



YOUNG SCIENTISTS TANZANIA

sponsored by



EXHIBITION GUIDE 2012

OCTOBER 25TH, 2012

AGA KHAN DIAMOND JUBILEE HALL
DAR ES SALAAM, TANZANIA



The Pearson Foundation – making a difference in literacy, learning, and great teaching.



We do this by collaborating with leading businesses, nonprofits, and education experts to share good practice; foster innovation; and find workable solutions to the educational disadvantages facing young people and adults across the globe.

Our Mission

We believe we can make an important difference by focusing our efforts, resources, and alliances on the key approaches inside and outside the classroom that can most shape a child's success.

We focus on:

- **Literacy** – We're sharing books we love and helping teachers, parents, and great nonprofit organizations develop skills and resources that ensure the young people they serve are ready to read and learn.
- **Great learning** – We're working with corporate, nonprofit, and academic partners to deliver innovative, scalable learning programs inside and outside the classroom. When we can, we're also researching, documenting, and sharing great learning practices with educators and community organizations.
- **Great teaching** – We're working with schools and nonprofit organizations to help teachers incorporate new learning approaches within their classroom practice. When we can, we're also celebrating great teaching and inspiring teachers by getting the word out about their essential role in the lives of young people and the development of their local communities.



How We Work

Each year an initial grant from Pearson, the world's leading learning company, provides us with operating funds we use to develop programs and partnerships around the world. We also work with Pearson, with other funders, and with a roster of exemplary nonprofit organizations, corporations, and partners to deliver scalable and replicable educational solutions to students, teachers, and educational institutions.

Whenever we can, we promote literacy, great learning, and great teaching by:

- Providing support and adding capacity to great nonprofit organizations already making a difference in local communities.
- Incubating innovative approaches to teaching and learning that can make an immediate difference in the lives of young people and educators.
- Documenting, sharing, and encouraging innovative practices inside and outside the classroom so that others can build upon proven efforts and can adapt them to help the individuals and organizations they serve.



To showcase some of the best solutions already making a difference in local communities, we've developed programs like the New Learning Institute, We Give Books, and the Strong Performers, Successful Reformers video series. These efforts – and others like them – share the common goal of supporting and spreading the word about exemplary practices among the world's most successful education systems and learning organizations.

We've also worked with public and private partners to develop new learning approaches of our own – efforts like the BridgelT mobile learning solution, for example; the My Voice student aspirations survey; and, most recently, our ongoing effort to help create a System of Courses for the Common Core Curriculum in Math and English Language Arts.

www.pearsonfoundation.org

FOREWORD BY PROF. ELIGIUS LYAMUYA



Using Science and Technology to Transform Tanzania

Welcome to Young Scientists Tanzania 2012.

As you pass through the Diamond Jubilee Hall on this historic day, you will see 100 research projects displayed by passionate and excited young Tanzanian scientists. What you see is the result of long hours of hard work and determination. The projects are testament to the natural curiosity and critical thinking of students who are bringing science and technology to life. Today truly reflects the talent and potential for innovation that exists in our young people. All we need to do is give our students the opportunity to develop these talents and encourage them to embrace science as an important discipline in the development of society.

Young Scientists Tanzania nurtures a science culture in our schools. Science and technology are vital for the economic and social development of our country as we move into a more globalised world. Young Scientists Tanzania will play an important role in changing perceptions around science and technology. When you walk around the exhibition hall you will see and appreciate that Science can be fun!

We are delighted that like-minded organisations are working with us to nurture and develop the scientists and technologists of the future. We would like to show our gratitude to the Ministry of Science, Communication and Technology and the Ministry of Education and Vocational Training. A special thanks to our main sponsors, Irish Aid and Pearson Foundation along with all other supporters whom you'll see listed overleaf. We would like to thank the Combat Disease of Poverty Consortium from NUI Maynooth, Ireland for their dedication and commitment to working with their Tanzanian alumni for the last 3 years to make this day possible.

Finally, I wish to extend my gratitude to the 30 judges, the teachers, the parents, and most importantly the students themselves. Today shows that through partnership, great things can be achieved in Tanzania. Thank you for supporting our young Tanzanian scientists, the creators of a better tomorrow.

Prof. Eligius Lyamuya

Deputy Vice Chancellor (Academic, Research and Consultancy),
Muhimbili University of Health and Allied Sciences
Member, Board of Young Scientists Tanzania





YOUNG SCIENTISTS TANZANIA

THE AWARDS

Main Awards

Young Scientists Tanzania of the Year 2012

- Young Scientists Tanzania of the Year Trophy
- Cheque for Tsh 1,000,000
- All expenses paid trip to Ireland visiting BTYSTE in Dublin Jan 2013
- Computer Lab of 15 computers and follow up training

Young Scientists Tanzania of the Year 2012 Runner-up

- Young Scientists Tanzania Trophy
- Cheque for Tsh 1,000,000
- Computer Lab of 10 computers and follow up training

Category Awards

The Category prizes take the form of 1st, 2nd and 3rd on each of the following four categories:

- Biological and Ecological Sciences (sponsored by CDPC Maynooth)
- Chemical, Physical and Mathematical Sciences (sponsored by BG Group)
- Social and Behavioral Sciences (sponsored by Radar Education and Pearson)
- Technology (sponsored by Karimjee Jivanjee Foundation)

The prizes are as follows:

- 1st Prize of Tzh 500,000 and Trophy
- 2nd Prize of Tzh 300,000 and Trophy
- 2nd Prize of Tzh 200,000 and Trophy

Special Awards

We are very happy to have such a great range of Special Awards at Young Scientists Tanzania 2012.

Special awards recognise excellence in specific areas.

The Special awards will be presented by our partner organisation.

Concern:

The Concern, Niall Weldon Prize for Science in Development

Songas:

Passion for Science Award by Songas

Self Help Africa:

The Self Help Africa Prize

TASJA:

TASJA Communication in Science Award

New Young Scientists Africa:

New Young Scientists Africa Award

ESBI:

The ESBI Award for Best Renewable Energy Project

Children in Crossfire:

The Children in Crossfire Award

IOP:

Institute of Physics Award



Irish Aid

Department of Foreign Affairs
An Roinn Gnóthaí Eachtracha

Work of Irish Embassy and Irish Aid in Tanzania – Young Scientists Tanzania Programme

Irish Aid is the Government of Ireland's programme of assistance to developing countries.

The programme works in partnership with governments and communities in the developing world in their attempts to reduce poverty through helping them meet basic needs and through strengthening their capacity. It also has a special focus on the fostering of human rights and democracy.

Irish Aid has been active in Tanzania since 1975. The Irish Aid Programme is administered by the Embassy of Ireland in Dar es Salaam. Country-led development is a central feature of Irish Aid's work in Tanzania, and our programme is aligned with Tanzania's national poverty reduction strategy, the MKUKUTA II. Irish Aid aims to contribute towards the MKUKUTA II outcomes by concentrating its resources in the areas of governance, agriculture, health, nutrition and general budget support.

Ireland recognises that Tanzania, like much of Africa, is changing rapidly. It is growing quickly, educating its people, welcoming new investment, including from new sources, and it is increasingly integrating into the global economy, fulfilling more of its potential as a global partner. Perceptions about Africa are slowly changing in Ireland as elsewhere, with an increasing acknowledgement in business and financial circles of the continent's increasing attractiveness and potential. Our development assistance programme forms the central component of Ireland's broader relations with Tanzania, and having an integrated diplomatic and developmental team provides tremendous synergies in both understanding and access. Our broader relations with Tanzania and Africa in general are being re-evaluated as Tanzania and Africa change, and as the nature of Irish engagement in Africa and vice versa changes.

The Government of Tanzania has identified job creation, foreign direct investment, trade and private sector development as drivers of future growth and development. Ireland recognises this as an opportunity to prepare for expanded partnership in the medium to long-term which move beyond historical donor-recipient type relationships and towards more multi-faceted relationships incorporating strengthened trade, investment, tourism and people-to-people links. This is outlined in the Government of Ireland's Africa Strategy, under which the Embassy of Ireland has been given a strengthened mandate on trade and investment between Ireland and Tanzania.

Central to this strategy, which will involve incorporating stronger political exchange and sustainable two-way trade and investment flows across multiple sectors, including science and technology, is a Tanzanian population that is educated, motivated and innovative. Irish Aid, through the Embassy of Ireland in Tanzania, is delighted to support the first Young Scientists Exhibition in Tanzania, as a platform for engaging young people and promoting the innovation and creativity that are essential to future growth and investment in Tanzania.

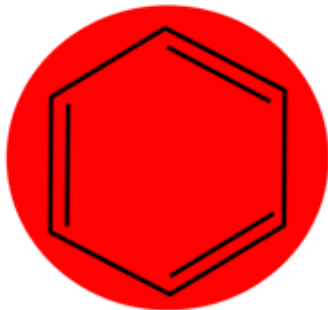
LIST OF JUDGES

Biological / Ecological Sciences



- Professor Eligius Lyamuya
- Professor Said Aboud
- Dr Dinah Gasarasi
- Dr Aza Lyimo
- Julie Makani
- Dr Masalu
- Professor Mainen Moshi
- Dr Noel Murphy
- Siana Nkyia
- Dr Fredrous Okumu

Chemical, Mathematical and Physical Sciences



- Professor Apolinary Kamuhabwa
- John Ashley
- Laurie Mansfield
- Dr Mike Mngoda
- Dr Sylvester Rugeihaymu

Social and Behavioural Sciences



- Jacqueline Mgumia
- Matthew Banks
- Grayson Benjamani
- Michael Doorley
- Dr Patrick Masanja
- Dr Jamie Saris
- Professor Felician Tungaraza
- Dr. Catherine O'Beirne

Technology



- Abdi Mjema
- Orla Burke
- P.A.L. Mfugale
- Mike McEnergy

Judging Chairperson: Dr Monica Gorman



BG Group is a global energy business with operations in more than 20 countries across five continents. We operate in three key business sectors - Exploration and Production, Liquefied Natural Gas (LNG) and Transmission and Distribution. We combine a deep understanding of gas markets with a proven track record of finding and commercialising reserves.

BG Group ranks amongst the ten largest companies in the UK. While our headquarters are in United Kingdom (UK), over 60% of the talented professionals drawn from more than seventy nationalities are located outside the UK.



Leading the Exploration for Natural Gas in Tanzania

Tanzania is emerging as a new and potentially important hydrocarbons province. BG Group entered Tanzania in June 2010 and is the Operator of three offshore deepwater exploration blocks, in which it has a 60% working interest. Tanzania Petroleum Development Corporation (TPDC) is the licence holder and a partner in the blocks. In a success case the opportunity offers the potential to deliver gas and develop a multi-train LNG project in Tanzania.

BG Tanzania – Responsible Operator

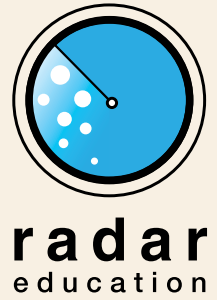
BG Group's business principles govern the way we work, in Tanzania and around the world. Our business principles cover four key areas: responsible conduct; our people; environment; and society. We believe that all injuries are preventable, and we will provide a healthy, safe and secure working environment for our employees and contractor staff. BG Tanzania is committed to conducting our operations according to international best practice standards of environmental and social performance. We do not tolerate corruption in any form, and are committed to acting with integrity, fairness and transparency. BG Tanzania is committed to ensuring that the government and people of Tanzania benefit from our activities on an enduring basis.



BG Tanzania – Contributing to Society

We believe that development of the hydrocarbons sector will bring about positive change for the people and economy of Tanzania, and that we have a role to play in contributing to this goal. We recognize that achieving positive social and economic development outcomes will require engagement and partnership with a broad range of stakeholders to maximize the macro-economic, business development and employment opportunities that our activities can generate. In addition to the local employment and economic benefits our investment is creating we have an active programme of social investment in place focusing on the themes of education, support for employment and livelihoods, and marine conservation. We believe these themes most closely match our own business priorities with the development needs of our host communities and the people of Tanzania.

We believe in learning.
All kinds of learning for
all kinds of people
delivered in a personal style.
Because wherever learning
flourishes, so do people.



Radar Education is the official
partner for Pearson in Tanzania.

With over 150 years of experience in education publishing,
Pearson is the world's leading learning company, and we are
known in all the corners of the globe for our commitment to
providing quality education solutions to learners everywhere –
because we know that education has the power to change
lives and transform communities.

Every day Pearson works with learning institutions, governments
and employers to develop solutions that assist individuals to meet their
potential and realise their dreams.

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CONCERN worldwide

Working with the world's poorest people to transform
their lives

Tanzania



Rice farmers, Iringa

Livelihoods

Tanzania is a farming nation, however the majority of farmers are small-scale and struggle to make ends meet. We are working with partners across 11 districts in Tanzania to give farmers the skills and opportunities they need to cultivate more, grow their income, and improve their nutrition.

Health – water, sanitation, and hygiene

Clean, safe water is essential for a healthy life, yet around half of Tanzanians lack access to it. We work with partners and communities in two districts in Northwest Tanzania to ensure households drink clean water and stay healthy through proper sanitation and improved hygiene.



Florence Samwell, Ngara



Eugen Rusumo with wife Editha
Kipara and family, Kibondo

Equality

Concern believes inequality is a major cause of poverty. Everyone is affected by gender inequality, as women and men have been restricted into gender roles which can be detrimental for human development. We are working with families in 11 districts in Tanzania to encourage equality in behaviour so everyone can live a happy life.



Livelihoods and health programmes partially funded by the European Union

Photos: Concern Worldwide / Mwanzo Millinga / Mike Goldwater

www.concern.net

The Aga Khan Diamond Jubilee Hall

Thursday 25th October 2012

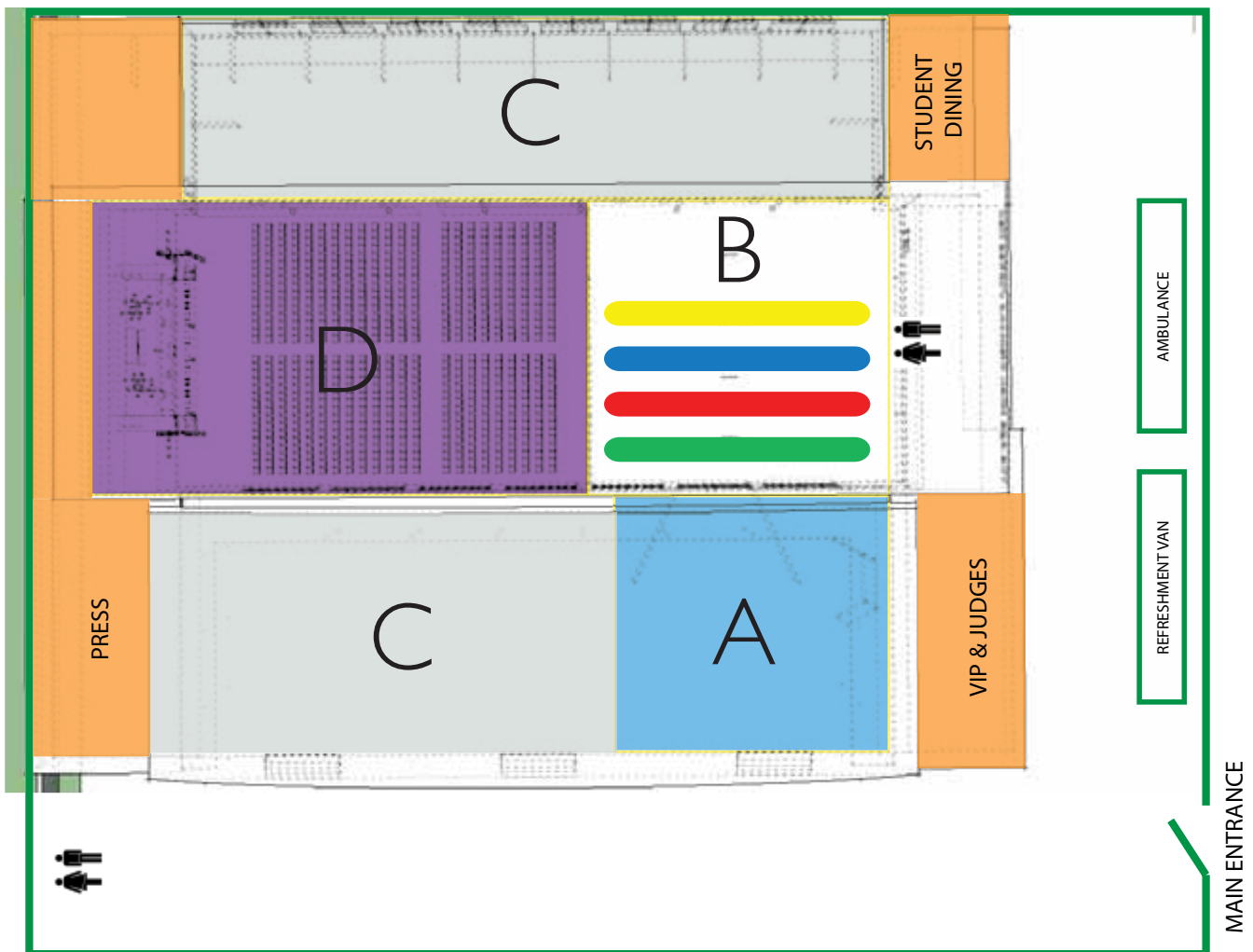
ZONES

Exhibition Entrance & Registration	A
Projects	B
Sponsors	C
Awards Arena	D
Restricted Access	E

Gates open 9:00am - 2:00pm

Free Entrance

Restricted Access Zones D & E
(Prior Invitation Only)



BIOLOGICAL & ECOLOGICAL

Air Wing	Thadei Matenga	To investigate if different ashes affect plant growth	Stephano Omenda Mwanahawa Katundu Florence Phaustine
Ari	Hellen Felician	A study of Soil Erosion and lessons to be learned.	Gaspar Malema Camilla Mkunde Epiphania Minja
Arusha Day	Martha A. Kahangwa	Developing organic avocado products for the cosmetic and health market	Monica Robert Epaphras Julius Sheila Ramadhan
Baraa	Salustiam L. Masawe	Is climate change effecting our local farmers	Johnson Julius Lyimo Brian Daniel Swai Edward Joseph
Naura	Kimario Protas	Why do people from Mt.Muru region have brown teeth?	Mwanaidi Mussa Sigfrid Chuwa Elinaike Lymo
Kiromo	Salma F. Selemani	Anti-heartburn ashes-local solutions	Elizabeth Shitundu Issaya Mwakyusa Leanda Thomas
Jamhuri, Dodoma	Shaban Binde	Climate change - possible effects for Dodoma	Cuthbert Masalango Golingo Mahona Boniface Masalango
Miyuji	Hussein Mwaimu	Choosing plants to grow in our school environment	David Malanda Queen Mariki Reginald Samson
Azania	Genes L. Mlay	Is the food and drink that we consume good for our health?	Hagai Swilla Amani Twaha Jimylee Mpendo
Hananasif	Joyce Paul	Communicable Diseases in Dar Es Salaam	Benjamin Isaame Joel Ngoko Siwema Selemani
Jangwani	Ciara Eumesta	Pests which affect vegetable production in DSM	Fatuma Mohamed Lulu Shalua Sekela Mwakabende
Kawe Ukwamani	Athmani.M.Msemo	Treatment of injuries using local medicines	Esther Yoram Asha Chuason Rajabu Mwamtemi
Kisutu Girls	Prosper Kilango	The analysis of malnutrition in Dar es Salaam	Pascalia Nyoni Pasgalia Mkami Shaimaar Awadh
Kurasini	Baldovino C. Mlingu	Disappearance of native plant and animal species	Sabrina Ahmed Rukia Adinani Paschal Madaraka
Makongo	Mr. Minja	Food Mushroom production, development and processing	Zakia Khalid Aivin Victor Elisha Grayson
Ihungo	Reuben Bihu	Cereal preservations by using local materials	Nehemiah Magafu Masikitiko Andrew Hashimu Nuha
Izigo	Fikiri Mafele	Making Fertilizer from husks and ashes	Pius Paul Manjale Ikumbo Arafat Sued
Nyailigamba	Nazilu K Rashid	Control of ticks using Utupa in zebu cattle	Erick Eleneus Fathia Hamdan Eradius felcian
Karanga	Magreth Mlay	Cure for stomach ache using tree leaves and barks	Husna Adam Aziza Kiguda Hidaya Benta

Lutheran Junior Seminary	Laison Saning'o	Analysis of Colour Blindness	Octavian Charles Gerald Ephraimu Happy Mwanga
Morogoro International	Annie McHenry	Are reaction times affected by tiredness	Azahr Zahid Naheed Karim Merali Corey Sean Jones
St. Peters Seminary	Mhina Mlimbo	Fitness tests and heart rate. Does heart rate depend on age/sex?	Frank Mugisha Alex Kajala Erick Kiende
Fountain of Hope Christian Seminary	Turyamureba Josephat	The use of industrial fertilizers and their effects on the soil	Ebenezer Mphuru Christopher Mushi Winniel Munishi
Butimba Secondary	Vicent Kibambila	Investigating the potential of using locally produced plant pesticides	Donatha Buberwa Kaburu Idrissa Celina Elias
Mwanza Secondary	Japhet Kasoga	Analysis of "pemba" and potential effects on pregnant women	Ester Ngata Joshua Ntauranga Magdalena Nicolas
Nyakabungo	Rosemary Emmanuel	Local anti-malaria medicine	Sarah Joseph Mkama Charles James Samwel
Mikanjuni	Hussein Mbumi	Skin bleaching materials - the facts and the effects of their use	Mwininyiheri Kabanda Zania Ally Ashura Beka
Mwapachu	Maulidi Said Omari	Malaria-is it a problem in our area?	Mashee Bakari Ibrahimu Maumba Devotha Bwire
Old Tanga	Hebert Kim pandwa	Coastal Erosion in Tanga	Rahma Ally Sharifa Mote Hellen Herman
Rosmini High School	Br.Shayo Wilhad	Can Cassava be used as a medicine by future generations?	Janeth Nyagawa Rogers Lyimo Salome Senkoro
St. Christina Girls	Noel Maro	Analysis of the problem of diabetes mellitus in Tanga city and suggestions for possible solutions	Sayyada sachedina Maryams Ahmed Brenda Francis
Mwanakwelekwe	Hidaya Juma Ali	Analysis of types of soil favorable for spice growth	Ali Omari Muhammed Buhan Tamim Buhan Maida Rashid Bahemke
Lumumba	Ame Vuai	Disappearance of frogs in Zanzibar	Rashid Mohd Rashid Hafsa Ali Mohamed Fatma Iddi Mohamed

CHEMICAL, PHYSICAL & MATHEMATICAL

Felix Mrema	Venance A. Mkungu	Combined water treatment system	Zakia Madongo Jenipher tairo Sophia Kiluwasha
Ilboru	Udora Eliafye	Biogas-an investigation & comparison of natural fuels	Edwin Luguku Justine Mpwaga Nyanda Mbassa
Suye	Didas Damas Ngowi	Petals as natural indicators in acid and base titrations	Venosa Mathais Jesca Yohana Peter John
Themi	Neema Godfrey	Recycling of orange and lemon peels	Joel Sanga Brian Anaely Wallace Ngoti
Kiwanja cha Ndege	Redempta M. Samaga	Hardness of water in Dodoma water supply	Fred Frank Mkomochi Grace Abeid Mussa Jumanne Juma Mrisho

Kenton	Kitima Henry	Do we know what is in our water?	Prince Elias Lawrence Chacha Khadija Mshindo
Loyola	Mosses Mwandu	The use of Rubix cubes to improve the interest in Maths	Esther Kitindi Bonel Chihoma Brian Kibazohi
Manzese	Rajabu J.Kigao	Locally produced juices and their use in medicine	Elizabeth John Jackson Akwilini Grace Godfrey
Humura	Octavian Ernest	Can ashes be used as disinfectant?	Elavius Bagoka Kisha Achille Frank Rweyemamu
Nyanshenye	Lekayo Mugezi	Producing bases from banana peels	Juma Mshumba Mohamed Paul Shakira Mohamed
Kibosho Girls	Christian Bwaya	Is The Increase Of Nitrite In Water Due To Industrial Fertilizers	Husna Adam Aziza Suleiman Hidaya Athuman
J. K. Nyerere	Happy Benedict Mbilinyi	Determination of acids and bases by using local indicators	Ajuaye Davis Minja Oscar Joseph Sizya Careen Mary Richard Kiria
Rau	Felix Pius Puka	Application of electromagnets in an electric bell	Witness Shirima Alexander Ngatuni Irine Chuwa
Kilakala	Miladu Kinyonga	Helping to teach Pi	Mariam Leopold Agnes Mgeni Mary Exaud
Mvumero	John Mazengo	Newtons 3rd law?	Godfrey Chambo Nasra Amini Rajabu Awami
Mirongo	Mhozya Msilanga	How to protect a house from a lightning strike	Nicolas Clinton Fides Fulgence Salome Focus
Buhangija	Msaada Daniel	Can chlorophyll be used as electrolyte?	Petro Benard Richard Anthony Emmanuel Samwel
Buluba	Methodius Ddungu	The use of caffeine in beverages.	Leockadia Deckason Munira Matinga Benedicta Kalunda
Tanga Technical	Nelson Mukundi/Hafidh M.Masiku	Analysis of the water shortage in Tanga city	Silvester Nyegu Binjamin Mahenge Stanslaus Mweta

SOCIAL & BEHAVIOURAL

Kaloleni	Miriam Mmasi	Why towns suffer from environmental degradation	Josephine Solomoni Japhet Mwendwa Diana Laizer
Moshomo	Analsaria R Mariki	Development of simple Aids to teach science	Adelqueen C Shayo Rehema R. Akwilombe Macrine H. Kishe
Notre Dame	Jitalya Nyanda	Effects of colour & music on learning	Kombe Oliver June Joseph Samira Yusuph
Sinon	Prissca S.Wambura	What method of learning science is best; theory or practical?	Amos Mgonellah Sophia Abdallah Happyness Silvester
Sombetini	Stanley Poline	A study of c-section rates and attitudes in Arusha region	Alex Reuben Prisca Peter Jimmy Msangi

Bethsaida	Frank Balegu	Perceptions on food wastage	Irene Pronet Rachel Reginald Hafsa Kimario
Cornelius Girls	Nivocavit Makundi	Why most girls drop education at higher level	Edna Leonard Mtama Matilda James Usiri Constancy Simba
Jamhuri	Nsia Abia Shoo	Analysis of public transport for school children and possible risks	Emmanuel Peter Lissa Christopher Loveness Kazumari
Mbagalu Kuu	Cecilia Rolence	How we choose our school leaders	Sabato Wilson Rachael Yakubu Karim Kabanda
Mchikichini	Emmanuel Kawale	Why do students dislike science subjects?	Happiness Haule Eltruda August Florence Thobias
Oysterbay	Henry Mawanja	Is sexual harassment a problem in Tanzania	Ngrssa Machia Ehita Anthony Lutu Daniel
St. Marys	Lubega Santos	Is disability on the increase in Tanzania?	Aisha Saidi Amina Halidy Fadhili Yahya
Vingunguti	Athumani J.Mgaya	The social implications of locating a ward school in a residential area	Andrew Bayaga George Stephano Gloria Ngowi
Zanaki	Elizabeth A. Mungongo	The analysis of tuition culture in Tanzania	Munira Karolo Halima Wingo Elizabeth Mbogo
Kajumulo	Christian Aristerius	Making life better for our street children	Erica Barnabas Gloria Speratus Chaila Mustapha
Rulongo	Victor Bwambizo Callist	Mosquito nets-are we taking them seriously?	Johannes Audax Prudence Pius Renaider Edward
Sacred Heart	Emanuel Kalokola	Peoples' perception on waste disposal along lake Victoria	Epimachus Richard William Mtaru Selesta Egidius
MJI Mpya	Nussura Hussein	Comparing Government vs Private schools results at form four.	Beatrice Emmanuel Yahaya Hussein Yusuph Hamad
St. James Seminary	John Manyilika	"Why Poverty Affects Rural Tanzanians"	Donath Shukuru Gelas Kaninii Livin Matumaini
Bigwa Sisters	Nisefori Mnyetta	Attitudes to Albinism	Bunuri Juma Antonia Mbena Suzana Lukumay
Morogoro Secondary	Salome Mbago	Socio – Economic factors Influencing deforestation in the Uluguru Mountains	Rehema Juma Francis Kazoba Victor Gerald
Sumaye	Witness P Mlahagwa	Analysis of attitudes to smoking	Jonas Ngauya Agnes Charles Sandra Mkama
Mnarani	Elbert Kente	The use of social networks and academic performance	Issack Mzolo Bigten Abednego Neema Raphael
Pamba	Johoash Magala Matovu	Why is Tanzania poor despite having abundant resources	Nyanjige Mazerengwe Paschazia Faustine Agnes Simon
Usagara	Saukweli Swai/ Fortunata Balindile	To analyse causes of road accidents in Tanga city.	Kijangwa Komba Newton Jacob Juma Msami

TECHNOLOGY

Arusha Secondary	Obed O. Moshi	Power maximising device	Jerry Ilomo Freeman M Taiko Erick E Laizer
Mairiva	Joseph Maliti	Design of a water based stove	Naeku Benjamin Thobias Kiwelu Goodluck Makuru
Njiro	Lucas Optat	Design of a voltage regulator for emergency charging	Juma Ramadhani Nchasi Albert Bernard Maganga Hassan Haji Hamisi
Oloirien	Samson Ocheyo	Making a Wind powered generator	Pili Ibrahim, Colman Julius Neema Sebastian
Barbro Johanson	Sara Lucas Hanson	Non-electric fridge	Vision Bagonza Theonestina Amos Juliana Itanisa
Benjamin Mkapa	Charles F.KISONGA	Producing cheap electricity	Dennis Meinhard Mwanba Rashid Athuman Kapara Innocent Swedi
Kinyerezi	Ally Mohamed	To investigate analog and digital system of communication-is Tanzania ready for the change?	Thomson Deogratius Abduli Mgandi Asha Muharami
Anna Mkapa	Joyce Peter	Using local methods to preserve food.	Edwin Paul Catherine Shaun Fatima Hanusi
Faraja Seminary	Daniel yessaya	Developing a Solar cooker for local use	Grace Mfinanga Samuel Jackson, Gilbert Peter
Maua Seminary	Faustine Sagenge	Making a Steam car	Innocent Sarwatt Charles Odasi, Jerome Shio
St. Amedeus	Devota B. Mangu/Deograsias Massawe	Producing wireless amplified speakers	Deodatus Kessy David Kisoka Edward Silayo
Lyunga	Marcus Mwandanji	Change of direct electric current to alternating current by using simple inverter.	Isack Ernest Mbazi Madafa Robert Tendeje
Mbeya Day	Leodgar Mumello	Instrument for preventing accidents	Angel Richard Issa Mwakapila Frank Newton
Mzumbe	Joyce L Masika	Production of methane gas from cow dung	Mnubi Simba Andrew Mselem Godfrey Sembayi
Bwiru Boys	Dan Kitambala	Developing a Machine for oil production from seeds	Njile Dotto, Buteye Dotto Erick Benjamin
Bwiru Girls	Vedasto Masige	Green cone food waste digester	Suzan Toyali, Sia Malle Theresia Gilbert
Nyakurunduma	Majula Masiti	Production of electricity by Solar energy	John Joseph Simon Charles, Hadija Idd
Mwasele	Silvester Samuel	Maximization of electricity by using two dynamos	Timotheo Malisa Leocadia Joseph Daniel Paschal Edson Iseme
Ngokolo	Pombe Joseph	Water filtration & treatment by using solar energy	Veronica Gwisu Thomas Ngonyani Emmanuel Christopher
Horten	Frank D. Mboto	Making a sustainable fuel from recycled paper	Hassan Yusuph, Zaina Said Mwansit Bakari
Popatlal	Ali Karsandas	Milk preservation and milk pasteurization	Marilyn Reporter, Elias Joseph Joseph Franco
Fidel Castro	Hassan Alei	The potential of Wind power in Pemba	Rashid Salum Abeid Issa Shaib Mohammed Fatma Sleiman Juma



ORGANISATION BRIEFING: CHILDREN IN CROSSFIRE TANZANIA

Children in Crossfire was founded in 1996 in Northern Ireland by Richard Moore. The organisation is committed to the protection and promotion of the rights of the young children caught in the crossfire of poverty. Children in Crossfire Tanzania was established in 2008 with the overall goal of enabling Young children reach their maximum potential intellectually, physically, socially and spiritually in Tanzania.

The situation for young children in Tanzania is challenging:

- Over 40% of children are entering primary school underdeveloped (stunted). With 85% of brain development happening in first 4 years, this puts them at a huge disadvantage before they have really begun life and it impacts Tanzania's ability to reach its developmental goals because its human development is compromised.
- There are low levels of understanding of early childhood development needs and child rights amongst parents and duty bearers which reduces opportunities for children to choose.
- Children with disabilities are neglected in ECD practice because their needs are poorly understood and prioritized.

Based on this evidence Children in Crossfire's Strategic Plan focuses on 2 primary objectives:

- To improve ECD services and primary caregiver practices in CiC Impact Districts resulting in better nutrition, stimulation, care and protection for young male and female children including children with disabilities
- To advocate for the implementation of laws, policies and strategies that reflect the rights of young children, including those with disabilities in CiC Impact Districts and national level
- We work with Tanzanian Partners in targeted geographic areas and at the national level to improve services to young children and advocate for the resourcing of laws and policies that affect young children.



We work with Tanzanian Partners in targeted geographic areas and at the national level to improve services to young children and advocate for the resourcing of laws and policies that affect young children.



8 Years of Safe, Clean, Reliable & Cost Effective Energy



Songas' brings gas from the Songo Songo gas fields in southern Tanzania along a 225km pipeline to the Ubungo power plant in Dar es Salaam to generate 180 MW of electricity – about one quarter of the country's electricity supply.

Electricity generated by Songas is provided to the national electricity company for distribution to its customers and has one of the cheapest all-in generation costs in East Africa. Songas

also provides gas transportation services to key industrial customers in Dar es Salaam who use the clean, affordable source of fuel in their manufacturing processes.



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KARIMJEE JIVANJEE

EST 1825

The holding company Karimjee Jivanjee Ltd has a long and established history in East Africa stretching back to **1825** when the Karimjee family arrived as traders from the area of Cutch, in India, to the island of **Zanzibar**.

What was once a small trading business conducted painstakingly on annual dhow voyages plying between India and East Africa blossomed over the years into a highly respected group with diversified business interests.

Over the years the family group have spanned wide business interests in Agriculture, land estate and the Automobile industry. By 1965 KJ Estates was the 3rd largest private sisal producer in the world ensuring that the family built a formidable agricultural business. In 1973 however the KJL agricultural business was nationalised.

Yet the engine of the family's growth in the past decade has been the Automobile Industry.

In 2012 the KJL Group celebrated its **187th year** founded on Honesty, Trust and Integrity that continues to this day.

Currently the KJL group is mainly engaged in real estate development as well as exploring potential new business ventures.



KARIMJEE JIVANJEE Foundation

Over time the KJL group have been of immeasurable help in the development of East Africa through landmark achievements and contributions. The Karimjee Jivanjee Foundation Trust contributes to various charitable works in education and healthcare in the region.

KJF provides scholarships annually to about **50** young Tanzanians to study at graduate level and plans to increase this to **200** students by 2020. It has supported Read International in supplying textbooks to secondary schools throughout Tanzania and most recently sponsored the Rotary Marathon for the building of the new Rotary Children's Cancer Ward at Muhimbili National Hospital.

Since 2009 the Karimjee Jivanjee Foundation has contributed approx. Tsh **653 million** into community projects.



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Self Help Africa has been working for close to 30 years, supporting African rural communities to grow more food and earn a better living. We work closely with local partners and government institutions:



Improving agriculture and food production

- Providing farmer training
- Supporting diversification
- Enabling local seed production
- Strengthening farmer organisations



Promoting Entrepreneurship

- Supporting access to credit
- Providing training in enterprise development
- Improving access to markets



Supporting women

- Helping women farmers to access farm advice, credit and markets for their produce



Assisting communities to adapt to climate change

- Promoting conservation farming
- Supporting crop diversification and irrigation
- Promoting sustainable land use and natural resource management

Self Help Africa - ending the cycle of hunger and poverty in Africa

WORKING TOWARDS A HEALTHIER AND MORE EQUITABLE WORLD

Harnessing scientific, academic, entrepreneurial and humanitarian skills and knowledge to combat infectious diseases that cause poverty.

The Combat Diseases of Poverty Consortium is a network of professionals in research, education, development and industry working together to build capacity to tackle diseases of poverty.

SKILLS TRAINING FOR YOUNG RESEARCHERS

The CDPC brings together early career professional from east Africa to Ireland for three to four months to up-skill in areas that are crucial to their development. The alumni of the CDPC are now applying their newly acquired skills and knowledge in their home countries and passing them on to other professionals in academia, government and industry. Similarly, Irish early career researchers have been supported in conducting projects in east Africa under the supervision of local researchers and academics giving them the opportunity to experience the challenges facing professionals in a developing country context.

ENGAGING YOUNG PEOPLE IN SCIENCE AND DEVELOPMENT

The CDPC runs an extensive outreach programme to Irish schools engaging young teenagers in projects that are focused on development issues and diseases of poverty. All of our east African trainees participate in visits to Irish schools and many facilitate workshops on development issues or mentor projects on harnessing scientific knowledge in the service of development. This partnership has resulted in numerous submissions to the **BT Young Scientist** and **Young Social Innovators** exhibitions in Ireland, with several prestigious awards being won by students mentored by the CDPC. This engagement with students has



inspired many of our east African trainees to establish similar outreach programmes through their home institutions. The success of the Irish outreach programme, for example, has been instrumental in the establishment of **Young Scientists Tanzania**.

BRINGING AWARENESS OF DISEASES OF POVERTY TO THE WIDER COMMUNITY

Through seminars, lectures and workshops by leading researchers and activists, as well as through innovative awareness campaigns, the CDPC is bringing greater awareness of diseases of poverty to the academic community, students and the general public in Ireland.





YOUNG SCIENTISTS TANZANIA

sponsored by



Young Scientists Tanzania

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October 25, 2012

Aga Khan Diamond Jubilee Hall | Dar es Salaam, Tanzania