# 10th Annual International Conference

# Theme
## "Human Resource, Education and Science for Sustainable Development"

# 10<sup>th</sup> Annual International Conference

# Theme
## "Human Resource, Education and Science for Sustainable Development"

**MOI UNIVERSITY**
**PRESS**

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**MOI UNIVERSITY**

## MU/DVC-(A,R&E)/OP/001/6.6 – Annual International Conference

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# Message from The Chancellor

It is indeed my great pleasure to join participants and keynote speakers during the auspicious occasion ofMoi University 10th Annual International Conference. I am deeply impressed to note that Moi University have consistently held the Annual international conferences since its inception 10 years ago.

The consistency justifies the value the university puts in research and publication to disseminate knowledge and spur development in various sectors.

The theme of this year's conference is *"Human Resource, Education & Science for Sustainable Development"* is relevant in adversely contemporary issues of human resource, education and science.

I am optimistic that the conference shall not be another "talk shop" but will provide a spring board for further research and publication of papers presented.

I wish to commend the university council for mobilizing resources for the development of the university's infrastructure and allocating some of it to cater for the Annual International Conference.

Moi University have great potential to develop human resource in various fields and will continue to be place of choice in nurturing talent and innovation in the future.

Thank you again for being part of this year's conference. I hope you find it valuable. We look forward to hearing of new discoveries and developments resulting from wonderful work you all do.

Thank you,

PROF. MIRIAM WERE, EBS, IOM
CHANCELLOR, MOI UNIVERSITY

# Message from The Chairman of Council

On behalf of Moi University Council, I wish to welcome you all to the Moi University 10ᵗʰ Annual International Conference. The Theme for this year's conference cuts across the Schools of Human Resource Development, Education, Biological and Physical Sciences and Cross-Cutting symposium which cater for the schools not represented in this year's conference.

The Government in its current development blueprint of Kenya Vision 2030 has identified human resource development as a key enabler towards achievement of the priority sectors in the country. Today, Kenya prides itself for having the most highly skilled and diverse human resources pools in the East African region.

The conference provides an avenue for dissemination of research findings and knowledge exchange with the goal of providing solutions to underlying challenges in human resource, the Education sector and Science in the 21st Century. In so doing it is hoped that scholars will be sharpened more even as they mentor each other to drive the knowledge platforms to greater heights. I wish participants fruitful deliberations.

Thank You.

**PROF. JENESIO KINYAMARIO, OGW**
**MOI UNIVERSITY, CHAIRMAN OF COUNCIL**

# Remarks from the Vice Chancellor



Dear Participant,

It is my pleasure to welcome you to Moi University's 10th Annual International Conference. Moi University was established by the repealed Act of parliament 210A as the second public institution of higher learning in Kenya. The University has championed the globalization process by developing and transmitting knowledge and skills through research and training. Driven by its slogan, Foundation of Knowledge, the University organizes the Annual International Conference with the view to providing a forum where leading scholars and academicians can disseminate research findings. Over the years, the Conference has grown in stature and has attracted scholars from the region and other parts of the world. The theme for this year's conference is "*Human Resource, Education and Science for Sustainable Development.*"

Ladies and Gentlemen, in recognition of the importance of Education for Sustainable Development (ESD), the United Nations General Assembly declared 2005-2014 the UN Decade of Education for Sustainable Development (DESD). The goals of the decade are to provide opportunities for refining and promoting the vision of, and transition to, sustainable development through all forms of education, public awareness and training; and to give an enhanced profile to the important role of education and learning in sustainable development.

The development of human resource is the key to development of other resources; labor, land and capital which were considered major resources for development and no longer the main resources of development. The ever-changing volume of more accessible, effective and powerful scientific and technical knowledge is gradually supplanting capital as the major resource for development. In today's knowledge intensive economy inputs in the form of knowledge and skills have major impact on the quality and quantity of goods and services. Scientists are improving their understanding in areas such as climatic change, growth in rates of resource consumption, demographic trends, and environmental degradation.

 A first step towards improving the scientific basis for these strategies is a better understanding of land, oceans, atmosphere and their interlocking water, nutrient and biogeochemical cycles and energy flows which all form part of the Earth system. These are some of the issues that we hope will be highlighted during this Conference. In addition, we look forward to presentations that will highlight changes in key areas of development and especially in the devolved governments. I am confident that, together with other scholars, you will provide insights into ways of dealing with issues in Human Resource, Education and Science for Sustainable Development.

It is my hope that you will enjoy and benefit immensely from the Conference and lastly wish you all the best.

Once again, welcome to Moi University's 10th Annual International Conference.

**PROF. RICHARD K. MIBEY, FWIF, EBS**
**VICE CHANCELLOR**

# Remarks from the Deputy Vice Chancellor (A, R&E)

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Dear Participant,

First and foremost, let me extend my warm welcome to all the keynote speakers, paper presenters, industrial practitioners, academicians and students to this years' International Conference whose theme is "*Human Resource, Education and Science for Sustainable Development*"

Ladies and Gentlemen, we expect this Conference will accord a unique opportunity to discuss ways and means to ensure uniformity in Education to Human Resource and Science across the globe. I am confident that this conference will specifically deliberate upon promotion of Industry-Academia linkages to improve the quality of Human Resource, Education and Science.

We believe the efforts we have put in the last 9 years in having a series of conferences have laid the foundation for building a strong education system, capable of fulfilling our aspirations of becoming a modern, liberal and prosperous institution as the research findings influence the making of our curricula.

While planning for the conference theme , we  realized the need to have a theme on Education, Human Resource, and Science   as *a long-term process that calls upon all stakeholders*, including governments, educational institutions, business and industry, communities, civil society, and individuals to play a role and to embrace the ideas of  the present without compromising those of future generations.

Finally, let me wish you all a very productive deliberation on your research findings. I have no doubt we will be able to find new and innovative ways and means of strengthening the Higher Education System in all its dimensions: Education, Human Resource Development and Science & Technology under the new dispensation.

PROF. B.E.L. WISHITEMI
DEPUTY VICE CHANCELLOR
ACADEMICS, RESEARCH & EXTENSION

# Symposium I

## School of Biological and Physical Sciences

## Theme: "Science and Technology for Sustainable Development"

Sub–Themes

1. Empowering the Peasant Farmer to Feed the Ever-Growing Population in the Developing World.

2. Green Energy for Sustainable Development

3. Socio-Economic Impact of Scientific Knowledge on Development

4. Applied Science for Sustainable Industrial and Agricultural Development

5. Environment, Biodiversity and Climate Change

6. Appropriate Technology Utilization for Enhanced Food security

7. From Models to Technology Transfer and Product

**School Symposium Organising Committee**

1. Prof. Ambrose Kiprop -  Dean, School of Biological and Physical Sciences

2. Dr. Fredrick Nyamwala -  Coordinator

3. Prof. S. Rotich - Member

4. Dr. Rose Ramkat - Member

5. Ms. Pauline Githinji - Member

6. Mr. Billy Makhumba -  Member

**Keynote Speakers:**

Prof. Phillip Owuor Okinda; Director of School of Graduate Studies and Professor of Organic Chemistry, Maseno University, Kenya.

**Topic: Chemistry Research to Improve Quality for Sustainable Development of the Kenya Tea Industry: Tea Processing**

Prof. John Ogonji Agure; Director, MAKNET and Professor of Pure Mathematics, Maseno University, Kenya.

**Topic: Mathematicizing Sciences for Development**

**1-#1-1**

## Phytoecdysteroids from the Stem Bark Of*vitexdoniana*with Anti-Inflammatory Activities

*Ochieng C.O\*, Ishola I.O², Opiyo S.A, Manguro L.A.O, Owuor P.O,Keng-Chong Wong*

### Abstract

Ethnopharmacological significance of *Vitexdoniana* (Verbenaceae) leaves and stem barks in management of stomach, rheumatic pains and inflammatory disorders has been supported by anti-inflammatory and analgesic activities studies, with no attempt to identify the active components. Consequently, chromatographic and spectroscopic procedures identified three new ecdeysteroids 21-hydroxyshidasterone (**1**), 11-hydroxy-20-deoxyshidasterone (**2**), 2,3-acetonide-24-hydroxyecdysone (**3**) from the stem bark methanol extracts along with known ecdysteroids, shidasterone (**4**), ajugasterone C (**5**), 24-hydroxyecdysone (**6**), 11α-hydroxyecdysone (**7**). The compounds [**1-7**] showed significant ($P \leq 0.05$) inhibitory effect at 10 mg/ml concentration on rat paw oedema development in the later phase of carrageenan-induced inflammation on Sprague Dawley rats. These results supported the previously reported anti-inflammatory activities of the plant extractives and it ethnopharmacological applications.

**Keywords:***Vitexdoniana, Verbenaceae, anti-inflammatory, 21-hydroxyshidasterone, 11-hydroxy-20-deoxyshidasterone , 2,3-acetonide-24-hydroxyecdysone*

**1-#1-2**

## Optimizing Intervention Mix for Malaria

*Otieno G\*, Koskei J.K, Njoroge G, and Wambui M.*

### Abstract

Tools to assist decision makers are becoming increasingly important as the discussion on the effective use of malaria control interventions continues. Applying mathematical models can help guide in malaria control and elimination. This paper presents a modeling approach aimed at identifying the optimal mix of malaria intervention that will prevent the highest number of malaria infections and accelerate the path towards achieving UN MDG6 target. A simulation model of malaria epidemiology and control is applied to simulate the impact of combinations of existing intervention and provide suggestions that will optimize decisions concerning the types and amounts of anti-malaria interventions that will have the greatest impact on people's health.

**Keywords:** *Optimization, Malaria Intervention mix, Modeling and Simulation*

**1-#1-3**

## A-D-T Optimal Four Factor Central Composite Design with Application in a Germination of Meliavonkesii Experiment

*Okango A.A\*, Koske J, Kasina M.M and Kabue T*

**Abstract**

This paper discusses a four factor central composite design. The efficiency of the general rotatable design is compared to the A-D-T optimal ones. As an application of the theory a detailed illustration is made on the germination of MeliaVolkensii experiment.

**Keywords:** *Central composite design, Rotatability, A-D-T optimality, Weights*

**1-#1-04**

## Optimum Rotatable Designs for Fitting Second Order Response Surface Kronecker Model

*Kinyua M, Koske J, Nyaga C, Roche E*

*Cheruiyotkipkoech, Kariuki Alex*

**Abstract**

Response surface methodology is widely used for developing, improving, and optimizing processes in various fields. In this article, we present a method for constructing second order rotatable designs in order to explore and optimize response surfaces based on a set of fraction of factorial designs. The designs achieve both properties of rotatability and estimation efficiency.

We shall concentrate on the moment matrices and the related information surfaces based on the parameter subsystem of interest on the Kronecker model and their corresponding rotatable designs. The set of rotatable designs based on the central composite designs shall be presented. These designs shall be shown to be A-, D-, E- and T-optimal.

**Keywords**: *A- optimal, D- optimal, E- optimal, T- optimal, Response surface designs, Second-order designs, Information surface, Parameter system of interest, Kronecker model, Moment matrices, Rotatable designs, Central Composite Designs.*

**1-#2-5**

## Positional and Seed Ageing Effects on Seed Quality of Cotton (Gossypiumhirsutum) Grown in Western Kenya

*Rugut Eliud Kiprotich[1,2], Kris Audenaert[1], Lucas Ngode[2], Linnet Gohole[2], GodelieveGheysen, Geert Haesaert[1]*

### Abstract

Cotton seed is one of the most sensitive agronomic seeds where significant deterioration occurs after a short period of storage. This study was conducted to determine the effects of boll position and storage period on seed quality of cotton seed. Cotton variety KSA 81 M was planted at Busia ATC and bolls harvested from the Basal, Middle and Top branches for storage and subsequent seed quality tests. Germination of seeds from all the three plant positions declined with storage period while electrical conductivity and mean germination time increased. Germination percentage of seeds from the basal stems dropped below the middle and top branches after six months despite having a higher initial percentage. On the other hand, electrical conductivity and mean germination time of seeds from the basal branches showed a significant increase after six months compared to the middle and top branches. Results suggest that the quality of cotton seeds collected from the basal branches is high compared to the middle and top branches. However, when subjected to storage, the seeds showed higher deteriorative changes in comparison to the seeds obtained from the middle and top branches. This might be related to duration of seed development and the increased solute leakage following imbibition which is usually accompanied by inevitable exit of materials necessary for germination and normal seedling growth.

**Keywords:** *Cotton seeds, Boll position, Storage period, Seed quality*

**1-#2-6**

## Analysis of *Maize Streak Virus* Resistance

*\*Arusei P [1], Runo S[2], Warigia M[2], Ngetich A[2], Muthuri J[3], and Leley P[4]*

### Abstract

Maize (*Zea mays*) is the most important cereal in sub-Saharan Africa, where it is used as human food, animal feed, and raw material for various industrial products and as a source of employment at various stages of production. One of the contributors to low productivity of this important crop are diseases, particularly Maize streak virus disease which causes up to 100% yield loss in susceptible varieties. The development of maize germplasm that is resistant to *Maize strike virus* is the main important aspect for success in various breeding and crop improvement programs. To achieve this, phenotypic information on disease scoring for resistance under field conditions is important. In addition, there is need for better tools and techniques such as DNA-based molecular markers to ascertain resistance to the virus. Field experiments were carried out at Kenya Agriculture Research Institute, Muguga. The experimental design used was a Randomized complete block design replicated 3 times. Data was collected on diseases scores and a total of 13 single nucleotide polymorphism (SNP) primers used.

**Keywords:** *Maize streak virus, maize lines, SNP*

**1-#2-7**

## Ecotoxicological Assessment of Pollutants in Lake Victoria Fishery, Kenya: Proof of Fish Consumption?

*Rodrick Kundu[1], Safina M. Musa[2], Christopher Mulanda Aura[3,4], Dorcas Lusweti[5]

**Abstract**

This study set out to survey and document pollution in fishing grounds and thereby provide necessary information on environmental quality for purposes of management of the fishery in Lake Victoria, Kenya. The monitoring survey was conducted between June 2010 and June 2013 to identify changes or trends in water quality over time, collect information on biotic indicators of water quality as well as identify fish parasites in *Latesniloticus*. Physico-chemical parameters were monitored *in situ* using portable water quality meter while nutrients and trace metals were analyzed using standard methods. Dissolved oxygen concentrations ranged from 3.42 to 6.47 mg l$^{-1}$ in AsemboBay and Kowuor, respectively with a mean of 5.26 mg l$^{-1}$. The Gulf was more eutrophic than the open waters. Soluble reactive phosphorus showed significant positive correlations (r = 0.65; *P* < 0.01) with conductivity and a significant negative correlation (r = -0.53; *P* < 0.01) with transparency. Based on Effect Range Low (ERL) and Effect Range Mean (ERM) scheme, surface sediments had concentrations above ERL for Pb, Zn, Ni and Hg respectively and 1% for Ni was above ERM. The results showed that the effects of most metals of ecotoxicological importance in the sediments were of acceptable levels except for Pb, Zn, Ni and Hg with lead having the highest risk. The fish larval assemblage of Lake Victoria Kenyan waters was dominated by the *R. argentea,* with the highest numbers within LwandaGembe, attributed to the water clarity and reproductive strategy of the fish. The study recommends restoration of wetlands, especially those at the mouths of major rivers draining the lake to serve as buffers and filters.

**Keywords**: *Pollution, NyanzaGulf, Lake Victoria, ecotoxicology*

**1-#3-8**

## Elastic Scattering Reaction of $^{4}He + ^{0}B$ at Laboratory Energies of 5-15 mev; an Optical Model Analysis.

*AruseiG.K[1], YegonG.K[1], Makau N[2], Amolo[2] G.*

**Abstract**

The nuclear optical model has been used in the analysis of elastic scattering for the reaction $^{4}He + ^{0}B$. This model has six optical parameters; the depth, Coulomb radius and the diffuseness on both the real part and imaginary part potentials. Out of the six, five parameters were chosen and for this case diffuseness parameter on the imaginary part was kept constant. The five parameters were used to calculate the optical model potentials $U_0$ and $W$, the partial wave S-matrix, the differential cross section and the reaction cross section as a ratio to Rutherford cross section. In this study, the values obtained for the optical model potential for the reaction $^{4}He + ^{0}B$ were $U_0 = -6.707, -5.455, -9.807,$ and $-9.486$ MeV, $r_0 = 1.378, 1.463, 1.228$ and $1.059$ fm, $a_0 = 0.378, 0.5, 0.567$ and $0.511$ fm for the real part while for the imaginary part these were $W_0 = -9.5, -5.532, -6.592$ and $-2.998$ MeV, $r_i = 0.0, 0.202, 0.5$ and $0.578$ fm with

$a_i = 0.6$ fm. These values correspond to the energies $E_{Lab} = 5, 7, \emph{2}$ and $\emph{5}$ MeV, respectively. The negative signs in $V_0$ and $W_0$ suggests that the nucleus-nucleus potential is strongly attractive. The partial wave scattering data was obtained basing on the quantum mechanical optical code for all the stated Laboratory energies. The angular distribution for the reaction $^{4}\!H +^{0} B$ for both reaction cross section to the Rutherford cross-section and differential cross section ranging from centre of mass angles $(\theta_{cm})$ of $0^{0} - 180^{0}$ were also obtained for all the energies, ($E_{Lab} = 5, 7, \emph{2}$ and $\emph{5}$ MeV) and whose data and graphs are presented.

**Keywords:** *Nuclear optical model, Elastic scattering*

## 1-#3-9

## Modelling and Simulation of Solar-PV-wind Fuel Cell Hybrid System for off-grid Applications

*ChogeD. K[1], .RotichS. K[1], WaswaD[2], Tonui J. K[2], and MaritimJ. K[1]*

### Abstract

Developing countries have abundant renewable energy resources including solar energy, wind power, geothermal energy, hydro energy and biomass. With the increasing demand of sustainable energy, there is need to integrate these renewable energy sources to feed a stand-alone system. However, the biggest challenge is the need for energy storage systems, owing to the fact that energy from solar and wind are intermittent in nature. The combination of hydrogen storage using fuel cells may be a solution for long term storage of solar PV and wind power. Such a system when used for off-grid applications can provide energy solution to about one third of world's population leaving in isolated regions and have no access to grid connected electricity. The purpose of this proposed study is to model and simulate a stand-alone hybrid power system that utilizes a hydrogen fuel cell for energy storage. This system couples a photovoltaic (PV) generator, an alkaline water electrolyser, a storage gas tank, a proton exchange membrane fuel cell (PEMFC) and power conditioning units (PCU) to give different system topologies. The system is expected to provide an environmentally friendly energy solution to populations living in remote areas far from the national grid.

**Keywords:** *renewable energy, fuel cell, Photovoltaic, wind power*

## 1-#3-10

## Mosfet Scaling to Sub-Micron Range; Annalysis of Characteristiccurves in Relation to Device Parameters

*Yegon G. K, and Arusei G. K.*

### Abstract

The advances in Silicon technology have driven the MOSFET device fabrication towards submicron regime. This work presents simulated results where gate dimensions are determined and associated parameters are defined. NMOSFET with gate lengths 100Å, 65Å, 42.25Å, 27.27Å and 17.85Å, gate width of 100Å and with oxide thickness of 2Å were studied. All the simulations were done using MATHCAD and the results obtained were then used to plot characteristic curves

and the transfer curves using ORIGIN lab software. From the results of characteristic curves it was observed that at $V_G$=0V there was no conducting channel between the source and the drain. When a small $V_D$ is applied, and as long as the $V_D$ is small, enough not to cause any significant difference in the surface potential near source and drain, the electron concentration throughout the channel remains the same and channel behaves like a resistor. As $V_D$ is increased the potential drop across the channel reduces the voltage between the gate and the inversion layer near the drain and as a result the electron concentration in the channel near drain decreases causing increase in the channel resistance and therefore $I_D$-$V_D$ bends. When gate bias was increased from $V_{G1}$ to $V_{G2}$ (where $V_G$ represents the gate voltage) it causes an increase in the inversion layer charge and hence channel resistance reduces causing a larger drain current for a given $V_D$. As the dimensions are scaled down, the drain current increases, evidence that sub-micron devices have better performance as compared to un-scaled devices. It can also be noted that there is a strong correlation between device dimensions and device performance. This shows that sub-micron device has better performance as compared to un-scaled device.

**Keywords:** *MOSFET, short channel effects, velocity overshoot, DIBL.*

## 1-#1-11

## On the Numerical Ranges

*Kingangi  D. N[1], Agure  J. O[2], and Nyamwala F. O[3]*

### Abstract

Properties of operators in a C*-algebra B(H) have been studied by many researchers in operator theory. This paper is an investigation of the numerical ranges of operators in B(H): We show that zero is in the algebraic numerical range of an operator in B(H) if and only if that operator is orthogonal to the identity operator. We then show that the algebraic numerical range of an operator in B(H) is convex and is also equal to the spartial numerical range of that operator. We employ the inner products of vectors in a Hilbert space H as well as the properties of the states in B(H) in obtaining our results.

**Keywords:***numerical range, state, finite operator*

## 1-#1-12

## How to Easily Understand, Improve and Pass Mathematics

*Githinji Pauline W.*

### Abstract

Many students get scared only by the mention of the word MATHEMATICS. What then is this mathematics, why do many students get scared of it and how can you well handle it?

Mathematics is a subject just like any other learnt in school. However, it is unique in that you handle mainly figures and its scope and influence is widespread, affecting each and everything we do. There are a lot of calculations, concentration, exercises, determination, confusion, tricky situations, formulas, relation of factors and many more other details which can only be understood when one is careful, flexible, interested and determined. In actual sense, mathematics is a unique subject that lies in its own class and which does not call for a lot of reading, cramming, remembering and memorizing of events like other subjects.

Why do many students find mathematics difficult?

Many students are usually interested in subjects that calls for a lot of reading, memorizing, relating and applying points. However mathematics calls for interest, concentration, flexibility and determination, which many students are not prepared for. This together with lack facilities, reading material negative environmental surrounding, laxity and ignorance makes mathematics an outstanding, unique and un-welcomed subject.

How then can you be successful?

To be successful, the first thing you must do is to develop and interest in this subject. Always think positively about it and avoid any negative aspects that might drift your interest. Take it as a friend and not an enemy, a necessity and not punishment, part of you and not an external aspect, relevant and not irrelevant and something that greatly and positively influence your day to day life and future well being.

In this development of interest, cultivate an atmosphere of determination. Be determined that you can make and will make it and avoid conditions and people who feed you with negative feelings. Develop the internal feeling that mathematics is easy and can be passed only through positive interest, determination and hard work

## 1-#1-13

## Universal Optimality Designs

*Too Robert K[1], Koske Josph K[2], Mutiso John M[2], KosgeiM[3]*

## Abstract

In the design of experiments for estimating statistical models, optimal designs allow parameters to be estimated without bias and with minimum variance. A non-optimal design on the other hand requires a greater number of experimental runs to estimate the parameters with the same precision as an optimal design. Thus in practical terms, optimal experiments can reduce the costs of experimentation. We construct an optimal design $d^*d^*$ among a family of designs, $d \in \Omega_{t,b,k} d \in \Omega_{t,b,k}$, with b=5 blocks of size k=5 and with t=5 treatments. We demonstrate that such a design is optimal under all the optimality criteria considered by Kiefer (1975). It is thus universally optimal.

**Keywords:** *optimal designs*

## 1-#1-14

## Finite Operators and Numerical Ranges

*John OgonjiAgure*

## Abstract

Let *H* be a Hilbert space and *A* be a finite bounded linear operator defined on H. we discuss the properties of this operator and prove the convexity of Stampfli's numerical range and also show that it is identical to algebra numerical range.

*Keywords: Finite operator, numerical ranges and Hilbert spaces*

**1-#2-15**

## Dyeing Cellulose-Based-Fabrics Using Pigment Sproduced by Fungi

*MibeyR. K[1] and Makumba B.A.N[†2]*

### Abstract

Various synthetic colouring agents have the potential of carcinogenicity and/or teratogenicity. Natural colours, extracted from fruits, vegetables, seed roots and microorganisms and often called "biocolours" due to their biological origin have proved to be safe and edible colouring agents. The microfungi*Fusariumoxysporum*f.sp.*phaseolicola* and *Hormoconisresinae*f.sp. *avellaneum*were isolated from soil samples collected on plots under the bean crop and aviation gasoline respectively. Pure colonies were obtained and cultured in Potato Dextrose Broth (PDB) and CzapekDox Broth (CDB) at pH between 1 and 14 and temperature between 20°C and 35°C. Considerable pigmentation was observed at a temperature of 30°C and at pH between 5 and 14, with the maximum yield at pH 7 and 30°C. Potato Dextrose Broth inoculated with *Fusariumoxysporum*f.sp. *phaseolicola* produced three pigments from viz: violet, purple and pink pigments whilst Czapekdox Broth produced a pastel yellow pigment. Both PDB and CDB inoculated with *Hormoconisresinae*f.sp. *avellaneum*produced a dark brown pigment. All the pigments produced by the microfungi firmly dyed cellulose-based fabrics.

**Keywords:** *Fusariumoxysporum, Hormoconisresinae,pigment, cellulose-based-fabric.*

**1-#2-16**

### Incidence of *Tomato Spotted wilt virus* on Tomato (*Lycopersiconesculentum*) Varieties Infected by Natural Field Infection of Thrips

*Ramkat, R. C, [1]Wangai, A. W,[2]Ouma, J. P[3]*

### Abstract

*Tomato spotted wilt virus* (TSWV) is a major constraint to tomato production in Kenya. Symptoms of tomato spotted wilt differ among hosts and can be variable in a single host species. Common symptoms of TSWV infection include stunting, which is more severe when young plants are infected, and chlorotic or necrotic rings on the leaves and fruits. Management of the primary vectors of the virus disease, the western flower thrips (*Frankliniellaoccidentalis*Pergande) and tobacco thrips (*F.fusca* and *F.bispinosa*) is the main factor underlying management of the disease. A study was conducted with the objective to screen five tomato varieties (Cal J, Marglobe, Money Maker, Roma, and Riogrande) for resistance to TSWV by thrips-mediated infection in the field. Infection lowered yield and fruit quality. Variety Roma was the most tolerance under natural field infection. Metasystox insecticide significantly suppressed thrip populations under field condition.

**Keywords:***Tomato spotted wilt virus, thrips infestation, tomato varieties.*

1-#3-17

**Factors Influencing Green Maize Harvesting towards Achieving a Knowledge Economics Through Research and Innovation; A Case Study of South Nandi District**

*Cheruiyot P. K, Boit J.K, Changach J, Tanui P.*

**Abstract**

The purpose of this study was to assess the challenges facing the society specifically the farmers and the country on the growing popularity of the green maize harvesting within the growing areas. The study was geared towards finding out the role of policy makers in understanding the reasons why farmers were opting to sale green maize rather than wait to dry up. The study investigated the role played by the provincial administration and the Ministry of Agriculture in either promoting or discouraging green maize harvesting towards achieving a knowledge economy through research and innovations. The research also investigated the effects of green maize harvesting on farmers food security, National food security policy in Kenya. The study was guided by motivational theories. The study aimed at achieving the following objectives; to establish the factors that influence green maize harvest in South Nandi district; to evaluate pros and cons to which commercialization of green maize harvesting affects the socio-economic status of farmers; to examine the consequences of green maize harvesting. The study utilized purposive and simple random sampling technique. The study employed descriptive survey design with questionnaires and interview schedules as data of collection instruments. Both qualitative and quantitative methods were used to analyze data. Based on the findings, recommendations were made to capture all that benefits the farmer, the consumer and the state as the regulator towards being food secure.

**Key words:** *Green maize, Food Security, Challenges.*

1-#1-18

**Securing Advancing Democracy through Cryptography**

[1]*Daniel OchiengAchola*, [1]*Paul Oleche and* [2]*Fredrick Nyamwala.*

**Abstract**

Political reform is needed to reverse the dwindling voter apathy which is a growing concern in manydemocracies. Simpli_cation of election procedure through introduction of e-voting is one measure thatcan be undertaken even though it has considerable potential for large scale fraud due to automation andnetwork connectivity. Employment of e-voting scheme to conduct large scale multi-hierarchical electionin a secure way is feasible provided certain de_ciencies of existing voting protocols are addressed. Inthis paper ,we propose a hybrid cryptographic voting protocol with a stronger audit trail. We haveused cryptographic techniques including homomorphic secret sharing for universal veriability to publishresults in bulletin boards, zero-knowledge proofs in proving correctness of permutations in mixnets andvalidated votes using blind signatures to encrypt incoercible protocols. We have also curbed coercibilitythrough receipt-freeness in deniable encryptions with randomness jointly chosen by the voter and tamper

resistant tokens. We hope to increase voter convenience, con_dence and especially to ameliorate problemsnormally associated with traditional voting schemes.

**1-#1-19**

## Spectral Theory of Fourth Order Difference Operators on Hilbert Spaces

*Nyamwala Fredrick*

### Abstract

Spectral theory of unbounded difference operators have become an interesting field of research in the recent past due to realisation that thereis a close connection between differential and difference operators. Usingsubspace theory and asymptotic summation, we have computed the deficiency indices and the location of absolutely continuous spectrum of higher order difference operators. Finally, we have given some few applications of these results in real life situation.

**Keywords:** *Deficiency indices, Spectrum, Difference Operators.*

**1-#1-20**

## The Usefulness of Lagrange Multipliers in Everyday Life

*Pauline W. Githinji*

### Abstract

Lagrange multipliers are a very useful technique in multivariable calculus, but all too often they are poorly taught and poorly understood. With luck, this overview will help to make the concept and its applications a bit clearer.

One of the most common problems in calculus is that of finding maxima or minima (in general, "extrema") of function, but it is often difficult to find a closed form for the function being extremized. Such difficulties often arise when one wishes to maximize or minimize a function subject to fixed outside conditions or constraints. The method of Lagrange multipliers is a powerful tool for solving this class of problems without the need to explicitly solve the conditions and use them to eliminate extra variables.

**1-#1-21**

## Algebraic Foundations of Third Order Rotatability in Two-DimensionsAlgebraic Foundations of Third Order Rotatability in Two Dimensions

*Mutiso John Muindi*

### Abstract

The mechanisms of some scientific phenomena are understood sufficiently well that useful mathematical models that flow directly from the physical mechanisms can be written down. Such models are not considered in this study. Response surface methodology in Schlaflian vectors and matrices representation for rotatability of experimental design points and optimal design theory in Kronecker product representation for measuring rotatability of experimental design points will be appropriate to the study of phenomena that are presently not sufficiently well understood to permit the mechanistic approach. These two techniques have three kinds of applications one approximate mapping of a surface within a limited region two choice of operating conditions to achieve desired specifications and three search for optimal conditions

and are a generalization of factorial designs emphasizing the concept of rotatability. The problem of fitting a curve to the relationship between the concentration of a stimulus and the proportion of individuals responding transforming proportions to the corresponding normal deviates for data from psychological experiments is the precursor of these techniques. The concept of rotatability produced very strong reactions and the division between theoretical statisticians researching into the theory of optimal design and practical statisticians designing experiments for applied research workers is still very wide because the assumptions in the theory of optimal design have been restrictive with linear models assumed almost exclusively and the optimality criterion based on the generalized variance of the parameter estimates. This restrictiveness undoubtedly explains some of the reluctance of practical statisticians to try to produce "optimal" designs for practical problems. Development has come about mainly in answer to problems of determining optimum conditions in chemical investigations but the methods will be of value in other fields where experimentation is sequential and the error fairly small. The current endeavor is geared to be of use in deriving some new third order rotatable designs in higher dimensions from some of the available third order rotatable designs in lower dimensions. When these designs are used the results of the experiments performed according to the lower dimensional designs need not be discarded. Some of these designs may be performed sequentially in all factors and require a smaller number of points than most of the available third order rotatable designs. Algebra is used in the current effort and the results support existing moment and non-singularity conditions of third order rotatability hence "algebraic foundations" reference. Designs having a spherical variance insure that the estimated response has a constant variance at all points which are the same distance from the centre of the design. The unknown functional relationship may be represented by a Taylor series expansion of moderately low order within the region of interest. To get usable third order designs, we must combine at least two spherical sets of points with different positive radii as we have shown in these algebraic foundations of third order rotatability. The technique of fitting a response surface is one widely used to aid in the statistical analysis of experimental work in which the "yield" of a product depends, in some unknown fashion, on one or more controllable variables. Before the details of such an analysis can be carried out, experiments must be performed at predetermined levels of the controllable factors, i.e., an experimental design must be selected prior to experimentation. Rotatable designs permit a response surface to be fitted easily and provide spherical information contours where rotatability is coined from rotation in the multiplication of a vector and an orthogonal matrix when the original vector and the resulting vector have the same magnitude but face different directions from a common centre. In the real world we rarely know the exact relationship, or all the variables which affect that relationship. One way of proceeding then is to graduate, or approximate to, the true relationship by a polynomial function, linear in some unknown parameters to be estimated and of some selected order in the independent variables. Under the tentative assumption of the validity of this linear model which we can justify on the basis of Taylor expansion, we can perform experiments, fit the model using regression techniques, and then apply standard statistical procedures to determine whether this model appears adequate. A particular selection of settings, or factor levels, at which observations are to be taken is called a design. Designs are usually selected to satify some desirable criteria chosen by the experimenter and errors can arise in one or more of the following ways one the true response may be observed with error two the functional relationship may not be the correct model three the observations on the independent variables may contain errors.

**1-#2-22**

## Green Energy for Sustainable Rural Development: A Gender perspective focusing on women participation, in KisumuWest Sub-County, Kenya

*OderaPetronillaAchieng*

### Abstract

Energy services undoubtedly help alleviate poverty and stimulate economic development. The accessibility of renewables at affordable prices would lighten the women's workload and create new roles that lead to economic growth as well as making the women economically independent. This study sought to explore the factors influencing participation of women in green energy schemes for sustainable rural development in Kisumu West Sub-County.The study targeted 494 Women Groups in Kisumu West Sub-County and the Women Group members as primary respondents. A descriptive survey design was adopted for the study in which simple random sampling method was used to identify 10 Women Self Help Groups as units of analysis and 200 respondents who were included in the study. Data was collected through questionnaires and Focus Group Discussions (FGDs) guides while data analysis was done using Statistical Package for Social Sciences. Descriptive statistics and presented specifically through, tables, frequency counts and percentages. The findings revealed some of the green energy related activities in which the women are engaged as biogas technology, fireless cookers/energy saving jikos (green stoves), recycled charcoal among others. The findings further revealed age, level of education, family size, employment status as some of the factors greatly influencing women participation in green energy schemes while most critical challenges to participation include lack of a repertoire of skills and lack of capital infusion among others. Based on the findings the study recommends among others that participation of the Women Groups be sustained by capacity development through, seminars, workshops and trainings to enhance green energy schemes.

**Keywords:** *Green energy, Participation, Sustainable, Rural development*

**1-#2-23**

## Social Cultural Factors that Constraint Gender Mainstreaming in Agriculture Extension:Social cultural factors that constraint gender mainstreaming in agriculture extension

*Okello Godfrey[1], Ng'uono Millicent[2], Onganya Dedan[4],Kuto Luke [4] and Maritim K. Kassim[3]*

### Abstract

Agricultural development has been a major concern to most developing countries within the last two decades. It represents a cluster of six related but separate concepts: agricultural expansion, increased production per acre of cropped land or per head of livestock, agricultural growth, and a situation characterized with agricultural products per agricultural worker, rising income per person employed and agricultural transformation. Agriculture is considered the mainstay of economy in most of the African countries and Kenya in particular, employing more than 70% of the population. Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer's education. Agricultural extension services can potentially be provided by three main sources namely: the public, the private non-profit sector, and the private for-profit sector. The role of women comes into sharp focus when discussing extension as a means of dissemination of agricultural technology to the farming household. This is because women have been sidelined and denied control over productive resources necessary for their livelihood

activities and impact on the entire society. Gender is the range of physical, biological, mental and behavioral characteristics pertaining to differentiating between masculinity and feminity. It can also be defined as a culturally specific set of characteristics that identifies the social behavior of women and men and the relationship between them, i.e. it is a socially constructed relationships men and women. To mainstream gender is to integrate gender concerns into every aspect of an organization's priorities and procedures or the process of assessing the implications of men or women of any planned action including legislation, policies or programs in all areas and at all levels. Empowering women is empowering the entire community. This paper therefore explores the social cultural factors that constraints gender mainstreaming in agricultural extension.

**Keywords***: Social-cultural, Gender mainstreaming, Agricultural extension*

**1-#3-24**

**Effect of Entrepreneurial Supply Chain Management Competencies on Organizational Performance in Manufacturing Firms, Nairobi County, Kenya**

*Bonuke Ronald and Korir Loice*

## Abstract

The main purpose of the paper was to determine the effect of entrepreneurial supply chain management competencies on organizational performance. The study used random sampling technique to select a sample size of 368 supply chain managers from manufacturing firms in Nairobi County, Kenya with a response rate of 56.25per cent. Data was analyzed by employing correlation and multiple regression analysis. The findings indicated that innovation orientation, risk-taking characteristics, and proactiveness orientation has significant and positive effect on organizational performance. The generalizability of the findings is limited as the study focuses only on entrepreneurial supply chain management competencies in manufacturing firms in Kenya. Thus, more research and studies should be carried out to determine entrepreneurial supply chain management competencies from other sectors such as banking, construction among others. From the findings, manufacturing firms need to train more on rapid changes in technological innovation. Managers also need to be proactive and risk takers in their day to day operations in the supply chain department. The findings made a contribution in terms of allowing us to understand the some factors that can contribute to the organizational performance. The study has demonstrated some of the supply chain management practices which are crucial in enhancing manufacturing firms' performance in Kenyan context.

**Keywords:** *Entrepreneurial ,Supply Chain Management Competencies, Organizational Performance, Innovation Orientation, Risk-Taking Characteristics, Proactiveness Orientation*

**1-#3-25**

**Important Communication Skills that Extension Workers can use for Effective Dialogue on Innovations in Order to Promote Adoption of Appropriate Technologies Among Farmers in UasinGishu County-Kenya**

*Okello Godfrey[1], Ng'uonoMillycent[2] ,Maritim Kassim[3], Leonard Mulongo[4]*

## Abstract

Agriculture contributes 24% of Gross Domestic Product directly, and 27% indirectly through manufacturing, distribution and service related sectors. The sector supports the livelihood of 80% of population who are engaged in agricultural production. UasinGishu County is among the grain basket of the country with majority of the population deriving their livelihood from agriculture. In the county, the agriculture sector earned Kshs 14.7 billion while that of horticulture earned Kshs 1.4 billion in 2013. There are various challenges still afflicting the agricultural sector in UasinGishu County. This has led to wide variation in management practices and husbandry skills, furthermore the county's communities are heterogeneous, and there are many communities with different cultural and social value. Therefore, provision of high quality extension services in effective manner is very critical if the information is to reach every farming household in the County. There are many innovations and technologies that have been developed over time, and for these technologies to be effective, they will be passed over to farmers through a well-coordinated communication system. Agricultural extension is considered to be an important means of passing the information to farmers. This paper therefore discussed various communication skills that extension workers may use for effective dialogue on innovations in order to promote adoption of appropriate technologies among farmers in UasinGishu County.

**Keyword***: Information, technology, adoption, dialogue, communication.*

**1-#1-26**

## E- Optimal Designs for Third-degree Kronecker model Mixture Experiments

*Kerich Gregory[1], Koske Joseph, Betty Korir ,Josphat Kinyanyui, Koross, A; Kemboi, S.K.; Kamlie, J.K., Mumu N.B.*

## Abstract

The purpose of this study is to investigate E- optimal designs in the third degree Kronecker model for a non -maximal subsystem of parameters, where Kiefer's functions serve as optimality criteria. Based on the completeness result, the considerations are restricted to weighted centroid designs. Firstly, the coefficient matrix K and the associated parameter subsystem $K'\theta$ of interest using the unit vectors and a characterization of the feasible weighted centroid design for a maximal parameter subsystem is obtained.Once the coefficient matrix is obtained, the information matrices associated with the parameter subsystem of interest are generated for the corresponding factors. To investigate the E-optimality of weighted centroid designs, an analysis of the eigenvalue structure of $H-$ invariant symmetric matrices is done.

*Key words: Mixture experiments, Kronecker product, optimal designs, Weighted centroid designs, Optimality criteria, Moment and information matrices, Efficiency.*

**1-#1-27**

## A –Optimal Designs for Third-degree Kronecker model Mixture Experiments

*Kerich Gregory[1], Koske Joseph, Betty Korir ,Josphat Kinyanyui, Koross, A; Kemboi, S.K.; Kamlie, J.K., Mumu N.B.*

### Abstract

The goal of every experimenter is to obtain a design that gives maximum information. Similarly, the performance of a design is measured by the amount of information it contains. This study investigates A -optimal designs in the Third-Degree Kronecker model. Based on the completeness result, the considerations are restricted to weighted centroid designs. First, the coefficient matrix and the associated parameter subsystem of interest using the unit vectors and a characterization of the feasible weighted centroid design for a maximal parameter subsystem is obtained. The parameter subspace of interest in this study is non-maximal parameter subsystem which is subspace of the full parameter space. Optimal designs of mixture experiments are derived by employing the Kronecker model approach and applying the various optimality criteria.

**Keywords:** *Mixture experiments, Kronecker product, optimal designs, Weighted centroid designs, Optimality criteria, Moment and information matrices, Efficiency.*

# Symposium II

# School of Education

# Theme:

*"Managing Change in Education for Sustainable Development"*

**Sub–Themes**

1. Educational Policy: Change & Management

2. Transformative Pedagogical Strategies for Sustainable Development

3. Gender, Culture & Inclusivity in Education

4. Re-conceptualizing Teacher Education for Sustainable Development

5. Language in Education

6. Financing Education: Challenges and Opportunities

7. Re-engineering Science & Technology Education for Sustainable Development

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## Sub Theme 1

## Educational Policy: Change and Management

**2# 1 -01**

**Issues in the Implementation of Instructional Materials Procurement Policy in Kenyan Public Primary Schools: The Case of Wareng District, Uasin-Gishu County, Kenya**

*¹ Catherine Kiprop, [catekiprop@yahoo.com](mailto:catekiprop@yahoo.com).*² Jane Jelimo Michael and *³ Emily Bomett,*

**Abstract**

The main purpose of this study was to examine issues in the implementation of instructional materials procurement policy in Kenyan Public Primary School. The study was prompted by the adopted descriptive survey design and was based on Adrian Holliday's social context. theory which justifies continuous skill improvement as a contribution in making the teaching of English appropriate to the social requirements of learners and educators in varied contexts. The target population comprised head teachers, heads of English departments and teachers of English in selected secondary schools. Questionnaire and semi-structured interview schedule were the main data collection tools. Secondary schools were selected using random sampling technique recent

loss of Ksh. 1.3 billion meant for text books under the Free Primary Education (FPE) programme which raises questions about the functionality of the procurement policy. The study was conducted in Wareng District of Uasin Gishu County. A descriptive survey design was adopted utilizing both quantitative and qualitative approaches. A sample size of 152 respondents comprising 38 head teachers, 76 panel heads, and 1 DQASO were drawn from 38 public primary schools to participate in the study. Purposive and stratified simple random sampling techniques were used to select the respondents. Questionnaires, interviews, and document analysis were used to collect data. Research instruments were tested for validity and reliability. Descriptive statistics were used to summarize the findings. The study revealed that, SIMSC's lack of knowledge and skills in the procurement process and that un-procedural procurement practices adopted by schools compromised the implementation of the procurement process. Finally, the study established that, the level of compliance to the procurement process is still low and majority of schools still flawed procurement rules. The study recommends that proper monitoring and evaluation mechanisms on procurement be put in place to ensure proper implementation of the policy.

**Keywords:** *Procurement policy, implementation, Instructional materials, public primary schools, compliance.*

## 2# 1 -02

## Review of the Teachers' Service Commission Pilot Project on Teacher Appraisal and Development

*Sophia A Oriwo*

## Abstract

In Kenya, the Teachers Service Commission (TSC) currently established under Article 273 (1) of the Constitution of Kenya (2012) remains the sole employer and quasi professional body for teachers. Under the constitution, the commission is mandated to review the standard of education and training of persons entering the teaching service. In addition, the TSC ACT (2012) has further mandated TSC to formulate policies to achieve its mandate and facilitate career progression and professional development for teachers. In this regard, the TSC has put in place policies and operational structures to enable it to realize the goals and objectives as a constitutional commission. The commission recently rolled out a Teacher Appraisal and Development programme (TAD) which is being piloted in selected secondary schools. It is against this background that this paper highlights the need for institutions that have the mandate to prepare teachers to re-conceptualize teacher education so that their products who are potential employees of TSC exhibit professional performance standards expected of them and the competencies they need to fully meet the expectations of TSC. This paper suggests that the education and professional development of every teacher needs to be seen as a lifelong task, and be structured and resourced accordingly. It is necessary to have both quality initial teacher education and a coherent process of continuous professional development to keep teachers up to date with the skills required in a knowledge based society.

**Keywords:** *Teacher Education, Teacher Professional Development, Teacher Appraisal*

**2# 1 -03**

## The Kenyan Higher Education Crisis: Dilemma and Options

*John Mugun Boit*

### Abstract

This paper discusses the crisis that is confronting university education in Kenya based on analysis of government policies, statistical data, reports and institutional documents on higher education. Indications are that public university education is in a deep crisis. The crisis is caused by the problem of uncontrolled growth in enrolments and seemingly uncontrolled and unplanned expansionof university education in an environment of constrained national budget and shifting government funding priorities. This transition to mass higher education has been exacerbated by expansionary educational policies adopted by the government in the last three decades aimed at democratising access to university education. Declining government funding amidst increased public demand for university education is undermining quality of teaching, learning and research in universities. Facilities, infrastructure, staffing, library resources, and scientific equipment and teaching materials are inadequate to support this expansion. There are also justified concerns about equity, efficiency and relevance of university education.

**Keywords**: *Higher education, crisis, government funding, enrolment*

**2# 1 -04**

## Public Policy and Practice in Juvenile Rehabilitation Schools in Kenya: Current Trends and Needed Reforms

*Beth Wambugu*

### Abstract

Historically juvenile rehabilitation schools and services in Kenya have oscillated between government ministries of education; home affairs; gender, children and social development; and currently the ministry of labor, social security and services. This cyclic oscillation implies hesitancy in policy statement on the function of the rehabilitation schools. Furthermore, the practice in juvenile rehabilitation has undergone paradigm shifts from the punitive disciplinarian, to carminative, egalitarian and systematic paradigms between 1909 and 1995. On the contrary the policies guiding juvenile rehabilitation have not undergone as much evolution, considering that the main policies guiding juvenile rehabilitation in Kenya are the Children Act (2001) and the Special Needs Education Policy (2009). This is in spite of the numerous international policies on juvenile rehabilitation, prevention of offence and treatment of incarcerated offenders, to which Kenya is a signatory, and is expected to have ratified. Empirical and theoretical support shows that with appropriate policy provisions, effective rehabilitation of an offender is achieved. In view of this, the cyclic oscillation of rehabilitation schools, the Kenyan policy guidelines visa-a-vis international policies, and current practices in juvenile rehabilitation are examined in this paper, with a purpose of answering the following questions; what are the policy provisions on juvenile rehabilitation in Kenya? Do juvenile rehabilitation policies in Kenya conform to international standards? How effective is the current juvenile rehabilitation in Kenya?  What policy reforms are needed to improve juvenile rehabilitation? This paper creates a basis for formulation of rehabilitation principles that lead to effective rehabilitation. This was achieved through an

examination of policy and practice in Kenyan public juvenile rehabilitation schools using mixed research methodology that borrowed aspects of both phenomenology and descriptive survey research designs. The findings indicate inadequate policies, discrepancies between policy and practice and generally an ineffective rehabilitation programmes.

**Keywords***: Policy, Juvenile Offender, Rehabilitation, Reforms*

**2# 1 -05**

**Reconceptualizing Teacher Education for Sustainable Developmentl: A Case for Teachers' Workplace Learning: The Role of School Leadership in Teachers' Work Place Learning**

*Chirure Nabututu Hellen*

**Abstract**

Although teachers' workplace learning has been acknowledged as a significant component of school improvement, very little is known about how the school leadership influences this learning. This paper is the outcomes of a qualitative case study on workplace learning in one public secondary school in Kenya, and focuses on the influence of the school leadership. A qualitative research approach was used and data was collected using interviews, observations and document analysis. The research participants were the head teacher and five other teachers with varying responsibilities as well as work experience. The study established that the school leadership had had a significant influence on teacher workplace learning, which has implications on the role of the school leaders, particularly the head teachers in creating and sustaining an environment that would encourage ongoing teacher learning in the school. For teacher professional development providers and trainers, the findings also imply a need to increase awareness among the school leaders on the important role they play in facilitating teachers' workplace learning.

**Keywords:** *Work place, Learning, Leadership and Professional development*

**2# 1 -06**

**Role of Teachers in Decision-Making Process in Secondary Schools in Kisii County**

*Peter Simba Mwoma\*, Moses Makori Ayienda, & Ondieki James Ratemo,*

**Abstract**

The purpose of this study was to investigate the role of teachers in decision making process in Gucha District Schools. This research was influenced by the various problems the education sector in Nyanza Province especially Gucha District was facing like poor examination performance and indiscipline in schools. The key questions for the study sought information on who the decision makers are, the dominant styles of decision making and the extent to which the style of decision making enhance service delivery in our schools. The sample for the study consisted of 16 head teachers, 20 Head of Department (H.O.Ds) 18 Masters/Mistress on duty (M.O.Ds) and 105 teachers randomly selected. The study used Head teachers and teacher's decision making questionnaires, observation of teachers' roles while in their schools and interviewed some teachers on how often they are involved in decision making process as an instrument of research. The study revealed that teachers needs to be more involved in formulation and preparation of curriculum and syllabus, finance and business, physical and materials resources, evaluation of counseling services, and also on school community even in appointment of non-teaching staff personnel. The report also

revealed that the style of decision making was largely autocratic and teachers noted that they were occasionally consulted on issues of administration and management of schools. However for effective management, teachers need to be always or frequently involved in decision making. The study further revealed that the style of decision making negatively affected service delivery in Gucha District because teachers should have a bigger say in the development of curriculum and syllabus, finance and business, staff personnel, physical and material resources and in Guidance and Counseling because these tasks affect school performance and general discipline in our schools.

**Keywords:** *Role of teachers, Decision-Making*

**2# 1 -07**

**The Place of Early Childhood Development Education in the Practice of Education in Kenya**

*Bigambo, Jael Joan*

**Abstract**

Education is the practice of well designed and processed knowledge that entails values for nurturing posterity. However, the place of Early Childhood Development Education has been a mirage in the debate of Education in Kenya. This paper is in an interrogative debate of the principles, values, and promises of ECDE in the realm of competitive education in Kenya. It seeks to cut a niche for ECDE in what is arguably World Education, especially the quality of children who proceed from ECD to University Education.

**Keywords:** *Prospects, ECDE, Nurturing, prosperity*

**2# 1 -08**

**Management of Change for Sustainable Development Inclusive Education: A Change in Education for Sustainable Development**

*Andrew Makachia, and Shikuku Mulambula*

**Abstract**

Education is basic foundation for the development of any country and it entails transmission, acquisition, creation and adaptation of information, knowledge, skills and values. It is a key lever for sustainable development. In line with Millennium Development Goals, Schools that practice inclusive education have taken responsibilities to change and provide support to learners with special needs and disabilities in general classrooms. Therefore inclusion should be seen as an intrinsic to the mission, philosophy, values, practices and activities of the school and not as an addition on to a conventional school. The fundamental principle of inclusive education involves provision of opportunities to all children to learn together. Education is recognized widely as a means to develop human capital, to improve economic performance and to enhance people's capabilities and choices. The Salamanca statement emphasized that schools should accommodate all learners regardless of their physical, intellectual, social, and linguistic or any other conditions. This is a paradigm shift in the development of education. The present paper explored inclusive education practices and policies at International and local level. A way forward for anchoring inclusive education and managing it for sustainable development has been provided in this

paper. Areas of concern that have been addressed in this paper include teacher preparation and competences, teachers' attitudes, parental attitudes and involvement, adaptations of the environment, examinations and curriculum. The findings of this paper will go a long way in adding to the already existing body of knowledge in special needs area and the policy makers will find it useful given that currently there is no policy on inclusive education in Kenya.

**Key words:** *Inclusive education, Sustainable development and Change in education.*

## 2# 1 -09

## An Evaluation of Advocate- Advisory Approaches in Education: Managing Change in Education'

*Shikuku M. Mulambula,*

## Abstract

Education is normally perceived in almost all communities all over the world as a requirement for human development. The Kenyan citizens therefore have a legal right to education. The Kenya government has mandated the ministry of education to ensure that the legal rights of Kenyans to education are achieved in order for the nation to realize its desired development. The concern in this paper is a discussion on the determination of how to ensure that the legal rights of Kenyans to education are achieved. In the ministry of education, the Kenya institute of curriculum development is empowered to develop curriculum to be implemented in schools by teachers under the supervision of the quality assurance officers. The Kenya national examination council in the ministry is responsible for the evaluation of the educational outcomes. The council among other functions is supposed to provide information on the effectiveness and efficiency of the enactment of the legal rights of Kenyans to education. Given that the provision of education has a legal dimension, it is rational that the tools, evidence collected and procedures used in evaluation should reflect application of a legal framework in an attempt to avoid bias and discrimination. It is therefore necessary to develop and apply judicial education evaluation paradigms based on a Kenyan philosophy, culture and practices. Evaluation procedures should be subjected to a judicial philosophical analysis in which the participation of all the stakeholders, particularly the learners are considered. The education evaluation at national level should not be reduced to a measurement. This paper will therefore focus on the implications of application advocate-adversary (legal) oriented evaluation approaches in education in order to enhance sustainable development. The discussion will be based on empirical data collected from some selected secondary school students in Uasin Gishu and Nandi counties.

**Keywords**: *Education, evaluation, legal paradigm, educational change and sustainable development*

**2# 1 -10**

## Students Mobility in The East African Community: A Catalyst for Internationalization of Higher Education in East Africa

*Andrew K. Kandie*

### Abstract

Universities worldwide are ever striving to improve the quality of education they are offering while focusing on international, intercultural or global dimensions. It is notable that institutions globally have to comply with the ISO specifications which stand out as a yardstick for quality checks. Internationalization incorporates student mobility into its concept while bringing Universities on board to realize its universal nature. Students' mobility plays a big role in internationalization of education as it involves cross-border flow of students from various countries with different backgrounds and cultures. In East Africa, a recent study indicates that increased mobility is characterized with a significant number of post graduate students. Most of these students are professionals in various fields and therefore are resourceful when strategically incorporated into the university set up to enhance international, intercultural or global dimensions into the education system. Students' mobility in the East African Community is a fast growing phenomenon and could be very useful towards attainment of higher educational goals. With these dynamic changes, university policies may be modified to cater for opportunities that arise with students' mobility in relation to internationalization of education. This paper aims at examining the contribution of students' mobility on internationalization of education in Universities with prime focus on East Africa. This will help Universities to elevate internationalization of Higher Education which has been facing numerous challenges in the region. The information obtained is based on a research conducted in East Africa and an in-depth analysis of literature in the related field.

**Keywords:** *Students' mobility, East African Community (EAC), Internationalisation of Higher Education and Higher Education.*

**2# 1 -11**

## Strategic Planning in Public Secondary Schools in Kenya: Challenges and Prospects

*Catherine Kiprop, Betty Tikoko and Emily Bomet*

### Abstract

In Kenya, It is a ministerial requirement that public organizations including educational institutions develop strategic plans as a means of enhancing results based management and efficiency in their operations. The plans provide direction in regard to resource targeting and program implementation. In order to justify their existence schools need to develop strategies that embrace changes by anticipating challenges sufficiently in advance and by planning timely response, increasing speed of implementing of response, being flexible and respond on time to surprises which could not be anticipated in advance. School planning involves determining school needs, prioritizing school needs, preparing action plans, implementing and monitoring the plans. One factor that stands out as a key determinant to school success is school planning effectiveness. This paper provides a critique of the challenges facing public secondary schools in the development and implementation of strategic planning and the prospects of its adoption.

**Keywords:** *Strategic planning, challenges, prospects, public secondary school*

**2# 1 -12**

**Teenage Mother and Schooling: Teachers Perception on Their Involvement in Implementation of Teenage Mother Re–Admission Policy in Kenya**

*Emily J Bomett, Daisy Jebet Kipkosgei, Kiprop Catherine*

**Abstract**

The purpose of this study was to investigate teachers' perception towards their participation in the implementation of the teenage mother re-admission policy in secondary schools in Koibatek District-Baringo County. The objectives of this study included: determining the level of awareness of teachers regarding teenage-mother re-admission policy; investigating the perception teachers hold on their involvement in the implementation of the girl-mother re-admission policy; establishing the teachers perception on the role of principals' in the implementation of the girl-mother re-admission policy; investigating the perception teachers hold on the principals' and guidance and counselling preparedness in the implementation in regard to this policy. The study adopted a survey research design. The target population included 19 head teachers, 114 teachers, 19 Parents Teachers Association and 1 District Quality Assurance and Standards Officer (DQASO) from 19 schools. Purposive sampling was used to select 19 head teachers, 19 guidance and counselling teachers, 19 Parent Teachers Association members and 1 District Quality Assurance and Standards Officer (DQASO). Simple random technique was used to select 114 teachers. Questionnaires, interviews and document analysis were used to collect data. A pilot study was done in the neighbouring Uasin-Gishu County. Data was analysed using descriptive statistics and qualitative analysis. The study established that teacher awareness of the re – admission policy was found to be high although the gist of the matter was that the implementation was solely done by the school principals with minimal involvement of teachers. The study recommends that there is need for holistic involvement of teachers on the implementation of return to school policy and that the government needs to offer capacity building course to teachers on how to address teen-mother related cases in secondary schools.

**Keywords:** *Implementation, Involvement, Re-admission Policy, Teachers Perception, Teenage-mother*

**2# 1 -13**

**Effect of the Learning Environment on Dropout in Primary Schools in Katilu Division, Turkana County in Kenya**

*Emily J Bomett, Namunwa B Daniel, KipropCatherine*

**Abstract**

It is the policy of the government to ensure retention of pupils in school until they complete the primary cycle. The study therefore inquired into the reasons why dropouts existed despite the government effort to increase access to basic education. The purpose of the study was to investigate the effect of the learning environment on dropout in primary schools in arid and semi-arid regions using a case of Katilu Division, Turkana South District in Kenya. The objectives of the study were to; investigate the effect of availability of learning resources, kind of punishment, performance in tests and teacher factors on dropout. Survey research design was used in this study. The target population was 12 head teachers, 237 teachers and 830 class six and seven pupils from the twelve primary schools in the division. Simple random sampling was used to sample 250 pupils and 72 teachers; these were 30% of each of the respondents. Twelve (12) head teachers were purposively sampled. Four (4) school dropouts and 4 community members were identified

to participate in the study. Questionnaires and interview schedules were used to collect data. Documents at the District Education Office were analyzed to determine the staff establishment and pupil enrolment in the Division. Reliability of data collection instruments was ascertained through test re-test method. Data was analyzed quantitatively using percentages and a chi-square. The study concluded that key determinants of dropout were inadequate desks, frequent teacher absence from the classroom, inadequate textbooks, punishment, poor performance in tests, and low teacher to pupil ratio and lack of participation in refresher courses by teachers. The study, therefore, recommends that proper planning for provision of conducive and adequate resources in the learning environment in primary school areas should be implemented in order to reduce wastage in form of dropout.

**Key Words:** *Access, Dropout, Learning Environment, Learning Resources and Retention.*

## 2# 1 -14

## "The Role of the Teacher Counselors in Counseling Students in Selected Secondary Schools in Kisii County"

*Ondiko, Theresa Moraa N., Ondieki J. R.\*, Bathsheba, R. Kerongo, & Benard Momanyi*

## Abstract

The purpose of the study was to investigate the role of the teacher counselors in counseling students in selected secondary schools in Mosocho division, Kisii Central District, Kisii County, Kenya. The objectives of the study were to determine the role of the teacher counselors, to find out the challenges experienced by teacher counselors, establish the role of the head teacher in relation to counseling services and to make recommendations to improve the counseling services in secondary schools in Kisii central district, Kisii County. The target population comprised of 3,240 students, 225 teacher counselors and 9 head teachers from all the public schools in Mosocho Division. Out of this a sample of 150 students, 15 teacher counselors and five head teachers was selected through a combination of purposive and simple random sampling. The study used descriptive survey design. Data collection instruments included interview schedule, questionnaires and document analysis. The research instruments were administered to the same pilot group twice after an interval of two weeks and the results compared. The reliability coefficient alpha of 0.7211 was obtained, thus the research instruments were considered reliable and therefore adopted for the study. Data collected was analyzed using descriptive statistics and presented in form of frequency tables and percentages. The findings of the study will become a basis for improving counseling services in secondary schools in this region. The study will help the head teachers, teachers and policy makers to curb the unrest and other challenges that students in secondary schools face.

**Keywords:** *Teacher counselor, counseling*

**2# 1 -15**

**Projection on the Number of Secondary School Students in Kenya In 2015: A Survey of Nandi North and South Districts.**

*Zachariah K. Kosgei & Joyce J. Kurgat*

**Abstract**

The purpose of this paper was to project the number of students in secondary schools in the year 2015. The study was based in Nandi North and South Districts in Kenya. Descriptive research design was employed and purposive sampling technique used in choosing of the sample size for the study. The objective of the study was to determine the enrolment in schools in the base yea, determine the transition and wastage rate and use the information obtained to forecast to the target year. The study was based on the Manpower Requirement Approach. Data for the study was collected by use of questionnaires and interview schedule. The findings indicated that the number of students expected to be in secondary schools in the year 2015 would be 32,545. Based on this finding the educational planner, policy makers and the teachers' service commission should plan for the provision of adequate resources for the anticipated number of learners.

**Keywords:** *Projection, Survey, Secondary schools*

**2# 1 -16**

**Nurturing Integrity in Management Education with the Development of an Alternative Web of Metaphors**

*Patrick Onsando*

**Abstract**

Management education has set the goal to improve the content of undergraduate and graduate courses so that they broadly integrate concerns for ethics and integrity. In order to reach that goal, management educators must consider how an overreliance on mainstream metaphors (e.g., business-as-war) perpetuates uneasy incorporation of ethics and integrity. They need to be mindful of how metaphors are used and the images that they evoke. Part of the challenge in fostering ethics and integrity is to deal with student preconceptions about the nature of business activities, which is generally in line with these mainstream metaphors. With this paper, our goal is not to find the best metaphor to incorporate praxis of integrity within management education, but to suggest the need for a web of metaphors to grow and develop into an appealing alternative. Exposure to different metaphors can lead to different lines of reasoning and decision-making. By using different metaphors to understand the complex and paradoxical character of management, students could see things in ways that they may not have thought possible before. In short, management education needs some sort of metaphorical pluralism in order to embrace concerns for ethics and integrity.

**Keywords:** *Nurturing Integrity, Management Education, Alternative Web of Metaphors*

**2# 1 -17**

## Dimensions of Total Service Quality Management in University Education

*Stephen Momanyi, Bernard Ombati, Francis Komen and Benson Sorhe*

## Abstract

Usage of total service quality management principles in solving industry-related problems has been institutionalized in many businesses. Total service quality management is part of the organizational culture and permeates all aspects of the daily organizational life of management and workers. Several universities have used total service quality management as a means to gain competitive advantage and improve organizational performance. However, total service quality management framework is missing and more specifically, quality of service performance is not measured. We believe that the formal use of a framework would instill discipline in the total service quality management implementation process and facilitate continuous improvement efforts. This paper deals with a framework addressing dimensions of total service quality management in university education. In particular, it addresses quality of design, quality of conformance and quality of performance dimensions of total service quality management.

**Keywords**: *Quality management, Total service, Quality management*

**2# 1 -18**

## Changing Perspectives of Early Childhood Education for Sustainable Development

*Elizabeth Owino and Rose Rutto-Korir*

## Abstract

In the world today, what counts amongst the many available products and services is quality. Quality gives people opportunity to choose. Despite the fact that research evidence shows that creating fully functioning and flourishing adults to a great extent depends on early childhood experiences, many parents and 'parents to be' do not consider seriously the choices they make as regards the schooling of children in early childhood. This was a mixed method study that explored the perspectives of parents and 'parents to be' on school choice in early childhood. The study sample was made of ten men and ten women purposively selected from Nairobi, Eldoret and Kisumu counties, Kenya to form the study sample. The main objective of the study was to find out from the respondents the top three factors that they considered or would consider when selecting schools for children in early childhood. Data was collected using email and a follow up done by phone to clarify responses. The study findings revealed that despite the importance of early childhood experiences to children's future adult life, parents and 'parents to be' were still very casual when it came to making this important choice. 12 (60%) of the respondents did not believe that there was a relationship between experiences in childhood and adult life, and reasoned that time and new experiences would make up for any stressful childhood. 16 (80%) of the parents felt that seeking the opinion of children with regard to this matter was not logical as children at this age were too young to reason. An equally good number of parents 10 (50%) felt that they did not have the capacity to bring quality change in the early childhood schools that their children attended. They reasoned that since quality schools were few, they had to put up with what was offered even if they were not happy. Further probing on what 'quality' meant

revealed that the meaning of the term was as varied as the parents were. The study recommends that parents and 'parents to be' should re conceptualize early childhood education given that benefits of early childhood have far reaching effects in adulthood. The parents and parents to be should be made to redefine quality issues in early childhood education in line with the global context of quality.

**Keywords:** *Early Childhood, Parents to be, Global quality*

## 2# 1 -19

## Managing Education for Sustainable Development

*Wafula Andrew Luke[1]; Mulambula Musima[2]; Siakilo Emmanuel[3]*

## Abstract

This paper puts forth a proposition for the use of a conceptual approach of Education for Sustainable Development (ESD) for the planning and design of curricula to ensure that educational opportunities in sustainable development are holistically and effectively provided to secondary school students. It addresses how the internal and external environments could influence the prospects of a school to address curriculum development and an implementation process in ESD. This study addresses what such a 'localization' process would mean in practice through a case study of selected secondary schools in Kenya. Working from stated definitions of 'Sustainable Development' and 'Education for Sustainable Development,' the author developed a theoretical process for achieving curricular reform in higher education. This paper explores current awareness and attitudes towards sustainable development; explores the inclusion of sustainable development in the secondary school curriculum and investigates possible barriers to incorporating sustainable development in secondary school curriculum. In-depth interviews and questionnaire tools are key in data collection for this study. Findings are presented descriptively in form of cumulative frequency counts and percentages. The study establishes that awareness levels of sustainable development among secondary school students are low and their attitudes negative. It is recommended that the Ministry of Education needs to undertake a 'Phased Strategy' in order to systematically and holistically develop a curriculum in ESD in secondary schools. Universities need to start training teachers of Environmental Studies and that there is a critical need for a 'localization' strategy for an ESD curriculum development process in Kenyan secondary schools.

## 2# 1 -20

## Principals Interpretation, Vision and its Influence on Learners' Academic Achievement in Public Secondary Schools in Baringo County, Kenya

*Stephen T. Cheboi\* and Jonah N. Kindiki*

## Abstract

It is critical for principals to provide effective leadership when their schools formulate shared instructional goals which provide structures that focus schools towards student learning and improved academic achievement at national examination. This study sought to determine teachers' perception of actions taken by principals in defining school instructional mission and goals in public secondary schools in Baringo County. The study was a descriptive cross-sectional survey that adopted a survey research design and employed mixed methods of inquiry in a

concurrent procedure. It used a sample of 48 public secondary schools, 12 principals and their deputies, and 253 teachers. Stratified sampling was used to categorize schools, simple random sampling to select the teachers and purposive sampling to select the principals. A structured teacher response questionnaire and unstructured interview guide were used to collect data from the teachers, principals and their deputies respectively. Descriptive statistics were run, and their means and standard deviation presented on tables and a graph. The findings revealed that teachers in Baringo County's public secondary schools agreed at MR=3.99 that their principals formulated and communicated the schools' instructional mission and goals to enhance teaching and learning and improve students' academic achievement at national examination. However, it further showed that teachers agreed at MR=4.01 that principals communicated instructional goals to their schools' constituents compared to framing instructional goals at MR=3.88. They also agreed at MR=4.12, 4.04 that principals developed instructional goals in high and average performing schools compared to low performing school MR=3.88. The study recommends that principals provide leadership when their schools formulate and implement instructional goals, Kenya Management Institute should empower principals in district and low performing schools so as to better their management and instructional leadership in framing instructional mission.

**Keywords:** *Instructional Leadership, Instructional Goals, Academic Achievement*

## 2# 1 -21

## Liberative Role of Education in Transforming Society

*John K. Chang'ach, John K. Boit, Silas Chemwaina*

## Abstract

In 1963 the Kenyan government promised free primary education to its citizens. In the early 70s primary school fees were abolished but in the mid 80s cost sharing measures between the government and its citizens led to the re-introduction of minor fee charges by primary schools. As the trend continued with schools requiring parents to pay fees such as PTA, harambee, textbooks, uniforms, caution fees, exam fees and extra curricular activity fees, most parents became overburdened and unable to raise such fees. Those who could not afford the money to pay for their children's school fees often had their children drop out of the school. Many children were also forced to drop out of school. To pressurize parents to pay fees, schools often sent children home during the final exams. The illiteracy rate in Kenya now stands at 40%. Kenya used to have one of the highest literacy rates in all of Africa. So, this high illiteracy rate basically means that parents do not have money for school fees. Then of course, even if you've been attending school sporadically there comes a point where, if you miss out on the basics, you will not be able to do well on national exams and it creates this vicious cycle. This paper sets out to examine salient factors that promote illiteracy among the Kalenjin community. The paper will recommend practical solutions to mitigate the problem.

**Keywords;** *illiteracy, mitigation*

**2# 1 -22**

## Reorienting Education to Achieve Vision 2030: Challenges and Barriers

*\*Kanyiri Joyce,  Alice Kibui, Omtondo Tom*

**Abstract**

Education is the single most important factor essential for economic growth, technological advancement, social-cultural sophistication, healthy living and successful political governance. Nelson Mandela affirms this and states that education is the most powerful weapon, which you can use to change the world. Education is more than speaking a foreign language. It encompasses the development of skills and competencies essential to navigate through life and efficiently and effectively perform productive tasks necessary for maintenance and enhancement of life. It therefore has to be looked at holistically and not just as a process where children or individuals go through a school system. It has to be viewed from the end product also; the graduates who will emerge from this system and the consequent society created. Education for Sustainable Development (ESD) processes emphasize the need for stimulating a holistic, integrated and interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behavior, and lifestyles. This requires us to reorient education systems, policies and practices in order to empower everyone, young and old, to make decisions and act in culturally appropriate and locally relevant ways to address the problems that threaten our common future. This paper discusses current challenges, presents government proposals for reform and recommends way forward towards achieving an enabling education sector that supports sustainable development by the year 2030, thus making Kenya a high income nation. The method used was exploratory study and the author utilized the following methods of data collection. One was to review existing relevant documents from the ministry of education such ministry of education reports; commissions and committees' reports; policy papers; The study collected primary data using  group discussions and individual key informants from key ministry institutions. Data was analyzed using qualitatively techniques and presented using description. There is therefore need to critically look into our education system so as to introduce efficiencies and ensure it effectively produces graduates well equipped for modern day life experiences.

**Keywords:** *Development, Education, Reorienting, Vision*

**2# 1 -23**

## An Assessment of School Management Committees' Capacity in the Implementation of FPE Funds in Public Primary Schools: A Survey of Eldoret East District, Kenya

*\*Joyce Kanyiri, Faith J Kiprono & Mary Nganga*

**Abstract**

The introduction of Free Primary Education (FPE) in 2003 saw a shift in the functions of School Management Committees (SMCs) with emphasis shifting from collection of funds and provision of infrastructure to management of government funds and learning resources in the school (MOEST, 2003). The school management committees (SMC) are responsible for managing funds, settling disputes in the school and procurement. This study sought to assess the capacity of SMCs in implementation of FPE funds in public primary schools in Eldoret East District. The study was guided by the following objectives: To find out the capacity of school management committee members in the implementation of FPE funds and to establish the challenges of SMCs in the implementation of FPE funds in public primary schools. The study conducted a survey of public

primary schools in Eldoret East district. Both probability and non-probability sampling methods were employed to select 200 respondents among the head teachers, senior teachers and members of school management committees. From the study findings Majority of the respondents cited the inability of the SMCs to implement devolved FPE funds while at the same time lacking accounting skills and lack of personal continuous development and training. The study recommends that the SMCs should be trained on financial management to be able to run the schools professionally.

**Keywords***: school management committees' capacity, FPE funds*

### 2# 1 -24

### Intervention Strategies to Improve Students' Academic Performance in Public Secondary Schools: A Case of West Pokot Sub-County, Kenya

*Ngolekong Richard, *Kanyiri Joyce & Isabella Wainaina*

**Abstract**

The study seeks to examine the intervention strategies influencing students' academic performance in public secondary schools in arid and semi arid lands; with a particular interest of West Pokot Sub-county. It was steered by the following objectives: To investigate the influence of parental involvement on students' academic performance in public secondary schools; to assess the influence of student support programs on students' academic performance in public secondary schools; to establish the influence of capacity building on students' academic performance in public secondary schools; to determine how behavior modification influences students' academic performance in public secondary schools; and, to examine how life skills influences students' academic performance in public secondary schools in West Pokot Sub-county. The study was guided by the social chaos theory which was pioneered by Edward Lorenz. It adopts a descriptive survey research design. A sample size of 324 respondents was derived at using percentages of the target population as recommended by Mugenda and Mugenda. Data was collected through the use of questionnaires, interview schedules and document analysis. The data was analyzed using both qualitative and quantitative techniques. thereby guiding education policy makers and education planners on the ones that can help improve academic outcomes of students if properly employed. The study found out that interventions increased retention rate and lowed failure rates, students should be given additional opportunities to master concepts, which would raise their performance levels.

**Keywords***: Interventions**, Strategies, Influence, Performance*

## Sub–Theme 2

## Transformative Pedagogical Strategies for Sustainable Development

**2# 2 -01**

## Learning Environment, Learning, and Teaching Approaches: Will our Children Learn?

*Brown Bully Onguko*

### Abstract

The declared aspirations by the community of countries to achieve both Education for All (EFA) and Millennium Development Goals (MDGs) is a critical part of educational initiatives in Kenya. Schools are the physical places through which some of these goals can be achieved. Majority of the schools, particularly those in rural and remote places, as well as those in slums in Kenya have remained unfriendly spaces for the purposes of proper learning. This paper shares findings from a doctoral research that entailed teachers' professional development accompanied by other intervention initiatives to improve the school situation including a school-to-school curriculum exchange partnership involving grade 5 and 6 students of a Canadian school and grade 6 students of the Kenyan school, and provision of safe water for the school community of 1200 members in rural western Kenya. The objective of the interventions was to initiate a whole school improvement process focusing on teachers' and learners classroom interaction, teachers' professional development and interaction of the learners in a Kenyan rural setting with learners in a developed setting in Canada. The data was gathered through documentation of school-to-school partnership project between the Kenyan school and a school in Alberta province of Canada, observation of teachers in classrooms in the Kenyan school and interviews with teachers. Findings reveal teachers' enthusiasm to teach despite very difficult circumstances including poor infrastructure and lack of teaching and learning resources. Students on the other hand were inspired through the initiatives to enjoy their learning through active learning approaches. The school community received water filters, revived their water sources and got safe water in school.

**Keywords**: *Learning environment and teaching approaches*

**2# 2 -02**

## Mentorship, a New Transformative Dimension in Training Student Teachers: The Case of Kenyatta University, Kenya

*Isabella M. Musyoka-Kamere, George Kiganjo*

### Abstract

In a move to shift from the traditional internship or teaching practice style where by the student teachers were purely assessed on the ability to put into practice what they had learnt in the University, Kenyatta University has introduced a new system whereby the student is attached to a mentor to receive a more wholesome training and experience and to bring out their best potential. It is the largest teacher training tertiary institution in the Country. In April 2014, it

officially launched a Mentorship Programme for teachers on teaching practice, although the programme had been mooted and tried earlier. The rationale for adopting this programme was to impart life skills to the student teachers and make them better prepared for their responsibilities as teachers. In this paper, mentorship will be used to refer to the relation between the mentor, or the more experienced teacher in the practice and the mentee, in this case the student teacher. This relationship, which is a sharing relationship, allows the student teacher to learn the art of teaching, and other aspects such as relating with colleagues, personal presentation and etiquette among others under the guidance of the experienced teacher, while the experienced teacher learns from the student teacher new theories of practices or other knowledge they may get through the relationship. It is therefore a symbiotic relationship. The aim of mentoring is to help the student teacher fit in and feel connected to their chosen field or profession. It therefore gives the student teacher a holistic approach to learning. The research will employ a descriptive research design that will seek to show how the mentorship programme of Kenyatta University has been implemented and how it has been received by presenting the voices of those who have participated in it. It will also attempt to bring out areas of improvement by seeking suggestions from all involved in it. To do so questionnaires will be administered to the mentors and head teachers while face to face interviews will be carried out on the student teachers.

**Keywords:** *Mentorship, mentor, mentee and transformative*

## 2# 2 -03

## The Integrated Approach in English": Truth or Myth?

*Wasike .E K.*

### Abstract

In 2003, the KIE (Kenya Institute of Education) revised the teaching of English and Literature in secondary schools in Kenya. English and Literature were previously taught as separate subjects. With the introductions of integration the merger of the two subjects was mandated. Integration is defined as merging of two autonomous but related entities in order to strengthen and enrich both. The aim of the integrated approach in English was to expose the learner to Literature and language simultaneously; literature used to improve language skills. Teachers encounter various problems in trying to implement the integrated approach in English in Eldoret East schools. This paper is a discussion of what integration ought to be visa a vis what is on the ground. There is need for curriculum developers to define appropriately what integration in English and literature is, then in return fostering communicative competence among students in secondary schools in Kenya.

**Keywords:** *Integration, English, Literature, Integrated Approach, Schools*

**2# 2 -04**

## Sustainability of Adaptive Electronic Instructional Media for the Visually Impaired in Integrated Programs; Kenya

*Obondo Gaudence, Jackson K. Too  j, Violet K. Nabwire*

### Abstract

This study investigated sustainability of adaptive electronic instructional media (AEIM) for the visually impaired with a focus on Kenya Integrated Education Program (KIEP). The objectives of the study were to; establish if adaptive instructional electronic media are sustainable in integrated schools and to find out teacher skills in sustainability process. A total of 30 itinerant teachers were selected for the study using stratified random sampling technique. Questionnaire was used for data collection. Descriptive statistics involving frequencies, tables, standard deviation and graphs were used to analyze qualitative data. Results revealed that adapted electronic instructional media are not sustained in Kenyan programs, therefore there is need to enhance sustainability of AEIM in our schools. The findings also revealed that there is lack of instructional leadership to support sustainability. Once the AIEM is brought to schools, it is left in the hands of teachers who lack technological sustainability knowledge. It is strongly recommended that there is need to create awareness on the importance of continuous use of AIEM in schools, parents should be involved in maintenance of learning materials, teachers should be given technological maintenance skills and form a basis for improving already formulated sustainable policies that will assist in sustainability of AIEM.

**Keywords:** *Sustainability, Visually Impaired, Integrated Program, Itinerant Teacher, Adaptive Instructional Electronic Media*

**2# 2 -05**

## Managing Change in Education: Exploring Early Childhood Education Teacher Competencies for Sustainable Development

*Betty Tonui, Esther Bitok, Philomena Chepsiror and John Chang'ach*

### Abstract

In recent years, growing knowledge of the critical importance of childhood development for lifelong learning and growth has led to increased calls for professionalism of early childhood educators including higher standards for training and education. As part of this renewed attention to professional development, professionals in the field should develop the national competence framework for early childhood care and education, with the goal of assuring that all educators of young children have the necessary knowledge and skills to meet children's development needs. This study was done at Nandi County, Rift Valley. The study sought to answer the following research question: What early childhood teacher competencies do the teachers at Nandi County have? What age group(s) of children did they include in their early childhood sector? What social and emotional competencies did the children in early childhood sector have? What changes would take place in ECD professional development? This study adopts a cross sectional design in which data are collected predominantly by questionnaire, structured interviews and official statistics and that qualitative content analysis of a set of documents relating to a single period will be used. Respondents' are identified through simple random sampling technique. Data from field was analyzed both quantitatively and qualitatively and presented in form of discussions. The study findings benefits ministry of education, teachers, parents and other education stakeholders in

understanding various Early childhood teacher required competencies towards expanded vision of education for life that was first agreed upon at the World conference on Education for all that was held in Jomtein, Thailand, in 1990.

**Keywords:** *Competence, Teacher Competence framework, Sustainable development*

**2# 2 -06**

**Managing Change in Education: Transforming Society Through Education**

*Robert Masinde*

**Abstract**

Education has been understood as tool for empowering individuals and society socially, economically, politically and morally. This way of understanding has had a profound influence on curriculum development and implementation on one hand and the educational outcomes on the other hand. A critical point of realization of these educational outcomes has been and will remain to be in higher education with an understanding that graduates from institutions of higher learning are in possession of relevant knowledge, skills, values and attitudes that bring about societal transformation. This conceptual paper examines the relevance of the current curriculum to both individual and societal needs, the classroom strategies and techniques in use, the evaluation purposes and methods, the educational outcomes and their sum-total impact on sustainable development. The discussion shall be advanced in the wider transformative pedagogy framework by focusing the content of education, the educator, the learner and the process of education. This discussion will be connected to the principle of sustainability of educational gains to society as a whole and to individuals, systems, and resources in particular.

**2# 2 -07**

**Towards Integrated E-Learning Approach: Teachers and Students Perceived Challenges in the Teaching and Learning of Business Studies in Kenyan Secondary Schools**

*Susan J. Kurgat*

**Abstract**

This paper examines the challenges encountered by teachers and students as they use the new innovation of integrative E-learning in Business Studies in Kenyan secondary schools. It is based on a descriptive survey research undertaken in selected E-schools in Kenya. Purposive sampling was used to select the teachers and random sampling technique was used to select the students. A total of three Head teachers, eight Business Studies teachers and 127 Business Studies students participated in the study. Questionnaires and face to face interviews were used to collect data from the sample. Both descriptive and inferential statistics were used to analyze the data gathered in this study. Descriptive statistics included the use of frequency tables, percentages and mean scores. Inferential statistics involved Analysis of Variance (ANOVA). The study revealed that Heads teachers, Teachers and students perceive the approach to have many challenges, especially at the initial stages of installation that are overcome in due course. These challenges observed in the implementation process of the integrated E-learning approach can be overcome by having a comprehensive ICT strategic plan that will guide all issues pertaining to the implementation of the E-learning approach in the school system. Moreover, the Ministry of Basic Education should grant more autonomy to schools in acquisition and accountability of the school funds pertaining

to the installation of the innovations. For instance schools should not be restricted to purchase textbooks even when they have enough but allow the funds to be diverted to purchase new technologies.

**Keywords:** *Challenges, Integrated E-Learning Approach, Teaching, Learning, Business Studies, Kenyan Secondary Schools*

**2# 2 -08**

## Resource Capacities Supporting Thematic Approach in Teaching ECDE, In Uasin Gishu County

*Esther Chepkorir Bitok, Philomena Chepsiror, Betty Tonui, Jackson Too*

### Abstract

Teachers are important resources in the teaching and learning process and should therefore be considered alongside other learning resources. They are the best recourses to be built into a particular teaching strategy designed to achieve a specific learning practice for instance thematic approach, without which can be administrative problem to head-teachers. Without adequate resource materials, it is a drawback to the implementation of new ideas and techniques. The study sought to investigate resource capacities of ECDE centers in supporting thematic approach in teaching in early childhood development centers in Eldoret Municipality. It was guided by Kurt Lewin's Three Stages of Change Model developed in 1954. The study adopted the Descriptive Survey research Design. The target population comprised 266 respondents comprising of 164 ECDE teachers, 82 head teachers and 20 Educational Officials. Stratified sampling was used to select thirty schools out of eighty two schools; Public and Private Schools which translated to 30% of the total sample population. Purposive sampling was used to select all the head teachers to participate in the study while random sampling was also used to select one ECDE teacher. Instrumentation included the questionnaire, interview guide and document analysis. Data was collected and analyzed using descriptive statistics. Majority of the ECDC's have inadequate resources and capacities both physical and human required supporting the implementation of thematic approach in teaching ECD children. The head teachers who supervise the curriculum in their schools are also not ECDE compliant hence, may not have be in a position to advice the teachers concerning the approach appropriately. The study recommended that ECDCs be equipped with adequate and developmentally appropriate materials and resources.

**Keywords**: *Resource, Capacities, Thematic, Approach*

**2# 2 -09**

## The Position of Research in Uganda Christian University: A Case of UCU Mbale Campus

*Nabende D. Wamakote, Mwelu Lukunyu S.,Gidudu H. Lunyol and A. Magolo*

### Abstract

Uganda Christian University – Mbale Campus is one of the higher learning institutions in Uganda whose major purpose is to train learners on how to carryout research, developing research policies and also providing solutions to address societal problems. The university policy of optionalisation of research by students seems to undermine the above mentioned purpose thus the need for the study. The main objective of this study was to examine the general issues that face the research

department and how they relate to the various stakeholders. The study employed two research designs namely descriptive and case study research design which provided a fair and intensive examination of research issues at UCU – Mbale Campus. The findings established a number of challenges ranging from research policies, staff recruitment, human resource development, staff motivation, and infrastructure, attitude towards research by staff learners and the community and lastly finance issues. Arising from the above findings, the researchers recommended for the development of a research policy with emphasis on staff recruitment, staff development strategies, research grants, research and publications, motivation strategies such as promotions, infrastructural improvement, non- optionalisation of research by all students and creation of a university consultancy firm.

**Keywords***: Research, Research policy, and optionalisation*

### 2# 2 -10

### An Investigation into Implementation of ICT in ECD and Primary Schools, in the Light of Free Laptops at Primary One: A case study of teachers implementing ICT into their teaching practice

*Betty Tonui, Eunice Kerich, Rachel Koross and J.K. Too*

### Abstract

Information and communication technologies (ICTs) have been touted as being potentially powerful tools that can be used to facilitate the implied educational change and reform. Implementation of ICT in higher education learning environments is a complex task. Teachers and students, but also management, administration and ICT support are affected by and affect the implementation. To facilitate the change processes better the first step is to actually understand what problems and challenges implementation of ICT leads to and how it affects practice. Although classical instructional methods will continue to be used in the teaching-learning process, it is also true that Information Communication Technologies (ICTs) can be harnessed to become powerful pedagogical tools. Proceeding from the premise that there are many ways to use new technologies for teaching and learning, the paper presents literature on the possibilities and challenges of integrating ICT into teaching-learning, the rationale for adopting and using ICTs for learning-teaching, as well as the key factors that influence the adoption and use of ICTs in teaching and learning both from a general perspective and in a technical education context. The paper then outlines and discusses findings of a study designed to investigate the possibilities and challenges of using Information Communication Technology (ICT) in teaching-learning procedures in primary school institutions in Kenya using data obtained from a Tinderet District school in the Rift valley region of Kenya. It examines views in pertinent literature as well as teachers' perceptions of the benefits of integrating ICT into teaching-learning, the success factors and obstacles encountered in their endeavours to do this. Conclusions are drawn and suggestions made to address the challenges and improve on the use of ICT for teaching-learning in teaching institutions.

**Keywords:** *ICTs, implementation, teaching-learning, challenges, possibilities*

## Sub–Theme 3

## Gender, Culture and Inclusivity in Education

**2 # 3-01**

### The Influence to Change Frustrates Maasai Girls' Learning Outcomes in Secondary School Education in Kenya

[1]*Stephen Kipkorir Rotich, Laban Ayiro, James Sang*

**Abstract**

The purpose of the study was to investigate why Maasai community continues practicing harmful Cultural practices and determine their influence on girls' participation in Secondary School Education in Narok County. A questionnaire was given to a sample of 181 teachers out of 400. Focus group discussions were conducted for 180 Maasai girl students and an interview for 20 Principals. The study adopted mixed methods design and pragmatic philosophical paradigm. Data analysis utilizes descriptive and non parametric statistics. The research findings found enrollment of girls in Transmara west decreasing at the rate of 40 % (primary) and 10% (secondary) and Narok North increasing at the rate of 10% in both primary and secondary schools. For every 15 girls enrolled for KCPE, only 1 join secondary school in Transmara West and for every 10 girls, only 1 join secondary school in Narok North. Girls' transition rate to University is 2.4% (Transmara West) and 1.0% (Narok North). Pearson tests reveals significant relationships between the parents' education ($p=0.04$) and mediating cultural factors; FGM ($P=0.03$), Pregnancies ($p=0.00$), Early marriages ($p=0.03$) on girls' participation. The findings demonstrate that the Maasai cling to their customary practices for fear of exploitation, exposure to poverty and teenage pregnancies. The argument for FGM continuation is that the practice is a traditional cultural rite of passage which guarantees girls' marriage. However, the practice has made the girls to shy off or absent in class and consequently lower their academic performance. The study recommended for empowerment and enforcement of women and girl's rights through participatory/advocacy for education-in-culture and culture-in- education.

**Keywords:** *Culture, Change, Resistant, Learning Outcomes*

**2 # 3-02**

### Gender Differences in Parental Involvement in Children's Learning in Public Secondary Schools: A Case of Kieni-West District, Nyeri County-Kenya

*Ondigi S. & Ndirangu L.*

**Abstract**

The attitudes and aspirations of parents and of children themselves predict later educational achievement. International evidence suggests that parents with high aspirations are also more involved in their children's education. This study was set to investigate gender differences in parents' involvement in their children's learning in public secondary schools in Kieni-West District Nyeri County-Kenya. The  objectives of the study were to: (i) Investigate gender difference in the nature of parental  involvement in their children's learning; (ii) Establish gender differences in factors influencing extent of involvement children's learning and to (iii) Explore parents' views towards the teachers in their involvement in learning. Seventy parents who had their children in public secondary schools were randomly selected. The research study employed a mixed method approach using both qualitative and quantitative techniques in collecting and

analyzing data. The study used face to face interviews with fathers and mothers. The findings of the study indicated that 89% of the mothers participated in school events and activities compared to 83% of the fathers. Further findings indicated that 70% of the fathers communicated to their children in mother tongue while at home compared to 61% of the mothers. Majority of the fathers had attained secondary education while majority of the mothers had primary education. The study revealed that mothers experienced painful experiences during their time than the fathers. Major recommendations include among others    attending parents teachers' conferences and encouraging parents to communicate to their children in English.

**Keywords**: *Gender, Parental involvement, Children's learning, Gender differences*

## 2 # 3-03

## Gender Equity and Access in Kenyan Public Universities: An Examination of Affirmative Action Policy on Practice

*John Mugun Boit*

## Abstract

This paper presents the results of analysis centering on the impact of affirmative action policy that seeks to enhance the proportion of female enrolment in public universities as a means of achieving gender parity in university admission. Analysis of enrolment data and review of Joint Admissions Board documents and reports show that, gender parity in public university education is elusive despite decades of affirmative action implementation. Female students continue to be disproportionately represented at 38% and are effectively excluded from physical sciences and technologically oriented degree courses such as mechanical engineering, geospatial engineering, mathematics, computer science, microprocessor technology and instrumentation where their participation rate is below 8.0%. Affirmative action should therefore be seen as one of the strategies that can be used to correct gender imbalances but not a panacea for achieving gender parity. It has to be implemented in conjunction with other multi-sectorial policies and legislations as envisaged in the Kenya Constitution 2010. As a temporary intervention measure it is to be discontinued once the inequalities and inequities experienced by a particular gender group, in this case female students, as a result of longstanding cultural and structural barriers, leading to inadequate access to educational opportunities is corrected.

**Keywords**: *Affirmative action, gender, equity, access, universities*

**2 # 3-04**

## "Resilience Factors Influencing Pregnancy of Girls in Public Primary Schools in Kisii County, Kenya"

*Pacifica Magoma* (Sr.), David Nguti, Ondieki J. R.  & Margaret Ongek*

### Abstract

Girls' education in public primary schools in Kisii County is at stake. The purpose of the study is to establish the resilience factors influencing pregnancy of girls in public primary schools in Kisii County, Kenya. The study will be guided by the Resilience theory. This study will use descriptive survey design. The study targets 242 teachers, 62 headteachers, 1 CDE and 3,208 girls in public primary schools in Kisii County. The sample size for the study will comprise 19 head teachers, 73 teachers and 963 girls of the public primary schools in Kisii County. Data collection instruments will comprise interview schedule, questionnaires and document analysis. Data in this study will be collected by use of both closed-ended and open-ended questionnaire items. Quantitative data will be presented by use of frequency tables and analyzed by use of percentages in consideration of the research questions. The qualitative data will be read and categorized into distinct themes as shown by the responses of the respondents. The findings of this study will be useful to the government to curb the wastage of resources by improving the education of the girls to reduce gender parity at all levels of education. The field officers including the Area Education Officers (AEOs), the Quality assurance and standards officers (QASOs), the school and other local government administrators and teachers may use the findings of this study to come up with ways of encouraging the girls' to continue with their education after pregnancy to avoid wastage.

**Keywords:** *psychological factors, pregnancy of girls*

**2 # 3-05**

## Assessment of Coping Strategies by Orphaned Learners and Their Academic Achievement in Selected Primary Schools in Kenya

*Owino A. Alice, and Susan J. Kurgat*

### Abstract

Orphanhood is a depressing status in life time that one would wish never to occur in any family set up due to its adverse effects. Due to their vulnerability, majority of orphaned learners are widely affected and unable to attain good performance. The study therefore assessed coping strategies by such exceptional orphaned learners and their academic achievement in Winam Division in Kisumu County. Descriptive survey design was used in the study. The study population consisted of 43 head teachers, 516 teachers and 3042 orphaned learners in 43 mixed public primary schools. Random sampling technique was used to select 13 schools from 43 schools. Simple purposive sampling technique was used to select 13 head teachers from the 13 selected schools. 3 orphaned boys and 3 orphaned girls from STD 6, 7 and 8 were also selected using simple purposive sampling technique. 3 teachers from upper primary were selected using random sampling technique from the selected schools. Data was collected by questionnaire, interview schedule and document analysis. The study established that most orphaned learners (44.06%) in Winam Division stay with

older siblings. The study concluded that orphaned learners set targets and work hard to achieve the set targets. The study therefore recommends that grandparents who care for the orphans but are not assisted by the government be supported financially through such programs, the Ministry of Health in collaboration with other stake holders should launch health and nutrition program in schools where the program has not yet been started. Life skills education should be examined like any other subject in the curriculum. There should be a vote head under FPE to cater for orphaned learners' school requirements. School administration should link orphaned learners who perform well with sponsors to ensure that they continue with their secondary education. Future researchers will get baseline information for further research useful to orphaned learners both in primary and secondary schools.

**Keywords:** *Assessment, Coping Strategies, Orphaned Learners, Academic Achievement*

## 2 # 3-06

## The Impact of Reading Culture on the Academic Performance of Students in Manafwa District

*Nabende Wamakote D., Khakale G., Chelegant M. Taifa, Nandutu J., and G.H. Lunyolo*

## Abstract

In Uganda today, the need to master reading is not ultimate but very crucial to all students at all levels. This is so because reading plays multi-functional roles both at school and society especially in Uganda which is multi-cultural. Despite the above view, it has been noted that most students today are not interested in reading but opt to listen to teachers /lecturers. The researcher therefore intends to establish the impact of reading culture on the academic performance of learners. The study was guided by the general objective; to establish whether lack of student's motivations towards reading has any effect on their academic performance. The study adopted across sectional survey design to be more applicable. This was because the sample size was large with a cross section of respondents. The findings indicated that reading culture had an impact on academic performance. The school curriculum lacked space for library which promotes the reading culture. Teachers did not give research work to encourage reading by students. In conclusion, reading culture being a crucial issue needs to be addressed to enable students communicate effectively. The researcher recommends that Parents and schools develop simple libraries to encourage reading culture in learners. Parents should minimize exposure of social media to the learners and encourage Teachers to give exercises which call for reading.

**Keywords**: *Reading culture, academic performance,*

## Sub–Theme 4

## Re–Conceptualizing Teacher Education for Sustainable Development

**2 # 4-01**

### Improving Management Styles in Education: A Review of Education Strategic Planning and Implimentation in Kenya

*Veronica Onjoro*

### Abstract

Managing change in education requires focused, strategic planning and implementation. This involves learning Practical strategies and techniques for creating a change management plan and executing it throughout the change management cycle. According to Banathy, the gap has been increasing between education, with its relatively slow response to the need for change, and the rest of rapidly changing society. Most educational institutions rely on outdated social planning approaches that seek to divide problems into individual pieces, each of which can be solved on an individual basis. This approach is based on the belief that solving the problem incrementally, piece by piece, will address the overall problem. However, to address new societal requirements, there is a need for systems thinking and systems inquiry in education, as presented by such systems theorists such as Ackoff, Checkland, and Warfield. Systems thinkers realize that optimizing the performance of the component parts of a system does not necessarily result in optimal system performance. Unlike traditional social planning approaches, the application of systems design methodology produces a comprehensive, interconnected, interdependent, interacting, and internally consistent system of solution ideas that can be seen in the design of a new system. Systems theorists distinguish between two types of change: piecemeal change—modifying part of the system and systemic change—replacing or modifying an entire system. Another useful distinction is between systematic and systemic: Systematic implies a linear, generalizable approach and systemic connotes a global understanding of the problem, along with interrelationships and interconnections. This study is aimed at improving management styles in education sector.

**Keywords:** *Management, Education, Performance, Systematic, Change*

**2 # 4-02**

### Discipline of Teachers in Conceptualising Teacher Education ior Sustainable Development

*Gilbert Nyakundi Okebiro*

### Abstract

Teaching is a noble profession in society globally which requires disciplined teachers. A teacher is an important person designed to facilitate learning. Therefore, learning will not be possible until teaching takes place. And teaching is a deliberate structuring of an environment to facilitate learning in schools, colleges or universities. Teacher education is important part that all of the professionals undergo pre-practice training to acquire discipline skills. In this sense, teacher education can be conceptualized in teacher training colleges and universities but the discipline of teachers is internal ability from the heart of individual teacher. Training is conceptualized in two kinds;

through either pre-service or in-service training courses, in teacher training institutions, however, content and methods may differ from one educational institution to another. The problem is that some teachers who undergo teacher training system to become professional teachers, become indiscipline in schools or colleges and in the community. It against this background the research aims at investigating causes of indiscipline amongst teachers in teachers in secondary schools, through a diagnostic study. The research will adopt analytical method of empirical data. It is concluded that some teachers in secondary schools become undisciplined and reflects a negative image among learners and the members of the society, as a consequence teacher education lose its professionalism. If you ask students in schools whether they want to become teachers after their course, you find none, because of poor role model created by undisciplined teachers in the society. The research findings will be significant to sensitize the teachers to alleviate or solve problems of indiscipline in schools, Teachers Service Commission and add value in the educational sector in general for sustainable development.

**Keywords:** *Discipline, Teacher, Education, professionalism*

## 2 # 4-03

## Preparation f Teachers in Teacher Education

*Njuguna J. Mwangi*

## Abstract

In the introduction of this paper, it evaluates the current situation in teacher education, which currently has being in a state of uncertainty and turmoil due to the current state of poor performance in majority of schools. The situation has deteriorated due to increased poor performance in most schools. Sadly, teachers carry all the blame on poor performance and hence pressurizing them to remedy the situation. The only possible way out is to upgrade teachers education so that prospective teachers posses adequate skills and innovative strategies to incorporate in teaching and learning activities. However, this seems difficult since neither the learning institutions providing teacher education nor the government seems to prioritize teacher education. The resources allocated for teacher education should be targeted to teacher education instead of generalizing it to education sector. Moreover, teacher education institutions and schools ought to collaborate in order to facilitate teacher education. Therefore, universities and teacher training institutes will be a major stakeholder in schools, a strategy that will blend teacher education with innovations. Furthermore, due to emergence of new ideas, like in other faculties, education sector should not lag behind in providing teachers with new ideologies that will enhance innovations in education. In its conclusion, the paper recommends for reforms in teacher education where they should be undergo Teachers' Quality Preparedness Program. This program is stratified to enhance teacher education to face all circumstances in education and improve the situation regardless of the situation. This will be a perfect approach that will improve our education system to meet international education standards.

**Keywords:** *Teacher Education, Institutions, Resources*

**2 # 4-04**

## An Assessment of the Competencies of English Language Departments in Facilitating Professional Development of Teachers of English in Secondary Schools in Keiyo South District, Kenya

*Mak'Obila Laban Adero, Peter L. Barasa and Peter Amuka*

### Abstract

This paper evaluates the competencies of English departments in facilitating continuous professional development of teachers of English based on a study of selected secondary schools in Keiyo South District in Kenya. Kathuri and Pals' formula was employed in selecting teachers of English sample. Head teachers were selected using purposive sampling technique. Data was analyzed descriptively in form of cumulative frequency counts and percentages. A multiple linear regression was also computed to establish linear relationship between study variables. The findings were presented in form of tables, charts, graphs and regression equation. The study established that the language departments are capable of providing CPD to their teachers. First, they are headed by heads of department who have been deployed on the strength of their qualification. They ably interpret their roles as mentors, trainers, facilitators, administrators and teachers of English. They thus induct the teachers into their work leading to being proficient in among other things acquiring the skills needed for the selection and preparation of teaching materials. Thus teachers are helped to develop their language of teaching which incorporates effective instructional and assessment strategies. This paper gives insight to leaders in the education sector in designing, selecting or leading professional growth programmes by giving specific examples of the characteristics of professional development that will be matched by what is known from research.

**2 # 4-05**

## Teachers' Preparedness in The Integration of Information Communication Technology in Public Secondary Schools: A Case of Kieni East District, Nyeri County, Kenya

*Thuranira Simon, & Ndirangu Lydiah*

### Abstract

The use of Information and Communication Technology (ICT) in and for education is rapidly expanding in many countries and is now seen worldwide as both a necessity and an opportunity for improving and enhancing the education offered to citizens across the globe (UNESCO, 2006). This study was conducted to investigate teachers 'preparedness in the integration of Information Communication Technology in public secondary schools in Kieni East District Nyeri County-Kenya. The objectives of the study are to (i) establish E-learning sustainability (ii) explore attainment of computer skills and (iii) establish funding strategies in place. Questionnaires were administered to teachers and students. Findings indicated that 90% of the teachers felt that learning computers contributes to the development of the country and especially vision 2030. The study revealed that 68% of the students had no access to internet though 95% can browse the internet using the computers. The level of teachers' preparedness and awareness is low. These findings indicate that majority of the teachers have not yet integrated ICT in the teaching learning process in public secondary schools in Kieni-East District. The study recommends that teachers are taken through workshops that target use of ICT in the teaching learning process. Teachers should be encouraged to buy personal computers which they can use while in and out of school to increase teachers' perception on ICT.

**2 # 4-06**

## Training Needs of Headteachers of Public Secondary Schools in Siaya County, Kenya

*Ongek Margaret*

**Abstract**

Education plays a critical role in creating professional skills that determine both the level and pace of a country's development. There is need to ensure that education managers possess requisite skills, knowledge and attributes to perform their administrative tasks effectively. A major weakness in education management in Kenya is that school managers are never given adequate preparation for their work especially how to deal with challenges and issues emanating from Kenya's ethnic diversity More and Thomas, in Tucker and Coding indicate that regardless of the year appointed, principals have been trained and certified as administrators through programs largely irrelevant to and grossly inadequate for the responsibilities found in the school principal-ship. Bush and Jackson further advocate for contextualized training of school principals because what works well in one country may not succeed elsewhere. The purpose of the study is to determine the training needs of head teachers from their own perception and find out any relationships between the training needs and selected head teacher variables namely; gender, professional qualifications, headship experience, current head teacher grades and academic qualifications. The Needs Assessment Theory will be used. Literature review will be done on the following themes; Role of the secondary school head teachers along five areas of responsibility namely; Responsibility for Curriculum, Responsibility for Teachers, Responsibility for Learners, Responsibility for Resources and Responsibility for Finance. Stratified and purposive sampling techniques will be used. Data will be analyzed by use of descriptive statistics. Inferential statistics will be used; chi-square test and Pearson Product - Moment Correlation. Based on research findings, recommendations will be made to various head- teacher training agencies in Kenya.

**Keywords:** *Training Needs, Head-teachers, Principals, Perception*

**2 # 4-07**

## Training Early Childhood and Primary Education Teachers for Sustainable Development

*Hellen Sang, Syallow C. Makero, Beatrice Chepkwony*

**Abstract**

Early Childhood and Primary Education plays a critical role in the development of a nation. It lays the foundation for other circles of education. Children's early learning is a distinct and fundamental phase of education providing an essential preparation for successful schooling and adult learning. The quality of early childhood education is determined in part by the quality of teacher trainers. The Mackay report states that, "A successful programme of training of teachers depends, to a large extent on the quality of teacher trainers thus the question that comes immediately is who trains these teachers who are to lay a strong foundation for these children, who are the future resource in national development." The moment the training of teachers is faulty then the child who stays with the teacher for most of his formative years will also be faulty. It has been established that the teaching in early childhood and primary education is not taken seriously. The purpose of this paper is to examine the competence of both teacher trainee and trainers in early childhood and primary education and way forward. The quality of early childhood education depends in part on the quality of the teacher trainers of ECPE. Ominde emphasizes this, he rightly says that this must be carefully considered when selecting training staff as they determine

**Keywords:** *Training, Early Childhood, Primary Education, Teachers, sustainable development*

## Sub–Theme 5

## Language in Education

**2 #5-01**

## Recreating Language Teaching: Focusing the Learner in the English Language Classroom in Kenya

*Carolyne Omulando and Peter L. Barasa*

### Abstract

English language teaching is affected by a number of factors which mainly revolve around a continuous process of rethinking its knowledge base and instructional practices as a response to the focus on the learner and need for producing communicatively competent users of English language. Focusing on the Kenyan situation, this paper presents an analytical focus on the teaching-learning situation in English language classrooms in Kenya with a view of presenting an exposition of creative approaches to the language instructional process based on learner cantered approaches (LCAs). Notably, any productive language teaching-learning process must be creatively handled because no one teacher or learner is exactly like another and every teaching-learning situation is unique and dynamic. These are essentially determined by several factors like: teacher cognition as underpinning teacher practice, the nature of the language syllabus guiding the language instructional process, the nature and scope of content being presented to learners, learner characteristics and individual differences (ID) and abilities in language, and varied learning environments and their impact on language learning among other factors. The arguments presented in this paper are grounded on the five fundamentals of learner-centred teaching as advanced by Weimer. These are: the balance of power, the function of content, the role of the teacher, the responsibility for learning and purpose and lastly, the process of evaluation. We do examine these factors and discuss their implications for theory and practice in English Language Teaching (ELT). We hold the view that this will provide a basis upon which to describe how a teacher of English can artistically utilize learner language learning abilities in recreating the teaching-learning process to enhance learning and development of communicative competence.

**2 #5-02**

## Competence and Performance in English Language Teaching: An Assessment of Classroom Teacher Practice in Kenya

*Peter L. Barasa and Carolyne Omulando*

### Abstract

In any teaching and learning situation the teacher plays a central role, one of ensuring that the instructional process takes place effectively and creates a desired product of education. In order for this to happen, there must be an interplay between several factors; categorized as teacher competence in this paper. Based on this, the focus in this paper revolves around aspects of language teacher performance as determined by the language teacher competencies. Ideally, the manner in which attributes and elements about the teacher of English interact is of paramount importance; with particular reference to the central role English plays, not only in education but also in the lives of Kenyans as an official language. This is a teacher we do believe has to put into practice transformative pedagogical strategies, which in turn have the ability to attract sustainable

development. These can only emerge from the interplay between language, the language teacher and the curriculum in a well-grounded education system. Teacher competence and performance in the classroom impacts the learning process which then supports transformation; only possible through a transformative approach to learning; the resultant output is sustainable development. In this sense we view language teaching as going beyond a subject in the curriculum. The language teachers in their own practice should go beyond delivery as a product and engage in delivery as a process. It calls for the use of instructional strategies aimed to go beyond the teacher and the learner as individuals in a language classroom. The 'how' of the teacher strategies in class is largely dependent on competence and this provides the product reflected in the learners' use of language in society. Therefore, in order to adequately articulate the ideas in this paper, teacher competence and performance are analyzed based on the Jack Richards' conceptualization of the ten elements that constitute teacher competence. The varying ways in which these elements interact we argue either forms the foundation of a transformative language teacher or a conservative language teacher. The latter does not allow their performance and impact to go beyond the classroom walls, while the former speaks to the role of language in the preparation of learners for sustainable development.

**Keywords:** *Teacher competence, Teacher Performance, Instructional strategies and Sustainable development.*

## 2 #5-03

## Integration of Music, Dance and Drama In Enhancing the Teaching of English Language In Secondary Schools

*Chelangat Moses Taifa, Nabende Wamakote Dann, Khakale George, G.H. Lunyolo*

### Abstract

The research investigates the role that music, dance and drama play in teaching English language. These were guided by study objective and research questions. Music, dance and drama is one of the many activities that surrounds man and his life. Music, dance and drama is as old as man himself. It begins from child birth, through youth initiations to adulthood, at death and after death. The study therefore focuses on the relevancy of the subject in the teaching of English language in secondary schools. The non emphasis of usage of Music, dance and drama (MDD) in the teaching of English language has for reaching effects on learners at all learning levels. Music, Dance and drama are a core component of speech that brings out communication to its full actualization of the listeners perception of ideas and yet this is not integrated in the teaching of English languages. The study therefore sought to establish the extent to which non-emphasis of Music dance and drama in the teaching of English language has affected its teaching and the students. The objective of the study is "the impact of non-emphasis of the use of Music, Dance and Drama in the teaching of English language in secondary schools. The study followed an analytical case study research design and adopted both quantitative and qualitative design. The data collection methods included questionnaires, interviews and documentary review. Frequency Statistical data tables were used to analyze data and came up with recommendations for revamping the current status quo of English language teaching.

**Keywords***: Role, Music, dance and drama*

## Sub–Theme 6

## Financing Education: Challenges and Opportunities

**2 # 6-01**

## Challenges and Effects of Financing University Education in Kenya

*Gilbert Nyakundi Okebiro and Morara Vincent Gesora*

**Abstract**

Financing education means meeting costs of education in all levels, capital expenditure and recurrent expenditure. Challenges and effects financing university education has taken three phases of evolutionary, revolutionary and Pro-revolutionary. The effect students were no longer burdens to the parents, although dependent on central government and taught that free university education was a basic right. Second phase revolutionary since late 1980s through the early 2002,where financing university education was changed from the central government to 'cost sharing', parents and Higher Education Loan Board[HELB] was introduced, marked by giving charter to some private universities and later public universities introduced parallel programs. The effect was students admitted to any course so long as they had minimal entry requirement and could finance their education. The third phase is pro-revolutionary, since late 2002 through to the present, marked by some Teacher Training Colleges and constituent colleges of public and private universities given charters to be autonomous have their own chancellors, and graduation would be twice year and grandaunts would have many first class honors. The objective is to study challenges and effects of financing university education and impact on the quality and standards of courses. The research will adapt diagnostic research design of the empirical data. The findings and recommendations will be vital to all stakeholders in educational sector.

*Keywords*: *Challenges, Evolutionary, Revolutionary*

**2 # 6-02**

## Of Donor Funding and ECE Practice in Kenya: A Discourse of Power or of Partnership?

*Rose Ruto-Korir, Elizabeth Owino, Grace Jepkemboi*

**Abstract**

The faces of poverty and attendant vulnerabilities continue to define many support projects to African countries, including those of ECE. Donor funding has likely come from outside of the African continent, mainly from the West, with differential ideological paradigms of childhood. Such paradigms are likely to vary from the support recipients. Regardless, such support has determined many dimensions of the project, including both economic and ideological. In a reflexive Endeavour, this paper takes a critical discourse of the history and policy development of ECE has developed in Kenya to appraise relations arising from donor-funding and how this has shaped its ECE existence today.

**Keywords**: *Donor, Funding, Paradigm, ECE*

**2 # 6-03**

**Education in the Wake of Consumerism: Effects on Funding and Quality**

*Simiyu Catherine Kituko*

**Abstract**

Education is key for any form of personal or societal development. Citizens, who can read, calculate, and think critically are a country's great resource as they have better economic opportunities, higher agricultural productivity, healthier children, and better reproductive health. In her drive towards realization of the Vision 2030 therefore, Kenya highlights education and training as crucial components of the Social Pillar. This is with the understanding that knowledge is important for growth and development of economies. Consequently, the Kenya government ensures that the Citizens access education by making it affordable even to the very poor through loans, bursaries, grants and direct funding as is the case in primary and secondary schools. Individuals have the responsibility to support the education of their children. Indeed, education is a human right for every child of school-going age and violation is chargeable in the court of law. Yet, it is not just education for its own sake, but quality education to serve as a lever for personal development so that the capable and active citizens can in-turn be the strongest lever for long term sustainable change. There is however an emerging trend, consumerism, which thrives on pleasure seeking morality and hedonistic lifestyle. It limits the communication between people and allows them to act in a lazy manner as long as their needs and wants can be met by the work of others. They only need to pay for it. In essence, the ideal is based on intellectual inactivity. Consumerism seems to glorify spending without much thought. This certainly is at crossroads with the ideals of education. This paper examines the delicate balance between funding and quality of education in the shadow of consumerism.

**Keywords**: *Consumerism, consumerist culture, quality, funding.*

**2 # 6-04**

**Challenges in the Allocation of Constituency Bursary Funds and Their Effect on Access and Retention of Students in Public Secondary School in Nairobi County, Kenya**

*Saina Shadrack Kiprotich*

**Abstract**

The purpose of this study was to establish the challenges in the allocation of constituency bursary fund. The study was anchored on the theory of distributive justice propounded by Rawls. The study employed mixed methods leaning towards quantitative design. The study population consisted of 291 bursary beneficiaries; 48 secondary school principals, 129 class teachers, and 24 Constituency Bursary Committee members. The respondents were selected using sample size determination table, proportionate and simple random sampling techniques. The instruments for data collection were sets of questionnaire and in-depth interview schedules. Document analysis was also used for data collection. A pilot study in Nairobi County on a small sample of respondents was conducted to validate the instruments. Qualitative data was analyzed by use of qualitative techniques namely; mean and standard deviation and frequencies of occurrence while quantitative data was analyzed using ANOVA, t-test and regression analysis. The study findings indicated that the guidelines stipulated by the government on the award of bursaries are not fully followed. Although CBF has enhanced enrolment in secondary schools, it remains

inefficient in achieving the intended objective of enhancing access & retention of the vulnerable group of students as it was attested by inconsistency of support to beneficiaries throughout the four year period of study. In order to overcome the challenges and enhance the efficiency of CBF, the researcher suggests that there is need to; increase the amount of bursary allocations to each constituency, enhance consistency of support, and offer Constituency Bursary Fund committee (CBFC) infrastructural development so as to target needy and deserving cases. The study therefore, amplifies that policy makers need to streamline the CBF policy in view of expectations of the Kenyan public and the government in line with the stipulated guidelines so as to enhance access and retention of students in secondary schools.

**Keywords:** *Challenges, Constituency Bursary Fund, Access and Retention*

## 2 # 6-05

## Risk Management on Financial Performance in Higher Institutions of Learning: A Case Study of Uganda Christian University, Mbale Campus

*Omache Henry. Nabende D,, Okware S., G.H. Lunyolo and Wabusa F.*

### Abstract

Risk Management is the application of proactive strategy to plan, lead, organize and control the wide variety of risks that come into the fabric of an organization daily and in the long term functioning. Risk has a say in the achievement of our goals and in overall success of an organization. A number of universities and other higher institutions of learning are grappling with how to manage risk in order to maximize firm value via the reduction of costs associated with different risks. There is need for higher institutions of learning to manage key causes of risk and probably in that way also manage risks which have not been identified. The general objective of the study was to examine the relationship between Risk Management and Financial performance in higher institutions of learning. The study also examined the different risk management techniques adopted by different higher institutions of learning for risk management. To achieve the objective of this study, the researcher used two methodologies: the qualitative methodology and descriptive methodology to collect data from secondary sources i.e. from books, journals and online publications. Researchers identified various risks like; Financial, Market and operational risks faced by higher institutions of learning. The study concluded that higher institutions of learning should in essence not manage risk but identify and outline common causes of risks and focus on how to manage the key causes for the survival and accelerated growth of their institutions.

**Keywords:** Risk Management, Higher Institutions of learning, financial risk, Operations risk.

## Sub–Theme 7

## Re–Engineering Science and Technology Education for Sustainable Development

**2 # 7-01**

### Challenges Facing Adoption of Information Communication Technology in Educational Management in Universities in Africa: An African Perspective

*John K. Chang'ach, & Titus Murgor*

**Abstract**

Information Communication Technology (ICT) has contributed greatly to educational management in Universities globally. However, in Africa Universities hardly use ICTs to manage the quality of output, or to raise teacher productivity, or to reduce costs through analyzing spending. This is attributed to a myriad of challenges facing most Universities in Africa with regard to adoption of ICTs in educational management. This has resulted to a slow rate of adoption of technology despite its promise and potential for use in educational management in Universities. As such, this paper analyses the lethargy that has surrounded education management in Universities with respect to acquisition of Information Communication Technology. Education and training sector has a major role to play in the implementation of the ICT policy. First, the sector itself is a major user of ICT, not only in education, training and research but also in the management of the sector. The paper looks at ICT policies must be dynamic, cost-effective, adaptable, and differentiated between sectors and between the various segments of educational management in order to contribute effectively to education management. The recommendations of this paper provide a basis for the urgent need for the integration of ICTs in educational management in Universities.

**Keywords***: adoption, ICT, management, educational, schools*

**2 # 7-02**

### The Role of Technology in Empowering Women in Education: Global Perspective

*John Boit, John Chang'ach*

**Abstract**

Technology has become a strong force in transforming social, economic, and political life globally .The paper sought to establish why most women are in the deepest part of the divide further removed from the technology age than the men whose poverty they share. If access to and use of these technologies is directly linked to social and economic development, then it is imperative to ensure that women in understand the significance of these technologies and utilize them. If not, they will become further marginalized from the mainstream of their countries and of the world. The paper looks into reasons why many people dismiss the concern for gender and technology on the basis that development should deal with basic needs first. Technology can be an important tool in meeting women's basic needs and can provide the access resources to lead women out of poverty .This paper highlights that Women, Gender, and Technology is an interdisciplinary volume, which contributes new insight into the ways in which issues of gender and technology

infuse career structures, the use and adoption of technology, and the construction of commercial and business forces in the knowledge economy. The paper shows that the intersection of gender and technology has significant implications not only for women's careers, but also for the greater realm of science policy, operations, and achievement.

**Keywords:** *Technology, Innovations, Gender*

## 2 # 7-03

## Simulation and Modeling Methodology for Physics Teachers

*Joseph k Maritim*

## Abstract
Scientific practice involves the construction, validation and application of scientific models, so science instruction should be designed to engage students in making and using models and simulations. Scientific models/simulations are coherent units of structured knowledge. They are used to organize factual information into coherent wholes, often by the coordinated use of general laws or principles. Therefore, the structure of scientific knowledge can be made more explicit for students by organizing course content around a small number of basic models for simulation purposes. The ability to make and use models for simulation depends on the representational tools. Students learn transferable modeling skills by applying given models to a variety of situations to describe, explain, or predict physical events or to design experiments. Theoretical underpinnings methodology of physics teaching should redesigned especially for physics teachers. Incorporation of the courses into the university physics curriculum needs a consolidated effort from all the stake holders. The simulation and Modeling procedures have evolved over more than a decade from educational research and the experience of exceptional physics teachers. The main purpose of the Modeling is to empower teachers with a robust teaching methodology that enables learners to participate actively in the teaching and learning process. This includes the cultivation of teacher abilities to critically analyze any given curriculum materials and organize valuable parts into effective instructional units which make the underlying models explicit– tasks which require a strong pedagogical framework. These abilities are needed to take advantage of accelerating changes in curriculum materials, driven on the one hand by advances in educational research and by new computer technology and software on the other.

**Key words:** *modeling, computer programming, soft ware.*

# Symposium III

# School of Human Resource Development

# Theme:

*"Challenges and opportunities in Developing Human Resource Capacity for Sustainable Development"*

**Sub Theme**

1. Information & Communication Technology for Sustainable Development

2. Human Resource Development for Sustainable Growth

3. The Role of Mass Media in Sustainable Development

4. Public Participation & Sustainable Development

**School Symposium Organising Committee**

Dr. R. Tubey          -          Dean, School of Human Resource Development

Dr. A. Mulwo          -          Coordinator

Dr. P. Omboto          -          Member

Dr. R. Mbaraka          -          Member

Dr. S. Chebii          -          Member

**Keynote speakers:**

Dr. Chris Kiptoo – Country Director, Trademark East Africa

Topic: *Leveraging Regional Integration for Sustainable Development*

**Prof. Hilde Arntsen -  Oslo and Akershus University, Norway**

Topic: *Digital Dilemmas: Global Challenges and Opportunities in New Media for Sustainable Development .*

# Plenary Keynote Address 1

# Levering on Regional Integration for Sustainable Development

## Dr. Chris Kiptoo

Regional integration is one of the most important vehicles of enhancing and expanding intra-regional trade worldwide. Many countries, both developing and developed countries have therefore in one way or another engaged in various trade arrangements to promote trade, a major prerequisite of economic growth. Out of the 575 regional trade arrangements notified to the World Trade Organisation, 196 are operational (WTO, 2013), illustrating the importance of regional integration in the global trade architecture. The main objective of all these regional arrangements is to harmonize both development priorities and trade rules and thus make doing business, in an integrated bigger market, much easier for private sector to prosper and ultimately reduce poverty.

For these reasons, Kenya has, over the last two decades, participated actively in regional integration matters through various regional trading arrangements including the East African Community (EAC), the Common Market for Eastern and Southern Africa (COMESA), and the Inter-Governmental Authority on Development (IGAD). Currently, the country's exports to the regional market account for over 50 per cent of the total export value with the EAC and COMESA markets combined representing 80 per cent of the total export share.

Kenya has, however, not reaped the full benefits of regional integration, due to prevalence of non-tariff barriers, trade facilitation limitations, and a weak and inefficient institutional infrastructure coupled with inadequate enforcement machinery and sanction mechanisms. Regional integration has also been hampered by such factors as the country's participation in multiple Regional Economic Communities with different integration timelines, disjointed national institutional frameworks, inadequate supply capacity, inefficient trade logistics, and inadequate information flow.

Furthermore, inadequate technical competencies and negotiation capacity in addition to cumbersome customs administration procedures have greatly inhibited the ability of the Kenyan business community to take advantage of the available opportunities in regional and international markets. Kenya has to develop a regional integration strategy and policy to not only address these challenges but more so to take advantage of its strength and opportunities while minimizing threats,.

**Keywords:** *Intergration, Intra-regional Trade, Economy, Development*

# Sub-Theme 1:

# Information and Communication Technology for Sustainable Development

**1-1-01**

## The Critical Role of the Mass Media in Promoting Mental Health for the Realization of Kenya's 2030 Vision

*Julia Kagunda*

## Abstract

Mental and psychological wellbeing of a nation plays a critical role in its development; however, 30% of Kenyans are suffering from mental disorders, with a vast majority unaware of their condition. It is also reported that a considerable proportion of persons with mental illnesses shun professional services (as much as they are scanty) due to the stigma associated with mental health. Further, stigma influences how treatment will be accepted, whether treatment will be adhered to and how people with mental illness function in the world. In Kenya stigma and discrimination are some of the major inhibition to the realization of the rights to mental health. In view of that what critical role can the mass media play in sensitizing the public about mental health? Furthermore, is there a place for the media to influence the policy makers in order to push for favourable policies? Additionally, it has been argued that persons suffering from mental illness have been denied a public voice to articulate their issues, what role can the media play in giving them a voice?

**1-1-02**

## Sustainable Development Through Youth Involvement in Citizen Journalism

*Job Mwaura, Frederick Njoroge and Charles Ong'ondo*

## Abstract

According to World Bank Development Indicators, Kenya is among the countries that lead with the highest population of people living below the poverty index. This has been enhanced by the poor economic and development record of the country, particularly the hard economic times that continue to face many nations today as well as the high cost of living. According to Millennium Development Goal number eight, the world has been tasked to eradicate poverty by halving world population living in less than a dollar per day and those who suffer from hunger by the year 2015. The paper is going to be based on a thesis undertaken in one of Nairobi's biggest slums on how a group of youths are using their talents and skills acquired through in-house training and practicing citizen journalism. The youth in Kenya make up 65% of the population. A big number of these youths are unemployed. This paper seeks to investigate how the youth can involve themselves in citizen journalism to create sustainable development. The research was an ethnographic case study which was carried out using qualitative research method. Purposive sampling was used. Participant observation, interviews and document analysis were used to assess the activities of the journalists. Thematic data analysis was used to analyze data. Further studies recommended include focusing on the role of the media in meeting other MDG goals. The county government in Kenya can also support grassroots community media in order to meet other MDGs.

**Key Words:** *MDGs, Citizen Journalism, youth unemployment, poverty eradication*

**1-1-03**

## Advances In Globalization: Prospects and Dilemmas of the Internet and New Media

*Stella Chebii  and  Daniel Were*

### Abstract

The world is quickly transforming into a global village that transcends all physical barriers. By virtue of globalization, we are all increasingly living in one world, where individuals, groups and nations have become interdependent. While social, economic and political factors have played a role in this transformation, technology has been the main driving force. Globalization has been driven forward by the development of information and communication technologies that have intensified the speed and scope of interaction between people all over the world For many years, traditional media's such as newspapers, radio and television have fulfilled the information needs of society. Whereas the traditional media's met the communication needs of the time, they did not fully overcome challenges of timeliness, interaction and reach. Advances in globalization have nonetheless overcome these challenges through the emergence of new media's. The technological revolution that has driven globalization is largely engineered by communication which has spurred global growth in many sectors. As a result, the world has witnessed the unprecedented growth of the internet and the emergence of new media's. It is with this in mind that this paper interrogates how the internet as a form of new media has affected society. This paper sought to review literature on the challenges of new media and the use of new media guided by the uses and gratification theory.

**Keyword:** *Technology, globalization, internet, challenges, new media*

**1-1-04**

## The Role of Radio in Enhancing Family Values: A Study of *'Hutia Mundu'* **Programme of Inooro FM**

*Martha Mbugguss, Paul Chepkuto and Masibo Lumala*

### Abstract

Increasing media reports on sexual perversion, immorality and family violence have reached alarming levels that call for innovative ways of enhancing family values. One vernacular radio station, Inooro FM airs *"Hutia Mundu"* programme which is inclined to family life education. The objectives of this study were to establish whether radio serves as a medium of family life education and the issues it addresses. This study's literature review covered media theories, history and role of radio in relationship to culture, technology, and education. An interpretive approach including face to face interviews with two key staff of the station, a thematic content analysis of three sampled editions of the programme aired in April 2011, four FGDs comprising of 24 married and unmarried men and women, and a field survey comprising of 150 listeners was applied. Indicative Solutions Program was used to analyse the field survey. The total target population were listeners of *"Hutia Mundu"* programme drawn from Central Province's population of 4,383,743 out of which 47.3% or 2,081,200 listen to Inooro FM. The study's findings were that the programme covered all the ten family life themes including sex, and communication. The programme was found educative by 95% of the respondents. It also plays counseling, advisory and therapeutic roles. The programme was, however, critiqued for occasionally offering 'questionable advice,' gender bias, causing embarrassment and having shortcomings in Kikuyu language expertise. This study recommends that the government and media policy makers formulate a national policy for family life broadcasters' training especially for vernacular broadcasters.

**Key words**: *medium, sex, education, uses & gratifications, agenda-setting*

**1-1-05**

## The Role of Mass Media in the Devolved Governance System of Development in Kenya. A Case of Kisii County

*Orawo A.D. Miruka K. Mungou C. and Kutoto P.*

### Abstract

Media reports indicates that majority of Kenyans don't fully understand the Devolve System of Governance. Mass media plays and integral role in informing and educating the citizens the expected beneficiaries of devolve government services. The study focused on the role of mass media in the devolved governance system in Kenya during the period after promulgation of the constitution of Kenya, 2010. The study seeks to assess the knowledge gap in the government, leading to misconceptions about devolution, among the Kenyan public. The specific objective of the study is to examine the knowledge gap among the Kenyan publics on the devolved governance system and the contribution of mass media in informing and educating its audiences. The study is guided by the agenda setting theory. The study was taken in Kisii county which is one of the 47 devolve units in the country with locals forming the target population. The study adopts the descriptive survey design. A sample of 160 respondents aged 18 years and above was sampled through cluster and purposive sampling. The data was collected through structured interviews, and questionnaires. In conclusion this project, by closely examining the role of mass media in Devolved Governance, shed light on the critical contribution of the media towards the success of this constitutional dispensation by highlighting challenges and how they can be addressed going forward. The findings established that the media has remained steadfast in its three major roles of Watchdog, Agenda setting, and Gate keeping.

**Keywords**: *Mass Media, Devolve System, Devolution, Promulgation, Government*

**1-1-06**

## Perceptions and Professional Use of Electronic Communication Media in Education: A Study of Secondary School Teachers in Machakos County, Kenya

*Mary Wambaria*

### Abstract

The proliferation of electronic communication media in the 21st century means that we can no longer ignore its impact on society, organizations, families and individuals. However, while evidence shows a dramatic increase in investment in electronic communication media in education, literature reveals that relatively few teachers use them regularly. This raises the question; why don't teachers make wider use of electronic communication media? This study investigated the perceptions, extent of use and factors influencing use of electronic communication media by teachers in Kenyan secondary schools. A mixed method research approach was used where both qualitative and quantitative data was concurrently collected and analysed. Machakos County was the study site with a sample of 59 schools and a questionnaire was administered to 227 teachers, an in- depth interview involved four purposively selected principals and an observation guide collected data on the availability and use of electronic communication media. Findings suggest that although secondary teachers perceived electronic communication media to be useful, they were skeptical on its ease of use, compatibility and teachers rarely used or never used it at all. The underutilization may have been attributed to factors such as availability of

hardware and software, teacher training, time and technical support. This study recommends the development of a coherent policy, provision of accessible ICT Infrastructure and that  for teachers to continuously use electronic communication media in their work, teacher training and continuous professional development oriented policies that support the integration of electronic communication media be put in place.

**Keywords**: *Teachers' perception, electronic communication media use, ICT, secondary school teachers, Kenya*

### 1-1-07

### Protection of Individuals' Rights to Information in the Digital Environment: An Analysis of Measures in Place

*Jane Chebet Malel & Anne Singoei*

### Abstract

The globalization of economic, political and social activities, supported by an increasing use of information and communication technologies, raises a wide range of questions regarding privacy and the protection of personal data. Countries developing data protection legislation therefore need to be familiar with relevant privacy and data protection issues. We witness an increasing adaptation of "conventional" crime to data protection because of the digitalization, convergence of technologies and globalization of ICT. Traditional measures on investigations do not meet the demands of these changes; therefore special procedures need to be developed. The review sought to investigate the following; mechanisms put in place by the Kenya government and communication stakeholders to aid in data protection, discussed the different types of incidences involving breach of data protection laws and regulations in Kenya, and to give suggestions on ways of improving data protection in Kenya by various communication stakeholders in Kenya. The methodology involves document analysis of relevant documents in the field.

**Key words:** *Privacy, Individual Rights, Data protection, Digital environment*

### 1-1-08

### Media Coverage of Climate Change for Development

*Edith Biwott & Stella Chebii*

### Abstract

Climate change is a term that has become vogue as the world advances due to technological and industrial revolution witnessed the world over in the twentieth and twenty-first centuries. It is used to describe the alteration (especially negatively) of the environment which in turn impacts on the state of human health and existence. This alteration, mostly, comes from the wastes resulting from unchecked industrial advancement. In Kenya, like in many other developing countries, climate change is threatening to adversely affect economic growth in the country and thus endanger Kenya's vision of becoming a prosperous country with a high quality of life for all its citizens. However, in most instances, it seems Kenyans treat climate change as an isolated problem from the broader environmental changes. An appropriate response to climate change in Kenya is only possible if communication and information provision is made central to any mitigation plans. Increased public understanding of climate change will enable citizens and

communities to discuss the issue, adapt to the effects of climate change, and make informed long-term choices about their future. This paper discusses the role of the Kenyan media in promoting mitigation efforts in climate change in the country as a way of reducing the adverse economic effects caused by climate change. The paper is based on a critical review of literature on the media coverage of issues of climate change among other authoritative works done by other scholars in the area. Generally, African citizens' response to climate change is hampered by – among other more urgent concerns such as poverty, disease and ignorance – a fundamental shortage of relevant, useful information for African audiences. Unlike their industrialised counterparts, most developing countries, Kenya included, lack intensive media coverage and public awareness campaigns on challenges of climate change and the mitigation efforts. Climate change demands both political and personal responses in all parts of the world, and effective decision-making at both scales will depend on timely, accurate information dissemination. Therefore, the main thesis of this paper is that if media covers issues of climate change effectively, it will create awareness on issues on climate change and ultimately affect the adaptation and mitigation strategies in the country. This paper contributes useful insight on the role of mass media in overcoming the negative effects of climate change on sustainable development in Kenya.

**Key words:** *climate change, media coverage, mitigation*

## Sub–Theme 2:

## Human Resource Development for Sustainable Growth

1-1-09

**Impact of Education and Training on the Performance of Micro and Small Enterprises: A Case of Kisumu City Bus Park - Kenya**

*Nyonje Raphael Ondeko, & Nyang'ori Ruth Achieng'*

**Abstract**

Micro and Small Enterprises (MSEs) play an important economic role in many countries. In almost all economies, small businesses are vital for sustained growth. This paper highlights the influence of education and training on the performance of the Micro and Small Enterprises. It attempts to asses the relationship between the level of education and training of the entrepreneur and the performance of the business enterprise. A descriptive Survey employing the use of questionnaires and an interview schedule were used to collect data from a sample size of 286 Micro and Small enterprises picked from a population of 1300 operating within and around a 400 meter radius of Kisumu City's main bus Park. They were selected using stratified random and purposive sampling techniques. Data was analyzed using descriptive statistics such as frequencies and percentages. A Chi Square test was used to test the significance of associations between the entrepreneur's level of education and the daily revenues generated by their businesses. The findings were displayed in percentages, frequencies, and tables. The study found that education and training influenced SMEs performance significantly. The entrepreneurs with more education and training performed better than those with lower levels of education.

**Key words:** *Performance, education and training, micro and small-enterprises (MSEs)*

**1-1-10**

**Equal Employment Policy and Access to Formal Employment of People with Disabilities in Uganda: Case Study of Eastern Uganda**

*Bekoreire Mary Baremirwe, Wanambwa Benard, Kyatuha Ovia, Wasike Sam Mankind, Janet Nandutu, Magolo Annet*

## Abstract

The Equal Employment Opportunity policy has not successfully empowered People Living with Disabilities to access formal employment. In Uganda, the number of persons living with disability is estimated to be 16% but only 0.2 % has formal employment in the NGO, private or public sectors. The purpose of the study was therefore to examine the influence of Equal Employment Opportunity policy in promoting access to formal employment of People With Disabilities in Uganda. The research adopted a descriptive study design and Eastern Uganda was used as a case study. The target population included officers in charge of recruitment in Public, private and NGOs, Community Development officers, NUDIPU members and staff in government and NGOs that implement programmes for people with disabilities. The study used qualitative methods of data collection namely: questionnaire, observation and interviews. The findings show that the implementation of Equal employment policy is fruitless. The employers have not taken the necessary steps to address the factors that limit access to formal employment opportunities of People Living with Disabilities. The limitations included unconducive working environment characterized by un favorable infrastructure, equipment and toilet facilities, lack of social support from workmates, negative attitudes by employing agencies and, lack of access to education opportunities. There is need to promote education opportunities for people with disabilities, government should ensure that all employing organizations adhere to Equal Employment Opportunity policy by providing facilities and working conditions that conform to stipulated standard criteria.

**Key words***: formal employment, disability, Equal Employment Opportunity*

**1-1-11**

**Organizational Empowerment Strategies and Employee Service Delivery in the Banking Sector In Kenya**

*Zipporah C. Metto, Leonard S. Mulongo & Peter. I. Omboto*

## Abstract

The current changes at workplace affect organizational operations in various ways. In the banking sector for instance, the on-going competition being witnessed implies that financial institutions need to deploy strategies in order to remain agile. As banks undertake the numerous strategies, the big question however is on their strategic ability in fulfilling the required standards to satisfy both employees and customer needs in the turbulent environment. To achieve this, the study addressed the following objectives: identify organizational empowerment strategies used at the bank, find out indicators of poor employee service delivery at the bank and explore appropriate ways to enhance organizational empowerment strategies. Based on PARTNER model that emphasizes the need for a comprehensive framework that can translates vision and strategy into a coherent and linked set of performance, the paper utilized case study design with mixed method approach covering specific branches of a bank in Kenya. Stratified and purposive sampling methods were used while data analyzed descriptively. This paper generated appropriate information arising

from the findings and it concluded that, numerous organizational strategies including centralized system, employment terms, and employee promotions were identified to contribute effectively in service delivery but their applications generated mixed results. However, with utilization of appropriate mitigation measures, the situation can still be contained and from these findings therefore, recommendations could be made to strengthen organizational empowerment strategies at the bank.

**1-1-12**

## Internal Corporate Communication Strategies Used in The Implementation of Performance Contracts: A Study of One Corporation in Kenya

*Okong'o, M. A. Salome, Kinya, H. & Oluoch, J. O.*

## Abstract

This paper analyses the Internal Corporate Communication (hereafter, ICC) strategies used in the implementation of performance contracts in one large public corporation in Kenya. Internal Corporate Communication (hereafter ICC) is sharing of information, meaning and understanding within corporation. ICC has core tenets that if managed professionally would promote successful institutionalization of corporate programmes. However, there is increasing concern among communications professionals and scholars that ICC continues to be generally done haphazardly in most organizations resulting in varied levels of success in implementation of important corporate policies and programmes such as performance contracting. On the other hand, literature reviewed reveals that currently, there is relatively minimal research that has examined the use of ICC in the implementation of performance contracts in public organizations. The paper is based on the findings of a study submitted for a Masters degree in Communication Studies in one university in Kenya focusing on one of the research questions. The study adopted the qualitative case study design and was conducted in the Western region of Kenya involving 42 participants. Data was generated using interviews and document analysis and was analyzed thematically. Some of the ICC strategies highlighted in the paper are: communicating corporate ownership of PCs, instituting consistency in communicating about PCs and using change as a strategy in communicating about PCs. The paper highlights the need to educate the internal publics of organizations on the meaning and significance of ICC in deciding the nature of strategies to be used in implementing performance contracts.

**Key words:** *Corporate communication, internal corporate communication, Communication strategies, performance contracting*

**1-1-13**

## Employee Training and Knowledge Transfer in Organizations

*Omega Elizabeth*

### Abstract

There is a tendency of organizations spending a lot of money on training which in most cases does not translate to knowledge dissemination in organizations as clearly evidenced in the performance of many organizations. Even after training, little is done as a follow up to establish whether the beneficiaries are transferring the knowledge at the work place and if possible find out the challenges faced or reasons why the knowledge is not transferred. The aim of this paper was to investigate the relevance of training in knowledge transfer given the potential benefits of using trained employees as a result of organization commitment to ensuring knowledge transfer. The paper provides an integrative literature review of articles published on knowledge transfer and organization commitment and it is based on synthesis of literature on the subject taking into consideration examples from numerous institutions. It examines training practices (i.e., needs assessment, trainee preparation, training program review, management support, knowledge transfer, and organization commitment. The literature review revealed that although knowledge transfer is linked with organization commitment, studies are yet to identify how efficient the process of training and knowledge transfer is done in terms of pre-training, the process during training and post-training which remains a challenge, and must be addressed as a multidimensional phenomenon in order to capture a clear picture of the challenges and potential benefits resulting from knowledge transfer.

**Keywords**: *Employee Training, Knowledge transfer, organization commitment*

**1-1-14**

## Entrepreneurial Training Status, Social Economic Factors and Enterprisers Entrepreneurial Competencies in Selected Counts in Western Kenya

*Nassiuma B.K, Sergon D. & Sangura R.*

### Abstract

This study examines the entrepreneurial training status, social economic factors and enterprisers. Enterprisers' skills are considered to be critical inputs in the successful operation of small enterprises. The specific objectives of the study were to; assess the entrepreneur's entrepreneurial orientation competencies basing on the training status and socio economic characteristics and to examine the relationship between the training status and entrepreneurial operation competencies. A sample of 252 respondents for the study was drawn from enterprisers' in Eldoret, Bungoma, Trans Nzoia, Kisumu and Kakamega counties Kenya. This study was based on the functional Positivist in entrepreneurship research. The study was based on the competency model of entrepreneurship. Data was collected from primary and secondary sources. Primary data was collected using questionnaires while document analysis was employed for secondary data. The data was analysed with the aid of Statistical Package for Social Sciences (SPSS v.21) and data presented using both descriptive statistics. The key results of this study were; Training assisted in improving the competencies of the entrepreneurs the foundation for benefits of training lies in the highest level of education, critical and analytical skills are not dependent on training, numerical skills can be imparted well on entrepreneurs with higher academic qualifications, training helps improve competencies in science and technology if the respondents had higher

level of academic qualifications. This study concludes that training provided to entrepreneurs enhanced their competencies. A higher level of education was vital for the development of entrepreneurship education programmes. Training needs assessment should be undertaken in order to impart appropriate entrepreneurial operational competencies to entrepreneurs. This study recommends entrepreneurship education should be embedded and mainstreamed in school curriculum stating at upper primary to university level, Entrepreneurship training, BDS organisations should refine the curriculum and target KCSE graduates and above in order to entrench entrepreneurship and drive the move to the creation of an entrepreneurial society, Create talent and entrepreneurship competency development centres through club/societies in high schools to entrench entrepreneurship culture in Kenya and the development of County based entrepreneurial policies which should give priority to the development of education in order to foster entrepreneurship development in Kenya.

**Keywords:** *Impact, Management Skills, Small and Medium Enterprise, Performance*

**1-1-15**

## Keynote Address 2

## Digital Dilemmas: Global Challenges and Opportunities in New Media for Sustainable Development

### Prof. Hilde Arntsen

New media open up for possibilities and opportunities that are often hailed as democratic and empowering for the users. This is particularly the case with new media used for sustainable development. At the same time, new media also encompass vast possibilities for government control, market surveillance and a lack of anonymity for the end users. Issues such as participation, power, freedom of speech and media governance are key to the discussion of challenges associated with new media for sustainable development. This presentation will discuss a number of these challenges and dilemmas posed by the implementation of new media applications, and outline a few principles of democracy and governance in the global media situation with a particular emphasis on the global South

**Keywords***: New Media, Governance, power, Global South*

## Sub–Theme 3:

## Role of Mass Media in Sustainable Development

**1-2-01**

## The Mass Media and Social Cohesion: Mapping The Margin for Sustainable Social Development in Kenya

*Felicity Okoth*

### Abstract

Sustainable development as a concept over decades has cast its lens on economic and ecological sustainability with little attention given to the social aspect of it, particularly the role of social development in the building of stable, resilient and ultimately economically sustainable communities. Such a realization is hinged on social cohesion which equivocally undergirds the formation of stable communities. Kenya grapples with ethno-political animosities which have destabilized the country socially and economically in the past and still a looming threat. Taking the form of a theoretical discussion, this paper demystifies ethnicity as a concept and shines the spotlight on the relationship between social cohesion and the mass media. Four major types of mass media influence are looked at to this effect. They are: the media's role in defining the political atmosphere in which public discussions take place, the mass media's role in defining the nature of debates within it, the mass media's role in influencing the strategy and behaviour of political and opinion leaders in ethnic tense situations and finally their role in raising and lowering public legitimacy of the a fore leaders. I argue that despite being limited by a set of news values, the Kenyan media can promote social cohesion by presenting the audience with a balanced and no-partisan media coverage. Individual agency is however stressed as it is only through genuine interest of the 'other' that social cohesion and ultimately social sustainable development can be reached.

**1-2-02**

## Societal Constructions of Multiple Concurrent Partnerships and its Implications on The Efficacy of HIV Communication Campaigns in Homabay County, Kenya

*Daniel K. Were, Abraham K. Mulwo, Masibo P. Lumala*

### Abstract

This paper explores how multiple concurrent partnerships is socially constructed in Homabay County and whether communication campaigns have addressed the contextual factors driving this practice. Twelve focus group discussions were conducted with 116 respondents that included married men and women, as well as male and female youth. Two in-depth interviews were also conducted with managers of two communication campaigns. The research explored how the community made sense of multiple concurrent partnerships and the design, implementation, and efficacy of the attendant communication campaigns. Study findings show that multiple concurrent partnerships was a normative practice that is mainly driven by financial needs, sexual satisfaction, emotional neglect, cultural practices, gender norms, revenge, escapism, separation from spouses, and the search for marriage partners. The study further established that the communication campaigns failed to address these factors underpinning multiple concurrent

partnerships. This study indicates the need for communication campaigns to prioritize factors that contribute to multiple concurrent partnerships through increased community dialogue in order to be more efficacious.

**1-2-03**

## Role of Journalists in Development: An Exploration of the Professional Autonomy of Kenyan Journalists

*Joel K. Ngetich*

### Abstract

The Kenyan media is marked by an unpredictable and changing political, social, cultural, economic and technological environment that has heavily influenced the professionalism of journalists. The journalistic work is being threatened by the political influences, the emergence of online journalism and citizen journalism which the journalists have no control over. This changing environment has brought a new threat to professionalism. In Africa, the journalist's traditional tenets – of objectivity and neutrality – are challenged and confronted by the journalist's patriotic sentiment and their ethnic and cultural belonging. The big dilemma is the seemingly declining professionalism of journalism. Given these contextual trends coupled with the structural changes in journalism as a practice, this paper explores the professional autonomy of Kenyan journalists based on a study carried out in Nairobi County which targeted 314 journalists in selected media houses in Kenya. The study used mixed method approach. Survey technique was employed to generate both quantitative and qualitative data. The data was collected using questionnaires and interviews. Descriptive and inferential statistics were used to analyse quantitative data and thematic analysis for qualitative data. It was established that journalist's ethics and professional code has been fragmenting over the years and journalists no longer enjoy their professional autonomy. The aspects of being neutral, objective and acting like a mirror to the public are very weak today. These changes indicate a declining trend in journalism profession. The study established that weakening trend in journalism profession has been brought about by the occupational set up such as: long working hours, political influences, training of journalists, emergence of online and citizen journalisms and new social networks. This weakening trend in journalism profession warrants an urgent intervention on journalists' conduct, review of the training content and existing regulatory policies by the Media council of Kenya.

**Key words:** *professionalism, autonomy, journalism, Kenya*

**1-2-04**

## Audiences as Spect-Actors in the Viewership of Television Dramas: Reading *Makutano Junction* **and** *Siri*

*Caroline Sambai*

### Abstract

Audience research is gradually transforming and expanding in its scope from focusing on the traditional role of audiences as passive and vulnerable readers, listeners and viewers to considering audiences as active consumers and (re) producers of meaning in mass mediated messages (Davis & Michelle, 2011). Against the common perception of audiences as a homogenous category, this paper conceptualizes audiences as heterogeneous and focuses on the role that audiences play in the process of meaning making basically based on their individual knowledge(s), experiences and

subjectivities otherwise called 'reading positions' that are accountable for the multiple readings of a single text. I consider how audiences make sense of the frames of HIV/AIDS based messages in *MJ* and *Siri* considering their roles as active (re)producers of meaning in the communicative event. I base this discussion on audience responses from post viewing discussion sessions of selected episodes of the two television dramas. With particular emphasis on how audiences 'read' HIV/AIDS based messages, audience subjectivities I argue accounts for the polysemic nature of texts' meaning and that it is not a short coming but rather a contributing factor towards the richness of the meaning making process of a media text.

**Key words***: Active audiences, polysemy, HIV/AIDS, entertainment-education*

**1-2-05**

**Developing Effective Health Communication Strategies for Sustainable Development: An Analysis of Young People's Appropriations of G-Pange Hiv/Aids Campaign Messages in Uasin-Gishu County, Kenya**

*Edwin Tallam, Abraham Mulwo and Paul Chepkuto*

**Abstract**

Much as studies indicate 98% level of HIV/AIDS awareness in Kenya, other studies also show that there is a rise in infection rates among young people. This study aimed at understanding how young people make sense of G-Pange campaign messages and how these messages influenced their behavioural choices. G-Pange is a registered trademark affiliated to HIV/AIDS Free Generation in Kenya (HFG/K). The primary objective of HFG/K is to conduct countrywide campaigns and engage various media in encouraging Kenyan youths to undertake steps to minimize their exposure to HIV infection. Specifically, this study aimed at answering the following research questions; how do the young people make sense of G-Pange campaign messages? How do the youth's appropriate G-Pange campaign messages in their daily discourse about relationships, sex and HIV/AIDS? What is the influence of the G-Pange Campaign messages on the behavior of youths in Uasin-Gishu County? The study adopted a mixed approach to generate and analyze data. Three hundred and thirty students from two technical training institutions in Eldoret were selected to participate in the study using a multi stage sampling technique. Data was generated in two phases; the first phase involving the use of self-administered questionnaires while the second phase involved the use of focus group discussions. Findings of this study indicate a high level of awareness among the youth about G-Pange HIV/AIDS campaign, yet young people still engage in sexual risk taking in their daily lives. Young people appropriated the five G-Pange pillars differently, thus hindering the adoption of safe sexual behaviours. Some of the key emerging discourses among the young people are that whereas they understood and made sense of G-Pange messages correctly, they ended up appropriating the messages differently. Young people still had concurrent sexual partners and were not using protection correctly and consistently during sexual intercourse. Furthermore, young people visited VCT to know their HIV/AIDS status in order to continue having unprotected sex. The results therefore support the conclusion that young people's social discourses about HIV/AIDS plays a role in mediating the impact of health related behaviour change campaigns among the young people.

**Keywords:** *HIV/AIDS, Appropriation, Meaning, Behaviour*

**1-2-06**

## Peace, Conflict and Security in Africa: Employing an African Solution to African Problems

*Benard Kibet Malakwen*

### Abstract

The greatest challenge that faces the human race today is to live in a peaceful world; a world devoid of endless conflicts and a world that is secure to all. People are either worried of neighbours who rise against neighbours or are worried of being attacked by criminal gangs. The African continent has for many years fallen victim of a variety of conflicts. Decades ago, conflict was mainly among nations, but as the number of interstate conflicts decreased, there has been an upsurge of inter-society conflicts such as ethnic cleansing, politically related violence, cattle rustling, pastoralists fighting for resources, just to mention but a few. The prevalence of armed violence in Africa has often been blamed on injustice, unequal distribution of resources, poverty, lack of cultural integration, marginalization, external support from the West – especially in the supply of ammunition, among other factors. It is amazing how modern day conflict involves sophisticated ammunitions that are not manufactured in Africa. A lot of information has been written and spoken about mutual co-existence but it seems that the more we talk about peace, the more things remain the same. Many peace actors have proposed the so called "African solutions to African problems" as opposed to "Western solutions to African problems" but conflict still persists. This paper will discuss the importance of peace especially in regard to the socio-economic development of the African people and the African continent. It looks as peace as not just the mere absence of conflicts but rather the presence of firm structures that ensure the cementing of proper, realistic and genuine relationships and interactions that ultimately leads to comprehensive peace-building process. It will also look at the trigger factors and prescribe the way forward to amicable resolutions of conflict; and how the African continent can be secure to all without relying on idealistic prescriptions from the West – who are largely perceived as part of the problems than the solutions. As a way of employing an African solution to African problems, this paper suggests factors such as diplomatically engaging the conflicting parties, deep analysis of the exacerbating factors, focusing more on preventive measures rather than curative ones, and the media reportage of the conflict.

**Key words**: *ammunitions, conflict, ethnicity, media, Peace building, violence*

**1-2-07**

## Engaging Communities on Social Accountability Activities for Sustainable Development: A Study of Transparency International Kenya's Citizen Demand Programme in Kisumu County

*Gloria Ooko, Abraham Mulwo & Erneo Nyakundi*

### Abstract

Social Accountability is essential for any country to develop. Participation and accountability are enshrined in several articles of the Constitution of Kenya (2010). It is on this premise that various Civil Society Organizations (CSOs) have embarked on civic education to mobilize citizens to participate in devolved governments therefore ensuring social accountability, that is the wide range of citizen and CSOs' actions to hold the state accountable, as well as actions on the part of government, media, and other societal actors aimed at promoting or facilitating these efforts. Despite these efforts, studies show that most Kenyans still do not participate in social accountability mechanisms. This paper discusses the findings preliminary findings of a

study conducted to assess the communication frameworks used by TI-K to mobilize communities to engage in social accountability processes. Specifically, the study analysed the TI-K's Citizen Demand Programme and how it contributes in mobilizing communities to participate in social accountability mechanisms at the county level. The study adopted a hybrid model combining the PRECEDE-PROCEED model and Paulo Freire's concept of dialogue as its theoretical framework. The study used a mixed method approach and Explanatory sequential design; structured random sampling and purposive sampling to come up with a sample of 250 for the quantitative phase and 16 for the qualitative phase respectively. Questionnaires, participant observations and interviews were used to generate data for this study. Findings indicate that the TI-K Citizen Demand Programme generally influenced participants to participant in social accountability processes. However only half of them participate frequently in the social accountability processes. Those who haven't participated so far sight economic shortcomings, gender roles, illiteracy among others as reasons not to participate in social accountability processes. Findings also point to the importance of local participation in making a programme a success.

**Keywords***: Devolution, Transparency, Social Accountability, Involvement*

## 1-2-08

## Role of Privately-Owned Media in Enhancing Accountability and Transparency in Democratic States

*Korir Geoffrey Kiplimo, Ollinga Michael Oruko, Rutto Wallace Cheruiyot*

## Abstract

Media alongside other State arms like the Legislature, Judiciary and the Executive is a vital contributor to any nation's development agenda. Kenya has witnessed rapid increase in the number of private media institutions, among the reasons for this being: the liberalization of the airwaves facilitated by new more democratic leadership regimes. This study sought to establish the contribution of private media in ensuring accountability and transparency among elected leaders. The study was inspired by the fact that, despite of remarkable progress made by the media in spreading and adapting to diversity over the past decade, there are still troubling concerns. There is no political operation space for the free media in the 'democratic' countries and further arguments assert that privately-owned media cannot be exempted from damages directed to the jurisdiction of the fourth estate. Grooming a responsible citizenry through objective and critical information is a key responsibility of free media, it is therefore imperative for the media to incorporate the public to exterior elements of societies' development like a transparent and accountable democratic system. The study was conducted using the qualitative approach and used content analysis method where data was analysed deductively to infer the roles of the media and journalists in enhancing transparency and accountability. The study established that media should adhere to the basic principles that define its position and roles, in national development to understand the existing political structures processes and influence them for the better of the public representation instead. This is because the mass media do not have only have a role to play towards achieving good governance but are themselves components of a good governance structure.

**Key words:** *Privately-Owned Media, Accountability, Transparency and Democratic States.*

**1-2-09**

## Television Advertisements and Their Effect on Deterring Youth from the Consumption of Alcohol: A Study of Secondary School Students in Eldoret

*Kasamba Claris & Changorok Joel*

## Abstract

Alcohol use and abuse is quite prevalent among young people in Kenya today. The drug has devastating consequences on the well-being of the young as well as that of other members of society. Although there are several factors that influence youth into alcohol use, television is the main factor in this study. The study sought to examine the impact of television in deterring alcohol use among the youth in Kenya. The study sought to investigate whether alcohol related information portrayed on television had the effect of deterring the youth from engaging in use of alcohol products .It also sought to establish the attitude of youth towards alcohol messages depicted on television. This study is based on Albert Bandura's Theory of Social Learning that discusses learning behaviour by direct experience or observation. The study is based on five selected public day secondary schools within Eldoret Municipality. The target population for this study was young people aged between 14-17 years. A Sample size of 260 was arrived at through simple random and purposive sampling. To obtain data, a structured questionnaire was administered to the youth while interview schedules were administered to five head teachers and five guiding and counseling teachers. Observation was used mainly for programmes and advertisements that portray alcohol and tobacco habits. The data is presented, analyzed and interpreted using both descriptive and inferential statistics. Descriptive statistics is presented in form of frequencies percentages, tables and bar graphs. Chi-square was used to test hypothesis at ‹ 0.05 level of significance .It was found that young people were of view that television plays a greater role in encouraging rather than deterring alcohol use among youth.

**Keywords**: *Alcohol, Television, Deterring, Youth, influence*

**1-2-10**

## Political Speeches and National Integration: A Pragmatic Analysis of Selected Political Speeches in Kenya

*Wangatiah, I. R. Makata*

## Abstract

This paper analyses political speeches as a factor in national integration in Kenya. Kenya is a country characterised by diverse cultures reflected in the forty-two tribes that comprise the Kenyan people. For meaningful development to be realised, it is theorized that the Kenyan people should harmoniously work as one. From a sociolinguistic perspective, language has an ideological function in fostering national integration as an ingredient for national development. Politicians in Kenya and the world over constitute the ruling class that is characterised by use of a linguistic genre described as political discourse. This paper argues that as an elite class within society, politicians in Kenya use political speeches to influence the perceptions of the rank and file while consolidating power and influence over the people. The political ideology that the speeches inculcate among the listeners is one that weakens the national integration fabric, and consequently national development. From a Critical Language Studies perspective, the paper applies Relevance Theory by Sperber and Wilson (1986 & 1995) and Wilson and Sperber (2004) in a pragmatic interpretation of speeches by politicians in Kenya to demonstrate that, as

a communicative event, political speeches in Kenya largely advance a selfish political agenda than disseminate a national agenda on integration and thus, national development. The speeches used in this study were collected through a participant-observer mode. They were captured and recorded using a high sensitivity digital recorder at political rallies during the Bungoma County senatorial by-election in December, 2013.

**Keywords:** *political speeches, political discourse, national integration and national development.*

## 1-2-11

## Couple Communication on Unplanned Pregnancy Among Married Couples in Keiyo Marakwet County, Kenya

*Jerop C, Cheptum J.J & Chebii, S*

## Abstract

Pregnancy is an exciting responsibility to a couple but the challenge is when it is unplanned. Effective communication gives couples the ability to plan about the pregnancy without disagreements which can lead to them getting their wires crossed. Conflict and misunderstanding can happen for a lot of couples, especially those who do not consider communication in addressing critical issues. Most of the families have been broken due to lack of communication about unplanned pregnancies while other have lost their lives in the process of procuring abortion. Understanding how a couple communicates about an unplanned pregnancy will direct on how to deal with this issue which is of public health concern. This was a descriptive cross-sectional study engaging a qualitative research design. The target population was couples who had had an unplanned pregnancy in Kaptarakwa Division, Keiyo-Marakwet County. The study used purposeful sampling method with a sample size of 20 couples. . From the findings it emerged that the community had mixed perceptions about an unplanned pregnancy. Most of the couples had an initial negative reaction but later accepted the pregnancy and moved on. Men felt the pregnancy resulted due to the woman's carelessness and women felt they were to blame for the same. Most of the couples had minimal knowledge on contraceptives and the issue of contraception was considered as the responsibility of a woman. It is therefore relevant to scale up public health talks and sensitization on handling and preventing unplanned pregnancies.

**Key terms:** unplanned pregnancy, unintended pregnancy, communication, Couple, contraceptives, contraception

## 1-2-12

## The Role of Mass Media in Sustainable Development

*Chang'orok R Joel & Claris-Kasamba*

## Abstract

Communication via the media is the reflection of the societal issues by reporting events and happenings, normally for economic, political, social, and aesthetic purposes. The study set out to investigate the role that media plays in shaping the public's perception of the pastoralist communities and its resultant impact on the development. In particular, it aimed to investigate the role of the print media in shaping public's perception of the pastoralist communities, Pokot community in particular. It also assessed the impact of print media portrayal on the development of the Pokot community and identified the various communication barriers that have hindered accurate projection of information. The research finally explored on the various media approaches

that can promote neutral reporting by the print media. The study embraced the agenda-setting theory developed by McCombs & Shaw (1968) which states that, mass media (print) sets the agenda for public opinion by highlighting 'certain issues' considered important (news) by the mainstream media. The study shades light on the reality and the media's selection reality and the influence of this selectivity on public's perception. The study was carried out in West Pokot County. The research adopted a case study design with a sample size of 300 participants selected from the target population through purposive sampling. Questionnaires were administered and purposive interview schedules were also employed to key respondents to gather special and valuable response from fields of interest. Data analysis and interpretation was done quantitatively. Findings, conclusions and recommendations to the relevant authorities were finally made.

**Keywords:** *Print Media, perception, Pastoralists, Pokot, Pokatusa.*

## 1-2-13

## Media Agenda Setting Role in Fostering Maternal Healthcare Development: An Analysis of Kenyan Newspapers

*Jane Chebet Malel & Anne Singoei*

## Abstract

The role of agenda setting by the media is a powerful tool for tackling national issues and fostering national development. Since the media has a powerful leverage to determine the current thoughts of society, this review therefore sought to find out who sets the agenda of maternal healthcare, how media frame the maternal healthcare stories which could have a bearing on sustainable development issues. While the media in Kenya carry stories on maternal healthcare, they do not do that systematically through reporting sustainable development strategies. The articles in Kenyan newspapers carry reports on educational maternal health care features without highlighting maternal healthcare sustainable strategies, the journalists focus on recurrent themes but fail to frame the stories against the wider backdrop of fostering national development. The researchers selected the *Nation* and the Standard to look at how these papers have covered maternal healthcare over the last one year. The *Nation* and the *Standard* are the oldest newspapers in the country and have the leading online presence. In addition, the *Nation* and the *Standard* have nearly 90 percent of the country's newspaper circulation. In general, newspapers are read by social, economic and policy elites, their content also reaches the local consumers through a readership effect. The methodology involved using search engines on the newspapers' webpages we searched the words "maternal health" and limited the search from June 2013 to June 2014.

**Keywords:** *Agenda setting, Media, Maternal healthcare, newspapers.*

**1-2-14**

**The Role of Media in Implementation of Mass Campaign Messages**

*Korir Geoffrey Kiplimo, Ollinga Michael Oruko, Rutto Wallace Cheruiyot*

**Abstract**

Mass media remain to be vital tools that allow for effective media campaigns. Vast research on mass media campaigns have been conducted across the world, however, much of these studies have centered on how these campaigns promote public health and how effective they are in changing the behavior of a target audience. Unfortunately, some media campaigns fail due to the problems of inadequate funding. This paper therefore points out how campaigns can still achieve behavioural change on a target audience in spite of the high rates demanded by the media. This study explores the role played by the media in ensuring these campaigns succeed in view of the financial impediments. The study further establishes how media invokes cognitive responses and influences the decision making processes of individuals. In addition it explicates how media may initiate development of discussions related on these campaigns. This study was conducted qualitatively where the Content analysis method was used. The data based on previous knowledge obtained from literature review and analysed deductively indicate that mass campaigns succeed through the earned media coverage. The mass campaign messages can be adopted in form of news stories, feature stories and talk-shows in the various forms of media. Organizations should therefore create opportunities for the earned media coverage by building a sustained series of events and news conferences which becomes vital for the dissemination of campaign content to a target audience.

**Keywords;** *Mass campaigns, earned media, news angle, agenda setting, forms of media.*

## Sub–Theme 4:

## Public Participation and Sustainable Development

**1-3-01**

**Public Participation and Sustainable Development in Devolved Government**

*Gilbert Nyakundi Okebiro*

**Abstract**

Sustainable development will not be attained in devolved government without public participation. The new constitution brought new socio-economic and political opportunities and requires public participation to sustain development in most counties. The community elites through county systems of governance should develop strategies to see how the public participation in local, national and globally in exploiting the resources to benefit them. It's against this background that sustainability of development can be maintained in socio- economic, structural, and environmental through public participation. The paper will examine how public participation leads to sustainable development in devolved government in Kenya. According Bhatnagar and Williams (1992)], participation is; "a process by which people, especially disadvantaged people,

influence decisions that affect them…participation means influence on development decisions, not simply involvement in implementation or [in sharing]benefits of a development activity, although those types of involvement are important and are often encouraged by opportunities for influence". The objective, what is the role of public participation in supporting and enhancing the process of economic and social sustainable development in the counties? The research will adopt analytical method of the empirical data. The findings will be vital for community sustainable development and realized public participation makes people become competent to live with and gain some control over local conditions and the changing world. According to Ajayi and Otuya (2006), "sustained community development cannot take place through force or order, but is mostly likely bound to happen if, all actors participate and share ideas, visions and responsibilities equally and democratically in steering and implementing their community or village development". So in creating sustainable rural development, it is through giving the main actors [public or villagers living in the community] an equal opportunity to think and plan their own future.

**Keywords:** *Public; Participation; Sustainable; Development; Devolved.*

## 1-3-02

## Community Policing as Public Participation Strategy for Enhancing Security and Sustainable Development in Kenya

*David M Kungu, Karuku Julius Ngumo, Risper Omari, John Mwaruvie & Harry Ododa*

## Abstract

Security is a basic necessity in every society as a watershed for development and prosperity in all sectors of the economy. However, for a long time this has been elusive both in the urban and rural areas. The insecurity experienced in many societies ranging from terrorism, cattle rustling to petty crimes has had devastating effects leading to loss of lives and massive destruction of property. In managing the security situation, the police resources in terms of personnel and even equipments seem to have been strained as insecurity seems to increase. On the other hand, it is believed that the criminals and perpetrators of insecurity live within some society and therefore members of the society can identify them and thus the community policing was muted in Kenya. This study therefore aimed at evaluating community policing as a security enhancing strategy by; determining the adequacy of community policing structures, assessing the role played by the community members in community policing and determining the challenges faced in community policing. The study was guided by the Abraham Maslow's hierarchy of needs which identifies security as a great concern which must be satisfied. The study adopted a case study research design with Koibatek District as the case under study. The target population for the study was 1679 members of community policing at the sub-location, location and Division levels, from which a sample of 265 was picked using stratified sampling, purposive sampling and simple random sampling. The data were collected using questionnaires and interviews and analysed descriptively where percentages and frequencies were established and presented in tables, pie charts and graphs. The study established that there are community policing structures clearly laid down at all levels as per the community policing manual. Further, community policing plays a significant role in reducing crime although coupled by a number of challenges such as mistrust and lack of capacity to handle crime. The study recommends that a strong partnership be created between the police and the members of the public and that capacity building through training is required to make the community policing committees effective.

**1-3-03**

## Indigenous Mechanisms for Managing Intra-Ethnic Conflict Among the Abakuria, Kenya: A Cure or Recipe to Conflict?

*David M Kungu, Risper Omari, Kennedy Onkware and Harry Ododa*

### Abstract

Conflict in many parts of the world has become part of people's life and in most cases leaves a trail of people devastated and in dire need for assistance often leading to manmade disasters. In Kenya, conflict is experienced as the various communities or ethnic groups fight for resources, supremacy or due to differing political inclinations. In some instances, the conflict is so intense that property worth millions are destroyed, people killed and thousands displaced. However, of the conflict experienced in Kenya, a peculiar case is that of the Abakuria ethnic group, as intra-ethnic conflict is the order of the day as members of the different clans engage in armed and non-armed fighting. The mechanisms used in managing the conflict have been wanting or inadequate as the conflicts keep recurring. It is on this backdrop that this study aimed at evaluating the Abakuria indigenous mechanisms used in managing intra-ethnic conflict. The study aimed at; evaluating the indigenous institutions used in managing intra-ethnic conflict, analysing the role of the indigenous institutions in conflict management and assessing the role of the institutions in conflict. The study employed descriptive survey, ethnography and explanatory research designs. The target population for the study was 52,338 comprising of members of the indigenous conflict management systems, members of provincial administration, local and international Non-governmental Organizations, Community Based Organizations, Faith Based Organizations, community policing members, members of the peace committees, civic leaders, District security team, warriors and community members/victims to the conflict. From the target population, a sample 638 was drawn using purposive sampling, stratified sampling, transect walk and snow balling techniques. The data were collected using questionnaires, in-depth interviews and focus group discussion. Quantitative data generated from the study were analysed descriptively while qualitative data were analysed following the five steps of thematic data analysis; transcription, open coding, axial coding, selecting codes and formation of themes. The study found out that there were five key institutions of managing conflict between the Abakuria clans, which were *Inchama, Avaragoli, Iritongo, Sungusungu* and *Ihama.* These institutions played a role both in managing conflict and instigating conflict. The study recommends that the institutions should be strengthened by the government in order to be more effective.

**Keywords**: *Intra-Ethnic Conflict, Indigenous Mechanisms, Management of Conflict*

**1-3-04**

## Aim of Human Resource in Staff Development in Actualizing Educational Needs in Higher Learning Institutions

*Veronica onjoro*

### Abstract

Staff development is itself a training process and best viewed in two dimensions. The first being an in-service training programme where individuals in an organization are given opportunities to further their education to enable them prepare for future positions. The second type of training is aimed to prepare individuals to be able to handle new job assignments. Sharma (1999:23) when he noted that staff development is aimed at improving the current level of performance of

incumbents in their present jobs; and to equip men with potentials for higher level responsibilities. The former represents the immediate pre-occupation or objective of staff development concerned with considerations currently relevant; whereas the latter involves long range considerations and planning. Organization has to give the minimum training to its employees to make them at least become acquainted with the objectives, policies, rules, standards, and procedures peculiar to the organization and the particular job. staff development can include a long programme of education and planned ,leading to key positions. Some organizations have development programmes for supervisors and executives, enabling them to handle their jobs better and preparing them for greater responsibilities. According to Longenecker (1999:232) an organization's greatest asset is its people and so it makes sense to ensure that every employee is trained for the job he is doing and developed to take on future responsibilities within his scope of competence. This view is in consonance with view of Sharma (1998:96) when he noted that when the aim is to broaden the experience of an individual, it becomes necessary to offer him opportunities to develop familiarity with different and/or longer range of the organizational operations. Miner (1999:57) noted that although the development effort must have something to do with the organizational goals, the particular goals under consideration need not be restricted to narrow economic aims. Personal development for personal development's sake may indeed be conscious objectives of the organization. Although an organization can provide opportunities for staff development, it cannot actually develop employees. They need to accomplish development themselves. That is they need to assume some responsibilities for their own progress. In any organization personnel division is responsible for planning and coordinating training activities. The division can conduct training activities for employees. The division can conduct training activities for employees even outside their regular work assignment. This is accepted by Longenecker (1998:1770) when he noted that personnel development often organizes training conference to impart knowledge or to improve skills of participants. That is conducted when the employees have the training needs, where for instance, certain basic ideas are imparted to the participants to develop their careers and help in enhancing the progress of the organization. Personnel management deals with an extensive programme, ranging from the placement, induction and training of new personnel to the provision of courses for management. The effort is directed to the development of careers and progress within the organization by utilizing the educational resources and facilities available to each stage (Hurst 1999).This study is aimed at sensitizing organizations of the need for staff training.

**Keywords**: *Human resource, staff training, Development, improvement, Personnel*

**1-3-05**

**Employee Job Satisfaction and Faculty Academic Staff Research Productivity in Private Universities in Uganda. Human Resource Development a Blessing for the Future Generation**

*Machyo Jane*

**Abstract**

This paper presents an inclusive approach to actions which engage human beings in organisations learning. Emphasising the integration of the sustainability aspect in decision making of all universities. To explore the employees' job satisfaction and research productivity in the context of sustainable development, the academic staffs' job related attitudes were examined and these included; job security, career advancement and communication. With institutionalization of research at the by National Council of Higher Education in Uganda, Universities have adopted the research component in their mission statements and other areas to inculcate the discipline

of research in their faculties. However the employee job satisfactions a question that remains unanswered to ensure the desirable outputs in research such as publications. The study focused on three Universities of the seven Private Universities in Uganda that have been accredited to run Masters Programmes. The research methodology used was quantitative and qualitative research approach to carry out an analysis on research productivity. The instruments used included questionnaires and interview guides. The study targeted academic staffs (N=75) and the findings from the accessed academic staff (N=51) revealed that most of the academic staff are not sure the different aspects that constituted employee job satisfaction. The recommendations included; attaching employee tenure on research productivity, establishing counselling centres to encourage employees to fit their personal goals to the university goals and instituting proper communication channels to entice as well as grow research.

**Keywords:** *Employee job satisfaction, research productivity, Private Universities, Human Resource Development.*

**1-3-06**

## The Effect of Skill Mismatch in an Organization on Employee Performance and Organization Attainment of its Strategic Intent; A Case of Commercial Banks in Kisii Town

*Erick Nyakundi Onsongo, Charles Kombo Okioga, Sharon Matama Gichaba*

### Abstract

This study has been conducted to observe the effects of skill mismatch on organization's performance. Skill Mismatch is one of the major issues being faced by developing countries today. Rising inflation rates, high unemployment rates, low CPI, job market instability, adverse economic conditions have given hype to skill-job mismatch. Use of technology and increasing demands of customers have compelled organizations to work on a faster pace hence giving them with lesser amount of time to search for the best suitable candidate for a job. Now individuals are hired on a first come first serve basis. The interest is in identifying how these individuals perform on job despite the skill mismatch. On analysis it is discovered that the performance of employees having a skill mismatch is mostly unsatisfactory and it has adverse effects on organization's performance. The research was carried out in all commercial banks in Kisii town. Purposive sampling technique was used to select managers of commercial banks as respondents. A total of 120 staffs were randomly selected for the study. A set of questionnaire was utilized to elicit relevant information from employers of labor on the current labor market skill demands and their assessment of the performance of recently employed employees. The research questions were tested at the significant level of 0.05. Data were analyzed using descriptive statistics, ANOVA (analysis of variance) and t-tests. There was a significant negative relationship between skills mismatch and employee performance and organization's attainment of its strategic intent ($r = -0.485$; $p < 0.05$). The extent of skills mismatch was 60.6% with major weaknesses found in communication, professional decision-making, critical thinking and entrepreneurial skills.

**Keywords**: *Skills, Mismatch, Commercial Banks, Performance*

# Symposium IV

## Cross-cutting

## Theme: Knowledge Creation, Incubation and Sharing forSustainable Development

## Sub–Theme 1:

## Rethinking Business and Financial Management Models for Sustainable Development

**4#1-1**

## Factors Influencing Growth of Rosca Banking Services in Kenya, A Case of Nairobi CBD

*Yego V. K. and R. M. Odunga*

**Abstract**

Rotating Saving Credit Associations (ROSCAs) are groupings, formal or informal whose common objective is to satisfy individual interests like financial needs, household needs and purchase of property by the members. Normally members contribute capital according to mutually agreed terms of operation. ROSCA banking services are services introduced by financial institutions like Bank of Africa, KCB, Corporative Bank, K-Rep Bank aimed at assisting members of ROSCAs achieve their financial needs. This is done by enabling the ROSCAs open "CHAMA" account with the banks through which they save and access credit services. Before 2011, ROSCAs banking services were not emphasized by banks, until then Bank of Africa introduced CHAMAs account to serve financial needs for women groups. ROSCA banking services is experiencing growth in Kenya. Specifically, we sort to examine how competition, technology and banking culture influence growth of ROSCAs banking services in the Nairobi CBD. The study adopted a descriptive research design, qualitative data was collected from 110 chairpersons of ROSCAs and analysed by use of descriptive method. Technology amongst banks had a great influence on the growth of ROSCA banking services followed by culture and finally competition. Further, Mobile banking contributed more to the use of technology in ROSCA banking services than other modes. The study recommends government involvement to help ROSCAs to realise their objectives and their contribution to the economy.

*Keywords: ROSCA Banking Services, Competition, Technology and Banking Culture*

**4#1-2**

## The Impact of Trade Liberalization on Export-Led Growth in Kenya

*Ngeno V., P. Nyangweso and M. Korir*

**Abstract**

In Kenya, over the last decades there has been a dramatic shift in the stance of development policy from the import-substitution model which encouraged the build-up of domestic manufacturing capacity and substitute domestically produced goods for imports to focusing on production for exports. But, the crucial questions are: Does export performance depend on the liberalization process itself and is there conclusive evidence that trade liberalization has significantly improved the overall economic performance in Kenya? To answer these questions, this study examined the impact of trade liberalization on export-led growth in Kenya. The data set used in the analysis consists of quarterly observations over 1964-2011. The Autoregressive Distributed lag (ARDL) model indicates that labor force, capital, imports, and exports had a positive impact on economic growth, while the trade liberalization policy has had negative effect on the Kenya's economic growth.

*Key words: ARDL, Trade Liberalization, Export-Led Growth*

**4#1-3**

## Effect of Entrepreneurs' Risk Preference on Organization Efficacy of Small and Medium Enterprises in Kenya

*Kimutai T., Lagat C. and T. Cheruiyot*

### Abstract

Small and medium enterprises (SMEs) are generally thought to play a crucial role in driving economic growth in both developing and developed countries however, entrepreneurial behavior such as entrepreneur's judgment and capabilities to perform a given actions such as risk assessment is an important means of growth to small and medium enterprises but no study has attempted to cover it. Thus, this study focused on determining the effect of entrepreneurs' risk preference on organization efficacy of small and medium enterprises in Kenya. The study utilized the explanatory research design and a survey of small and medium enterprises in western Kenya namely, Kisumu, Nakuru and Eldoret town in Kenya. A sample size of 267 respondents is derived from a target Population of 900 enterprises. Structured questionnaire and systematic random sampling technique were used. Descriptive statistics, Pearson correlation analysis, factor analysis and multiple regressions were used to analyze data. The study findings showed that entrepreneurs' risk preference positively and significantly affect organization efficacy. Similarly, entrepreneurs' risk preference is an important factor of organization efficacy. It was concluded that entrepreneurs' risk preference is important in determining efficacy in management of small firms. Recommendations are made based on managerial implications useful for business practitioners and trainers.

*Keywords: Efficacy, SMEs, entrepreneurial characteristics, business performance*

**4#1-4**

## Internal Audit: A 'Watchdog' for Financial Management in Kenya's Technical and Vocational Education and Training (Tvet) Institutions

*Tanui P. J. and Achoka J. S. K.*

### Abstract

In Kenya, Technical and Vocational Education and Training (TVET) consists of technical training institutions, Micro and Small Enterprises (MSE) centers, youth polytechnics and National Youth Service (NYS) skill development center. In Kenya, TVET is a very expensive project in terms of physical facilities, equipment, training materials and trainers' salaries. According to TVET Authority Act for 2013, the sources of funds to facilitate the TVET programs consist of money provided by Parliament and from any other source provided for, donated or lent. In this regard, there is need for sound financial management plans for TVET institutions. This paper sought to answer the research question, what is the role of internal audit that can be used by Kenya's TVET institutions in effective management of their finances? The study was guided by Porter's competitive advantage theory which states that organization should perform at higher levels than its contemporaries. In this regard, the study intended to find roles played by internal audit to help in managing finances of Kenya's TVET institutions well so as to enhance their operations beyond local or national markets. Using library research design and purposive sampling strategy to select three libraries in the month of March and April 2014, secondary data was obtained and analyzed using qualitative techniques. The findings from the study identified three roles of internal audit namely; evaluation of financial internal control system, financial risk management

and business process improvement. The study concluded Kenya's TVET institutions should be able to improve their technical understanding through adopting the internal audit as a vital tool for effective financial management. Furthermore, there is need for improved skills in internal control system implementation, use of computerized internal audit and appointment of internal audit committee to enhance the roles of internal audit.

Keywords: Internal audit, financial management and Internal Control System

**4#1-5**

## Credit Risk, Liquidity and Operating Efficiency for Low and High Market Share Commercial Banks In Kenya

*Odunga R. M. and Nyangweso P. M.*

## Abstract

Commercial banks play an important role as financial intermediaries for savers and borrowers in an economy. All sectors of the economy virtually depend on the banking sector for their very survival and growth. Operational efficiency is the ability to deliver products and services cost effectively without sacrificing quality. The Kenyan banking sector has grown tremendously over years in numbers, size and profitability. Despite growth in the sector, challenges still remain, market risk, credit risk and operational risk posses a major challenge. Kenyan commercial banks are yet to adopt a model that managers and any interested party may use to determine the level of operating efficiency. Guided by the efficiency theory, this study examined the effects of bank specific performance indicators, credit risk and liquidity on operating efficiency for low and high market share banks in Kenya. The study adopted an explanatory research design using panel data. Secondary data was obtained from annual financial statements and reports of 43 commercial banks operating in Kenya for the period 2005 - 2011. Data was analyzed using fixed effects regression model. Statistical significance checked by an F- test of the overall fit and t-tests of individual parameters. The results indicated that previous year's operating efficiency and credit risk proxy by loan loss provision to total equity ratio was significant while liquidity proxy by interbank ratio was insignificant in explaining operating efficiency. The overall $R^2$ of 0.4861was derived meaning that 48.61% of banks operational efficiency is as a result of the study variables. This implies that the history of a firm's performance influences how a firm moves forward in an effort to streamline its operational strategies. Further, there exist structural statistical differences between low and high market share banks. Banks should seek on mechanisms to improve on these variables in readiness to improve operating efficiency and remain competitive in the market.

*Keywords: Commercial Banks, Operating Efficiency, Credit Risk, Liquidity, Market share*

## Sub–Theme 2

## Knowledge Creation, Incubation & Sharing for Balanced Governance and Sustainable Development

**4#2-1**

## Impact of Terrorism on the Society: The Kenyan Experience

*Oino P. and B. Sorre*

### Abstract

The global concern over the threat of terrorism by physical destruction and losses, deaths, suffering to humanity, economic loss, insecurity, and the general challenge to social order and polity in the society cannot be underscored. As most countries in Sub-Saharan Africa are churned in civil conflicts, Kenya has remained relatively peaceful for decades and played host to millions of refugees fleeing neighboring countries. However, since 1998, terrorism-related activities have been on the rise in the country posing a major threat to national security and development. The impact of terrorism cuts across social, cultural, economic and political lens of the society. The nature of terrorist activities in Kenya has been changing and escalating in magnitude, leaving many innocent citizens as victims, while in some incidences, the country held at ransom by the terror groups. With over 15 years of experience on terror attacks, Kenya is becoming more vulnerable and easy target for terror groups. This paper provides a descriptive analysis of the experiences, challenges and lessons learnt from the recurrent incidences of terrorism in Kenya. Despite efforts made by government and other agents to curb the menace, much is yet to be achieved. The authors have highlighted inadequate capacity; lack of preparedness; poor co-ordination and strategy; and information faults as some of the major shortfalls. It is our conclusion that despite the threats posed by terror activities, the Kenyan society in general seem not to be learning a lesson and if so, with reactive rather than pro-active approach. The paper recommends that for Kenya to achieve its efforts in combating terrorism and terror-related activities, well coordinated, multi-sectoral and pro-active measures should be espoused and implemented from the grassroots (county) to national government level. Besides, enhancement of national security to deal with terrorism and emergency handling capacity should be given priority.

*Keywords*: Terrorism, Impact, Experiences, Lessons, Kenya

**4#2-2**

## Governance and Public Service Delivery in Uganda: A Case of Universal Primary and Secondary Programs in Uganda: Institutional Arrangements and School Performance

*Kyatuha O. M., Nambale M. G., Bekoreire. B. M. and K. E. Mazaki*

### Abstract

Although Uganda has made significant progress in terms of improving access to education, there is considerable evidence to suggest that the country is still struggling with equity and quality issues. The country, through the Ministry of Education and Sports has undertaken several educational reforms in relation to educational governance as important ingredients for successful educational policy reforms. This study sought to analyze the effect of educational governance on the quality of education in Uganda and the objectives were hinged on four factors: decentralization,

accountability, provision and financing, and incentives. A sample size of 370 respondents with which the use of a mixed-methods approach (using statistical techniques and semi-structured interviews with different key players in the education field) adopted to illuminate some very interesting mechanisms through which governance could influence on quality. The main findings are that, contrary to some assertions made by policymakers, institutional arrangements matter but a) they are not the main explanatory variable and b) when they matter, they do so in a multi-directional way. The study shows that the association between governance variables and performance accounts for a very small portion of the differences in performance in schools in Uganda. It is estimated that greater autonomy in the allocation of resources significantly accounts for the differences in mean performance. The study shows that the relationship between governance and performance is mediated through school progression. Thus, school progression in the schools largely explains the differences in the quality of education in the country.

*Keywords*: *Governance, education, accountability, decentralization, incentives, financing, Uganda.*

**4#2-3**

## Effect of Leadership Styles on Performance of Local Governments in Uganda. A Case of Mbale District

*Nandutu J., A. Magolo and L. Gimuguni*

## Abstract

Leadership is one of the critical approaches used to manage employee performance within organizations. How a leader directs and guides subordinates depends greatly on leadership style(s). Local governments need effective leadership style(s) to operate efficiently. Mbale local government leadership is persistently facing friction between managers and their subordinates in areas of responsibility and decision making. There was need to establish the leadership style(s) employed by managers of Mbale Local government. Study objectives; to find out how autocratic, laissez-faire styles of leadership affected employee performance, establish the relationship between democratic leadership and employee performance. Descriptive research design was used. Study Population included; district executive council, councilors, Heads of departments and technical staff. Qualitative approach was employed in data analysis. Questionnaires and interview guide were used to collect data. The key findings; autocratic and laissez-fair leadership styles dominated Mbale local government leadership, the study revealed positive relationship between democratic style of leadership and employee performance. Ignorance about leadership styles was found critical. In conclusion, leaders use the right leadership styles to influence subordinates in organizations for effective performance. The study recommends among others, capacity building of leaders on leadership styles.

*Keywords:* *Leadership styles, Local government performance*

## Sub–Theme 3

## From Production to Markets and Beyond

**4#3-1**

**From the Source to the Mainstream User: Publisher is the Panacea in the Mix**

*Majanja, J.\*, E. Okuto, M. Wafula and H. Chepkwony;*

### Abstract

This is a literature-based opinion paper that uses secondary data and content analysis to demystify the various roles of the publisher as a key player in the publishing process. This article aims to elucidate how the publisher dynamically scales and shapes the process of knowledge production, assessment, reproduction, distribution and consumption for economic prosperity. Publisher enables knowledge to transit from its locus of emergence (the author) to the global market. It is argued that for this to happen, knowledge has to be disseminated collectively. Transmission of intellectual works from their encoders to consumers can take place in various ways. In non-literate and semiliterate societies, the only means by which ideas are disseminated is recitation, either by itself or augmented with performances. With the advent of writing and information and communication technology, the constructs can be recorded and disseminated in both physical and electronic forms. Publication, involving the reproduction of recorded works in multiple copies and the distribution of these copies to consumers, become, in literate societies, a major mode of knowledge dissemination. The publisher has four core functions in this process: firstly, decides, by assessing both the needs of consumers and the works which have been produced, what to publish; secondly, identifies where and in what forms knowledge exist; thirdly, acquires controls and supervises the reproduction of these works; and lastly, makes decisions on how to make the right knowledge available at the right time in the right format through some system of distribution. In performing these roles, the publisher influences the production, as well as the consumption of knowledge.

*Keywords:* publishing, knowledge dissemination, book market, knowledge, literate societies

**4#3-2**

**Socio Economic Factors Influencing Smallholder Maize Farming in Migori County, Kenya**

*Ojala D.O.; Nyangweso P.M.; Mudaki J.; Evusa Z.; Chacha, J.; Kisinyo, P. and Kiano E.K.*

### Abstract

Maize is the main staple food crop in Kenya and is of vital concern to agricultural policy decisions, food security and overall development of the sector and the economy. It is also the dominant staple food crop in the study area. However, there has been a declining trend in maize production among farmers in Migori County, a tobacco growing zone, threatening household and national food security. This paper examines socio economic factors influencing smallholder maize production in Migori County. A survey was conducted and the target population included all smallholder maize farmers in tobacco growing zones of Migori County. A multistage sampling technique was used. A sample of 165 maize farmers was selected using systematic random sampling. Descriptive statistics such as measures of central tendency, cross tabulation, tables,

and bar graphs as well as regression were used to analyze data. Results show that farmer's age - a proxy for experience, resource base as captured by size of cattle herd, total cropped area and competition from tobacco production influence maize production. Efforts to improve maize production in Migori County should improve resource base of farmers, pay attention to their experience and consider competition for scarce production resources.

*Keywords: Smallholder, Maize Production, Tobacco Farming.*

### 4#3-3

### Determinants of Sales Force Technology Adoption Among Insurance Sales Agents in Kenya

*Lagat C. K., Ndegwa, H. W. and Bonuke, R.*

### Abstract

Salespersons are adopting and using a variety of technologies to increase their selling productivity and efficiency at different rates. This study identifies various factors that can influence the adoption of sales force automation and analyzes their effect on technology adoption. An explanatory research design was used and data collected by means of self-administered questionnaires to the target population. Reliability and correlation analysis were conducted to establish relationships between the research variables. Logit regression showed that social factors, system characteristics, organizational factors and salesperson characteristics significantly affect technology adoption. The major reason for such failure rates seems to be that the experienced salespersons frequently reject the new sales technologies. The study recommends that insurance companies should create and enabling environment for sales agents to adopt technology and improve their performance and gives further research directions.

*Keywords: Sales Force, Self-efficacy, Technology, Adoption*

### 4#3-4

### Determinants of Farmers' Preferences for Communal Spraying for Trypanosomiasis Control Among Smallholder Dairy Cattle Farms in Busia County, Kenya

*Mose J. I., Nyangweso P.M., Sulo T., Saina E. and D. K. Tuitoek*

### Abstract

Trypanosomosis is the single most important disease constraining the expansion of livestock in Kenya. Several technologies have been developed to ameliorate the effects of the disease. However, the delivery of these technologies to farmers has been undertaken on trial and error basis without a proper strategy leading to more failures than success and wastage of scarce resources. The main objective of this study was to estimate determinants of preferences for communal spraying for trypanosomosis control among smallholder cattle farmers in Busia County, Kenya. Cross–sectional survey design was adopted and data collected from a sample of 217 respondents using structured questionnaires and analyzed using descriptive and inferential statistical analysis. Age, experience, and milk income were found to be significant determinants of preference for communal spraying among semi –zero grazers. Experience and expenditure on spraying were on the other hand significant factors determining preference for communal spraying among zero grazers. There is need to develop T&T technologies which are attractive to

all age groups. Strategies to boost milk income should be pursued as this would encourage home spraying for T&T control. Kenya's policy of promoting farming as a business is supported by these findings. Home spraying requires knowledge and skills and therefore farmers need to be properly trained for effectiveness. Agricultural extension service is needed to augment farmers' experience.

*Key words: Communal spraying, trypanosomiasis, preference, zero and semi-zero grazing.*

**4#3-5**

**Profitability Potential of Forest Plantations in Forest Conservancies of Kenya**

*Odwori P. O., Ogweno D., Senelwa K., Etiegni L. and P. M. Nyangweso*

**Abstract**

Eastern, Central and Mau Forest conservancies constitute about 90% of all forest plantations in Kenya. Though the Kenya government put a ban on timber harvesting in 1999, which is still in force in some conservancies, revenue and profit potentials from these plantations help to show the worth of these plantations. The main objective of this study was to show the profitability potential of Eastern, Central and Mau Forest Conservancies. Data was collected from selected forest stations in Eastern, Central and Mau Conservancies. Compartment data was obtained from both mature and over-mature plantations. Volume tables were used to convert compartment data to volumes. Kenya Forest Service General Order was then used to convert volumes to revenues and Cost benefit analysis used to determine the profitability. Results showed that revenues per hectare for Pinus patula over-mature plantations were between Kshs 508,170 and 821,156 while for mature plantations between Kshs. 297,695 and 864,355. Revenues for over-mature Cupressus lusitanica ranged between Kshs. 475,243 and 894,381 while for mature ranged from Kshs 664,411 to Kshs. 1,063,993. Per hectare forest establishment and management cost was found to average Kshs. 80,000. Profits per hectare were found to range from Kshs. 220,576 to 975,700. This study concluded that the profitability potential of Eastern, Central and Mau forest conservancies is great and recommends that an inventory of all mature and over-mature forest plantations be taken to be a basis for fast tracking timber harvesting especially of the mature and over-mature forest plantations, which over time would decay and deteriorate in volume and value.

*Keywords: Profitability, Forest Plantations, Forest Conservancies*

## Sub–Theme 4

## Quality Assurance and Service Delivery

**4#4-1**

## Copyright Exceptions and the Use of Educational Materials in Universities in Kenya

*Ayamunda J.*

**Abstract**

Educational communities in Kenyan universities are deeply concerned that copyright exceptions seem hardly adequate and effective to enable them access knowledge and transfer and disseminate information. Potential conflicts exist between copyright and the right to education arising from the fact that the educational materials, in which authors may have a material interest, are critical to the realization of the right to education. While it is generally accepted that the best way to resolve the conflict is to adapt a balancing test, balancing the educational need for educational materials that may be protected with the right of authors to material interests remains problematic. This research sought to test the adequacy and effectiveness of the doctrine of fair dealing as regards copyright limitations and exceptions for educational purposes. Information was collected through interviews and questionnaires. The study used a survey design to obtain data to answer four specific questions. Specifically, the research design was descriptive survey. The study found evidence of widespread copying on campuses. Secondly, respondents mainly use reproductions for research or private study and educational activities. Most of the reproduced materials were copyright protected. Undoubtedly, the quality or quantity of the original copyrighted work that is copied is substantial. However, there was no evidence of any detrimental impact on the market of the original work. Thirdly, universities under study had no copying policies whatsoever. Fourthly, a great majority of universities lacked agreements with a reproduction rights society or copyright owners concerning copying and similar reproduction of copyright protected material. The study concluded that, first, copying is an essential part of university education in Kenya. Second, there is uncertainty as to whether the copying taking place is fair dealing or not. Third, the difficulties with the laws of educational copying especially the fair dealing factors have a chilling effect on users of copyright materials. The study recommended that universities should have clear, comprehensive and pragmatic copying policies; and negotiate and signing up to appropriate licensing systems.

*Keywords: Copyright exceptions, education, universities, Kenya*

**4#4-2**

## Audit Quality, Audit Committee Effectiveness and Audit Evaluation: A Critical Literature Review

*Wasonga J. K. and R. M. Odunga*

**Abstract**

There have been growing academic research and literature on audit quality in corporate organizations but increase in financial and accounting scandals has brought the integrity of financial reporting and audit quality in disrepute. Questions have arisen on the independence of the auditor and quality of audits conducted for public interest organizations. Audit quality

is critical in the financial reporting chain and investors and other audit stakeholders require assurance on the quality of the audit reports, financial reporting disclosures and information on the performance of firms. This paper seeks to review literature on audit quality to establish how audit quality is affected by audit committee effectiveness and audit evaluation. The study involves critical review of academic literature and research on audit quality, audit committee effectiveness and audit evaluation including related theories and empirical studies which investigate the relationship among audit quality, audit committee effectiveness, and audit evaluation. Review findings reveal that there is no agreeable audit quality framework, definition of audit quality and information on how audit committee effectiveness affects audit quality. Independence of the AC, qualification of members reflected on the knowledge and expertise possessed and size of the committee are believed to improve financial reporting quality resulting in high audit quality. AC's frequency of meetings, contributions reflected in committee minutes, informal relationships between the committee and stakeholders such as internal and external auditors; and senior management improves audit quality in organizations.

*Keywords: Audit Quality, Audit Committee Effectiveness, Audit Evaluation*

## Sub–Theme 5

## Information Management  and Security for Increased Efficiency and Service Delivery

**4#5-1**

**Integrated Financial Management Information System and its Effect on Cash Management in Eldoret West District Treasury, Kenya**

*Adero P., Odoyo F. S. and  S. Chumba*

## Abstract

The purpose of this study was to investigate the effect of IFMIS on cash management practices in the public service. This has been necessitated by the fact that the use of IFMIS in the public service is undergoing challenges with many users experiencing problems with certain complicated features of IFMIS coupled with security, flexibility and reliability issues that have an impact on efficient cash management in the public service. The study was based on the Contingency theory and descriptive survey research design was employed in this study. The study focused on70 staff and top management at the Eldoret West District treasury. Questionnaires and interview schedules were used to collect primary data. Data was analyzed using descriptive statistics, regression and correlation. Study findings showed that reliability of IFMIS, Flexibility of IFMIS positively affect cash management. The findings also showed that a reliable system is basically one that is accurate, timely, complete and consistent in collection of information and the infrastructure which supports the IFMIS is  supposed to be secure from destruction, corruption, unauthorized access and breach of confidentiality so that there is efficient cash management. Flexibility of local IFMIS design can decrease chances of failure in cash management. Findings also revealed that the implementation of IFMIS has not been a success as a result of the top down management exhibited in most of the public service. There is need for public service to ensure that the information generated by

IFMIS is consistent without delays and undue changes that demands further manual help. Public service should tailor information concerning IFMIS in such a way that it cannot be tampered with by others. Also, there should be sufficient IFMIS controls to curb tampering. Public service should also ensure that IFMIS easily adapts to the changes in cash management without complete overhaul of the system.

*Keywords: Financial management, Cash management practices, Reliability, Security*

## Sub–Theme 6

## E–Learning and Digitalization of the Economy for Sustainable Development

**4#6-1**

## Methods for Investigating the Use of Podcasting in Higher Education: A Review of Recent Studies

*Oloo G. J. and Omwenga E.*

## Abstract

The high mobile penetration levels and the emergence of Web 2.0 technologies that include Wikis, Blogs, Podcasts, Screencast, Google Tools etc provide academic institutions with an opportunity to address some of the challenges they are facing in the provision of quality education given the ever increasing enrolment numbers. It is also important to note that the use of m-learning tools, if correctly conceptualized and built, constitutes an efficient complementary tool to the traditional teaching methods. The study reviewed journal articles with a view to examining the methods used in the investigating the adoption of podcasting in Higher Education. It was found that most studies were in the form of Action Research which either took an interpretive or positivist approach with the choice being guided by the objectives of the study. The review also points out to the need for orientation on use of podcasting at initial stages of its implementation.

*Keywords: Podcasts, Mobile learning, Methods*

# Sub–Theme 7

# Refocusing Health Priorities for Sustainable Development

**4#7-1**

## Embracing Multidisciplinary Approach to Palliative Care: The Role of Medical Anthropology in Palliative Care

*Atieno M., Wavinya C. and H. M. K. Maithya*

## Abstract

Medical anthropology is concerned with how different cultures and social groups explain causes of ill health, types of treatment take n and where they turn to when ill. The discipline complements palliative care by aiding care providers to understand human beings in their cultural context. This paper discusses the role of medical anthropology in palliative care and proposes that palliative care capacity building should consider training in related disciplines like medical anthropology. The paper is based on review articles on linking palliative care to medical anthropology field. The review targeted key words: 'palliative care'; 'medical anthropology' and 'life threatening illnesses' for all relevant papers up to July 2014. Palliative care seeks to improve the quality of life of patients and their families facing problems associated with life threatening illnesses, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems (physical, psychosocial and spiritual). Medical anthropology explains the influence of culture in the health seeking behaviours of people; appreciates medical pluralism, validates peoples' interpretation of health and illness even before biomedical diagnosis is undertaken for palliative care interventions. Medical anthropology provides an important facet to understanding patients, family history, and the journey through health and illness, which is a useful foundation for palliative care provision. Medical Anthropology can be one of the essential complementary disciplines to palliative care.

*Keywords*: palliative care, medical anthropology, multidisciplinary approach

**4#7-2**

## Prostate Diseases and Prostate Specific Antigen Levels among Patients above 50 Years of Age Seen at Moi Teaching and Referral Hospital (MTRH) –Eldoret, Kenya

*Kemei K. W., Musau P., Wakhisi J., Choge K. J. and C. Khayeka─Wandabwa*

## Abstract

Prostate specific antigen (PSA) has been a good screening test, but lacks precision for various prostate diseases. The debate persists among experts as to the usefulness of PSA in screening asymptomatic men. The normal values remain a discussion point since, despite the fact that elevated PSA is associated with prostate cancer this can also be seen with prostatitis and benign prostate hyperplasia (BPH). The study sought to establish the prevalence of prostate diseases among patients 50 years and above and determine the associated PSA levels. A cross-sectional, hospital based, descriptive study. Two hundred and nineteen patients were recruited, close to three quarters (74.4%) of who were in-patients and the rest out-patients seen in the urology clinic of MTRH. Those aged 50-59 years were the majority (39.7%) followed by 60-69 year olds (28.6%). The annual incidence of prostate diseases was 18.1% with BPH accounting for 76.7% of the

three diseases. Mean serum PSA among the study subjects was 31.2ng/ml with patients having PSA>4ng/ml constituting 71.7% of the study participants. Out of 54 participants with histological diagnosis, 40 had cancer of the prostate. PSA levels were rising with age (p=0.04). Family history of prostate disease, urine retention and lower back pain had statistically significant correlation with elevated PSA (all p<0.001). Multivariate analysis showed family history and urinary retention to be independent predictors of elevated PSA at p=0.002 and 0.04 respectively. Prostate diseases rates are high among male patients of 50 years and above seeking care in MTRH. The PSA levels could not distinctly separate the three diseases and it is suggested that future endeavors should focus on the global challenge of PSA and its role in diagnosing particularly the African male known to have higher levels of PSA even for benign conditions.

*Keywords: Prostate Specific Antigen, Prostate Cancer, Prostatitis, Benign Prostatic Hyperplasia*

## 4#7-3

## Family Planning Uptake and Awareness in Health Centres with Ampath–Influence And In Health Centres Without Ampath Influence

*Atieno A .R., Orage O. K. and A. Kwena.*

## Abstract

According to Kenya Population Data Sheet 2011, Kenyan population has nearly quadrupled in size, from 10.9 million in 1969 to an estimated 40 million today. This dramatic growth is attributable to sustained high birth rate the country has been experiencing since the mid- 20thcentury and a relatively lower mortality rate. Projections indicate that in the next two decades, Kenya's population is poised to double from its current levels. This situation will clearly have a bearing on socio-economic welfare of the populace, hence government's efforts to introduce people to the ideals of Family Planning as an essential component in achieving developmental goals of reducing poverty, maternal and child mortality deaths. A good uptake will be important in achieving Vision 2030.Community-Based Education and Service (COBES) is a programme offered by Moi University College of Health Sciences that provides strategies on community entry, diagnosis and intervention aimed at disease prevention and health promotion. AMPATH-KENYA is a partnership between Moi University School of Medicine, Moi Teaching and Referral Hospital and a national consortium of U.S. medical schools led by Indiana University. It promotes a comprehensive approach to various health care priorities including Family Planning awareness and uptake.To compare the level and trend of family planning uptake in stations that have AMPATH influence and those lacking AMPATH influence from the year 2011 to 2014. A systematic review of COBES cross-sectional survey reports generated from2011-2014 was done. A list of AMPATH satellite centres and another for non- AMPATH health centres were generated and, from each, five centres were randomly selected and their reports for the last four years picked for the review. Data analysis was done using Statistical Packaging for Social Sciences and Microsoft Excel. The ethical requirements for conducting research according to the Moi University/MTRH Institutional Research and Ethics Committee were adhered to. AMPATH centres had higher family planning uptake in 2011 at 85% compared to the non-AMPATH stations at 81.5%. AMPATH stations had uptake of 87.25% compared to 74.75% in the stations lacking AMPATH influence in 2012. 2013 results indicated that the AMPATH stations had 85.2% and the non-AMPATH stations uptake was 76.8%. 2014 also showed that the AMPATH stations had an uptake of 87% and the non AMPATH stations had an uptake of 87.8%. The AMPATH Centres had higher family planning awareness and uptake.

**4#7-4**

## HIV/AIDS Awareness and Testing in Ampath and Non Ampath Served Centres as Observed During Community Based Education and Service (COBES).

*Odhiambo K. O., Atieno A. R. and A. Kwena.*

### Abstract

COBES is a programme in the Moi University College of Health Sciences' curricula that seeks to expose students to the community health needs and aims to educate them on how to carry out a community entry, diagnosis and interventions, with the purpose of determining appropriate disease prevention and health promotion measures. HIV/AIDS is one of the major health challenges in the communities around the COBES stations, with prevalence as high as 11 percent in some areas. The Academic Model of Providing Access to Health Care (AMPATH) is a consortium that operates in North Rift and part of Western and Nyanza provinces, with its main activities aimed at HIV/AIDS care and prevention. The study sought to determine the impact of AMPATH initiative on HIV/AIDS awareness and testing in stations where it operates in contrast to those without its operations. The research sites were identified from among the COBES stations in Rift Valley, Western and Nyanza Provinces and grouped as either AMPATH or Non-AMPATH stations, out of which 5 were sampled randomly from each category. In each station a review of COBES reports between the year 2011 and 2014 was done, focusing on the level of HIV/AIDS awareness and testing. The level of percentages of awareness and testing in each site over the years were taken and compared between the two categories viz AMPATH verses Non-AMPATH centres. The data was analyzed using Statistical Packaging for Social Sciences (SPSS) and Microsoft Excel. The ethical requirements for conducting research according to the Moi University/MTRH institutional research and ethics Committee (IREC) were adhered to. From the findings, an average of 79.75% of the respondents had done an HIV test in AMPATH stations compared to 62% in Non –AMPATH stations in the year 2011.In 2012, 86% had done testing against 76.2% in Non-AMPATH stations. In the same year, general good awareness on HIV/AIDS in AMPATH stations was at 49% while in Non-AMPATH stations it was 46.8%. Those who had done testing in AMPATH stations in 2013 averaged 86.5% with an awareness of 55.5 % compared to Non AMPATH with 74.8% tested and an awareness of 48.8%. In 2014, the average proportion of the respondents tested in AMPATH sites was 80.75% with good awareness level at 65.5%, whereas in Non –AMPATH stations it was 76.5 % tested with awareness rate at 54.4%. AMPATH centres showed a generally higher percentage of those who had done an HIV testing and had good knowledge concerning the disease.

***Keywords:*** *HIV/AIDS awareness and testing, AMPATH.*

**4#7-5**

## Refocusing Health Priorities for Sustainable Develoment: The Kenyan Situation

*Chelangat B.K.*

### Abstract

Sustainable development is understood to require the current generation to meet their needs without compromising the ability of the future generations to meet their needs. On a large scale, health of human beings is the primary reason for sustainable development; refocusing health priorities is instantly unavoidable. The focus should be regarding investment in health as a great contributor to achieving sustainable development. With a new constitution and viable legislations

on health and social security, health priorities ought to be reconsidered. This paper is aimed at elaborating and analyzing the health priorities in relation to sustainable development, discussing ineptly the effects of health on sustainability of development and recommending possible changes or improvements to ensure a balance between health and sustainable development. The analysis is based on reference to health policies in the statutory frameworks of the various national, international and other applicable Laws. Writings from leading scholars and relevant case studies are also relied on. Health is a major contributor to development. Without regard to health effects of unsustainable development there would be destruction and threat of health of humans. Health and sustainable development have unbreakable linkages and development strategies should always be construed with the highest regards to health effects.

*Key words: Sustainable development, Reproductive health, Social security in health*

### 4#7-6

## The Principles of Epidemiologic Transition and the Experiences in Kenya

*Gatongi, P.M., Songa,J., and Kiyiapi,L.*

## Abstract

Throughout history, man has ignited dynamic changes in his ecosystem. In a cascading and feedback manner, these changes have, in return, significantly impacted on his probability of survival by exerting critical pressures that have shaped the population sizes, life styles, life expectancy and disease status. This position has been compounded further by climatic changes which have arisen as a consequence of man's activities that have disturbed the ecosystem balance. In deliberate efforts to place adequate food on the table, man has embarked on extensive land use thereby encroaching on new habitats and interrupting biodiversity balance. Within these new habitats, he has encountered new disease pathogens with expected consequences of wide oscillations in mortality rates. Migration as a result of conflicts, poverty, search for pastures and other forces have also thrown a critical spanner in these dynamics. In addition, the speed of mobility has become a key cog wheel in the process of change; in the 18th century, it took an average of six months to travel from one continent to another while today one can traverse three continents in twenty four hours. Industrialization coupled by global, regional and local socio -economic adjustments has also become a major pillar in the superstructure of these changes. The ultimate consequence of these changes on health has been one of definite transitions across phases of disease scenarios over time at both local and global levels. Phases of pestilence, receding pandemics and upsurge of chronic diseases have become evident at varying levels in different countries. The main objective of this review is to demonstrate from literature the underlying principles of epidemiologic transition and to highlight the experiences in Kenya.

*Key words: Epidemiology, transition, pandemics, chronic diseases, demographics,*

**4#7-7**

## To Establish the Adequacyof Micro and Macro Nutrients Intake in Children Aged Between 6 and 23 Months Born to HIV Positive Mothers in Ampath Centre

*Sawe C. J., Ettyang' G. and F. Esamai*

### Abstract

HIV/AIDS is a disease that is now on focus in all parts of the world. The rate of increase in the number of children diagnosed with HIV is alarming. HIV infection in children can lead to poor weight gain, failure to thrive and generally poor health status leading to poor nutritional status. The main objective of the study was to establish the adequacy of nutrient intake amongst children born to HIV positive mothers. The study used 302 infants aged between 6 and 23 months and whose mothers were attending Turbo AMPATH Health Centre. A Nutrient Calculator was used to obtain mean Daily Intake and probability approach was used to determine adequacy of nutrient intake and was compared with Estimated Average Requirement (EAR). A total of 270(90%) infants were studied and data obtained. Over three quarters of the mothers 211(78.1%) were married and more than half 155(57.4%) were housewives. A quarter of their spouses (for those married) 53(25.1%) were businessmen. More than half of the mothers 187(69.3%) had primary level of education. The mean age of the children was 14.1 months. Vitamin A and protein intake were significantly below the Estimated average Requirement (P<0.001). Vitamin A was the highest in inadequacy in the diets followed by protein but the children were growing well and were within the normal range as the WHO standards for children of the same age. Researcher recommends interventions that will provide diets and foods rich in vitamin A.

**4#7-8**

## Parental Perception on Neonatal Pain and Pain Management Practices in Special Care Nurseries

**Kyololo D. O. and I. Marete**

### Abstract

Although pain in neonates remains sub-optimal globally, the situation is very dire in sub-Saharan countries like Kenya where all procedures are performed without any form of analgesia due to lack of resources to procure pharmacological analgesics. There, however, exist low-cost, mother-driven pain management strategies such as breastfeeding and kangaroo care that can be used for pain relief in babies in neonatal units in Kenya. The successful use of these interventions is, however, depended on parents' perception about pain and how pain in their babies is managed during hospitalization. The aim of this systematic review was to describe parental perception about pain; and to describe parents' perceptions about procedural pain management practices in neonatal units. Electronic searches were conducted on MEDLINE, CINAHL, Embase and PsycINFO using the following search words: parent(s), perception(s), view(s), neonate, newborn, infant, pain, procedural pain, management, and practices. The search generated 101 articles four of which met the inclusion criteria. Parents believed their infants experienced a lot of pain and that the pain was often not adequately treated. Parents believe that infants undergo a lot of pain while in the neonatal unit without sufficient pain relief and desire to be involved in pain care of their infants.

*Keywords: Parents, Neonate, Procedural Pain, Perceptions.*

## Sub–Theme 8

## Social Sciences and Humanities for Sustainable Development

**4#8-1**

## Effects of Corporate Social Responsibility Dimension on Consumer Identification Among Safaricom Clients in Kajiado County Kenya

*Osodo P., Korir M.  and R. Bonuke*

### Abstract

This study aimed to empirically examine the corporate social responsibility (CSR) factors that affect the consumer identification in Kenya. The four factors examined in this study are economic, philanthropic, ethical, and legal. Explanatory survey design was done and a study sample of 325 respondents was collected in Kajiado County among clients of Safaricom. Social identification theory, social exchange theory and stakeholder theory were used to ground the study. Data were analyzed by testing hypothesized relationships, correlation and multiple regression analysis. The results revealed that economic, philanthropic, ethical and legal CSR are positively associated with consumer identification. The highest positive relationship was philanthropic followed by economic. Level of education had a negative relationship with consumer identification. Based on the findings, companies involved in different dimensions of CSR should focus on developing marketing strategies along philanthropic, economic and ethical dimensions of CSR. The policy on philanthropic and economic issues regarding consumers should be given priority. The study made a contribution in terms of allowing us to understand the factors that can contribute to consumer identification. This study successfully extended the dimensions of philanthropic, economic, ethical and legal CSR model in the context of consumers' identification.

***Keywords:*** *Corporate Social Responsibility, Consumer Identification, Social Identification Theory, Stakeholder Theory, Kenya*

**4#8-2**

## Equal Employment Policy and Accesss to Formal Empolyment of People With Disabilities in Uganda: Case Study of Eastern Uganda

*Bekoreire. B. M., Kyatuha O. M and A. Wamala*

### Abstract

The Equal Employment Opportunity policy has not successfully empowered people living with disabilities to access formal employment. In Uganda, the number of persons living with disability is estimated to be 16% but only 0.2 % has formal employment in the NGO, private or public sectors. The purpose of the study was therefore to examine the influence of Equal Employment Opportunity policy in promoting access to formal employment of people with disabilities in Uganda. The research adopted a descriptive study design and Eastern Uganda was used as a case study. The target population included officers in charge of recruitment in public, private and NGOs, community development officers, NUDIPU members and staff in government and NGOs that implement programmes for people with disabilities. The study used qualitative methods of data collection namely: questionnaire, observation and interviews. The findings show that the implementation of Equal employment policy is fruitless. The employers have not taken the

necessary steps to address the factors that limit access to formal employment opportunities of People Living with Disabilities. The limitations included non-conducive working environment characterized by unfavorable infrastructure, equipment and toilet facilities, lack of social support from workmates, negative attitudes by employing agencies and, lack of access to education opportunities. There is need to promote education opportunities for people with disabilities, government should ensure that all employing organizations adhere to equal employment opportunity policy by providing facilities and working conditions that conform to stipulated standard criteria.

*Keywords: formal employment, disability, Equal Employment Opportunity*

## Sub–Theme 9

## ICT as a Vehicle for Educational Content Delivery

**4#10-1**

**Design and Implementation of a Low Cost High Bandwidth Sampling Bridge**

*Simon S. and Kamucha G.*

**Abstract**

Research involving high bandwidth signals in GHz range is limited in Kenyan Universities due to lack of high bandwidth measurement equipment such as sampling oscilloscopes and spectrum analyzers among others. The cost of these instruments from international vendors is very high and hence there is need to come up with low-cost alternatives in order to promote and enhance research in our local institutions. In this work the concept of high frequency sampling bridge is to be developed for high frequency measurements. A high frequency sample and hold circuit has a sampling diode bridge for coupling an input test signal to be sampled to a holding capacitor when all the diodes of the bridge are forward biased by an applied strobe signal, thereby charging the capacitor to the input voltage. The diode is supposed to substantially uncouple the input signal from the holding capacitor when the strobe current direction is reversed such that the holding capacitor retains the charge stored thereon and therefore remains charged to the current sample signal voltage at that instant. Various sampling techniques and architectures have been studied and implemented with the idea of improving the bandwidth, sampling rate, rise time, bridge circuit design, reduction of noise and distortion, minimizing aperture errors, additionally reducing the overall design cost of the bridge.This work employs the Equivalent Time Sampling Technique (ETST) in order to minimize the cost of electronic devices at the output stage. The design is implemented on monolithic GaAs which generates fast pulses for sampling, Schottky diodes which are well suited for high frequency operations and SiGe HBT technology which require small implementation area thus compact light weight and low cost device.

*Keywords: Bandwidth, Sampling Bridge, rise time, distortion, aperture error, signal*

**4#10-2**

# Adoption of Assistive Technologies in Academic Libraries: A Case of Margaret Thatcher Library, Moi University

*Langat K. A. and W. Kiprono*

## Abstract

Assistive technologies are important for students with visual impairment both for totally blind and the partially blind. These assistive technologies help these students to access useful information and materials just like their sighted peers. Accessing quality information resources is necessary for success in their education and self-development. This study sought to establish the assistive technologies needed for the visually impaired students (VI) in Moi University, Margaret Thatcher library. There is need for attention to be given to librarians to realize the urgency or acquiring high tech devices and modern technologies to be installed on computers. Modern technology is availing journals, books and coursework in digital format for access by the VI students using, screen reading software, Braille technology and magnification equipments. Barriers to access must be overcome and specialized needs must be included in the library equipments, upgrade plans and others across the board. This research intends to be a descriptive research. The researcher collects data using interviewing visual impaired students, interviewing the library staff and giving questionnaires to the library management. Reflections from this initial study are presented in hopes of changing how visually impaired students are encouraged to relate to digital assistive technologies availed the in the library. It was envisaged that the finding, recommendations and suggestions of this study, would be helpful to VI students, their lecturer, librarians, curriculum developers and policy makers in the area of education.

*Keywords:* *Assistive technology, Visual impaired, Academic libraries*