



CBPS NEWS

SPECIAL POINTS OF INTEREST:

- Prof Malo 47 Years and Still going Strong
- Student wins Bill & Melinda Gates Grant

Editorial team

Doreen Alusa

Winne Codawa

Rosemary Barasa

Contributors

Prof. O. Malo

Dr. Kiboi

Dinta Domtau

Namaan Agengo

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Prof. Malo: I Will Keep Prodding

Many years ago in Maseno, in the odd hours of the night, a baby boy was born under a tree. A medical doctor at Maseno Missionary Hospital had given a report that there was no chance of survival for both the mother and the child, but Mother Nature had other plans. One Dr. Joseph Barnes who had arrived from the United Kingdom ensured successful birth of the new-born and safety of the mother despite the complications encountered. The parents named the child after the doctor and their desire was for their new born to become a medical doctor, but the middle child in a family of fourteen had other plans. Thus began the life of one Prof. Joseph Otieno Malo.



Prof. Otieno Malo at his desk

Son of Japuonj - meaning Son of a Teacher, as he is fondly called, Prof. Joseph Otieno Malo is the son of former Maseno School headmaster, Mr. Shadrack Owiti Malo, the first African teacher in the School. Eminent personalities like Jaramogi Oginga Oginga, Prof. David Wasawo, Prof.

Simeon Ominde and Prof. Bethuel Ogot have passed through the hands of Mr. Shadrack Malo. Shadrack is renowned for his published books on Luo culture which include: *Dhouldi mag Central Nyanza*, *Sigend Luo Maduogo Chuny*, *Dholuo Without Tears* and *Luo Kitgi gi Timbegi (Jaluo)*.

The Professor nostalgically remembers his strict father's parenting. Being no different than an exploring, young man, Malo, would often sneak out of school to watch Indian films in Kisumu while a student at Kisumu Union, presently Kisumu Boys, in the late fifties. Regardless of his non-academic indulgence, Malo would still do his examinations and

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CBPS STUDENTS WIN BILL & MELINDA GATES GRANT

Jonathan Gikabu, Roy Allela, Alvin Mutisya, Kevin Maghanga of the University of Nairobi Department of Physics and Donald Yegon are beneficiaries of the Bill and Melinda Gates foundation Global Grand Challenges grant. The project is on cost effective money transfer options. will incorporate near field communication (NFC) tags into low-cost mobile

phones for secure mobile money payments. NFC tags enable short-range wireless communication between mobile phones and other devices for contactless and rapid mobile payments. They are commonly incorporated into smart phones, but these are too expensive for the average citizen in developing countries. The application was under the exploration topic "Enable

Universal Acceptance of Mobile Money Payment". Out of a pool of 1400 applicants across six exploration topics, The proposal was among the 52 selected for funding in Round 14. The project is scheduled to run from May 2015 to October 2016, during which he can apply once for the Phase II follow-on grant

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MICROBIOLOGY STUDENTS KICK OFF THE YEAR WITH ACTIVITIES



Nairobi University Microbiology Students Association (NUMSA) play football during the organization's fun day in 2016

Students from Nairobi University Microbiology Students Association have begun the year with enthusiastic sporting energy. The students kick-started the new year with sport challenges comprising football matches and board games. Student members from (NUMSA) as well as Chiro Environment Awareness Club (CEAC) took part

in team building exercises, football matches and board games during the February 13, 2016 fun day.

The fun day aimed to serve as an informal interactive platform for the members to enhance association and to build individual and team skills. Two teams competitively played against each other in pulsating football matches; second year verses fourth years and first years verses third years. The University of Nairobi prides itself as the best University in the region churning out wholistic graduates through its academia and

extra-curricular activities. With facilities such as a swimming pool, rugby pitch, football pitch, basketball and volley pitches, students can take part in a myriad of sports and games.

In 2015, the University relaunched its Rugby teams (Mean-Machine) and Basketball teams Terrorists (Men) and Dynamites (Women). This is a move to enhance performance in these sports as major face-lift of existing sports facilities, replenishing kits and equipment and mobilizing resources continue



“ In Physics, the faculty, students and technologists are awesome people. Teaching staff are readily available for you”

The National Coat of Arms of Nigeria



The Life of a Nigerian Studying in Kenya

Studying in a different country brings with it many joys as well as challenges. A student who studies in a foreign country becomes internationally aware, able to work and adapt better in a team and develop world-mindedness among other benefits. For others, experiencing a different teaching method, enhancing career competitiveness and opportunities and learning a course not offered at home institutions contributes to the motivation of studying abroad.

Mr. Dinfa L. Domtau is a student in the Department of Physics where he is pursuing



Mr. Dinfa L. Domtau—PhD Student Physics

pursue postgraduate studies at the University of Nairobi. This is what he had to say: **What motivated you to choose the University of Nairobi, specifically the Department of Physics to pursue your Ph.D.?** Domtau: The University of Nairobi by extension, Physics Department has an established faculty profile. The teaching staff are competent especially in areas of renewable energy which is my area of interest. Also, climate change is a global challenge. It has contributed to the devastation of our environment. Physics de-

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UON Partners with UNICEF to launch ‘Internet of Things’



Prof Muroto with representatives from UNICEF, SCI and C4DLabs at the launch

Intel and UNICEF have partnered with School of Computing and Informatics Computing for Development Lab (C4DLab) to launch a design thinking school dubbed, Internet of Things (IoT).

IoT is a network of physical objects, devices, vehicles, buildings and other items which are embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data.

Design thinking on the other hand, is a human centered approach to innovation that integrates the needs of people, the possibilities of technology, and the requirements for business success.

IoT is a program that aims to contribute to the innovation lab hosted by the School of Computing- Computing for Development Lab (C4DLab). The lab trains, develops innovation products for incubation and hosts an innovation acceleration programme, Africa Technology and Innovation Accelerator

(AfTia).

“The innovation lab provides a framework to cater for the vast projects undertaken by students which form the basis of solving societal problems,” says Dr. Tonny Omwansa, C4DLab coordinator.

“More than half the population of Africa is youth. With the challenge of unemployment, the youth armed with technology can solve some of Africa’s problems,” said Danie Steyn, Intel East Africa Country Manager. Steyn urged the youth to not only look in their community to solve problems, but to look into solving Africa’s problems as well.

United Nations Children Emergency Fund (UNICEF) is proud to partner with University of Nairobi’s IoT whose innovation, it attests, will add value to the most deprived population; the children.

UNICEF’s Chief of Social Policy, Ousman Young, commended the partnership, saying “the partnership will contribute

to steer the youth into community development solutions.”

Norah Maki, UNICEF’s Academic partnerships lead-innovation unit noted that innovation will enhance leadership and innovation skills for the youth posing a great opportunity to invest in infrastructure and sustainable development. Intel will

While launching Intel of Things, Deputy Vice-Chancellor Academic Affairs, Prof. Henry Muroto, who was speaking on behalf of the Vice-Chancellor congratulated the 12 startups which have been admitted to Internet of Things. In his speech, Prof. Mbithi highlighted innovation as a transformative effect in the country and in the world. He said that having selected 12 out of 160 startups signifies that the University will receive good ideas from a committed team, which will further contribute to innovations that will impact people.

Prof. Mbithi affirmed the University’s continuous support to nurture and support innovation noting that the startups will be given an opportunity to exhibit at the Nairobi Innovation Week. Nairobi Innovation Week is an annual showcasing of innovations and inventions by various players in the Kenyan economy,

“More than half the population of Africa is youth. With the challenge of unemployment, the youth armed with technology can solve some of Africa’s problems”

Danie Steyn– Intel

East Africa

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Migration Conflict and Climate Change



Presentation to Stakeholders

Climate Change has been identified as one of the causes of conflict and migration in a 2015 survey undertaken by University of Nairobi's Institute for Climate Change and Adaptation (ICCA).

The December 2015 survey report carried out in Samburu and Marsabit indicate migration as a consequence of climate change. Extreme weather conditions with varying rainfall

and temperatures have led to cattle raiding and displacement of human population as communities compete for pasture and water.

While officiating the stakeholders' workshop, Acting Director of Institute of Climate Change and Adaptation, Prof. Shem Wandiga said that the aim of the survey was to understand the pattern of migration, its causes and disasters. "We wanted to find out whether

the migration is natural or caused by climate change, and be able to assess the trend," said Prof. Wandiga.

The University of Nairobi's Institute survey adopted United Nations report, which revealed that more than 150 people are killed annually in cattle raids in Turkana, Samburu and Isiolo, while 15% of animals die in these counties due to drought. Chris Imana,

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'Internet of Things' Launch

hosted by the University of Nairobi which brings together stakeholders from the Government, Private sector and individual innovators and is scheduled to take place in the first week of August 2016.

The goal of the "Design Thinking for IoT" program is to develop user centric sound innovations in Media, Environmental monitoring, Infrastructure management, Manufacturing, Energy management, Medical and healthcare systems, Building and home automation, Transportation among other areas that can be absorbed into the incubation and accelerator programs such as (AfTIA) and be developed into viable businesses.

AfTia, was launched in November 2015 and is presently incubating four startups in agriculture, social, transport and education.

AfTia aims to be the global reference point in developing scalable IT-based enterprises for sustainable development. Graduation for the startups is set for March 2016, where the winning startup will receive a seed capital of Ksh. 100,000.00.

Roy Allela, a fourth year Bachelor of Science Microprocessor Technology and Instrumentation student, from the School of Physical Sciences University of Nairobi is an intern with Intel. Allela is the brain behind face recognition using intel real sense technology. He says that his team is presently working on improving features and applications to enhance the face recognition technology. "This technology can be used for security applications, authentication in houses, gaming technology and 3D scanning," Allela adds. It can also be used in hospitals where hygiene is of utmost

important and this is availed by the non-touching feature but effective use of face recognition. Allela says that "the technology is very



Dr. Omwanza at IoT launch

Student at the launch of the 'Internet of Things' explaining his project



Students Win

From Pg 1

of up to \$1,000,000. The group intends pilot test the phones on a group of local students for making purchases using virtual money via an NFC-compliant payment terminal set up at the university.

PHYSICS IS THE FUTURE OF THE WORLD

emerge top in his class. However, the strictness of his father occasioned a transfer to a boarding school at Ambira Intermediate School in 1957, where Malo would be required to report to the headmaster every morning and evening. After an excellent score in the Kenya Africa Preliminary Examinations (KAPE). Malo applied to go to Alliance High School, however, the Principal of Alliance High School, Carey Francis, who was a good friend of his father refused to admit him saying that he was not the submissive type of Alliance High School. This was because of the frequent intellectual discourse he had with Mr. Francis when he visited their home. He was instead, admitted to Friends Secondary School Kamusinga, a school that he had not known existed and has never regretted going to.

Malo deliberately chose not to study Biology, even after receiving a Yale University Medical Biology scholarship through his father's friend, Dr. Wilson Gordon. He knew he did not want to work with sick people and that is why he did not choose to study Biology. In his opinion, he was destined for greater things. With an interest in Space Physics, the future professor envisioned his future differently.

His special interest made him to be among the first Kenyans to go to Russia for studies where his then role model, Yuri Gagarin - the first man in space was from. Though his father, Mr. Malo senior, was apprehensive, his son confidently told him that he needed to be given an opportunity to study what he loved because he would be the one who would work after studying.

Malo completed his Masters at the University of Moscow in 1968. And In 1969, the University of Nairobi appointed him a special assistant position in the Physics department. This was because there were no vacant positions in the University, hence the special assistant. In July of the same year, Malo received a Wien International Fellowship to commence his PhD studies in Theoretical Physics at Brandeis University, the first Jewish University in the

U.S.A.

While studying for his PhD, Prof. Malo attended International Center for Theoretical Physics (ICTT) in Trieste Italy seminar, from where he was invited to Uppsala University. It was here, he first met his wife-to-be, Inger Margarita Andersson, a Swedish Political Science and Literature student at University of Uppsala.

The high-level teaching in Russia enabled him to complete his PhD studies in just two years; in 1971. Malo then returned to Kenya through Sweden where he visited his fiancée.

Upon his return in Nairobi in March 1972, Malo was appointed a lecturer. Two years later, he was promoted to Senior Lecturer and became a full professor in 1980.

At the University of Nairobi, Prof. Malo established Theoretical Physics, where the only focus was previously Earth sciences. He explains that Physics is categorized into two: Experimental and Theoretical Physics. In his interest in Plasma Physics, the Physics Professor adds that the universe is made of plasma

particles that are charged. These include electrons and protons. Among Theoretical Physics courses that he teaches include Mathematical Physics, Quantum Mechanics and Astrophysics. Other sub-categories of Physics include Space, Nuclear, Atomic, Geophysics (Earth Science) and Solid state physics.

Prof. Malo has held esteemed appointed positions, including the Chairman of Lake Basin Development Authority, an appointment by former President Moi. He was also the Chairman of Kenya Power Company, presently Kengen, the Chairman Tana and Athi Rivers Development, now Tana River Development Authority,



Playing the Guitar in earlier years

the Chairman of Kenya National Academy of Sciences, as well the Chairman, Department of Physics, UoN from 1978 to 1988. Prof. Malo has also been the Director and Board member of Kenya Nuclear Electricity Board (KNEB). The Professor has worked as a consultant at United Nations Educational, Scientific and Cultural Organization (UNESCO) where he established the Africa Network for Scientific and Technological Institutions (ANSTI) in 1980, to improve facilities so as to provide opportunities to train science and technology disciplines and to provide research grants.

His association in professional bodies span from local to international where he is a fellow of African Academy of Sciences, Member of Institute of Physics (UK), Member of Physical Society (New York), Fellow of Kenya National Academy of Sciences and was general editor of Africa Journal of Science and Technology started under ANSTI.

In July 1972, Inger relocated to Kenya after completing her undergraduate studies. Mrs. Inger Malo obtained an employment opportunity as a

librarian, at the University of Nairobi, where she worked until her demise in June 2010. Blessed with two children, son (Arne Shadrack born in August 1972) and daughter (Lois May born October 1977). Prof. Malo cherishes the time he spends with his family. He enjoys the senior citizenship status and affordability of life for seniors in Sweden, something he wishes to be emulated in his country.

Sadness lingers on his face as he talks of his late wife. He says he has never met a kind woman as Inger. "It has been quite

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CBPS Pictorial

CBPS WELCOMES A NEW ASSISTANT DEAN OF STUDENTS



Ms Lucy Jiomba (1st left) with students in her office



Lucy interacting with students in Chiromo Campus

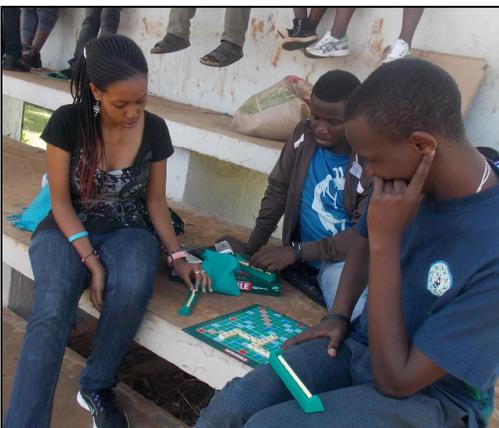
NUMSA MICROBIOLOGY STUDENTS FUN-DAY



Students Cheering During the Fun Day



Students Enjoying Creativity in games



Students Relax with games of Scrabble and Chess during the fun day

CBPS Pictorial

CHIROMO PERIFERAL FENCE IN PLACE



Security of the College has been enhanced with the construction of a new peripheral fence before (Right) and After (Left)

CHIROMO LANDSCAPING CREATING AN EVER BEAUTIFUL ENVIRONMENT



Landscaping at the recently opened Examination Centre West Wing

CBPS COURTESY CALLS



Luke Natural resources Finland



UNIVERSITY STUDENTS DEMONSTRATE FOR CLIMATE AGREEMENT



CBPS Students with Civil Society Members at Climate Justice March

GREENING CHIROMO CAMPUS

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planting using potential natural vegetation.

We have not achieved this alone. This work would not have been possible without the support of our Japanese partners. The Japanese team has been led by Professor

Kazue Fujiwara (Emeritus Professor of Yokohama National University and currently at Yokohama City University) and Professor Akira Miyawaki (also Emeritus Professor of Yokohama National University), who successfully developed the technique for recreating depleted forests (Miyawaki method). Professor Miyawaki's contribution to science is immense and to mention a few achievements, he estab-

lished the world renowned Institute of Environmental Science and Technology and is a director of the Japanese Centre for International Studies in Ecology. He is a former president of the International Association for Vegetation Science and has conducted afforestation projects at more than fifteen hundred sites in Japan and abroad. He is

a recipient of the 2006 Blue Planet Prize. In addition the team has severally been accompanied by other Japanese scientists and volunteers. We also appreciate the support of Mitsubishi Corporation and Hioki Newspapers for supporting this work through

Professor Fujiwara. The University of Nairobi staff and students have been very instrumental in the success of the work through active involvement during the tree planning events and administrative support. We hope the rehabilitated areas at College of Biological and Physical Sciences (CBPS) using the Miyawaki method will serve as a demonstration on how to restore

green city environments which, other than improving the aesthetic quality of urban environments, also help in mitigating effects of natural disasters as well as contributing to reduction of global warming through carbon assimilation.



Seedlings growing at Chiromo Campus Garden

This work would not have been possible without the support of our Japanese



FROM NIGERIA TO KENYA TO STUDY

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partment has able researchers in the field of clean energy and solar science which are prerequisites to sustainable development. I am confident that I will learn from them through their research at apply it in addressing some of the challenges of climate change.

How is your experience interaction with teaching staffs and students?

Domtau: The faculty, students and technologists are awesome people. Teaching staffs are readily available for you. They are humble and supportive and ready to assist whenever you have a problem. My fellow students are cooperative; the technologists go

an extra mile to help whenever something needs to be done. Faculty, students and technologists work as a team and this has made my research work at the Department as a teamwork affair.

How is like your learning experience at the department?

Domtau: Besides interaction with my fellow students, faculty and others, I have been able to do my research with ease. Although my research acumen has been going on smoothly because there is some research equipment such as the multi-functional microscope, spray pyrolysis and solar coating system with stirrer among others, more equipment need to be made available so has to improve the department in terms of research

Any Challenges encountered?

Domtau: Accommodation is a major challenge especially for postgraduate students. Postgraduate students requires to stay closer to the university so as they can do their research uninterrupted. However, this is not the case. I live far from the university and this is a significant challenge Also, although the department has about 70% percent of the instruments needed to do a thorough research, it needs to try and avail equipment such as X-rays, electronic detection microscope among others to assist students in carrying out their research effectively.



Migration Conflict and Climate Change



Stakeholders in a Participatory Session

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Deputy County Secretary, County Government of Turkana, added that cattle rustling, scramble for oil in Turkana and political incitement were also contributory factors to conflict and migration, different ap-

proaches have been and are continuously being implemented. These include building of water resources, diverse economic activity including introduction of agriculture and incorporation of early planting. The half-day stakeholders workshop awarded participants with certificates of participation. The participants hailed from European Union, International NGOs including International Livestock Research Institute (ILRI), Care Kenya, Community Based Or-

ganisations (CBOs), Universities, International Research Organisations, as well as Ministry of Environment and Ministry of Agriculture, Livestock and Fisheries.

“different approaches have been and are continuously being implemented. These include building of water resources, diverse economic activity including introduction of agriculture”



Wildlife in Samburu

Students, Civil Society Demand for Climate Justice Agreement

Naaman Agengo– Student CBPS

The climate of the entire world is changing due to two major reasons including Human causes which can be averted like burning of fossil fuels and biomass, deforestation, industrialization, greenhouse gases being released into the atmosphere like methane and fluorine Carbon II oxide and Nitrous oxide among others. These gases lead to the blanketing of the atmosphere and hence create a greenhouse effect on the earth.

Climate change has several effects which include: loss of biodiversity, increased temperatures in some areas, increase and decrease of rainfall in some areas, melting of polar ice and increase in sea level and desertification among other detrimental effects. It is for this reason that this meeting was organized in order to show the youth how serious climate change can be and what really needs to be done in order to try and control

the rate at which the climate keeps changing.

Pan Africa Climate Justice Alliance held an event to raise environmental awareness amongst the youth for they are the determinants of future generations and inform the general public on how to control and preserve the environment so as to keep climate change within confined borders that do not fall on extreme situations.

The meeting was attended By Members of the public, Former student leader Ms. Irene Kendi,

Students from The University of Nairobi and from other universities across the country, Several Kenyan celebrities, Primary and Secondary school pupils.

To crown it all, a tree planting was conducted at the park where the meeting was held in Uhuru Park.

The purpose for planting the trees was to conserve the environment, raise awareness so that all those who attended could be

able to see the importance of caring for the environment and to improve the esthetics of the park. After the tree planting session, all the attendees of the meeting marched around Nairobi town to create more awareness amongst the members of the general public who could not make it for the meeting.



CBPS Students join civil society members to

Prof Maloô Keep on Prodding

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hard. Inger was the kindest and non-confrontational person I have ever known. I do not think I can ever meet someone like her.ö Mrs. Inger was a devout Christian with great passion for community service. She established Slum Outreach International Ministry, an orphanage situated in Kibera. The family has sustained Mrs. Inger's establishment by maintaining frequent donations and hiring someone to manage the facilities. "We have to carry on her dream and her name," says Prof. Malo.

At 75, Prof. Malo attests to the cliché age is but a number. He is presently doing research on Space Science and Plasma Physics as well as supervision of PhD students.

He emphasizes that the future of Physics is the future of the world and that Physics dictates where we are going. "Knowledge is all about this. You do not stop. Physics probes in areas that people do not want to go," he adds. "There is no subject area where you do not use Physics. The reason I say so is because Physics is what life is about. For example in Cell Biology, we know that the function of the cell is by the giant DNA molecule which has four nu-

cleotide basis held together by hydrogen bond and is responsible for genetic code and all kinds of illness. Take a look at Geology, Meteorology, Chemistry, Biology and Engineering and tell me otherwise," he poses.

Despite age not deterring his determination. This previous captain, soloist and football lover back in the days of Ambira Intermediate and Friends School Kamusinga, plays the guitar to soothe his soul. He is also fluent in the Russian language and once in a while engages with long-term Russian friends. He loves cooking and hosts weekend barbecues for friends and family at his home. Prof. Malo is a member of Parklands Sports Club and a golfer at Kenya Railways Golf Club. The don says he is proud of his children and grandchildren, who he taught and who all know how to play golf, a game mainly associated with the affluent.

"Lectures are good for me because they keep my mind involved," says Prof. Malo. "I read new things and latest information which is what keeps me going. I am not stopping any time soon. I will keep on prodding as long as I am alive," he enthusiastically adds.



UNIVERSITY OF NAIROBI FOR CYCLING PILOT PROJECT

The University of Nairobi will be the pilot ground for a bike share and cycling culture when a pilot project on cycling as a mode of transport is implemented in the institution before being implemented in phases in Nairobi County. UN Habitat has committed to give a seed funding to purchase 30 bicycles for the project. The aim of the cycling and bike share project is to increase mobility in Nairobi, following an increase in traffic congestion that is being experienced in the County. Led by a team from University of Nairobi Innovation Lab- Computing for Development Lab (C4DLab), UN Habitat, Kenya Urban Roads Authority, IBM, World Bicycle and Buffalo Bicycles, stakeholders held a workshop to discuss promotion of a cycling culture in Nairobi through a bike share pilot scheme at the University of Nairobi.

Dr. Tonny Omwansa, organizer of the workshop and Director of C4DLab, explained the need to enhance mobility of students within the campus. Dr. Omwansa noted the high number of student

traffic walking distances from classes, hostels and facilities in Campuses. He said that the institution would form a good ground to implement the cycling culture. Dr. Omwansa also explained the aim of the workshop was to assess health, environmental issue as well to undertake surveys and studies, and find out scaling that would facilitate cycling.

Institute for Transportation and Development Policy (ITDP) Maina Gachoya, said that biking culture would improve outer-inner mobility in areas not serviced by public transport. He added that cycling culture will also improve public health and contribute in reduction of emissions.

Barbara Lah from UN Habitat noted the importance of policemen, politicians and men in suits being perception changers whom the community can emulate.

Also from UN-Habitat, Ms. Stefanie Hozwarth said that the pilot project commencing with University of Nairobi will test new mobility solutions that have not found their way in Kenya. "We want to learn from the University

pilot," she added.

The workshop discussed culture and perception of cycling in the country noting that cycling is associated with poverty. Stakeholders also discussed powered bicycles for persons with disability, tracking and maintenance and gender considerations in cycling including gender differentiated bicycles, ease



of getting into and out of a bicycle.

The bike share model is presently being used in Germany, Copenhagen, Paris, Chile, China, Argentina, Washington D.C., New York, Mexico and India.

