

# Nile Transboundary Environmental Action Project

## Networking Environmental Education and Awareness Practitioners in Kenya



### Formation of National Environmental Education and Awareness Working Group

#### WORKSHOP PROCEEDINGS

Sunset Hotel, Kisumu, Kenya

4-5 October 2004

NILE BASIN INITIATIVE

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Initiative du Bassin du Nil

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## INTRODUCTION

Environmental education and awareness is not new. Environmental education (EE) was passed informal from generation to generation since time in memorial. Children were brought up by their parents to know what plants and animals could be eaten and how to collect them. That is environmental education – getting to know your environment. Environmental education and awareness become an issue in the international arena in 1972 after the UN conference on Human Development in Stokholm, the formation of UNEP in 1972 and the subsequent establishment of the international EE programme in 1975. EE was then formalised. A series of international conferences like the intergovernmental conference on EE in Tbilisi in 1977 and Tbilisi +10 in Moscow have continued to shape the planning and implementation of EE activities.

The link between a strong environmental education component and the success of any environmental project can not be over debated. The Nile transboundary Environmental action project – one of the seven projects under the Nile basin shared vision has an environmental education and awareness component. The aim of the component is to stimulate positive behavioural change towards good environmental practices among the communities along the basin.

The Nile – the worlds longest river flowing 6,600 km and drains 3.1 m km<sup>2</sup> – is home to about 160m people. The overwhelming majority of people of the Nile basin live in rural areas and depend directly on land and water resources for shelter, income and energy. This has put enormous pressure on the natural resources and ecological systems on which the economic development is based. This has resulted in a variety of environmental problems – soil erosion, degradation of agricultural lands, desertification, loss of forests and wetlands, overgrazing of pastures, declining water quality, overexploitation of fisheries, eutrophication of lakes, invasive water weeds, inadequate urban waste management, water borne diseases, declining biodiversity, and the threat to climate change.

Coupled by the threats and the fact that the linkages between environmental conditions and human welfare are extraordinarily complex and the appreciation and understanding how human behaviour can contribute to the solving environmental problems remains generally low in the basin, sets a big challenge for deepening public awareness and the understanding of the linkages.

In order to contribute significantly on this challenge, the EE&A component embarked on setting up partnership and networks with practitioners and other stakeholders within the basin. Based on the background that there are many players undertaking various EE&A activities, there is lack of a forum for exchange of ideas and collectively plan and monitor EE&A activities.

Understanding the importance and potential for such a forum, the EE&A component within the Nile Transboundary Environmental Action Project (NTEAP) supported and facilitated the formation of a National Environmental Education and Awareness Working group through a two-day workshop. In addition workshop participants developed National EE&A priority activities and learned on the status of EE&A within the country from paper presented.

This report summaries the proceedings of the workshop. The document is divided into five sections. Section one hinges on the objectives and expected outputs of the workshop. A summary of the papers presented comprises section two, while section three list priority EE&A activities. Section four presents the closing ceremony. Section five groups the annexes.

As the world enters a decade for Education and Sustainable Development (2005 – 2015), it is my hope that this document will act as a baseline for EE&A as we evaluate ourselves at the end of the decade.

Maushe Kidundo  
Environmental Education and Awareness Specialist  
November 2004

## WORKSHOP PROGRAMME

DAY 1

### Session 1 Official Opening

Time	Activity	Facilitators
08h30	Introduction of participants, welcome Remarks and program,	National Project Coordinator
08h50	Opening Remarks,	PSC- Mr. Mbegera
09h10	EE&A within NTEAP and Workshop Objectives	EE&A LS - Maushe Kidundo
09h50	Discussions and/or clarifications	

10:00 TEA BREAK

### Session 2 Country papers on Environmental Education and Awareness

Time	Activity	Facilitators
10h30	The status of EE&A in the country	NEMA - Dr. Mwinzi
11h00	EE in schools	Ministry of Education - Mr. Kajumbi
11h30	EE curriculum in universities	Lecturer - Dr. Kibwage
12h00	Discussion on the three papers	NPC/Facilitator

13:00 LUNCH

Time	Activity	Facilitators
14h00	Public awareness and campaigns	KOEE - Dr. Otieno
14h30	EE in schools (projects, awards schemes, clubs)	WWF - Dr. Sitati
15h00	The role of the media in awareness creation	M.D.&R Trust -Mr. Ocholi
15h30	Discussion on the three papers	NPC/Facilitator

16:00 TEA BREAK

Time	Activity	Facilitators
16h30	Discuss group topics and form groups	NPC/Facilitator
	EE&A within NTEAP and Workshop Objectives	EE&A Lead Specialist Maushe Kidundo
17h00	Individual (one to one) discussions - Networking	

DAY TWO

### Session 3 EE and A activities and opportunities: National and Transboundary

Time	Activity	Facilitators
08h30	Recap,	NPC
08h50	<i>Group 1</i> Enhancement of public awareness campaigns <i>Group 2:</i> EE&A in institutions of learning <i>Group 3:</i> Networking	EE&A lead specialist Maushe Kidundo

11:00 TEA BREAK

13:00 LUNCH

Time	Activity	Facilitators
14h00	Group presentations and discussions	EE&A LS - Maushe Kidundo

### Session 4 Way Forward and Conclusion

Time	Activity	Facilitators
15h30	Workshop Evaluation	
15h40	Workshop (Country) Recommendations	NPC
16h00	Closing remarks	Ministry of Education Prof. Karega Mutahi

16:30 TEA and DEPARTURE

## OPENING CEREMONY

### ***Mr. Mbegera Challenges participants to come up with implement able activities***

Mr. Maurice Mbegera, the Director of enforcement and compliance for NEMA Kenya, who is also the steering committee member for the Nile Transboundary Environmental Action Project (NTEAP), requested the participants to actively participate and share information freely to ensure the out put of the workshop that would guide the national plan for NTEAP environmental education and awareness actives. He emphasized the need to address realistic issues affecting Kenyan community with regard to natural resource use and benefit sharing. He noted that to achieve sustainable management of the environment in Kenya still requires lot of consented effort both by policy making and implementation levels. This workshop which has brought together practitioners on environmental education and awareness is timely event coinciding with the government effort. *'I challenge you to come up with activities which can not only be implemented but also which can bring change at the community level'*. He said. Mr. Mbegera reminded participants on the existence of good on-going and past initiative which NTEAP can learn from and replicate the most successful ones. *'As the steering committee member of this project, I will support all the initiatives of EE&A and the whole project'*. He concluded.



### ***Calling of EE&A stakeholders timely – Ministry of Education.***



*'Calling of all stakeholders on environmental education and awareness is very timely as them Ministry of Education Science and Technology is writing a sessional paper on streamlining environmental education within schools'*, said Mr. Kajumbi. Mr. Kajumbi who is the Senior Deputy Director in the Ministry was giving introductory remarks during the official opening of the EE&A workshop organized by the Nile Basin Initiative. He welcomed the participants and all other stakeholders to make their contributions to the sessional paper. He assured the participants of the Ministry's support, participation and offer policy guidelines to NTEAP to enable it achieve its goals nationally that will contribute to the regional goals. He concluded by requesting participants to share their experiences and ideas to ensure useful outputs that will contribute not only to achieving NTEAP objectives, but also those of the Ministry of Education and Kenya at large.

## SECTION ONE

### OBJECTIVES OF THE EE&A WORKSHOP

#### Workshop objectives

The main objective of the workshop was to learn through sharing of experiences from the existing EE&A project component, identify gaps and plan for NTEAP EE&A collaborative activities.

Specifically the workshop is planned to come up with:

- ◆ An established network of EE&A practitioners within the country by forming WG with agreed TOR and office bearers;
- ◆ Learn from good case studies and if possible plan to scale them up as a way of implementation and delivering EE&A;
- ◆ Establish Transboundary EE&A opportunities and priorities for the country and specifically for the Nile Basin and ;
- ◆ Identified potential partners in the implementation of NTEAP EE&A project within the Basin.

To lead participants on ways of a achieving the objectives, the workshop facilitator (Maushe Kidundo) gave a presentation on environmental education and awareness within the Nile transboundary Action project. The presentation gave highlights on;

#### Environmental Education and Awareness component within NTEAP

To enhance awareness on the nature of environment and its inter-relatedness in the basin and how its effects on communities, through (i) enhanced public awareness & understanding of Nile Transboundary Environmental issues (ii) networking of secondary schools for project-based learning and (iii) piloting enhanced networking among Universities and research institutions.

#### Enhanced PA - activities

- Support the development and delivery of TB EE&A campaigns
- Regional training for EE&A practitioners
- Regional briefs for media editors & Environment Journalists on TB issues
- Exchange of environment Journalists & other media professionals between the riparian countries

#### Enhanced PA - approach

- Formation of working groups in each country
- Launch through a variety of delivery mechanisms
  - Media (TV, Radio, Newspaper, Websites, etc)
  - Institutions (religious, learning, social)
  - Organised groups (scouts, youth, women)
- Link with other SVP, components, projects

#### Secondary schools - activities

- Establish an electronic network of schools for TB EE.
- Build teachers capacities
  - Training, exchange tours, etc
- Support TB environmental projects within schools
- Organise Nile TB EE award scheme

### **Secondary schools - approach**

- Issue a single contract to an experienced project based learning NGO.
  - Teachers training
- Schools selection by National EE&A working group
- Environmental school projects support through proposals
- Award scheme at National then regional level taking place annually.

### **Universities - activities.**

- Exchange of EE professors, researchers and students between the Nile riparian countries
- Support the development of a university-level course on one or more Nile TB environmental issues

### **Universities - approach.**

- Identify host universities within the basin
- Facilitate a regional meeting
  - Develop exchange formulae (undergraduate Vs Masters, Projects Vs Lectures, etc)
  - Develop a selection criteria
  - Commitment on lecturers' time and support
  - Develop work plan for the development of university course on Nile TB issues

### **EE&A Linkages**

- SVP
  - Applied training - Egypt
  - Confidence building and stakeholders involvement – Uganda
- NTEAP
  - Knowledge management, Micro grants, Water Quality & M&E
- Country level
  - Relevant Government Ministries
  - Working group (all EE&A practitioners)

### **Why EE&A Working Group?**

- Establish a Network of EE&A practitioners
- Forum for learning and exchange of information
- Assist in coming up with National EE&A priorities
- Lobby for positive EE&A change
- Take periodic stock of EE&A activities
- Catalyse dissemination and implementation of activities

### **The Working Group and NTEAP**

- Assist in development of National priority activities and single out TB
- Identification of key implementation partners at national
- Assist in advocacy and networking
- A network (channel) for dissemination
- Share experiences and avoid re-inventing the wheel

## SECTION TWO

### THE STATUS OF ENVIRONMENTAL EDUCATION IN KENYA

This section presents a summary of all the country papers presented during the workshop. The topics of the papers were selected to give an overview of the countries status on environmental education and awareness. The papers looked mainly into the (i) legislation, policy, implementation and coordination strategy (ii) environmental education in institutions of learning and (iii) existing cases studies on EE&A campaigns, award schemes, and the role of media in promoting positive attitude change on environmental issues.

The detailed presentations are grouped under Annex 1. Below find a synopsis of the status of environmental education in Kenya.

#### (i) Environmental legislation and policy

- Kenya endorsed Agenda 21 in 1992 which was part of the global evolution of environmental education
- In 1994, the national Environmental Plan of Action was developed with a chapter on public participation and environmental education.
- The Environmental Management and Coordination (EMCA) Act was enacted in 1999
- Establishment of National Environmental Management Authority in 2002 with a full department on Environmental Education.
- Environmental education strategy in Kenya is based on the Education for Sustainable development which is in line with the forth coming UN decade for ESD (2005 – 2015)
- Legally NEMA coordinates all the implementation of environmental education and awareness in Kenya.

#### (ii) Formal EE

- The Ministry of education has the mandate of incorporating EE in school curriculum.
- EE is currently incorporated in all levels of education in Kenya. Started in 1960s within nature study and ecology.
- Teaching and learning materials are developed by Kenya Institute of Education.
- Formation of environmental clubs is within schools policy. Clubs are formed with partners like Wildlife Clubs of Kenya, Friends of Conservation, etc. Eco-school is very active in some parts of the country.
- Award schemes have also be tried with varying degree of success.
- At the university level, curriculum are developed using the inter-disiplinary models, where environmental education draws heavily from many different disciplines.

#### (iii) EE within Tertiary Institutions of learning

- A number of tertiary institutions are currently offering environmental education from the polytechnics (Kenya Polytechnic – Diploma in Environmental Studies to Universities)
- All the six public universities offer some form of environmental education and awareness
- Kenyatta University has a full-fledged Faculty of Environmental Studies while Moi University has a post-graduate School of Environmental Studies
- Kenya Wildlife Services offers Diploma Courses in Wildlife management and Wetlands Management courses

#### (iv) The Media and EE

- Media has been in the forefront on environmental campaigns. However, the coverage is usually in passing.
- Some dailies have dedicated pull-outs specifically on environmental.



- In television, one media house has recently started a regular segment on investigative pieces on the environment.
- Radio is used most and best suitable for future campaigns. Currently, a radio service dedicates 15 minutes every weekend for an environmental program -. “Our environment”
- There is need to sensitize media owners and editors on the importance of environmental reporting

**(v) Informal EE in Kenya**

- Before the establishment of NEMA, campaigns were mainly coordinated by the national Environment Secretariat in collaboration with various NGOs.
- Several NGOs in Kenya spearhead campaigns on various environmental issues
- Currently Environmental Action Learning (EAL) is the strategy being used for attitude change. Kenya Organization for Environmental Education (KOEE) coordinated EAL.

**(vi) Main challenges**

- Lack of a coherent national policy and strategy to implement EE
- The nexus of poverty and environmental degradation makes it hard to sell long term sustainable utilization methods, while communities need immediate benefits.
- Lack of commitment by some of the relevant stakeholders including policy makers and implementers. In the media, managers do not recognize the environment as a priority area.
- Limited financial, human and material resources
- Poor coordination and support for EE leads to duplication of activities, mismatch of curriculum content and practice and low priority given to EE.
- Poor priorities and approaches in all sectors of society mean poor implementation of EE. In learning institutions, the challenge is to properly match the teaching method to the ability level. While in media priority is given to stories that will increase sales profit and the environment does not appear to be a priority area for profit making.
- The Kenyan curriculum by its nature, places importance to final examinations. EE is not directly examined in National Examination. Therefore the teaching of EE in Schools is not structured and is covered in general manner in all subjects. It is weakly spelled in the curriculum.
- Increased incidences of natural disasters, political instability and the fact that EE is a relatively new concept.

**(vi) Opportunities**

- There is an enabling environment for partnership and networks both at national and regional levels.
- There is human capacity to implement effectively environmental education and awareness activities within the country.
- There is an overwhelming public interest on issues of the environment. This sets an opportunity to channel environmental information.
- The development of Education for Sustainable Development (ESD) strategy by NEMA in collaboration with other stakeholders sets a framework for implementation of ESD programs.
- Regional initiatives like NEPAD AU, COMESA, IGAD and EAC can be used to tackle transboundary issues affecting the environment.

**(vii) Recommendations**

A synthesis of the recommendations made by the country papers is given below.

- The need to develop a strong human resource base on the field of environmental education and awareness.
- Constant and adequate supply of funds as changing people’s attitude and behavior takes a long.

- There is need for a consented effort to main stream environmental education in all institutions of learning especially in Universities. The efforts to focus on both curriculum development and teachers training.
- Use of local industries and firms in mobilization of resources to implement activities and to build capacities like sponsoring students on environmental education courses.
- The establishment of a National Environmental Education Act within NEMA:
- There is need for a more effective coordination mechanism of all players on EE&A to harness synergy and have bigger outputs
- The need to lobby at policy level to ensure that all media houses assume a public service responsibility and allocate part of their time or space to public service initiatives.
- Lobby the government to offer incentives that could motivate media to pay attention to environmental issues.
- Environmental organizations to train media on and involving journalists in their activities.
- Review and document good initiatives emphasizing on the lessons learnt.
- There is need to formulate a coherent communications campaign on the environment, so that coordinated messages are sent out to the public.

Kenya has made great strides in the development of EE in the formal, non-formal and informal sectors. The ESD strategy, being developed by NEMA will build onto these existing mechanisms. The entry points for the Nile Transboundary Environmental Action Project, in particular its EE and awareness program, is well cushioned by the existing systems. It is necessary to build linkages to the initiatives on the ground. The NTEAP will go a long way to contributing to the on-going development and implementation of an ESD strategy.

## SECTION THREE

### SETTING NATIONAL EE&A PRIORITIES

#### I. Tasks

The facilitator informed the participants on the importance of coming up with EE&A national priorities. Through a presentation he guides the participants on how to effectively come up with activities which can be implemented. The group discussions will focus on three thematic areas:

##### **Group 1. Enhance public Awareness**

The group to look at

- Campaigns
- Information (EE & A materials)
- Training of trainers

##### **Group 2. EE & A within institutions of learning**

The group to look at

- Secondary schools
  - Curriculum
  - Environmental activities and awards
- Tertiary institutions
  - Exchange concept
  - Course development

##### **Group 3. Networking**

The group to look at

- Working group
  - Role – TORs draft (add or delete)
  - Composition
  - Frequency of meeting
  - Sustainability
- Media
  - List of activities

#### II. Formation of groups

The groups were formed in a participatory process. First participants volunteered where they could contribute effectively. To balance the numbers in each group a few people were move to more appropriate thematic areas.

#### III. Presentations and Discussions

A minimum of four hours was given for discussions and preparation of group presentation. For easy of compiling and getting relevant information, guidelines were issued on the presentation format as follows;

<b>Problem</b>	<b>Target group (audience)</b>	<b>Activity</b>	<b>Implementation strategy</b>	<b>Key implementers (partners),</b>	<b>M &amp; E How and who</b>	<b>exist strategy (sustainability)</b>

## Group I Presentation

<b>I - CAMPAIGNS</b>						
<b>PROBLEMS</b>	<b>TARGET</b>	<b>ACTIVITY</b>	<b>IMPLEMENTATION STRATEGY</b>	<b>KEY IMPLEMENTERS</b>	<b>M &amp; E</b>	<b>SUSTAINABILITY</b>
<ul style="list-style-type: none"> <li>• Low awareness that L. Victoria is a shared resource</li> <li>• Common property resource/tragedy of the commons</li> <li>• Low/utilization of shared resource i.e. water</li> <li>• High poverty levels</li> <li>• Low conservation efforts</li> <li>• Inadequate/low participation of the public</li> <li>• Poor governance; equity issues</li> <li>• Alienating the community in ownership/utilization of resources</li> <li>• Policy to empower community to make decision on resources – limited control</li> <li>• Crossborder fisheries resource conflicts</li> <li>• Institutional framework – poor health sanitation</li> </ul>	<ul style="list-style-type: none"> <li>• Communities</li> <li>• Policy makers &amp; implementers</li> <li>• Leaders</li> <li>• Fishermen</li> <li>• Industrialists</li> <li>• Farmers</li> <li>• Businessmen</li> <li>• CBOs</li> <li>• NGO</li> <li>• Civil society</li> <li>• Women groups</li> </ul>	<ul style="list-style-type: none"> <li>• Needs assessment</li> <li>• campaigns</li> <li>• lobby and advocacy</li> <li>• training</li> <li>• monthly newsletter on LB/NBI</li> <li>• district project steering committee</li> <li>• Resource mobilization</li> <li>• IGA, Env. Activities</li> <li>• Micro financing</li> <li>• FF. Work</li> <li>• Building Institutional Framework</li> </ul>	<ul style="list-style-type: none"> <li>• Barazas</li> <li>• Workshops</li> <li>• Radio / TV</li> <li>• Theatre</li> <li>• Articles/briefs</li> <li>• Env. Festival</li> <li>• Mobilization</li> <li>• Env. Awards</li> <li>• Competition</li> <li>• Extension services</li> <li>• Harmonize NR policy</li> </ul>	<ul style="list-style-type: none"> <li>• KEMFRI</li> <li>• LVEMP</li> <li>• LVFO</li> <li>• LBDA</li> <li>• KBC</li> <li>• MEDIA</li> <li>• NEMA (PDE's)</li> <li>• Line Ministries (GoK)</li> <li>• OSIENALA</li> <li>• Ext Agents</li> <li>• FOC</li> <li>• ODP</li> <li>• VIRED</li> <li>• HENNET</li> <li>• UHAI</li> <li>• KOEE</li> <li>• WCK</li> <li>• PRE AWARD</li> <li>• FISHER MGT ASS.</li> <li>• BMU</li> <li>• NTEAP</li> <li>• EAC</li> </ul>	<ul style="list-style-type: none"> <li>• No of public campaigns held in District/Division per annum</li> <li>• Weekly Radio programme (one)</li> <li>• No of workshops per year</li> <li>• No. of training forums per year</li> </ul>	<ul style="list-style-type: none"> <li>• Strong community involvement</li> <li>• Intergrate activities into existing institutions structures</li> <li>• Dev project decommissioning strategy</li> </ul>
<b>II – INFORMATION (EE &amp; MATERIALS)</b>						
<ul style="list-style-type: none"> <li>• Lack of appropriate EE materials for various target groups</li> <li>• No coordination of EE programmes &amp; Material production</li> <li>• Lack of information policy</li> <li>• Conflict specific issue to include</li> <li>• Lack of knowledge of information</li> </ul>	<ul style="list-style-type: none"> <li>• NEMA CO-ORD.</li> <li>• Information generators</li> <li>• Information consumers – community, GOK civil, society</li> <li>• University</li> <li>• Private sector</li> <li>• NEMA</li> <li>• NMK</li> <li>• UNIVERSITIES</li> </ul>	<ul style="list-style-type: none"> <li>• Needs assessment</li> <li>• Centres of excellence in Nile Basin (Maseno University)</li> <li>• Newsletter</li> <li>• Information policy formulation</li> <li>• Training</li> <li>• Website</li> <li>• Establishing IK centre</li> </ul>	<ul style="list-style-type: none"> <li>• Material production</li> <li>• Research area</li> <li>• Information and documentation center</li> <li>• Center open to all</li> <li>• Posters</li> <li>• Build capacity</li> <li>• internet connectivity</li> <li>• community resource center</li> <li>• IT - VIDEO ,DVD Material</li> <li>• Demonstrations &amp; micro-projects (eco-tourist)&amp; best practices</li> <li>• Harnessing IK</li> <li>• Make information</li> </ul>	<ul style="list-style-type: none"> <li>• NEMA</li> <li>• UNIVERSITIES</li> <li>• NATIONAL LIBRARY</li> <li>• KBC</li> <li>• LOCAL AUTHORITY</li> <li>• COMMUNITY</li> <li>• OSIENALA</li> <li>• KEMFRI</li> <li>• PLANNING INFORMATION &amp; DOCUMENTATION</li> <li>• NMK.</li> <li>• COMMUNITY ELDERS</li> </ul>	<ul style="list-style-type: none"> <li>• No. of resource centres</li> <li>• No. community resource centres</li> <li>• Resource and documentation</li> <li>• No. of research activities funded</li> <li>• No. of posters on EE materials</li> <li>• No. of Masters, PHDs &amp; short courses</li> </ul>	<ul style="list-style-type: none"> <li>• Commercialise information mgt by publishing</li> <li>• Linkages to existing institutions</li> </ul>

needs <ul style="list-style-type: none"> <li>• Lack of information center or data base</li> <li>• Little sharing of information or networking</li> <li>• Inaccessibility of information</li> <li>• Language to use</li> <li>• Ignoring Indigenous knowledge during project formulation</li> </ul>			available			
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**III - TRAINING/COMMUNITY TRAINING**

<ul style="list-style-type: none"> <li>• High level of illiteracy</li> <li>• Approaches for the communities inappropriate</li> <li>• Language</li> <li>• Visuals</li> <li>• Target</li> <li>• Gender disparity</li> <li>• Failure to recognize traditional structures, cultures/systems</li> <li>• Lack of African nationalism</li> </ul>	<ul style="list-style-type: none"> <li>• Community members</li> <li>• Trainers</li> <li>• Opinion leaders</li> <li>• Community leaders</li> <li>• Provincial administration</li> <li>• Community resource persons (SAGE)</li> <li>• Institutions within Nile Basin</li> </ul>	<ul style="list-style-type: none"> <li>• Develop training materials for TOT</li> <li>• Training TOT</li> <li>• Demonstration sites</li> <li>• Training women as TOT</li> <li>• Research</li> <li>• Link to university</li> <li>• Establish community institution</li> <li>• Admission to institutions outside own country</li> </ul>	<ul style="list-style-type: none"> <li>• Revive FTC</li> <li>• Training programmes</li> <li>• Focused trainings</li> <li>• Percentage of scholarship to women</li> <li>• Gender mainstreaming\</li> <li>• Document Indigenous knowledge in community</li> <li>• Exchange programme</li> </ul>	<ul style="list-style-type: none"> <li>• Culture and social services (Adult Dept)</li> <li>• Elders</li> <li>• Community resource person</li> <li>• NMK</li> <li>• KBC</li> <li>• Civil society</li> <li>• Fishermen groups</li> <li>• Institutions within the Nile basin</li> </ul>	<ul style="list-style-type: none"> <li>• N. of TOT trained</li> <li>• No. of women trained as TOT</li> <li>• No. of women groups empowered</li> <li>• No. of SAGES of involved</li> <li>• materials developed</li> <li>• No. of students &amp; staff involved in exchange programme</li> </ul>	<ul style="list-style-type: none"> <li>• Trained local resource persons</li> <li>• Linkage to local institutions</li> <li>• Use of Local resources for training</li> <li>• use of traditional teaching method</li> <li>• Use of Local NGO</li> </ul>
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## Group II Presentation

### ENVIRONMENTAL EDUCATION AND AWARENESS IN SCHOOLS AND COLLEGES

PROBLEM	TARGET	ACTIVITY	IMPLEMENTATION STRATEGY	KEY IMPLEMENTERS	M & E	SUSTAINABILITY
Inapplicability of knowledge gained through formal training and schools	<ul style="list-style-type: none"> <li>Ministry of Education</li> <li>KIE</li> <li>Teachers</li> <li>Lecturers</li> <li>Students</li> <li>EE Experts</li> </ul>	<ul style="list-style-type: none"> <li>Practical application like tree planting</li> <li>Exposure trips</li> </ul>	<ul style="list-style-type: none"> <li>Review of the syllabus</li> <li>Increase of practicals in the syllabus</li> <li>Retraining of teachers</li> </ul>	<ul style="list-style-type: none"> <li>Teachers</li> <li>KIE</li> <li>Administrators</li> <li>Students</li> <li>Researchers</li> <li>Lecturers</li> </ul>	<ul style="list-style-type: none"> <li>Records of activities</li> <li>No. of inserviced teachers</li> <li>Curriculum review progress</li> <li>No. of practicals in timetable</li> <li>Inventory of environment related activities</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of long-term linkages</li> <li>IGAs</li> <li>Soil Conservation services</li> <li>Tree nurseries</li> </ul>
Lack of exposure to understand and appreciate environmental problems	<ul style="list-style-type: none"> <li>Teachers</li> <li>Students</li> </ul>	<ul style="list-style-type: none"> <li>Baseline study of curriculum</li> <li>Exposure trips</li> </ul>	<ul style="list-style-type: none"> <li>Research in collaboration with institutions of learning</li> <li>Workshops</li> <li>Inservices teacher training</li> <li>Field visits</li> </ul>	<ul style="list-style-type: none"> <li>KIE</li> <li>Researchers</li> <li>Teachers</li> <li>Lecturers</li> <li>Administrators</li> </ul>	<ul style="list-style-type: none"> <li>No. of inserviced teachers</li> <li>No. of workshops</li> <li>Research reports</li> <li>No. of field trips</li> </ul>	<ul style="list-style-type: none"> <li>Constant review of the curriculum</li> <li>Support of publications, books and periodicals</li> </ul>
Lack of appreciation, feel and love of the environment	<ul style="list-style-type: none"> <li>Students</li> <li>Teachers</li> <li>Administrators</li> <li>Researchers</li> <li>Lecturers</li> </ul>	<ul style="list-style-type: none"> <li>Exchange visits</li> <li>Exposure trips</li> <li>Audiovisual Media</li> <li>Print media</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate setting up of fund for school visits</li> <li>Include trips on school calendar</li> <li>Supply books and periodicals</li> <li>Website</li> <li>Workshops</li> <li>Working group</li> </ul>	<ul style="list-style-type: none"> <li>KIE</li> <li>Lecturers</li> <li>Working group</li> <li>researchers</li> </ul>	<ul style="list-style-type: none"> <li>No. of trips per school</li> <li>No of exchange visits</li> <li>Research reports</li> <li>No. of audiovisual shows</li> <li>No. of programmes/articles</li> <li>No. of workshops</li> <li>Working group meeting reports</li> </ul>	<ul style="list-style-type: none"> <li>School committee support for trips</li> <li>Trips entrenched in curriculum</li> <li>IGAs to support trips</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Awareness raising</li> </ul>	<ul style="list-style-type: none"> <li>Songs, plays, poetry, puppetry etc</li> <li>Award schemes like essay writing</li> <li>Environment days-guest speakers, talks, demonstrations, conservation activities</li> <li>Posters, films, newsletter,</li> </ul>	<ul style="list-style-type: none"> <li>KIE</li> <li>NTEAP,</li> <li>Ministry of Education</li> <li>Kenya National Library Services</li> </ul>	<ul style="list-style-type: none"> <li>No. of awards and organizations supporting them</li> <li>No. of environmental days per year</li> <li>No. of conservation activities started/year</li> </ul>	<ul style="list-style-type: none"> <li>Entrench environmental day in calendar of school and colleges</li> <li>Sponsorship for award scheme</li> </ul>
Inadequate financial support, materials and equipment	<ul style="list-style-type: none"> <li>Donors</li> <li>Policy makers</li> <li>Local Authorities</li> <li>Government</li> </ul>	<ul style="list-style-type: none"> <li>Micro grants</li> <li>Networking</li> <li>IGAs</li> </ul>	<ul style="list-style-type: none"> <li>Training on proposal writing</li> <li>Lobby for Government funding</li> <li>Representation in the constituency committees</li> </ul>	<ul style="list-style-type: none"> <li>Government</li> <li>Teachers</li> <li>Lecturers</li> <li>Researchers</li> <li>NTEAP</li> <li>NEMA</li> </ul>	<ul style="list-style-type: none"> <li>No. proposals funded</li> <li>No of people trained</li> <li>Amount of government allocation</li> </ul>	<ul style="list-style-type: none"> <li>IGA</li> </ul>

					<ul style="list-style-type: none"> <li>• Policy document to support activity</li> </ul>	
Inadequate dissemination of information	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Information dissemination</li> </ul>	<ul style="list-style-type: none"> <li>• Workshops</li> <li>• Barazas</li> <li>• Conferences</li> <li>• Newsletters</li> <li>• Demonstrations</li> <li>• Exhibitions</li> <li>• Use of mass media</li> <li>• Training</li> </ul>	<ul style="list-style-type: none"> <li>• Media practitioner</li> <li>• Teachers</li> <li>• Lecturers</li> <li>• NEMA</li> <li>• NTEAP</li> <li>• CBOs</li> </ul>	<ul style="list-style-type: none"> <li>• No. of workshops, barazas, conferences, exhibitions, demonstrations, trainings</li> <li>• Newsletter</li> <li>• Media coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution at cost</li> <li>• Sponsors</li> </ul>
Lack of training on the environment	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Needs assessment</li> <li>• Curriculum/module development</li> <li>• Support for post graduate training</li> </ul>	<ul style="list-style-type: none"> <li>• Seminars</li> <li>• Exchange visits</li> <li>• Further training</li> <li>• Resource center</li> <li>• Facilities and equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers</li> <li>• Lecturers</li> <li>• EE experts</li> <li>• KIE</li> <li>• Ministry of education</li> <li>• University senate</li> </ul>	<ul style="list-style-type: none"> <li>• No. of trainees</li> <li>• No. of students in exchange prog</li> <li>• Level of qualification of trainees</li> </ul>	<ul style="list-style-type: none"> <li>• Training policy</li> <li>• Career information</li> </ul>

## Group III Presentation

### NETWORKING

PROBLEMS	TARGET	ACTIVITY	IMPLEMENTATION STRATEGY	KEY IMPLEMENTERS	M & E	SUSTAINABILITY
<ul style="list-style-type: none"> <li>Inadequate information</li> </ul>	<ul style="list-style-type: none"> <li>Media and experts</li> </ul>	<ul style="list-style-type: none"> <li>Sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>Environment stakeholders, KOEE, Media org.</li> </ul>	<ul style="list-style-type: none"> <li>Environmental stakeholders, KOEE, media organizations</li> </ul>	<ul style="list-style-type: none"> <li>Self assessment</li> </ul>	<ul style="list-style-type: none"> <li>Self sustaining</li> </ul>
<ul style="list-style-type: none"> <li>Lack of commitment</li> </ul>	<ul style="list-style-type: none"> <li>Media owners</li> </ul>	<ul style="list-style-type: none"> <li>Lobby</li> </ul>	<ul style="list-style-type: none"> <li>Workshops seminars</li> </ul>	<ul style="list-style-type: none"> <li>The working group KOEE, NTEAP</li> </ul>	<ul style="list-style-type: none"> <li>Number of workshops and seminars held</li> </ul>	<ul style="list-style-type: none"> <li>Short term goal</li> </ul>
<ul style="list-style-type: none"> <li>Lack of capacity in respect to specialized training</li> </ul>	<ul style="list-style-type: none"> <li>Sub editors</li> <li>Journalist</li> </ul>	<ul style="list-style-type: none"> <li>Training</li> <li>Seminars</li> </ul>	<ul style="list-style-type: none"> <li>Short courses</li> </ul>	<ul style="list-style-type: none"> <li>NTEAP</li> <li>Training institutions, NEMA, KOEE, GOK, NTEAP</li> </ul>	<ul style="list-style-type: none"> <li>The number of trainings and seminars</li> </ul>	<ul style="list-style-type: none"> <li>Fully sponsored in the 1<sup>st</sup> years</li> </ul>
<ul style="list-style-type: none"> <li>Absence of clear policy on public service media</li> </ul>	<ul style="list-style-type: none"> <li>GOK</li> </ul>	<ul style="list-style-type: none"> <li>Lobby</li> </ul>	<ul style="list-style-type: none"> <li>Campaigns and advocacy</li> </ul>	<ul style="list-style-type: none"> <li>Ministry</li> <li>NGOs</li> <li>CBOs</li> </ul>	<ul style="list-style-type: none"> <li>Legislation of policy</li> </ul>	<ul style="list-style-type: none"> <li>Ownership of the process by key implementers</li> </ul>
<ul style="list-style-type: none"> <li>Commercialization of the media</li> </ul>	<ul style="list-style-type: none"> <li>Media owners</li> </ul>	<ul style="list-style-type: none"> <li>Development of partnership</li> </ul>	<ul style="list-style-type: none"> <li>Regular meetings</li> </ul>	<ul style="list-style-type: none"> <li>M.O.A. – Media Owners Association</li> </ul>	<ul style="list-style-type: none"> <li>No. of meetings</li> </ul>	<ul style="list-style-type: none"> <li>The key partnerships will sustain the project</li> </ul>



## **The National Environmental Education and Awareness working group**

The group noted that;

- there is need for networking in order to prioritize environmental issues, share ideas, experiences and information.
- the working group should be instrumental in maintaining a network of practitioners.

### **I. The Terms of Reference for the Group**

1. Catalyse Environmental education and awareness activities within the Nile basin as lessons for the country
2. On an annual basis develops and implement national action plans with emphasis on transboundary activities for the basin.
3. Lobby Governments and civil societies to support new and innovative issues on environmental education
4. Update the country status on environmental education and awareness issues
5. Hold annual EE and awareness workshop to review progress and plan for activities for the coming year and exchange of information, ideas and document lessons learnt
6. Disseminate lessons through participation in different forums and effective use of print and electronic media.
7. Ensure that accurate and correct information reaches the intended target group active information relay pathways
8. Highlight national and transboundary EE and awareness issues that could facilitate behavioural change
9. Actively participate on World Environmental days to campaign on various issues
10. Lobby for curriculum change to incorporate EE into all levels of formal education
11. Carry out periodic assessment on the status of EE & awareness within the country
12. Coordinate research and development activities related to EE

### **II. Working group Composition (Ten members)**

Journalist	- 1
Civil Society	- 1
NPC	- 1
Media Owner	- 1
Steering Com	- 1
NEMA	- 1
Ministry of Education	- 1
TAC	- 1
KAM	- 1
Universities	- 1

### **III. Frequency of meeting**

The working group shall be meeting twice a year and there is need to support these meetings

### **IV. Sustainability**

The group recommends the working group to be hosted and institutionalized within NEMA as the ultimate sustainable mechanism.

### **Other Recommendations from the workshop**

1. Establish a centre of excellence and research within a local University to follow up on activities
2. Establish a central database in an institution with a legal coordination mandate like NEMA

3. Establish an institutional framework at the local level, within the community to facilitate project activity implementation
4. Target interventions at the lowest level possible
5. Develop a basin-wide management approach considering equity in resource use and benefit sharing
6. Formation of an active and all inclusive working group
7. Development of an Environmental Education Act

## SECTION FOUR

### CLOSING CEREMONY

#### I. Closing Remarks Group

##### *Prof. Karega welcomes the school component of the NTEAP project*

The Permanent Secretary in the Ministry of Education, science and Technology Prof. Karega Mutahi appreciated that the Nile transboundary Action Project will work with schools on environmental education. Prof. Karega said this on a speech read on his behalf by Mr. Kajumbi, a senior deputy in the ministry during the closing ceremony of a two days workshop on the formation of an environmental education working group in Kenya. The workshop was facilitated by NTEAP, one of the eight projects of the Nile Basin Initiative. The PS pledged his personal support in the implementation of the planned activities.



*‘These activities will go a long way in assisting students and teachers to gain access Internet communication technology (ICT) to enhance planning, learning and initiate cross cultural dialogue with other students and teachers within the basin and beyond’* said the PS. Whereas the environmental education is currently in the school curriculum, training of teachers will ensure that environmental education is delivered to students effectively. He added. He hoped that the implementation of outcomes of the workshop will go a long way in furthering the Government’s commitment to the noble goal of ensuring a *‘ clean and healthy environment for all people of Kenya’*.  
(Full speech in annex section)

#### II. Workshop evaluation

##### a) Positive

##### b) Issue which need attention next time

## SECTION FIVE

### ANNEX ONE – PAPERS PRESENTED

#### The status of environmental education in Kenya

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*“...we will need to understand and accept the consequences of being part of the great community of life and become more conscious of the effects of our decisions on other species, future generations and other species. We will need to perfect and promote an ethic for living sustainably”*  
**Caring for the Earth: A Strategy for Sustainable Living (1991)**

#### 1. Background

Education in all its forms has been recognised as a process by which man and society at large can reach their fullest potential. Both formal and non-formal education are instrumental in influencing people’s behaviour and changing their attitudes. It should equip them with the capacity to make informed decisions and enable them to lead sustainable livelihoods. Education is therefore critical for enhancing the capacity of people to understand and tackle environment and development issues and hence attain sustainable development. It is for this reason that environmental issues must be made part and parcel of our learning systems.

Environmental education (EE) is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among people and their culture and biophysical surroundings. Thus, environmental education should address the dynamics of both the physical-biological and socio-economic environment and human development issues. To be effective, it should be administered through both formal and non-formal methods using the most efficient means of communication.

The importance of environmental education has been clearly highlighted by many international, regional and local forums such as reports, strategies, conferences, protocols and conventions. These forums include the Stockholm Conference on Human Settlements (1972) which gave the impetus to the evolution of the concept of EE. The UN Belgrade Charter (1975) offered a framework for EE and launched the UNESCO-UNEP International EE programme. The Tbilisi International Conference (1977) on EE defined the goals, objectives and guiding principles for EE.

The concept of sustainable development was first advocated by the World Conservation Strategy (1980) and later promoted by the Brundtland Report (Our Common Future, 1987). In the same year, UNESCO gave the International Action Strategy on EE and Training for the 1990s. But it was at the 1992 UN Conference on Environment and Development (UNCED) that EE was stressed as being critical for achieving sustainable development. Chapter 36 of Agenda 21, issued at the UNCED, advocated the re-orientation of education towards sustainable development. To achieve sustainability, Agenda 21 emphasises the need for ecological issues to be integrated into all learning systems and programmes. Education for sustainable development (ESD) is perceived as a life-long process that seeks to promote more self-reliant, adaptable and resourceful people (“green citizens”) and communities.

The UN Commission on Sustainable Development (CSD), which oversees the implementation of Agenda 21, mandated UNESCO to draw up concepts and principles for ESD. In 2000, the Earth Council, through its Earth Charter, called for a sustainable global society founded on ecological integrity, democracy, non-violence and peace and social and economic justice. The global commitment to ESD has been further underscored in the UN's Millennium Development Goals (MDGs), and at the World Summit on Sustainable Development (WSSD) through its Johannesburg Plan of Implementation (JPI) issued in 2002; and recently during the International Conference on sustainable development in Sweden (2004) and the upcoming international conference on ESD planned for early 2005 in India.

Regionally, Africa has not been left out of these global initiatives on EE and sustainable development. The New Partnership for African Development (NEPAD) has an Environmental Initiative as an integral component of its strategies to eradicate poverty and the domestication of the various global MEAs. UNEP is also promoting a region-wide Environmental Action Learning (EAL) programme. EAL is a framework for supporting EE and capacity building in all forms and levels of education. The East African Community (EAC) has included issues on education, science and technology, environment and natural resources and tourism and wildlife management in its cooperation treaty.

Kenya has been an active participant, and indeed a signatory, to many of the global initiatives on EE and ESD outlined above. Consequently, Kenya's efforts to include EE issues into the curriculum dates back to the early 1960's. Aspects of nature study and ecology were taught as part of the curriculum albeit with little connection to the human systems. The erstwhile National Environment Secretariat (NES), in collaboration with other government departments and NGOs, developed EE programmes through which elements on the environment were included in the curriculum. NES also widely disseminated environmental information to the general public through various resource materials.

Despite the constraints to these efforts, The Government of Kenya, in line with global trends, pursued policies that ensured that EE was inculcated into the school curriculum even if in limited depths. Sessional Paper No. 6 of 1988 on "Education and Manpower Training for the Next Decade and Beyond" ensured that environmental studies were included in the curricula at all levels. Over the years, various development plans have also recognised the role played by the environment on supporting the country's development activities. Most sectoral laws in Kenya, especially those dealing with the management of natural resources, have components of EE.

The NEAP report of 1994 had a section dwelling on public participation and EE which called for the strengthening of environmental issues in the school curriculum. The role of education and public awareness to enable society to achieve sustainability was further underlined in the Sessional Paper No. 6 of 1999 on Environment and Development Policy document. The consequent Environmental Management and Coordination Act (EMCA) of the same year created the National Environment Management Authority (NEMA) to coordinate and supervise all environmental matters in the country. EMCA recognizes the central role of EE and public awareness in the overall conservation and management of the environment. EMCA mandates NEMA, in collaboration with relevant lead agencies and other stakeholders to develop and implement a national strategy for EE.

## **2. EE in Kenya**

### **2.1 Introduction**

There are three broad settings against which EE can be implemented. Formal education is the strictly structured and graded provision, with standardized examinations at each level, from the lowest to the highest. Formal education has course/s with content, a time limit and is usually institutionalized. Non-formal education is organized educational provision, usually in response to specific situations and not strictly structured, normally not graded from one level to another; eg. adult education programmes or community seminar materials. Informal education is the on-going incidental education that takes place from daily experiences throughout one's lifetime.

Kenya is faced with a myriad of environmental challenges. Chief among these include the need to balance development to meet man's needs and the requirements of sustainable utilization of the resource base. The high poverty levels prevalent in the country lead man to use the natural resources unsustainably. Land degradation, loss of biodiversity, deforestation/deforestation, waste disposal especially in urban areas, health and sanitation issues, alternative energy sources and technologies, loss of indigenous knowledge, diminishing water resources and alternative livelihoods are some of the major environmental challenges facing the country. It is imperative that education is seen as the entry point to tackling these challenges. Although the government recognizes the role of EE in achieving sustainability, the country lacks a coherent national strategy to implement EE.

## **2.2 Goals, Objectives and Principles of EE**

The main goals, objectives and principles of EE were outlined at the Tbilisi conference in 1977 as follows:

### **Goals:**

To:-

- Foster clear awareness and concern about economic, social, political and ecological interdependence both in rural and urban areas
- Provide every person with opportunities to acquire knowledge, values, attitudes, commitment and skills needed to protect the environment
- Create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

### **Objectives:**

Facilitate individuals and communities to:

- Become aware
- Gain knowledge
- Change attitudes
- Learn skills
- Participate meaningfully in sustainable development.

### **Principles:**

- Consider the environment in its totality
- Be interdisciplinary in its approach, drawing from each discipline to make a holistic and balanced perspective
- Examine major environmental issues – local, national, regional and international perspectives
- Focus on current and potential environmental situations vis-à-vis historical perspective
- Promote the value and necessity of local, national, and international cooperation in environmental conservation
- Environmental considerations into all development plans
- Involve learners in planning and problem-solving on environmental issues

## **2.3 EE in Formal System**

The Children's Act provides for the rights of children including provision of education. The Kenya Institute of Education (KIE) has recognised the importance of molding the youth right from early childhood. Consequently, KIE boasts a fully-pledged Early Childhood Development (ECD) Centre. Some EE resource materials have been developed to address learning needs at the ECD level. However, these efforts are hampered by lack of adequate funding and trained educators. The Free Primary programme is expected to boost ECD learning although poverty may interfere with all children from benefiting fully. The strength of the ECD programme is that children are many and always eager to learn new things. EE issues are introduced through selected thematic areas hence making it easy for effective coverage. Again the learning at ECD level is activity-based and hence the children learn environmental practices that help them to develop positive attitudes and behaviour in relation to the environment.

At the primary level, the learner acquires literacy, numeracy, creativity and communication skills. The learner is also motivated to develop desirable social standards, moral and religious values. The pupil also develops awareness and appreciation for the environment since infusion and integration are used to incorporate EE at this level. There exists a fair amount of EE aspects in the primary school level. This makes it easy for further EE aspects to be infused and integrated into the curriculum at this level. Again efforts are limited by budgetary constraints and lack of trainers well versed with environmental issues. This makes the dissemination of EE difficult. KIE is also trying to develop adequate resource materials in collaboration with other stakeholders.

The learner at secondary level acquires knowledge, skills and attitudes for the development of self and the nation. This level also helps promote the learners' ability for enquiry, critical thinking and rational judgement. The learner builds on what they learned at ECD and the primary level. It is therefore easy for the learner to acquire knowledge on positive environmental practices. EE issues are already integrated into the secondary school curriculum. Kenya has many secondary schools hence many youth can be encouraged to develop critical thinking and rational judgement on environmental issues. This level has limited field and practical exposure to the learner. Limited resource materials and trained EE teachers further lower the effectiveness of these efforts.

University curriculum is usually peculiar to each institution. Thus it is easier for a university to develop an EE curriculum. Already most public university and a few private ones have EE-related courses and programmes. Universities are think tanks and hence can offer solutions to many of the environmental challenges facing the country through innovative research and scholastic discourse. But universities are also faced with low budgetary allocations thus making it difficult for them to provide adequate learning materials and research facilities to students. Staff trained on EE are also few.

#### **2.4 EE in Non-Formal Systems**

There exists a supportive policy and legislative framework for the promotion of EE for effective public awareness creation and participation in the non-formal sector. There is also a high public interest in environmental and development issues. There are also many actors and players in non-formal EE (NFEE) with diverse resources and training. Despite lacking a structured system for NFEE, many consumers of NFEE are adults and can directly relate to the environment from where they derive their daily livelihoods. However, the implementation of NFEE may be hampered by the widespread high poverty levels in the country.

### **3. ESD Strategy for Kenya**

#### **3.1 Introduction**

ESD is a broader concept than EE. It is based on an integrated approach to socio-economic and environmental issues and encompasses a broad range of related issues. An ESD strategy should focus on key domains covering basic education and the pertinent issues that will facilitate the achievement of sustainability. An ESD strategy will enable the country to participate in the forth-coming UN Decade of ESD (2005-2015). The ESD strategy will provide a framework for a National EE for Sustainable Development programme. In line with its mandate, NEMA is coordinating the development and implementation of the ESD strategy by the relevant lead agencies and other stakeholders.

#### **3.2 Programme Design**

The ESD Strategy will encompass formal, non-formal and informal sectors. The formal sector will require the mainstreaming of EE aspects into the curriculum at all levels. This will be implemented by the Ministry of Education through its departments such as KIE and Schools Inspectorate. The Non-formal sector will involve diverse actors and players both in government (Adult Education and Extension Services) and in civil society (NGOs and CBOs). Similarly, the informal sector will involve a multiplicity of stakeholders going all the way up to the individual level.

### **3.3 Implementation of ESD Strategy**

An action plan for the implementation of the ESD strategy will be drawn up. The action plan will cover capacity building such as the training of trainers. Resource materials on ESD will be developed to support the implementation. Appropriate ESD curricula will need to be developed for all levels from ECD to the university level. A monitoring and evaluation scheme will also be put in place to ensure proper coordination and effectiveness in the implementation.

### **4.0 Considerations for the Development of ESD Strategy in Kenya**

#### **4.1 Challenges**

The biggest challenge will be to put together a comprehensive and encompassing national ESD strategy. The development and implementation of the ESD strategy will require the participation of major stakeholders. It should address the main environmental challenges facing the country today. Adequate financial resources will be required for the development of resource materials, training of trainers and teaching facilities. Perhaps the biggest challenge is the overwhelming poverty levels facing the country. Development partners and other stakeholders will have to offer support to augment the meager resources the government is able to afford.

#### **4.2 Opportunities**

Despite the seemingly overwhelming challenges enumerated above, there exists strong opportunities that will enable the development and implementation of an ESD strategy in the country. Globally, there is a strong drive towards ESD as a mechanism for tackling development and environmental issues facing humanity today. This explains why the international community through the UN has set aside a decade dedicated to the development of ESD. There are also regional initiatives by NEPAD and EAC to facilitate the development of ESD concept. Neighbouring countries are also undertaking similar activities and thus opportunities for sharing experiences and networking exist. Kenya has adequate policy and legislative framework and institutional capacity to enable the development and implementation of an ESD strategy. The Kenyan public is itself already adequately sensitized and is willing to support all efforts to help the country attain sustainable development.

#### **4.3 Conclusion**

Kenya has made great strides in the development of EE in the formal, non-formal and informal sectors. The ESD strategy will build onto these existing mechanisms. The entry point for the Nile Transboundary Environmental Action Project, in particular its EE and awareness programme, is well cushioned by the existing systems. It is necessary to build linkages to the initiatives on the ground. The NTEAP will go a long way to contributing to the on-going development and implementation of an ESD strategy.



## Brief notes on environmental education in schools

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Email:



### 1.0 BACKGROUND

The Ministry of Education, Science and Technology attaches a lot of importance to environmental education in schools. Arising from this premise environmental education is inbuilt in all school and college syllabuses.

### 2.0 LEGISLATION AND POLICY

The school syllabuses are developed at Kenya Institute of Education. The panel that develop them are comprised of curriculum specialists, inspectors of schools, Kenya National Examination Council experts to cater for the evaluation aspects of the curriculum, and practicing classroom teachers who are the implementers of the curriculum.

K.I.E. panels are clarified as here below:-

1. Primary Education Course Panel
2. Secondary Education Course panel
3. Teacher Education Course Panel
4. Technical Education Course Panel

The revise syllabuses for Primary, Secondary and Teacher Training Colleges in order to respond to contemporary issues in society, environmental issues amongst other emerging issues.

### 3.0 IMPLEMENTATION/CO-ORDINATION MECHANISM

#### 3.1.1 SCHOOL CURRICULUM AND ITS DEVELOPMENT

Before the syllabuses are sent out to schools/colleges they are subjected to the following conceptual framework in stages of curriculum Development.

##### (i) OBJECTIVES

Diagnosis of needs and formulation of objective. This involves survey of the chosen curriculum area by a panel of teachers and other educationist by drawing all available resources in that area and then formulate the curriculum objectives.

##### (ii) CONTENT

Selection of content and organization of content, experts create draft materials in line with the stated objectives

##### (iii) INSERVICING OF TEACHERS

Briefing sessions and workshops are held with teachers from a few pilot schools where the materials would be tried out.

##### (iv) EXPERIMENTATION IN PILOT SCHOOLS

Trial in selected schools or pilot testing of material in the selected schools

##### (v) MODIFICATION

Materials are modified in the light of effectiveness and evaluation as may be found necessary.

##### (vi) MORE EXPERIMENTATION AND REVISION

After modification more extensive trials and further revision of the materials are carried out.

**(vii) PUBLICATION AND DIFUSION TO WIDER AUDIENCE**

The refined instruction materials are published and diffused to a wider audience including in-service courses for teachers involved in the implementation of the materials.

**(viii) CONTINOUS EVALUATION ON IMPLEMENTATION**

Both formative and summative evaluation of materials are carried out at National level in all schools in the country.

**3.1.2 LEARNING MATERIALS AND THEIR DEVELOPMENT**

Teaching and learning materials are developed in line with the subject content at the national level or by individuals/organization (e.g. publishing houses) or improvised at the school/college level by subject teachers.

Material developed at the national level by individual or organizations have to be subjected to a vetting process by subject experts who are identified by Kenya Institute of Education. To be a member the expert should have not been involved in the production process. After vetting a circular is sent to schools/colleges indicating the recommended teaching and learning materials.

**3.1.3 SCHOOL PROJECTS AND EXTRA CURRICULUM ACTIVITIES**

School/colleges are encouraged to have clubs and societies including Environmental clubs, Young Farmers and the renown Presidential Award Scheme where part of the activities to be carried out include environmental work.

**3.1.4 ACHIEVEMENTS**

Some of the achievements by school environmental clubs have been carrying out environmental activities within and without the communities surrounding schools.

Also every year the Secondary schools hold a Students Congress on Science and Technology. During this activity which runs from zonal to National level students present talks and exhibit in Physics, Chemistry, Biology, Agriculture, Mathematics, Home Science and Technical subjects.

A number of subjects taught in schools address environment issue as hereunder illustrated:-

<b>SUBJECT</b>	<b>TOPIC</b>
Homescience	Environmental Hygiene
Physics	Hazards of radioactivity
Chemistry	Pollution effects of nitrogen, pollution of atmosphere by compounds, pollution by common fuels etc.
Biology	Ecology/effect of pollution on human beings and other organisms
Agriculture	Water pollution Soil and water conservation Agro forestry
Geography	Effects of mining on environment Management and conservation of Forests/soil/environment Soil degeneration

**3.1.5 TERTIARY INSITUTIONS OF LEARNING**

This include:

- Primary Teachers Training Colleges
- Diploma Teachers Training Colleges (Kagumo and Kenya Science Teachers College)
- Public and Private Universities

#### **4.0 PARTNERSHIP/MAIN COLLABORATORS**

Collaboration has been through Public and Private sectors involvement including NGO's. There has also been a lot of support by multilateral and bilateral donors.

#### **5.0 MAIN CONSTRAINTS ON E.E AND A WITHIN SCHOOLS**

The Kenyan curriculum by its nature places importance to final examinations. There is big mismatch between what is the curriculum content and the practice after the recipients have left schools/colleges.

Inadequate resources also force some schools to learn some environmental issues theoretically and therefore preventing the learners from acquiring important skills and concepts.

#### **6.0 OPPORTUNITIES AND RECOMMENDATIONS**

The NGO's, Community Based Organizations and the Private Sector should play a more active role so that the gains made within formal education sector translate to active and vibrant involvement in environmental issues by school products.

## Environmental education courses and trends in tertiary institutions of learning in Kenya

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### Abstract

*This paper has three main objectives: to describe the current status of environmental education in Kenya, to examine its legal status and then offer specific recommendations for strengthening environmental education at the national and local levels. The author gathered information for this report from a variety of existing sources, including national and state educational surveys, professional and popular literature, and interviews with some 12 researchers, educators, and other professionals working in the environmental education and related fields. This papers indicates both the positive and negatives trends in environmental education*

**Key terms:** Environment, environmental education, tertiary institutions, formal and non formal environmental education (see Box 1)

#### Box 1: Definitions

**Environment:** The Oxford advanced learners dictionary defines environment as “natural conditions for example, land, air and water, in which we live”. But environment is not only for men. The term environment denotes the region, surroundings and circumstances in which anything exists. In essence, everything external to an organism includes both the physical and biotic conditions in which it exists, e.g. geographical location, climatic condition, non-living organic matter and all other organisms, plants and animals in the region including the particular population in which the organism belongs. In brief, environment refers to a combination of internal, external and inherited factors that influence man and other living things. These factors can be physical, chemical, biological and cultural in nature. The term environment is, therefore, all-inclusive; our homes, localities and man made surroundings; natural and social ambiances make up the total or universal environment.

**Environmental Education:** a learning process that increases people’s knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations and commitments to make informed decisions and take responsible action.

**Tertiary Institution:** A tertiary institution is an institution of higher learning where specialized learning takes place. Good examples of tertiary institutions of learning include universities, polytechnics, and different specialized colleges like medical colleges, agricultural colleges etc.

Informal and Formal Education Systems: **Formal education involves the formal school system where programs and activities take place in public and private pre-schools, elementary schools, middle schools, secondary schools, colleges and universities. Non-formal education takes place outside the formal school system and includes programs and activities taking place in museums, natural centers, zoos, aquariums, community clubs, and science centers and other community educational institutions and organizations. It also includes television, radio, newspapers and other media-generated environmental educational programs.**

### What is Environmental education and why do we need it in Kenya?

Environmental education is a learning process that increases people’s knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address these challenges, and foster attitudes, motivations, and commitments to make informed decisions and take responsible action (UNESCO, Tbilisi Declaration). Environmental education enhances critical thinking, problem solving, and effective decision-making skills and enables individuals to weigh various sides of an environmental issue to make informed and responsible decisions (US Federal Register, 1996).

### Theory and Scope of Environmental Conservation

The theory of environmental conservation is heavily rooted in the global rapid population growth. The human population which was two and half billion in the early fifties crossed six billion mark in 2000. This is mainly due to improved technology in health and nutrition, traditions and lack of education. Due to this rapid population growth, man’s has been moving farther and farther from where he could

live in harmony with his surroundings. This has been a pointer to the sequence of events that are disrupting the delicate balance between man and his environment. The technological revolution and the population growth both changed the life style of man.

In the beginning of his existence, man confined his activity to small systems of the earth, and adapted his needs to the productivity of the system. As he grew in number, the need forced him to enlarge the area of his activity, and also take resort to technology. The growth in technology added on element of greed to man's expanding needs. Over the centuries, both *need* and *greed* combined to drive man to abuse the very systems, which supported his life i.e. the environment. The systems began to deteriorate and the environment began to crumble. And now the systems are in shambles, and the environment on the verge of a collapse. Actually, man has nearly destroyed his home. The very survival of man on this planet is threatened. Man is as the phrase goes, only five minutes from midnight! He has to reverse his steps to keep from the deadly darkness. No surprise that the environmental conservation is one of the major issues before man today.

Environmental conservation implies management of non-living and living factors in the surroundings of man in such a manner that their utility or productivity is not impaired, and man lives on the earth in the best possible conditions. In substance, environmental conservation is the practice of the wise principles of co-existence between man and the nature, even if it has to be modified kind of nature. To most of us conservation means only saving of our forest and our flora and fauna. However, conservation is much more than that.

Jan Wilson, the former Australian minister for home affairs and the environment, rightly said, “conservation is not just about our forests, or native flora and fauna or our primary industries, but it is about the way we live and behave as governments, government authorities, companies and as individuals. He continues to say that conservation is a positive and constructive way in which we can make sure not only that we make less of a mess but also that we leave the world not just as we found it, but in an even better condition for our children and generations to follow”. Conservation, as Patrick Jenkins, the former British secretary of state of the environment said, is a paradox: People want to preserve the animals but they also demand food, fuel, and water. Hence to produce these basic needs of man, people need farms, power stations and reservoirs. Creation of farms, power stations and water reservoirs and power stations involves sacrifice of forests, plants, animals that live there in. Hence conservation means striking a balance between the economic need for modifying the nature and the environmental necessity for keeping it close to the original form as possible.

For the well being of man, economic growth is as important as environmental stability. The essence of environmental conservation that man does not modify nature is such a way and such an extent that natural systems on which he depends or which he cherishes are damaged. He should be rational in his development activities using modern technology.

Over the years, the unregulated and indiscriminate application of such technology has released new processes that much in intensity and scope than those of the natural world. This capacity the capacity for environmental intervention has allowed man to greatly increase crop yields, generate a lot of electricity and move millions of people from place to place by automobiles. But also these technological capital: the air, water, and other parts of the eco system that support him and all future generations. In brief, man needs to acquire new responsibility of being a conservative steward of his environment. This is only possible through well-organized environmental education programmes at all levels.

### **Development of Environmental Education in Kenya**

At the international level, the historical roots of environmental education date back to the last century. The need for education about the environment has been evidenced in oratory and print over the past century, and has increased in volume and intensity. The concept of “Environment” and the pattern of action at national and international level to safeguard it, evolved in the years leading to the Stockholm conference on human environment, were given new form and direction there, and have continued to develop subsequently.

The “international environmental movement” that generated the conference has a long history and no sharp beginning. In part, it is the successor to the great historical voyages of discovery and exploration

that made people aware of the world and the diversity of its land and waters, rocks, vegetation, fauna and cultures. Much of the understanding of the world environmental systems developed in 1950s and 1970s during two major international programs i.e. (1) The international Geographical Year (IDY) of 1957/58 whose major focus was on the use of scientific study of the upper atmosphere and remote areas like the Antarctic, and (2) the International Biological program (IBP) OF 1964-1974 which had its central theme "biological productivity and human welfare.

The other major evolution in recent years has been in the wider public's appreciation of environmental issues especially in the last decades of the 20<sup>th</sup> centuries. These conservation movements were with both the efficient management of the natural resources and the preservation of natural habitats and historic movements. National forestry and agriculture societies and bodies stimulated this.

#### The Character of Environmental Education in Kenya

The character of the approach changed by adopting much broader conception of the environment. This wide approach was concerned with both the natural and social environments and the interrelationships that exist in between the two. All these developments were strengthened by the establishment of the National Environmental Management Authority (NEMA).

The developed and industrialized countries approached the Stockholm Conference on human environment in 1972 with different minds. The industrialized countries expected the conference to lead to a global campaign to curb pollution, conserve resources and lay the foundation for their more careful management. But the developing countries which were characterized by daily realities of poverty, hunger, disease and survival, did not understand the need for conservation of natural resources. However, a link between the environment and development i.e. "eco-development" emerged as a central theme at Stockholm. This became attractive to developing countries because it was defined properly. It was generally agreed that environmental concerns should not be a barrier to development, but should be a part of the process since development that is environmentally sound.

In Kenya, several developments have taken place since the Stockholm conference. These can be highlighted as:-

UNEP was formed in 1973 to coordinate all environmental programmes under United Nations agencies like; FAO, WHO, UNDP, UNESCO, WMO, IMF, and WORLD BANK etc.

Development of the National Environmental Policy, i.e. National Environmental Plan of Action in 1994.

Enactment of the Environmental Management Coordination Act (EMCA), 1999.

Establishment of The National Environment Management Authority in 2002.

Formation and implementation of Environmental Impact Assessments/Audit Regulations of 2003.

There has also been a massive expansion in the establishment of national environmental bodies (agencies, departments, councils and committees, etc) since 1972.

Environmental education has as its roots the varied and century-old fields of nature study, out door education and conservation education. Since the 1970s, environmental education has been characterized by the development of implicit and explicit interconnections with science, technology and the problems of society. Environmental education has been defined and refined over the last twenty-five years. Definitional issues are inherent in a field this broad and encompassing.

Environmental education in the sense of understanding the environment has been with us. Informal education has always attempted to prepare the young to take their place in both the natural and social environments. Environmental education has evolved over many years. At first, it involved people teaching their youth how to interact with the environment. Their education was preserved and handed down through folk lore and oral literature. Initially, the environment was considered hostile and people had to learn to survive in it. Later technological innovations enabled people to dominate and subdue the environment.

Before the 1970s, all African societies tried to educate their people about the interdependence between human life and the rest of the natural world. In Europe, in the nineteenth century, it was the Industrial Revolution and Darwin's *The Origin of Species* (1859), which awoke attention to the fact environment and nature were not unaffected by man.

Throughout the 1960s and early 1970s, many people became concerned about the environmental situation. They came together in Stockholm, Sweden, in 1972 in the first of a series of international conferences that formed milestones in the history of environmental education. There were several outcomes of the United Nations Conference on the Human Environment, Stockholm 1972, first of which was the establishment of UNEP with its headquarters in Nairobi. Following this conference was the formalization of a World Environment Day (WED), on 5<sup>th</sup> June, for the world community to focus attention on environmental issues. Since then, each year, UNEP develops a global theme relevant to the environmental situation.

The Stockholm conference categorized environmental problems under the five broad issues of ecology, energy, population, food and resources. These have become basic concepts in environmental education. What followed WED was the conception of the International Environmental Education Programme (IEEP). Recommendation No. 96 of the Action Plan for the Human Environment (Stockholm Declaration) urged the United Nations Education, Scientific and Cultural Organization (UNESCO), UNEP and other agencies to:

.... after consultation and agreement to take the necessary steps to establish an international programme in environmental education, interdisciplinary in approach, in school and out of school, encompassing all levels of education and directed towards the general public, in particular the citizen living in the rural areas, youth and adult alike, with a view to educating him as to the simple steps he might take within his means to manage and control his environment (United Nations, 1973). IEEP was established in Paris in 1974 and since then it has been in the forefront in evolving an understanding of the nature of environmental education. Many governments have acknowledged the importance of environmental education and have pledged to develop and support it. Kenya has already included an environmental education component in its education system.

Under the auspices of IEEP, the Belgrade Workshop was held in 1975. This workshop produced the Belgrade Charter outlining a global framework for environmental education. Between 1975 and 1977, several regional workshops on environmental education were held in the African, Western European, Eastern European, North American, Latin American and Arab regions. The deliberations in these meetings culminated in the Inter-Governmental Conference on Environmental Education, Tbilisi, Georgia, USSR in October 1977.

The Belgrade Workshop produced the Belgrade Charter, which singled out the goals, objectives, principles and target audiences for effective environmental education programmes. The workshop was able to come up with a framework for environmental education. In effect, the Belgrade workshop considered the objectives of the International Environmental Education Programme as:-  
to help individuals and social groups acquire an awareness of and sensitivity to, the universal environment and its problems,  
to enable individuals and social groups attain a basic understanding of the universal environment, its attendant problems and humanity's vital responsibility and stewardship in conserving it,  
to help individuals and social groups attain the necessary skills for dealing with and solving environmental problems,  
to help individuals and social groups assess and evaluate environment-related measures and programmes in their entirety,  
to enable individuals and social groups inculcate, in themselves and others, a sense of responsibility and concern for environmental matters or issues.

The International Environmental Education Programme was to be aimed principally at the general public, even though the formal and non-formal education sectors were to constitute other major target groups. The Belgrade Workshop unanimously adopted guiding principles for its environmental education programme. These guiding principles were meant to be holistic in approach, that is, they were to consider the total environment. Moreover the process of education was to be continuous and lifelong both in and out of schools; interdisciplinary in its approach: emphasize participation in finding preventive measures and solutions; examine the environment globally; focus its attention on both present and future circumstances, by examining development and growth of issues from an environmental point of view; and finally, promote the value and necessity of cooperation at all levels when seeking solutions to the environmental problems.

The Belgrade Workshop was followed in 1977 by the Tbilisi Intergovernmental Conference on Environmental Education. This was the first intergovernmental meeting ushering a new phase in environmental education. The Tbilisi conference was a follow up of the Stockholm Conference of 1972, and was charged with implementing the International Environmental Education Programme, a product of the Belgrade Workshop of 1975. The Tbilisi Conference came up with a number of recommendations chief of which was the formulation and endorsement of environmental education goals, objectives and founding principles. It is these, which have been instrumental in devising and developing almost all activities regarding environmental education worldwide.

### **Environmental Legislation and policy**

Awareness regarding the relationship between the environment and economic development has continued to grow since 1992 when Kenya joined the rest of the world in endorsing Agenda 21 as the global blue print for sustainable development. To this end, Kenya has recognized the need for mainstreaming the environment in all aspects of its economic development. The following is a short summary of the various legal and policy instruments dealing with environment as an integral part of national development. I have, however, extracted those policies and laws related to environmental education from a long list of laws and policies regarding natural resources use in Kenya.

Policy: National Environmental Action Plan. This was formulated in 1994 and is intended for more effective coordination of different players and resources in the implementation of the action plan throughout the country.

Local Agenda 21: Formulated in 1999 and is intended to provide a framework for implementation of Agenda 21 in the country.

Law: The Environmental Management and Coordination Act (1999). Is intended to oversee the establishment of legal and institutional framework for effective management of environmental matters in the country.

### **Institutions offering Environmental Education and Awareness**

There are currently a number of tertiary institutions offering environmental education and awareness in Kenya. These institutions can be classified into Universities and Colleges – including Polytechnics, specialized training institutes and non-governmental organizations. Below is a case-by-case profile on in major tertiary institutions offering environmental education in Kenya.

#### **Public Universities**

All the six national and public Universities in Kenya are offering at least one form of or related environmental education course. At Moi University, relevant courses offered at different levels include:-

Environmental Studies (Masters and Doctorate Levels)

Forestry (Undergraduate, Masters and Doctorate Levels)

Wildlife Management (Undergraduate, Masters and Doctorate Levels)

Fisheries Management (Undergraduate, Masters and Doctorate Levels)

Environmental Health (Undergraduate, Masters and Doctorate Levels).

The above programmes are scattered in various campuses, faculties and departments of the University.

This has led to duplication of curricula, overlaps, and wastage of resources. The School of Environmental Studies has well established academic programmes /Divisions which include:

Environmental Planning and Management, Human Ecology, Environmental Information Systems, Environmental Biological Sciences, Environmental Physical Sciences, Environmental Health, Environmental Economics and Environmental Law. All these departments are being administered from four Divisions. The School enjoyed maximum donor support for in early 1990s, especially from the Netherlands Government. This funding is now drying up! This has drastically reduced the student admissions by more than 60% in the last decade. A number of academic staff have also taken-off for greener pastures in other universities and institutions. The University Senate is currently planning to re-structure the School into a mere Department to be hosted in one of the faculties.

The Majority of graduate students of Moi University were employed in early 1990s to establish and develop environmental education courses at Kenyatta University. An excessively ambitious Faculty of Environmental Studies was developed with similar courses offered at Moi University and similar organizational structure, but with four Departments or areas of specialization: Environmental Planning and Management, Socio-cultural Studies, Environmental Foundations and Environmental Science. However, the contents at undergraduate and postgraduate levels have little noticeable differences. The

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Department of Environmental Foundations has been servicing the Faculty of Education in a fourth-year course- Environmental Education until early this year that it was transferred from the Faculty of Education. The School offers undergraduate, graduate and doctorate degrees in both environmental science and arts courses. Due to increased human resource and administrative costs, Kenyatta University Senate recently restructured the institution and promoted the Faculty of Environmental Studies into a School of Environmental Studies. However, the departments were reduced from four to only two, i.e. Environmental Planning and Management and Environmental Science.

In Jomo Kenyatta University of Agriculture & Technology, only one relevant environmental related course, i.e. Bachelor of Science in Soil, Water & Environmental Engineering is offered at undergraduate and postgraduate levels. However, the course seems to be unpopular among students. Hence small numbers of students are admitted to this programme.

In the University of Nairobi, the following two relevant courses are offered: Environmental Engineering and Wildlife Management. There has been a plan in the pipeline of changing the Faculty of Agriculture into Faculty of Agriculture and Environmental Studies at the University. The University's senior academics have opted to remain traditional and conservative in establishing environmental education courses. Despite that resistance, research at the University's science departments and even Geography is mainly focusing on environmental problems. At Kikuyu Campus, one course (i.e Environmental Education) is offered to education students.

Maseno University, which is just a few Kms from Lake Victoria established the Department of Environmental Studies in 1994. The Department was almost "killed" in 1999 when it was being joined with Department of Horticulture to form the Faculty of Agriculture. The University Senate withdrew its intentions due to resistance from the Departmental staff. In June, 2004 the University Senate approved the establishment of the School of Environment and Earth Sciences. This is yet to be implemented.

Egerton University is well represented in environmental-related courses. It offers courses in: Natural Resource Management, Environmental Science, Water & Environmental Engineering, and Applied & Aquatic Sciences. Finally, the newly established Western University College is yet to offer environmental education courses.

National Polytechnics and other Institutions

The Kenya Polytechnic offers a Diploma course in Environmental Studies, whereas Kenya Wildlife Services offers Diploma Courses in Wildlife management and Wetlands Management courses. However, these courses have however low student enrollment.

### **Curriculum/Modules**

Usually there are two common approaches in curriculum development for environmental education: the interdisciplinary single subject approach/model and the multi-disciplinary infused model. In the interdisciplinary model, a distinct environmental education unit, course or module is created by drawing relevant components of many disciplines. In the multi-disciplinary model, environmental education components are infused or integrated into relevant disciplines.

The curriculum approach that is followed in tertiary institutions of learning especially those offering Environmental Studies as a pure discipline is usually the interdisciplinary model. In this approach, environmental education draws heavily from many disciplines like Physical sciences, Biological sciences, Geography, Mathematics, Economics, Sociology, Anthropology, Earth sciences, Arts and Humanities, Communication, Life sciences and Vocational studies. Since environmental education cuts across many subject disciplines, the teaching and learning process adopts the interdisciplinary approach. This means that its methodology draws from different disciplines relevant to the topic at hand.

The best example of environmental education teaching using the interdisciplinary approach is Moi University. The School of Environmental Studies offers courses at Masters and Doctorate levels using the interdisciplinary approach. The School offers courses in many disciplines such as Environmental Health, Environmental Planning and Management, Biological Sciences, Physical Sciences, Environmental Information Systems, Environmental Law, Human Ecology and Environmental Economics. These courses borrow heavily from such disciplines as Geography, Mathematics, Biology, Chemistry, Economics, Sociology, Forestry and Wildlife Management to mention just but a few. The

interdisciplinary approach is widely used in both in Maseno and Kenyatta universities where Environmental Studies is offered.

### **Partnership/Main collaborators**

The main partners and collaborators regarding environmental education in tertiary institutions of learning are the government and donor agencies. The government has established the courses in the relevant institutions and pays salaries for staff. Many donor agencies and research bodies like DAAD & UNEP have been very pivotal in the development of environmental education in Kenya. They give scholarships to graduate students pursuing courses in environmental education. The School of Environmental, Moi University has been a beneficiary of several scholarships from DAAD and UNEP.

### **Main Constraints of Teaching Environmental Education**

The problems most African countries have encountered in the last two or three decades in incorporating environmental education into educational curricula, particularly in tertiary institutions are many. The most important setback to many African Education systems are:

*Teaching Methodology:* The major problem of teaching environmental education is how to decide which method is suitable for which ability level. What has to be taught at undergraduate level and/or graduate level? What should be the course content? In an already crowded curriculum, what precisely will constitute environmental education?

*Shortage of trained Staff:* As argued elsewhere above, environmental education borrows heavily from the other disciplines. Personnel trained in their areas of specialization are usually seconded to teach environmental education. Staff trained to specifically teach environmental education are few. Environmental education is, therefore, not given the importance it deserves.

*Its new nature:* Environmental education is interdisciplinary/multidisciplinary in nature and a relatively new discipline. Moreover, the trend in teacher education is increasingly oriented towards specialization. Environmental education in this regard, therefore, does not receive the importance it deserves.

*Lack of Finance:* Environmental education is a practical course, which requires intensive involvement in terms of fieldwork observation. This is an out door subject which needs to be taught practically with little emphasis on class work. But the finances to oversee this are seriously lacking and hence has been a major bottleneck.

### **Opportunities and Recommendations**

#### **Opportunities**

Environmental education is relevant to our everyday lives. We are continually interacting with the environment in our daily lives. Environmental education has tremendous potential for contributing to the goals of educational development and sustainable development. For example, environmental education provides an opportunity to strengthen teaching in many core subjects, especially science, because it is the basis for solving many of our environmental challenges. Environmental education also provides an opportunity to strengthen interdisciplinary teaching because environmental topics can be addressed from many different perspectives including scientific, historical, cultural and political perspectives.

Understanding the complexities of the interrelationships between the natural environment and human activity – economic, social, and political – is a necessary condition to the maintenance and improvement of environmental quality.

Protecting the environment has the added value of creating new jobs for the country's work force. Environmental education and training can help ensure an adequate supply of well-trained environmental personnel to deal with the country's increasingly complex environmental challenges. Environmental education can also improve the quality of the general work force. Environmental education's emphasis on critical thinking and problem solving better equips students to deal with rapidly changing technologies in the work place.

The future health and welfare of the country depends on the ability of the people to use the Earth's resources sustainably. Sustainable development poses two fundamental education challenges: one is to promote positive attitudes and informed decisions of citizens and government leaders that are conducive to sustainability. The other is to teach people at all levels the benefits of integrating conservation priorities with need for development. Environmental education has the potential to make

major contributions to sustainable development by demonstrating ways to overcome these two challenges.

Environmental education enhances the public's understanding of the need for bio-diversity conservation. Environmental education also educates the public about how their actions affect natural ecosystems and how positive steps taken to minimize impacts on these ecosystems will translate into improvements in our overall environment and hence protecting our heritage.

### **Recommendations**

**Human resource development:** Professionally trained staff on environmental education should be given prominence. The idea of borrowing staff from other disciplines to teach environmental education is detrimental to the development of the discipline.

**Financial support:** Environmental education is a practical course that needs extensive fieldwork. Money and resources should be availed in order to make meaningful progress.

**Curriculum development:** There needs to be in place a curriculum for the teaching of environmental education in the tertiary institutions. The levels should be clearly delineated viz-avis Diploma, Undergraduate and Post graduate levels.

**Sponsorship:** The industries and other businesses should consider availing scholarships to students taking studies in environmental education. The industries use a lot of environmental resources and pollute the environment the most. They should support protection of the same through the said scholarships.

**National Environmental Education Act:** This should establish an office within NEMA to oversee several major initiatives, including: a **training programme** for education professionals, an environmental education **grants programme**, an **internship and fellowship programme** for students and teachers, an environmental education **awards programme**, and a **national task force and advisory council**.

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## Media and Environmental Awareness Creation in Kenya

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### Introduction

The media occupy a crucial position in the development process of any given country. This is because they are important providers of information; and therefore, good facilitators of the awareness creation process. In this regard, media presents a very important tool for espousing government policies in diverse sectors such as: health, education, conservation and others. When used properly the media are likely to promote better performance in any of these sectors. But, they must have a broad reach and be able to provide good reliable information.

### Environmental concerns

Though, a signatory of various international conventions Kenya faces a myriad of environmental challenges. Its soils, forests, water and other biological resources are threatened due to failure of conservation, national policies and national laws for conservation notwithstanding. If the conservation plans have worked at all, it is only in very limited cases.

### Land

The pre-independence land policy allocated huge tracks of land to white settlers leaving a very small percentage of land to the Africans. The consequences of this were the concentration of the indigenous people in smaller areas and hence the acceleration of land degradation.

The political leadership of the country failed in the 1990s to protect land and illegally transferred government land to its political cronies. As a result, land under research stations, forests, municipal parking spaces, road reserves was taken up.

Land use laws have also been ignored. There is cultivation on very steep areas and next to riverbanks. Silting and pollution of water bodies is another challenge while soil erosion is a menace to most of our agricultural land.

Mining has caused land degradation in the form of quarry pits, strewn all over the country. Sand mining from riverbeds and sandy soils to supply the building industry is equally another challenge. The alteration of the riverbed morphology causes accelerated erosion. Sand-mined soil is a good candidate for erosion.

### Energy Sources

Low development of renewable environmentally friendly sources of energy has left wood fuel as the major source of energy, and this has led to the depletion of tree resources.

### Legislation

The recent legislation that led to the creation of the National Environmental Management Authority provides a harmonised legal framework for the management of the various aspects of the environment.

### Environmental Education

The Ministry of Education has incorporated environmental educational programs in the curriculum at all levels of education. Kenyatta University has a full-fledged Faculty of Environmental Studies while Moi University has a post-graduate School of Environmental Studies. The main aim of these programmes is to instil awareness, knowledge and skills essential to deal with immediate environment conservation issues.

### The Media

In view of the above challenges, it is obvious that the demand upon media to address these issues is enormous. This section discusses the capacity of the Kenyan media to deal awareness creating initiatives.

### **The Media Structure in Kenya**

Kenya has a long history which dates back to 1902, when the East African Standard (Now The standard launched). The paper mainly served the interests of the white settlers. Radio dates back to 1928, while television was introduced in 1962. The Daily Nation was launched in 1960, by The Aga Khan, to take care of the African interests and express the African point of view.

Today there are four English daily newspapers in Kenya namely: The standard, The Daily Nation, The People Daily and the Kenya Times. The Nation Media group also publishes a Kiswahili daily Taifa Leo. The East African, also by the Nation media group is the main Weekly paper. A number of new private papers commonly referred to as the gutter also appear in the streets. Despite the numerous titles, the combined daily circulation of these papers hardly goes beyond 400,000.00.

Broadcasting had mainly been a preserve of the state until the mid 1990s, when the airwaves were liberalised to allow for private investment in the broadcasting sector. This has seen the rise of Television Stations from 1 in 1990, to 7 today. The number of radio stations has risen from 1 to 24 in the same period.

The State owned Kenya Broadcasting Corporation is the main national broadcaster covering nearly all parts of the country. Other stations like Radio citizen, The Nation FM, and KTN have recently opened up transmission to other part of the country.

The print media in Kenya has always been a private enterprise depending entirely on advertising for financial sustenance. With the liberalisation of the airwaves, the electronic media has also joined in the fight for advertising revenue from the private sector.

Based on the prevailing media ownership structure, it is safe to conclude that, the mass media in Kenya is today controlled by the private sector. In other words, they are commercial enterprises, with profit making as their most important incentive. Subsequently, commercial considerations play a significant role in all decisions in the media.

### **How do the media report environmental issues?**

A good approach to answering this question is to make to make an assessment of the extent of coverage in national papers and periodicals over time.

For this meeting, I browsed samples of the two main Dailies, The Nation and The Standard over 1 month. My objective was simple; to identify articles published on the subject of the environment, their frequency and if in my view, they would enhance the readers' level of awareness. Please note, that this was not a scientific study, but merely an overview of the situation. Given time and resources, this would be a good subject for a more elaborate study.

In general, I looked at articles under the headings environment, agriculture and sustainable development. I also looked at articles on science and health and their allusion the environment. During the same period, I also monitored radio and TV broadcasts to identify content concerning the environment. I focused on the month of August 2004.

My findings indicate that the main newspapers do not have a special page or column dedicated to the coverage of the environment. Thus, the environment is covered in the general news pages. The daily Nation has a regular weekly pullout (The Horizon) dedicated to science and health reporting. But even within this pullout, stories on the environment do not have a permanent column. The Standard likewise has no special page for the exposition of environment.

More than 80 percent of all stories are mainly news based or event based, in form of political statements and government declarations. The environment is merely mentioned in passing as part of the events covered. Notably, most of the items were reports on some seminar in location A or B, where the environment would be discussed. What is discussed though hardly emerges in the mass media. Investigative pieces on the environment are very scarce in the print media. The articles remain shallow without giving in depth analytical treatment to the articles.

In television, KTN has recently, a regular segment on the environment within its Sunday's (9.00 pm news bulletin). Eco Journal devotes 6 minutes every weekday to the presentation of investigative pieces on the environment. The KBC English service radio dedicates 15 minutes every weekend. The programme, simply known as "Our environment," disuses diverse aspects of environmental challenges. The concentration is mainly on providing information on upcoming events on organised by NGOs or a report of the past activities. There is little linkage to the overall national environmental concerns.

In general, pieces on the environment are rather lethargic and uninspiring. In 2001 for instance, the panel of judges of the Journalists of The Year Awards refused recognise entries in the environmental reporting category on the grounds of mediocrity. Ironically, some local journalists have won international awards in the field of environmental reporting.

Why is the level of reporting the environment this low? A special editor with one of the leading dailies laments that newspaper managers do not recognise the environment as a priority area. According to them, all there is to write about the environment has been exhausted and therefore the no news can come from there. In house screening policies tend to favour stories that can sell newspapers. In this case, political stories tend to win the favour of editors.

He also singles lack of grounding in environmental issues. He says it is difficult to convince an editor whose knowledge of environmental issues is limited, to allow space in his newspaper to cover the subject. Absence of in-house policy guidelines on matters of the environment does not help matters either.

The main obstacle towards improved coverage of environmental issues is the absence of clear policy guidelines that would ensure that all media government and private alike take a public service responsibility towards certain subjects. As indicated earlier, the media landscape in Kenya consists mainly of private enterprises motivated by profit making agendas. Consequently, they give priority to those areas and subjects that guarantee them huge sales. The important public service function of media shifts to the periphery.

The fact that some of the major manufacturing concerns could also be key advertisers could pose great challenges to a journalist trying to report on the effects of industrial wastes on the environment. For fear of possible, lose of revenue most media houses may choose to take a "neutral" approach to environmental matters.

Good stories of any kind cost money to the media houses. Naturally, Managers invest in areas with guaranteed immediate returns. Unfortunately, the environment does not appear to be a priority area for profit making.

#### **What could be done?**

Environmental organizations could lobby at policy level to ensure that all media outlets assume a public service responsibility and allocate part of their time or space to public service initiatives. Certainly, environmental education is good for the country for all in the long run. The other option would be to advice, government to offer incentives that could motivate media to pay attention to environmental issues.

Environmental organizations could also help in demystifying environmental issues and helping the media to see new angles to the story. This could be achieved, through building partnership with the media and involving journalists in their activities. The environment being a specialized area, Agencies in this area could help in capacity building for journalists through training and other partnerships.

Finally, they could consistently participate in the production of information for the media, which is simple and easily understandable. This could be achieved by engaging communication specialists, who understand how the media works internally to ensure that environmental information is packaged in a usable way.

**Past Communications Initiatives**

Many initiatives have been undertaken in Kenya to raise awareness of environmental issues through both formal and non-formal means. It would be useful to undertake a review of these initiatives and understand the lessons learnt. One such initiative was the Prevention of soil erosion, by retired President Moi. To make the sample representative, campaigns run by the government, by NGOs, and jointly by the public and private sector, should be included.

There is need to formulate a coherent communications campaign on the environment, so that coordinated messages are sent out to the public and the limited resources available used in the most efficient manner.

## Working with schools in environmental education

Dr. Noah Sitati  
WWF TRANSMARA



### BACKGROUND

#### Definitions:

##### What is Environment?

- Is the immediate surrounding of an organism.
- Biotic (living) and Abiotic (Non-living) components
- All components are dependent upon by living things
- Misuse and over-exploitation leads to degradation
- Loss of biological diversity
- Youths forms the highest population

##### What is Environmental Education?

- Is a learning process that increases knowledge and awareness about the environment and develops skills that enable responsible decisions and actions that impact the environment (UNESCO, Tblisi Declaration, 1978).
- UNCEF declaration
- UNEP

##### Why is EE important in schools

- ◆ It improves students (people's) daily lives by:
  - Protecting their health
  - Advancing quality education
  - Creates jobs in the environmental field
  - Promoting environmental protection (Sustainable use)
  - Encouraging stewardship of natural resources
- ◆ It encourages inquiry and investigation and enables the learner to develop critical-thinking, problem solving and effective decision making skills.
- ◆ It teaches about real issues that impact every community eg water quality, air, habitat improvement, pollution, waste management, etc.

##### Schools and EE

- EE not examined in National Examination
- Covered in general in all subjects
- It is up to the student to link up the respective subject with EE
- Articulated in Social Ethics (not compulsory subject)
- In curriculum
- Population of student relative to the other population
- Students are future leaders and decision makers

##### OBJECTIVES OF EE

- Create awareness and sensitivity to the environment and environmental challenges
- Develop knowledge and understanding of the environment and environmental challenges
- Develop attitudes of concern for the environment and motivation to improve or maintain environmental quality
- Develop skills to identify and help resolve environmental challenges
- Participate in activities that lead to the resolution of environmental challenges (UNESCO, 1978)

##### Students should be able to:

- Demonstrate knowledge of social, cultural, economic and political dynamics associated with the environment.
- Understand environmental compliance as a moral political and economic issue



- Analyze environmental issues within their social, economic, political and theoretical basis
- Quantitatively and qualitatively evaluate the consequences of ecological destruction on health, productivity, social and economic welfare.

## **IMPLEMENTATION MECHANISMS**

### **I. Main Activities**

- (a) *School networking using modern technology eg computers*
- (b) *School Projects be identified to address environmental issues*
- (c) *Formation of environment related clubs and societies (Wildlife Clubs of Kenya, Friends of Conservation)*
- (d) *Schools environmental projects be linked to community*
- (e) *Students to engage in research projects*
- (f) *Different national and/or regional award schemes*
- (g) *Organize Exchange Tours to share experiences*

### **II. Linkages / Partnerships (Stakeholders)**

With government departments, NGOs, International, local community, CBOs and private sector to assist is technical and financial support.

- WCK newsletter (Kompa)
- FOC newsletter (Esidai)
- CBO eg Siria Development Trust

### **III. Monitoring and Evaluation**

The positive impact of EE in schools may be measured by:

- Number of environment related clubs and societies established
- Number of research projects undertaken
- Number of students enrolled as members of environmental clubs / societies
- Links developed between schools and other stakeholders
- Number of personnel trained in EE
- Grants secured for EE
- Number of different awards presented every year
- Corrections on environmental threats

### **IV. Achievements and Lessons Learnt**

- Presidential Environmental awards ongoing
- Support from NGOs
- Teachers trained in EE
- Awareness creation is low in schools

### **V. Main Constraints**

- Financial limitations to support EE programs in schools
- Lack of EE materials and equipment
- Ill-equipped teachers e.g. to design and analyze issues
- Over concentration on examinable subjects
- Poor infrastructural development

## **OPPORTUNITIES AND RECOMMENDATIONS**

### **Opportunities**

- Political good will eg formation of NEMA
- Graduate teachers have undertaken EE course
- Increasing donor interest in environmental issues

### **Recommendations**

- EE should be improved and enhanced by providing support (financial etc), professionalism

- Seek joint collaborations / multi-sector partnership to produce high quality EE materials and messages
- Support research
- Develop capacity building programs and activities for long term-effectiveness and sustainability of EE
- Support improvement of communication and the quality, access, and coordination of EE information, resources and programs
- Develop a National and/or regional Environmental Education Act

## Public Awareness and campaigns in Kenya

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### Introduction

- Poverty
- Political instability
- Rapid population growth
- Poor policy framework
- Weak transboundary/regional cooperation
- Environmental degradation

Environmental degradation in the Nile basin is well pronounced and exhibited through:  
Land management and Soil erosion

- Water pollution
- Loss of biodiversity
- Hydrological imbalances in the Nile river Basin
- Lack of understanding and awareness of the role of wetlands
- Destruction of the catchments areas

Response to the Environmental challenges: Environmental Action Learning (EAL).

EAL -putting environment, action and learning at the centre of education

- taking action for the environment as an essential part of learning while solving environmental problems.
- open-ended and views action programmes as an entry-point for environmental learning
- advocates for environmental policy formulation, localising curriculum, micro-
- Response to the Environmental challenges: Environmental Action Learning(EAL).
- Response to the Environmental challenges: Environmental Action Learning(EAL).
- Active participation in resolving environmental problems
- Sustainable management of natural resources
- Setting examples of best environmental practices
- Integration of indigenous knowledge into environmental management systems.
- Savings in consumption and poverty reduction.

### Objectives of EAL

- Mainstream Environmental Action Learning into public/non-formal education programmes.
- Promote positive local action to enhance sustainable lifestyles.
- Raise public awareness about the importance of environmental action processes as a conservation strategy for addressing environmental concerns and implementing policies, strategies and plans for sustainable development.
- Promote partnerships and dynamic networks to enhance sustainable development in the Nile river basin.

### Target Groups

- Civil society
- Private sector
- Government departments
- Policy makers

### Proposed Action Plan for Environmental Action Learning

#### a) Training and capacity development

*Requirements:*

skills and expertise to mobilise prior knowledge (including indigenous knowledge).  
experience to implement values-, action oriented and inquiry-based programmes. identify training needs/ programmes for:

- institutions that support environmental learning through workplace-based programmes to foster lifelong learning.

- In informal but structured activities such as the mass media.

*Activities*

- Conduct short courses & awareness seminars on EAL.

- Establish funds mechanisms to enable educators to participate in training and conferences.

- Establish and strengthen centers of excellence for capacity building.

- Establish online courses on skills and abilities for EAL.

*Workshop activity*

- Develop further activities, targets, timeframes and indicators

b)Public awareness campaigns and activities/ Media & communication

- The region has limited human resources and practitioners to undertake community education.

- limited public participation in environmental activities.

- need to promote environmental education and public awareness in all sectors of the society.

- use of mass media, campaigns, theatre, social clubs, award-giving competitions and through print and electronic media.

Proposed Action Plan

*Activities*

- Promote and organise competitions in institutions and communities

- Undertake awareness campaigns in the communities

- Set up learning institutions forums or debates on environmental issues

- Establish an Environmental Action Learning website

*Workshop activity*

- Suggest more activities, targets, timeframe and indicators

**Proposed Action Plan**

c) Networking and partnerships.

There is lack of partnerships and networking between govt. civil society and private sector, yet this is crucial in facilitating the implementation of EAL amongst:

- Governments and other intergovernmental institutions in the sub regions, particularly educational and environmental institutions.

- Stakeholders that support environmental protection

- Private sector, particularly business and industry

- Community members/organizations

- Funding partners.

*Action:*

- Make environmental information accessible

- Network to share best practices

- information for environmentally sound decision making.

*Activities*

- EAL newsletter produced

- national information & documentation centre

- Train and raise awareness on benefits of partnerships

- strengthen research and innovation in EAL

*Workshop activity*

- Suggest more activities, targets, timeframe and indicators

d) Materials development and adaptation

- Support kits for different stakeholders

- Materials for awareness raising activities

- Materials to support EAL programmes.

*Activities*

- Establish and strengthen EAL curriculum & material production centres
- seminars and workshops on EAL curriculum & material development
- Promote development of EAL materials
- Develop a directory of EAL learning materials

*Workshop activity*

- Suggest activities targets, timeframe and indicators.

e) EAL demonstration projects related to pertinent issues in the Nile Basin:

- Water, Wetlands, Biodiversity
- Poverty
- Agriculture, etc.

*Activities*

- Carry out community needs assessment
- Develop participatory action plans
- Establish demonstration centres
- Monitor and evaluate
- Share best practices & Award them

*Workshop activity*

Suggest tangible thematic projects, targets, timeframes and indicators.

f) Policy development and implementation

- EAL policy ensures sustainable development and environmental well-being.
- support participatory policy development and implementation processes
- synergy and cooperation for global, policy development and implementation.

*Activities*

- lobby for appropriate policy development and implementation Eg. The ESD
- Policy legislation and policy briefs

*Workshop Activity*

- Suggest more activities, targets, timeframes and indicators

**Expected outputs**

- Training and capacity development
- Public awareness campaigns and activities/ Media & communication in EAL established
- Networking and partnerships for EAL developed.
- Trans boundary EAL Materials development and adapted.
- EAL demonstration projects related to pertinent issues in the Nile Basin established:
- Policy development for and implementation of EAL initiated.
- Briefs for media editors and journalist within the riparian countries facilitated.
- The capacity of stakeholders to undertake activities towards protecting the Nile Basin and its biodiversity strengthened
- Regional network and partnership strengthened
- National and regional meetings/workshops held and attended
- Information centers established
- Award schemes initiated and operational
- Education for sustainable development programmes on the Nile Basin resources developed

**Lessons Learnt**

- The need for active involvement of all stakeholders at all levels of the project
- Well planned and coordinated Campaigns give meaningful results
- Build on the existing initiatives
- There is need to put in place mitigation mechanism for the challenges

- Partnership and collaboration is key to sustaining projects

#### **Main Constraints**

- Poverty
- Lack of commitment by the relevant stakeholders
- Natural disasters
- Political instability
- Limited resources e.g. finance and materials
- Poor policy frameworks
- Poor coordination and support
- Duplication of initiatives
- poor priorities and approaches
- Lack of competence

#### **Opportunities**

- The existence of Environmental Management and coordination Act (EMCA), 1999.
- The Education for sustainable development (ESD) strategy developed by NEMA in collaboration with relevant stakeholders sets a framework for implementation of ESD programmes.
- The UNESCO-UNEP Decade for Education for Sustainable Development (2005-2014)
- Regional networks and collaborations ie the East African NGOs for sustainable development network (EANSNDN), East African Community, NEPAD, AU, COMESA, IGAD.

#### **Recommendations**

- The public, private sector, policy makers and the media are very instrumental in public awareness and campaign programmes however there is need for partnership, resource mobilization, setting of common goals and commitment to enable them achieve the desired goals.
- Support materials and capacity building are a strong prerequisite to enable effective awareness and campaigns.

**CLOSING REMARKS BY**

**PROF. KAREGA MUTAHI,**

**PERMANENT SECRETARY,**

**MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY**

**DURING THE NILE BASIN INITIATIVE ENVIRONMENT ACTION PROJECT  
SUNSET HOTEL, KISUMU ON 5<sup>TH</sup> OCTOBER 2004.**

**Heads of various Government departments,**

**Representatives of stakeholder groups,**

**Invited guests,**

**Ladies and Gentlemen,**

I am pleased to be with you this afternoon, to officiate over the closing session of this workshop. From the outset I would like to emphasize that the shared vision of the Nile riparian countries:- *“To achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources”*, has been the conceptual framework of this workshop. I note with appreciation your continued commitment to this initiative which was exemplified through your active participation in the duration of the workshop.

Ladies and gentlemen, I believe the experiences you have shared during this workshop will be of great benefit not only to the implementation of the Nile Transboundary environment Action Project, but to all of you and the Nile Basin on our side of the project area.

Kenya's economy and the livelihoods of the people are dependent on natural resources, which are increasingly under pressure from unsustainable use. This further manifests in environmental degradation. The challenge therefore is to utilize our natural resources to develop the economy while at the same time save the environment from the adverse impact of pollution, soil erosion, deforestation and general degradation. This cannot be held in abeyance anymore.

Since the status of surface, ground, wetland, marine and coastal water resources give an indication of human and environmental health, catchment conservation and the socio-economic impact of droughts and floods are issues of concern. Cases of water use conflicts between riparian countries have persisted and have been intensified over the last four years.

The importance of the Nile basin physical environment in the context of the livelihood of our people cannot be overemphasized. Our environmental resources form the principal source of livelihoods for millions of people and enable them meet basic needs of food and shelter. Therefore, efficient environmental management, harnessing of natural resources, and at the same time arresting the threats to a sustainable utilization calls for immediate and focused attention.

Ladies and Gentlemen, you are aware that since independence, the Kenya Government has advocated for proper environmental management and recognizes the need to pursue transboundary and regional initiatives for the conservation of shared resources straddling international borders. Kenya participates in the East African country shared waters association, the Lake Victoria Environmental Management Programme (LEVEMP) and the Nile basin Initiative among other water use agreements. In addition the, Government commitment to sustainable environmental management has been articulated in various government policy statements, sessional papers and development plans.

The Nile basin Initiative is but another example of international cooperation in the fight against the degradation of the environment and the conservation of natural resources and water resources in particular. The environment is deemed a critical area in the development of the Nile basin river resources. It is clear that our environment is being degraded and the need for sustainable environmental management practices and its safeguards for our future generations need not be over emphasized.

Environmental education and awareness is key to obtaining and maintaining public support for environmental protection and nature conservation. As you may be aware one of the national goals of the Ministry of Education, Science and Technology is to promote environmental education in all our

institutions of learning. So far this has been implemented through 4K clubs, young farmers clubs and tree planting exercises which are a component of the school feeding programmes. The Ministry is also supportive of the international education networks that are already being implemented in some of our schools.

The Nile Transboundary Environment Action project (NTEAP) cannot be more opportune and timely. Its innovative approach to building the capacity of the practitioners within the Nile basin to manage our environment in a sustainable manner is no mean task. The strategy of participation at all levels and basin-wide cooperation guarantees full ownership by basin countries and their peoples. The multilevel program adopted by NTEAP targets different groups, the general public, schools and tertiary institutions. This wide participation allows the programme to benefit from the experiences of others.

The project supports the peoples of the Nile basin countries to develop sound approaches to dealing with transboundary environmental threats at the regional and national levels. The Country recognizes that future development must be environmentally sustainable, making the identification of environmental and development synergies and thus sustainable development opportunities a major priority. This workshop has translated some of these priorities into concrete activities that will contribute to sustainable development.

The most important effect of improved information and environmental education is to change behavior. The Environmental Education and awareness component within the NTEAP will focus on creating awareness on the river Nile environmental threats, while stimulating behavioral change at three levels; the general public, the schools and tertiary institutions of learning. Through this, Universities, schools and other educational and professional organizations will benefit from an expansion of the overall knowledge base related to the Nile's environment and water resources as well as increased opportunities for networking with professional colleagues within the basin.

The component's objectives will be achieved by enhancing awareness on the nature of environmental inter-relatedness within the Nile basin and effects on communities. Focus will be put on developing or strengthening transboundary partnerships and networks of environmental education and awareness creation amongst practitioners. This will be achieved through: building practitioners' capacities; introduction and building transboundary cooperation; demonstration (through pilot activities); the feasibility of developing and delivering a variety of environmental education; and finally implementing awareness programs at basin-wide level.

I note with appreciation that there will be a schools' sub-component of this project, which will be implemented closely with the Ministry of Education, Science and Technology. This will support transboundary education and awareness activities that build on promising local and national initiatives. The activities you have planned for the schools which include: (1) school networking services, (2) teacher training, (3) support to transboundary Environmental projects within schools and (4) initiating the Nile Transboundary Environmental Award Scheme, will no doubt accelerate the attainment of education objectives and especially in creating safe zones for learning in our educational institutions.

Ladies and gentlemen, I wish to pledge the Ministry's support for these activities. They will go along way in assisting students and teachers to gain access, use communication and information resources of the internet with a view to enhancing planning, learning and cross cultural dialogue. The activities will also help students to participate in meaningful educational projects with their peers in Kenya, the Nile basin and around the world. They will facilitate professional development for teachers and will build their capacity to optimize and use effectively the Internet for their classroom activities.

Furthermore, the planned demonstrations within schools will act as teaching aids for the students, teachers, parents and the local community. The demonstrations will create a platform where students can apply knowledge acquired in the classroom, while developing values and skills for improving environmental conditions. Supported by the micro-grants programs within the NTEAP project it will be possible to scale up successful demonstrations and reduce or mitigate environmental degradation within the school compounds and the surrounding areas.

The award scheme on the other hand is an excellent tool for generating awareness, sparking imagination and building support for intended initiatives. It will promote and encourage students and



public participation in environmental activities and reward schools, individual students and groups taking part in positive environmental actions.

In the recent past, well-intentioned programs for the protection of the environment and sustainable development of natural resources have failed only to accelerate environmental degradation and natural resources depletion. A lack of public awareness of environmental issues remains a major constraint to the success of these programs. Whereas there are several players undertaking environmental education and public awareness (EE&A) activities, there has been lack of a forum for exchange of ideas and to collectively plan for EE&A activities.

I would therefore like to thank the NTEAP team for understanding the importance and potential for such a forum and supporting the formation of a National Environmental Education and Awareness working group. Apart from that, this workshop has enabled us to learn through sharing of experiences from the existing EE&A programs; identify gaps and plan for NTEAP and EE&A collaborative activities. Specifically the workshop has:

1. Identified case studies and lessons learnt in implementation and delivering EE&A programs that can be replicated.
2. Identified transboundary environmental education; awareness opportunities; priorities for the country and for the Nile Basin and
3. Identified potential partners in the implementation of NTEAP EE&A program within the basin.

Finally, ladies and gentlemen, recognizing that cooperative development holds the greatest prospect of bringing mutual benefits to the region, our success depends on our ability to work as a team so as to overcome the hurdles and exploit the opportunities that have been discussed during this workshop.

It is my sincere hope that the implementation of the outcomes of this workshop will go a long way in furthering our commitment to the noble goal of ensuring a *“clean and healthy environment for all people in Kenya”*

Once again, I wish to thank you for your participation and hope that the collaboration started during the workshop will continue to grow and contribute to NTEAP’s, the Government and the regional vision for sustainable development in this very important river basin on our side of the African Continent.

It is now my pleasure to declare this workshop officially closed.

God’s mercies to all your destinations.

Thank you

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**Workshop pictures**

