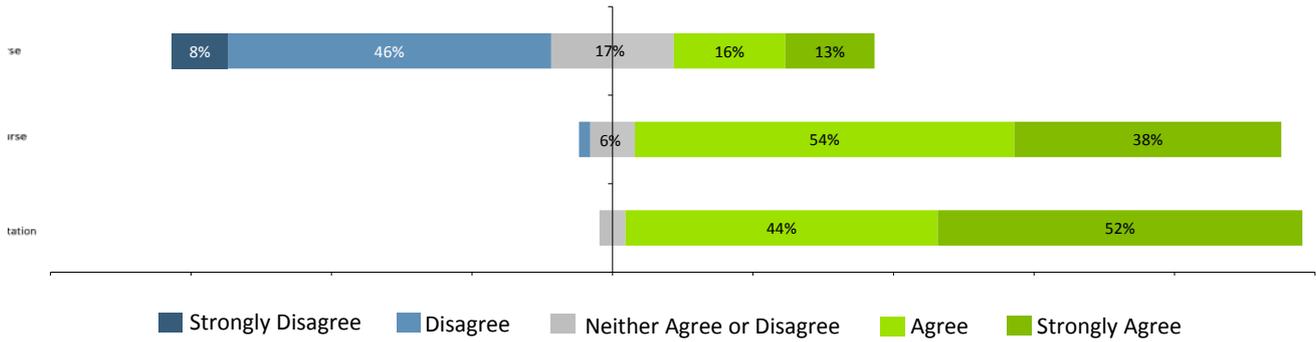


Chart 10: Educators: Pre-course, post-course and post-facilitation results for statements relating to the development of 21st century skills

Charts 9 and 10 encouragingly demonstrate that the educators exhibited a much wider adoption and understanding of the course material than the young people. Virtually all the educators reported that they developed a high degree of competence after the training, the only setback being from a small number of educators struggling with some elements of STEAM skills following the facilitation stage.

Chart 11 demonstrates the aggregate rate of agreement (either strongly or otherwise) for all teachers with all the questions, highlighting specific questions with which some educators struggled.

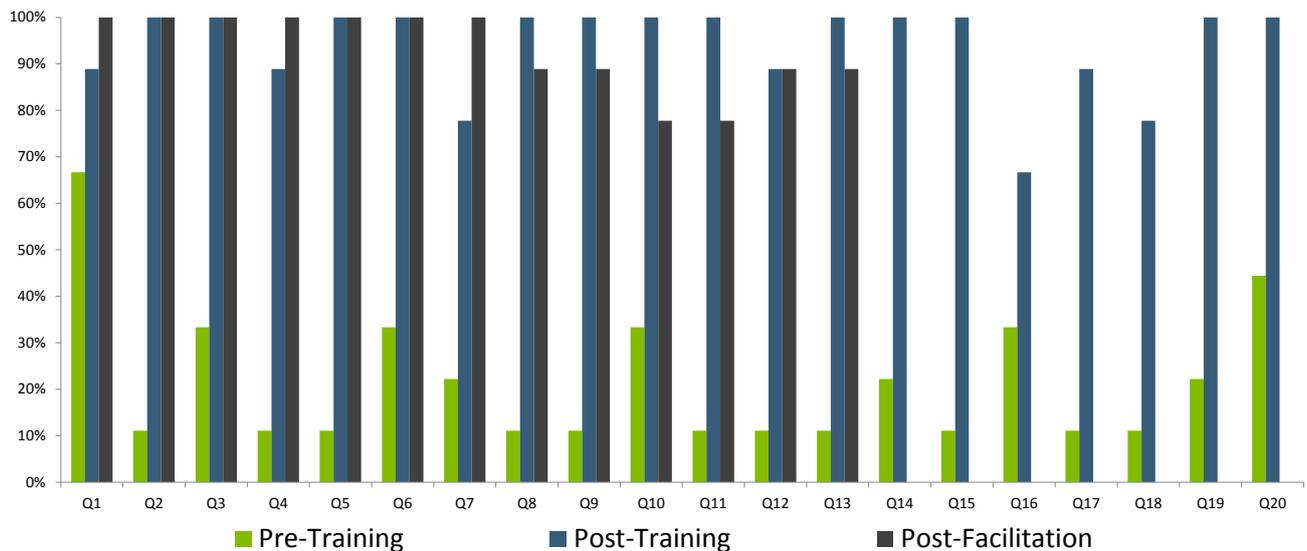


Chart 11: % of strongly agree and agree responses out of total educator responses

Prior to training, educators had limited confidence across all course content areas. This is indicated by the pre-training results (black). Immediately following the training (green) the educators experienced high confidence levels across all areas. Following the facilitation of the Maker programme with a group of young people, the educators experienced a drop in confidence in some areas as well as an increase in others (blue).

For instance, in question 7, the number of respondents who agreed increased from 77% in post-training to 100% in post-facilitation, indicating that some respondents became more comfortable with the material after they delivered it to a group of young people. The full breakdown of the responses given for this question can be seen in chart 12.

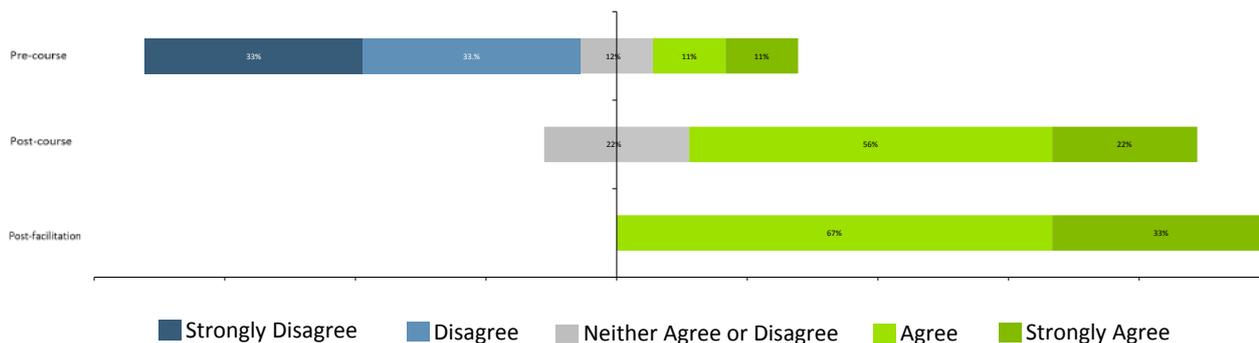


Chart 12: I am able to demonstrate how electricity and circuits work through a variety of different high and lo-tech activities.

Contrarily, for question 11, the rate of agreement fell from 100% in post-training down to 77% in post-facilitation, with some educators reducing their answer from agreement to disagreement. Chart 13 provides the breakdown of responses for this question.

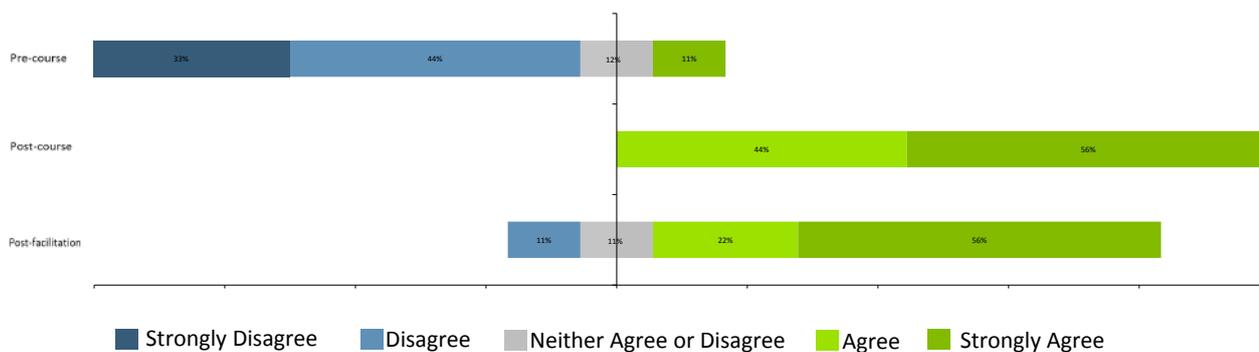


Chart 13: I am able to confidently facilitate Maker and tinkering activities with a group of young people.

These questions largely relate to the educator’s ability to facilitate Maker activities with a group. As the Maker subject area was new to all of the participants and understanding and applying the pedagogical approach and concepts requires practice, it was anticipated that confidence would drop following the facilitation stage. As noted above, these factors will be addressed in future Maker activities.

Similar to the Camara Ireland school-based training, these results are especially encouraging for the TechSpace programme as the Maker training was a new initiative in 2015. The results also provide areas for improvement for the next implementation phase of Maker training.

# 2015 Hub Audit

## METHODOLOGY

The hub audit is an annual exercise that has been conducted since 2011. The purpose is to evaluate the performance of each education hub against a range of key performance indicators. Up to last year the format of the audit went largely unchanged, with indicators focusing on training, technology, and management and governance. However, Camara as an organisation did not feel that these indicators accurately represented the overall performance and state of the education hubs. Therefore, a new methodology was instigated, one that captures a larger range of indicators and aims to be more objective in its assessment.

This new approach aims to measure the maturity of hubs, as well as the performance. Maturity refers to the structures and processes necessary for a fully functioning education hub. These include items and processes such as a hub strategic plan, finance policy, and hub staffing protocols. As a result, the key indicators present in the previous hub audit have been refactored into two broad areas – structural maturity and performance maturity. In all, there are 41 structural maturity indicators and 20 performance maturity indicators over seven functional areas. Each indicator is assigned a priority ranking (low, medium, or high) and scores are weighted accordingly. Therefore, high priority indicators are given more weight than low priority ones. This also allows for areas that require more immediate attention to be identified. Performance targets for each education hub are set at the beginning of each year so that progress can be benchmarked. The review is conducted every six months so that maturity and performance can be tracked over time.

The new methodology was conducted for education hubs in relation to their activities in 2015 and the results are presented here. Lesotho and Haiti are not included in the scores this year. This is because Lesotho is a semi-dormant hub and, therefore, cannot be held to the same level of scrutiny as the fully operational education hubs. Haiti was not audited as it was in the process of being wound down. As this a tool to assess and promote continual improvement, it was not appropriate to audit Haiti.

## RESULTS

The results of the 2015 audit using the new hub maturity methodology can be seen in the table below. Rather than just provide one overall score, the results are split into two scores which reflect the two separate sections of the maturity tracking tool. Table 1 shows the results from the structural maturity section.

Area	Function	Max Score	Ireland	Ethiopia	Kenya	Tanzania	Zambia
Structural Maturity	Governance	225	172	142	132	84	142
	Operations	95	59	68	44	53	57
	Programme Management	70	45	18	20	30	66
	Human Resources	45	26	31	13	19	38
	Finance	125	95	110	105	85	105
	Fundraising	5	1	3	1	0	1
	Communications	10	4	8	1	1	2
Structural Maturity Total		575	402	380	316	272	411
Structural Maturity Score (%)			70%	66%	55%	47%	71%

Table 1: Structural maturity scores

Zambia is the most structurally mature hub with a 71% score with Ireland just behind with 70%. Tanzania is the least structurally mature hub with a score of 47%.

Table 2 shows the results of the performance maturity scores.

Area	Function	Max Score	Ireland	Ethiopia	Kenya	Tanzania	Zambia
Performance Maturity	Governance	40	30	25	27	31	15
	Operations	80	43	80	50	43	37
	Programme Management	45	9	21	24	27	39
	Human Resources	20	16	5	15	15	20
	Finance	75	25	50	45	35	20
	Fundraising	10	8	0	1	9	4
	Communications	10	8	2	1	4	9
Performance Maturity Total		280	139	183	163	164	144
Performance Maturity Score (%)			50%	65%	58%	59%	51%

Table 2: Performance maturity scores

Ethiopia was the best performing hub in 2015 in terms of performance maturity with a score of 65%, while Ireland received the lowest score of 50%. However, the score for Camara Ireland comes with caveats. During 2015, Camara Ireland was in the process of breaking away from Camara Education and becoming a separate entity. Therefore, some of the performance indicators such as reduction in audit qualifications and acid test ratio could not be applied. In these cases a score of zero was applied. However, now that Camara Ireland has been established as an entity in its own right, it can be scored against the full range of indicators. Table 3 displays the overall result, taking the total scores from both structural and performance maturity into account.

	Max Score	Ireland	Ethiopia	Kenya	Tanzania	Zambia
Structural Maturity Total	575	402	380	316	272	411
Performance Maturity Total	280	139	183	163	164	144
Overall Total	855	604	563	479	436	555
Overall Score %		63%	66%	56%	51%	65%

Table 3: Overall scores

The overall scores show that Ethiopia received the highest with 66%, just ahead of Zambia with 65%. This is the second year in a row that Ethiopia has been the best performing hub. The hub that received the lowest overall score was Tanzania.

## EVALUATION

Evaluating the percentage score of the hubs and what each score means can be done similarly to the previous method. Table 2 provides an outline of what the various percentage scores mean.

Evaluations	Percentage	
A	Excellent progress – innovative model for HQ and the other hubs	100%
B	Good progress – achieves most things but room to improve	80%
C	Average progress – substantial structural and performance gaps	60%
D	Poor progress – achieving very little in the area	40%
E	No progress – has done virtually nothing in the area	0%

Table 2: Evaluation scoring for hub maturity

None of the education hubs manage to reach a rating of B or a 'good performance'. All hubs score between C (average performance) and B ratings. By comparing the functional area scores against the maximum possible score provides an indication of the areas where the hubs need to concentrate their efforts to improve. The scoring for the individual indicators allied to their weighting provides further indication on what exact areas require attention within the functional areas.

## COMPARISON WITH PREVIOUS YEARS

Like-with-like comparisons with previous years are not possible as the methodology has evolved. However, it is still useful to compare the scores hubs received for 2015 with previous years. This is because trends across hubs had developed with the previous method which the new method may or may not continue. Chart 1 illustrates the scores received by each education hub from 2011 until 2015.

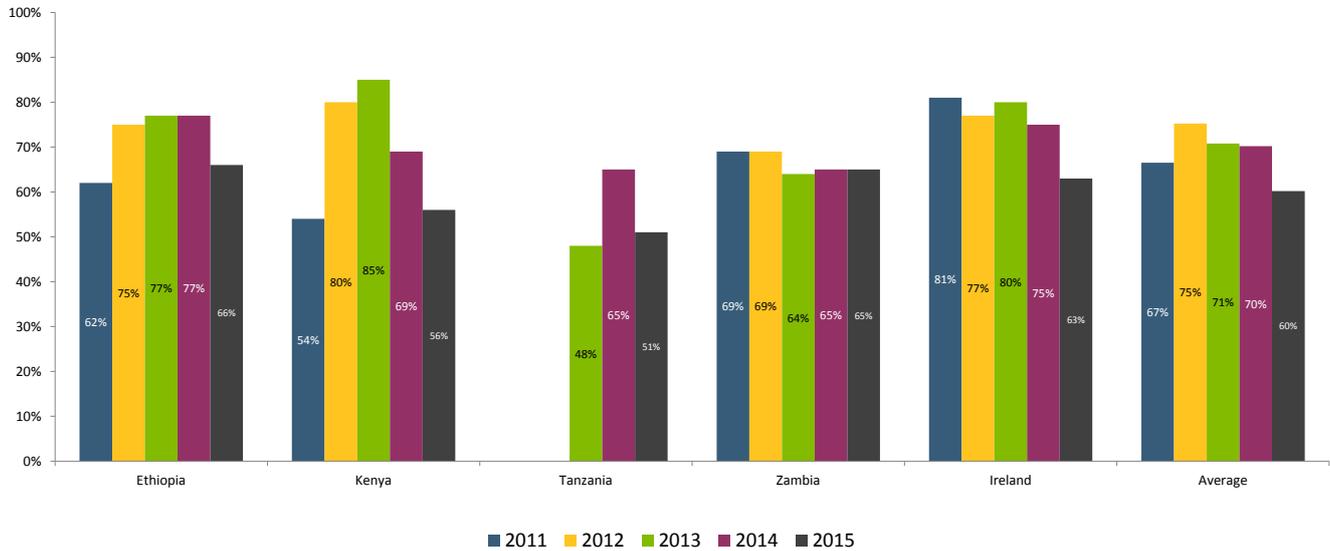


Table 1: Hub Audit Performances 2011- 2015

As can be seen, the scores declined for each hub from the previous year, apart from Zambia which stayed the same. The overall average score decreased in percentage terms by 10%. The fact that the new methodology bucked an increasing trend in Ethiopia and provided a score much lower than has been previously achieved by Kenya and Ireland would suggest that the new methodology is more stringent.

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- Camara HUB in Africa
- Copy of Sahajanand Special School, Mtwapa, Kenya
- Mediaelem School, Addis Ababa, Ethiopia
- Southern Province Head Teachers during the
- Educational leadership course at St. Joseph's
- Secondary School, Zambia
- Students in a Tanzanian School
- Windows Skillbuilder training in Copperbelt province, Zambia
- Grace Lulu, The Good Life Orphanage, Kenya
- HGM Primary School, Malindi, Kenya
- Children from Tanzania
- The Good Life Orphanage - SBM School, Kenya
- Mamuna Shariff, Teacher, Bondeni Primary School, Mombasa  
(Photo: Tim Mansel)
- Irish students at TechFest Dublin CHQ, Ireland
- Lexis-Nexis Risk at the Dublin Workshop, Ireland
- Symantec Volunteers at the Dublin Workshop, Ireland
- HGM Primary School, Malindi, Kenya

Our special thanks to all of our staff and volunteers who contributed photos for the report.



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