



**Kenya NGO Earth Summit 2002 Forum**

# **EDUCATION FOR SUSTAINABILITY IN KENYA**

**AN ASSESSMENT OF PROGRESS MADE IN  
IMPLEMENTING AGENDA 21**

**THE KENYA NGO POSITION TOWARDS THE EARTH  
SUMMIT 2002 AND BEYOND**

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## **Preamble**

### **Kenya NGOs Agenda for the Earth Summit: Johannesburg and Beyond**

The International Forum of NGO's and Social Movements adopted a "Treaty on environmental education for sustainable societies" at a plenary meeting on 12 June 1992 in Rio. This treaty recognised the central role of education in shaping values and social action, and views environmental education as a socially transformative continuous learning process based on respect for all life. The treaty placed emphasis on understanding the systematic nature for crises that threaten the world's future, and noted that root causes of environmental issues such as poverty are closely linked to the dominant socio-economic system.

This paper is the result of an assessment of the extent to which the guidelines and principles on education for sustainability contained in Agenda 21 have been implemented in Kenya. The efforts of Government ministries, private groups, non-governmental organisations and community-based organizations in promoting education for sustainability were examined in the course of the research. The research findings indicate that insufficient progress has been made in the implementation of Agenda 21 recommendations on Education for sustainability ten years after Rio.

#### **The study therefore recommends the following**

- Education for Sustainable Development requires relevant policies, legislation and regulations to enforced to ensure economic production process based on respect of natural and cultural resources capital, as well as innovative and shared cleaner and appropriate technologies
- ESD can contribute to a more equitable, just, democratic and peaceful society.
- High quality information is essential for promoting an ESD.
- Formal and Non-formal education for ESD along with civic education is fundamental in developing respect for nature and the understanding of cultural values
- The Government of Kenya should reaffirm the adoption of Education for Sustainability principles spelt by Agenda 21 and reiterated by relevant international treaties and conferences.
- The Government of Kenya and inter-governmental Organisations should place Education for Sustainable Development (ESD) in the centre of the national and international Agenda, prepare an action plan and allocate adequate resources for the implementation of efficient (ESD) programmes.
- The Government should prepare action plans and allocate the necessary resources for the implementation of a national Education for Sustainable Development (ESD) strategy already developed by the National Environmental Management Act (NEMA).
- ESD should reach all the major groups including the youth from an early stage, women, mothers and managers of households, decision makers and particularly those who take decisions either at local or at global level, and the public in general, by using all possible formal, non-formal and informal channels and means including all available instruments from traditional tools to advanced multimedia.
- The introduction/ strengthening and diffusion of specific ESD concepts in basic curricula and the entire educational system.
- Emphasis and resources should be put in training of trainers and those who could influence directly public opinion leaders and opinion makers including journalists and advertisers.

- ESD should be approached as an action oriented and participatory instrument reflecting the aspirations and needs of civil society.
- Environmental NGOs and the civil society, at large, should be real partners in this process from the design and strategy choosing phases to that of the assessment of the results because of their direct contact with grassroots, their expertise in successful projects and their long record of credibility in the fields of EE and public awareness.

## List of acronyms

<b>ANPPCAN</b>	AFRICAN NETWORK FOR PREVENTION AND PROTECTION OF CHILDREN AGAINST ABUSE AND NEGLECT
<b>DDC</b>	DISTRICT DEVELOPMENT COMMITTEE
<b>ECE</b>	EARLY CHILDHOOD EDUCATION
<b>EAL</b>	ENVIRONMENTAL ACTION LEARNING
<b>BEF</b>	BASIC EDUCATION FELLOWS
<b>FAWE</b>	FEDERATION OF AFRICAN WOMEN EDUCATIONISTS
<b>IUCN</b>	INTERNATIONAL UNION FOR CONSERVATION OF NATURE
<b>KALA</b>	KENYA ADULT LEARNERS ASSOCIATION
<b>KAEA</b>	KENYA ADULT EDUCATION ASSOCIATION
<b>KOEE</b>	KENYA ORGANISATION OF ENVIRONMENTAL EDUCATION
<b>KIE</b>	KENYA INSTITUTE OF EDUCATION
<b>LDK</b>	LEARNING AND DEVELOPMENT KENYA
<b>MYWO</b>	MAENDELEO YA WANAWAKE ORGANISATION
<b>NES</b>	NATIONAL ENVIRONMENT SECRETARIAT
<b>NEMA</b>	NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
<b>NGO</b>	NON-GOVERNMENTAL ORGANISATION
<b>NEAP</b>	NATIONAL ENVIRONMENT ACTION PLAN
<b>PEEPSEA</b>	PROJECT ON ENVIRONMENTAL EDUCATION IN PRIMARY SCHOOLS IN EAST AFRICA
<b>SPEK</b>	SOCIETY FOR ENVIRONMENTAL PROTECTION IN KENYA
<b>TOT</b>	TRAINING OF TRAINERS
<b>UPE</b>	UNIVERSAL PRIMARY EDUCATION
<b>UNEP</b>	UNITED NATIONS ENVIRONMENT PROGRAMME
<b>UNESCO</b>	UNITED NATIONS EDUCATIONAL SCIENTIFIC CULTURAL ORGANISATION
<b>UNCED</b>	UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT
<b>WV</b>	WORLD VISION KENYA
<b>WCK</b>	WILDLIFE CLUBS OF KENYA
<b>WWF</b>	WORLD WIDE FUND

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# INTRODUCTION

## The state of environment in Kenya

Over the years, environmental problems have been on the increase in Kenya. Some of the problems are:

- Loss of biological diversity.
- Deforestation due to illegal logging and excision of forests.
- Soil erosion on the farmlands.
- Accumulation of solid wastes in settlements especially urban centres.
- Proliferation of slums.
- Desertification.
- Water pollution.
- Air and noise pollution in the towns.
- Human-wildlife conflicts in the conservation areas.

These problems are a reflection of a crisis of the mind that cannot be resolved by law alone. There is need for a change from within in so far as attitudes towards the environment are concerned. This can be achieved through education for sustainable development.

International recommendations and action plans that have shaped the concept of Education for sustainability include:

- The UN Conference on Human Environment (Stockholm 1972).
- The Belgrade Conference on Environmental Education (1975).
- The Tbilisi Intergovernmental Conference on Environmental Education (1977). This conference formulated the specific objectives and principles on which EE curriculum must be based. See Annex I
- The Moscow Conference on Environmental Education and Training (1987).
- The Toronto World Congress for Education and Communication on Environment and Development (1992).
- UN Conferences: on Environment and Development (Rio 1992). See Annex II for other international conferences that have developed the vision of environmental education.

## Agenda 21 and Education for Sustainability

Reflecting a concern for the above, a “Treaty on environmental education for sustainable societies “ was adopted at a plenary meeting by the International Forum of NGO’s and Social Movements on 12 June 1992 in Rio. This treaty recognises the central role of education in shaping values and social action, and views environmental education as a socially transformative continuous learning process based on respect for all life. The treaty places emphasis on understanding the systematic nature for crises that threaten the world’s future, and notes that root causes of environmental issues such as poverty are closely linked to the dominant socio-economic system.

Education, raising of public awareness and training are linked to all areas of Agenda 21, and even more closely to areas of meeting basic needs, poverty alleviation, capacity building, data and information, science, and the role of major groups. Education is central in attaining sustainable development as shown by the fact that the whole of Chapter 36 of the Agenda is dedicated to education, public awareness and training.

Three main programme areas of action were proposed by the Agenda for action to attain education for sustainability, these are:

- a. Reorienting education towards sustainable development.
- b. Increasing public awareness.
- c. Promoting training.

## **Education for Sustainability defined**

The Commission on Education and Training-Learning for the 21<sup>st</sup> century defines the four pillars of education as learning to know, learning to do, learning to live together and learning to be. (Delors et al, 1996).

The Brundtland Commission, 1987 defined education for a sustainable future as a learning process that results in a commitment to development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A sustainable future will therefore involve the development of creative problem solving skills, commitment to equity, and the willingness to engage in responsible individual and co-operative actions.

Education for Sustainability can therefore be defined as a lifelong learning process that leads to and informed and involved citizenry having the creative problem solving skills, scientific and social literacy and commitment to engage in responsible individual and co-operative actions.

Caring for the Earth (IUCN/UNEP/WWF, 1981) firmly established Education for Sustainability as the central goal of environmental education in the 1990's. Education for sustainability focuses more sharply on developing closer links between environmental quality, ecology and socio-economic and the political threads that underlie these.

The term "Education for sustainability" or "sustainability education" complements a number of other fields such as environmental education, global education, economics education, conservation education, development education, multicultural education, outdoor education, global change education and others. This will encourage a holistic approach to the environment and development issues.

## **Achieving Sustainability**

The major way to approach solving environmental problems on a sustainable basis is to bring about attitudinal and behavioural change in people through public participation in all stages of the education process. (Smith and Coad ed. 1996). A well-informed and enlightened population will participate meaningfully in environmental planning, management and protection.

Sustainable development can better be achieved with the support and co-operation of an informed public. Often, wrong actions have been taken because of ignorance. Information can be availed through formal and non-formal education so that society can internalise values that

support sustainable environmental management. It will be then possible to evolve ethics of sustainable development.

Sustainable development is not production centred, it is people centred. It must be appropriate not only to the environmental resources but also to the culture, history and social system of the place where it is to occur. (Camozzi, et al, 1994).

To achieve sustainability, a set of transitions is needed: stability in the world population, sustainable and safe use of renewable resources, the use of energy which is efficient and non-threatening the biosphere, the development and application of high technology in the service of environmental management and improvement, sustainable equitable economic development, an integrated sense of the biosphere and effective implementation of measures to conserve Biodiversity.

Education for sustainability is broad and encompasses many aspects of the respected and established fields of study. It may also embrace components from traditional disciplines such as civics, science, geography and others.

The scope of sustainability is very broad and all encompassing that no one discipline or sector can understand it all. The corollary is that no one discipline, sector or government agency can be responsible for owning or controlling the task. From an educational perspective, this also means that no one person can be expected to know or comprehend the many aspects of sustainability beyond its rudimentary principles. (UNESCO, 1997).

The Special Session of the UN General Assembly 1997 noted that a fundamental prerequisite for sustainable development is an adequately financed and effective educational system at all levels, particularly at the primary and secondary levels, that is accessible to all and that augments both human capacity and well being. For countries with strong educational systems, it noted the need to re-orient education, awareness and training to increase widespread public understanding critical analysis, and support for sustainable development.

This paper will assess the progress made by Kenya and particularly the NGO sector in implementing the Agenda 21 objectives and principles of education for sustainable development.

## **National policy on environmental education**

Kenyan policy recognise the importance of environmental education.

- Sessional Paper No 6 of 1988 on ‘ Education and Manpower Training for the Next Decade and Beyond’ says “environmental studies be part and parcel of the education and training curricula and be taught at all levels of education”.
- Kenya formulated the Environmental Action Plan for Arid and Semi-Arid Land (ASAL) communities in 1992 to enhance the ability of these communities to manage their resources in a sustainable manner through, among other strategies, the increasing of awareness on environmental issues promoting environmentally-friendly indigenous knowledge technologies and training for ASAL communities.
- The National Environmental Secretariat has established an Environmental Education Section which works in close collaboration with the formal and non-formal educational institutions in the country,
- 1989-93 National Development Plan says development should not be at the expense of the environment. This is re-emphasised in the 1994-1996 National Development Plan and 1997-2001.
- The National Environment Action Plan (NEAP) of 1994 built in the recommendations of Agenda 21. The whole of its Chapter 9 is dedicated to Public Participation and Education. See annex II
- Section 9 (m) of the Environmental Co-ordination and Management Act deals with stakeholder participation, awareness and public education. It states that the National Environment Management Authority shall undertake in collaboration with relevant lead agencies, programmes intended to enhance environmental education and public awareness about the need for sound environmental management as well as enlisting public support and encouraging the efforts made by other entities in that regard”.
- NEMA has compiled a stakeholder participation, education and public awareness strategy and plan. See Annex III

## **General constraints facing the education sector in Kenya**

Several related factors emerge as being behind the problems the education sector in Kenya is facing. These include:

### **Lack of clear vision and philosophy for national development and education:**

- Western type schooling has been the basis for development since independence as a result of which there has been wide swings in policy paradigms from one sub-sector to the impression of mere experimentation with programs.

### **Inappropriate and/or inadequate policy framework for educational development**

- Currently the main policy document guiding education sector is the 1988 Report in the Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond (Government of Kenya, 1988). This has not been reviewed or revised for relevance, even though situations and education needs have changed.

- As stated in the Draft Master Plan on Education and Training, “the mode of policy making, planning and implementation has not in every case been based on considered evaluation of systematic data and information”. (Ministry of Education, 1997:19).
- It has been difficult to realistically plan the future of education and training since independence because of lack of prioritisation of education programs and projects.
- There has been no formal investment plan in the education sector and as a result, it has not been clear which sub-sector should be focused on first and how. For example, the government committed itself to free basic education and offering education as a basic right at independence, yet achieving this has been problematic due to policies such as cost-sharing, shifting resources from primary to university education, and giving prominence to national examinations.
- In some cases, political tools have been used to solve education problems, e. g. the introduction of a quota system of admission in 1985 and the directive that public universities have double intakes of students in 1983/84 and 1990/91 academic years.

#### **Lack of a national gender policy**

- Lack of gender policy in development in general, and in education in particular, has taken a back seat since independence. Although Kenya is a signatory to both the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) and the Convention on Children’s Rights (CCR), she does not have either a gender policy or a gender policy in education.
- The potential to achieve gender equity is there, but there seems to be no political will and/or commitment. Gender issues are often confused with women’s issues and invariably trivialized by policy makers, politicians, and senior government officials. A case in point is the defeat of a motion in 1997 calling for affirmative action to enhance women’s participation in leadership positions.
- Laws that are discriminatory in terms of gender have not been fully reviewed and re-drafted.
- Despite the glaring gender disparities in education, no specific budgetary allocation has been

#### **Persistent poverty**

- Poor economic growth in Kenya has led to persistent poverty among Kenyans. According to the 1997 Economic Survey, over 47 per cent of Kenyans live below the poverty line and are therefore unable to access basic needs. This in turn has made households and communities unable to effectively support the development of education and neither has many parents been able to provide their children with the necessary educational requirements.
- With the implementation of cost-sharing in education many school going children have not been able to access education, a situation that has also brought about wastage in education in terms of drop-outs, repetitions, irregular attendance, and poor performance in the school.

- Not only have parents and communities been unable to meet the higher cost of education for their children, many households are also unable to provide learning materials demanded by the extensive curricula. The financing of education and training in Kenya, therefore becomes an issue, which has to be dealt with urgently. In fact cost sharing in education seems to be behind reversal in school participation rates and is likely to widen the gender gap in education.

#### **Inadequate or inefficient management and supervision mechanisms;**

- The management problem in the education sector is occasioned by centralization bureaucratic structures many of which are characterized by duplication of roles. The problem is manifested in administrative rigidity, sluggishness and lack of responsiveness that result in delays in decision-making or distribution of resources such as textbooks.
- More crucial is the absence of sound management, follow-ups and monitoring and evaluation mechanisms.
- The management of education affairs right from the national to district levels has also been seriously hampered by lack of resources and inefficiencies. Management of human resources for instance, has often not been characterized by clearly defined and effectively administered schemes of service.
- Inadequate remuneration has led to low morale and lack of motivation among personnel manifested in go-slows or strikes.
- Studies show that poor financial planning and management and lack of accountability especially at district levels, are major setbacks to the sector. In addition, the education sector lacks management information systems (MIS) for forecasting future changes in the development of education.
- Co-ordination of education and training programs between various ministries is often weak or lacking resulting in wastage.

#### **Overloaded curricula**

- The draft Education master plan, 1997-2010 suggests that the issues of relevance and quality of education need targeting for reform. , the education sector has not satisfactorily met its objectives of inculcating a modern scientific culture, enhancing morality among learners and producing an employable labour force. This failure is mainly due to lack of a clear policy on curriculum development.
- School curricula under the 8-4-4 systems are too ambitious and overloaded, a problem that makes it hard to provide sufficient resources for efficient and effective implementation of the same.

#### **Over-reliance on donor funding for crucial programmes**

- Through financial and technical assistance from donors, the Ministry of Education spends a lot of resources in development programs and projects. In the period 1990-97, the main external funding agencies for the education sector were the World Bank (IDA), UNICEF and WFP. External funding has mainly been in the form of loans, which account for 50% of the development budget.

- One of the major drawbacks of donor-funded projects/programs has been sustainability after the donors pulled out because most of the programs are often inadequately or hurriedly planned without in-built structures that can allow for continuity.
- Moreover, some externally funded projects/programs are donor driven and do not seem to address the basic problems facing the education sector in Kenya. Resources invested in donor-driven projects seem to be misplaced since the sustainability of such programs is often questionable.

# **EDUCATION FOR ALL**

Agenda 21 Objectives in this area include:

- i. To achieve environmental and development awareness in all sectors of society on a worldwide scale as soon as possible;
- ii. To strive to achieve the accessibility of environmental and development education, linked to social education from primary school age through adult hood to all groups of people;
- iii. To promote the integration of environment and development concepts including geography, in all educational Programmes
- iv. To endorse the recommendations arising from the World Conference on Education for All: Meeting Basic Learning Needs and to strive to ensure universal access to basic education and to achieve at least 80% of girls and 80% for boys of primary school age through formal schooling or non-formal education and to reduce adult illiteracy to at least half of its 1990 level.

## **Accessibility of education in Kenya**

### **Status before Rio**

- Low enrolment e. g. only 76% of the primary age population (6-13years) were enrolled in primary school, while 27% of the secondary age population (14-17) were enrolled at that level. Enrolment at the universities was low, with a transition of only 7 % from secondary schools.
- At the secondary level, increase in enrolment since independence has been a phenomenal 2000%. About 40% of those completing primary school gain access to secondary school.
- Completion rates low with barely 47% of students completing primary education. Of students entering Std 1, only 77% of boys and 80% of girls enter Std 4 while only 55% of boys and 35% of girls enter Std 8. See Annex for more statistical information.

National goals of education defined by the government to promote accessibility to education are:

- Universal access to basic education.
- Completion of primary education by at least 70% of primary school age children.
- Reduction of adult illiteracy to at least half of its 1990 level.
- Expansion of educational facilities.
- To foster and promote national unity and development
- Promote respect for the diverse cultures of Kenyan communities.
- Inculcate positive attitudes and consciousness towards other nations since Kenya is a member of the international community.

### **Achievements since Rio**

- Increased enrolments at all levels of education. In primary school, a 95 % enrolment has been achieved. Secondary school enrolment grew by 10% from 1995 to 1998.

Educational institutions have increased. There was an increase of 2.2% of all institutions. This has been more so in the case of pre-schools. Primary and secondary schools increased marginally.

- A host of NGOs have come to the rescue of the poor who have been unable to send their children to school due to lack of fees.
- The goal of Universal Literacy has not yet been achieved because of poverty, cost-sharing bottlenecks and an exponential population growth rate, which has outstripped that of educational facilities and resources.

### **Constraints**

- Absolute poverty in households has made it very difficult for many parents to take their children to school.
- 1992 witnessed the first and the worst ethnic flare-ups in Kenya. Many people were displaced from parts of rift valley and this negatively affected thousands of school children in the clash areas.
- Relevance of education. This relates to the production of an employable labour force. At secondary level there is an inadequate teaching of sciences and technical subjects with vocational and technical subjects being taken by only 3 % of the KCSE students.
- High wastage especially due to repetition and drop out rates. High population growth rate, which has overwhelmed the existing institutions in which case many learners have lacked places in the schools.
- Famines in marginal districts have reduced enrolment rates, as children are involved more and more in search for food.
- Negative attitude towards education especially in the pastoral communities, which emphasise traditional, values over and above formal education e. g. Moranism.
- HIV/AIDS has affected learning due to death of teachers and parents forcing children to dropout of school for lack of fees.

### **Way forward**

- There is need to increase funds for the bursary kitty so as to cater for the educational needs of the poor.
- Forced repetition of learners should be outlawed.
- Curriculum designers should strive to ensure that graduates being churned by the educational system are employable in various sectors of the economy. This can be achieved by giving pre-eminence to science and vocational subjects, which are currently neglected.
- Government should make true its commitment of providing free primary education to all.

Private sector, NGOs and donors should set up more bursary schemes to ensure that no one is denied education due to the inability to pay.

## **Gender parity in education**

### **Status before Rio**

- Attainment of equity and individual development through education has been a major goal in Kenya since independence first articulated by the Ominde Education Commission of 1964 and later reiterated by the Ndegwa Commission of 1971.
- Gender parity not explicitly mentioned in these reports.
- Kenya is a signatory to the Convention for the Elimination of all Forms of Discrimination Against Women ( CEDAW) 1985, Education For All ( 1990) and The World Summit for Children Declarations. This reaffirms Kenya's support for the education of women and girls.
- Literacy levels among females lower (53%) than those of the males (62%) due low enrolment of females in learning institutions.

### **Achievements since Rio**

- Formulation of guidelines for readmission of teenage mothers back to school.
- There has been a near bridge of gender gap in the primary school enrolment (it remains below 2%) in favour of boys.
- Formulation of proposed policy guidelines on mainstreaming gender in education.
- Establishment of a data bank in the planning department of the Ministry of Education with easily accessible gender disaggregated data. Since the Beijing Conference in 1995, significant empirical and analytical knowledge and information has been generated on the girl child education.
- Affirmative action including the availability of scholarships and bursaries for girls at all levels.

### **Constraints**

- Cultural practises such as early marriages and the payment of bride price.
- Perceived low value of female education.
- Poverty afflicts girls more than boys and keeps them out of school.
- A gender insensitive curriculum in schools competes with the gender friendly official curriculum to channel girls out of the education system prematurely.
- In marginal districts, the availability of schools is significant in girl's education. Research shows that more girls than boys tend to be pushed out of the school system due to lack of places.
- Unfair distribution of bursary funds in which some deserving cases have been denied bursaries.

## **Way Forward**

- Career guidance should be strengthened in girls' schools.
- Continue promoting establishment of “ experimental schools” that focus on the underserved populations in remote rural areas and poor urban settings.
- Adopt gender appropriate curricula, teaching of human rights and the integration of gender awareness in all aspects of training programs in order to eliminate negative stereotyping.
- Ensure that data collected on education is based on recognition and analysis of the issue of gender by appropriate desegregation of all educational statistics.
- Step up advocacy against traditional practises that militate against girl child education. Practises such as FGM, early marriages and child labour need to be phased out.
- Provide adequate information on available vocational and training opportunities.
- Give incentives to families to minimise the opportunity cost of girl' education through provision of scholarships, bursaries for education of girls and the establishment of child care facilities.
- Provision of food and other necessities to keep girls in school.
- Affirmative action has been adopted which has enhanced increased enrolment of girls in state universities.
- Intensification of gender awareness campaigns through print and electronic media, public barazas, and workshops and in schools.
- Formulation of guidelines to for readmission of teenage mothers back to school.

## **Formal Environmental Education**

### **Status before Rio**

- Kenya has had what may be termed technically as an environmental education policy since 1986 though the appropriate environmental issues have separate policies.
- Sessional paper number 6 of 1988 states that environmental education should be made part and parcel of education and training and that environmental education should be taught at all levels in the education system.
- Since 1985, environmental issues have been defined and integrated into the curriculum in science, agriculture, home science, geography, history, biology and chemistry subjects taught in Kenya schools.
- The main focus has revolved around soil erosion and soil conservation measures, overgrazing and overstocking of animals, afforestation and desertification, waste disposal, energy consumption and pollution, water conservation, wildlife conservation, and, biodiversity and ecosystems.
- Environmental education has also been included in the training of primary school teachers since 1986 and on selected subjects for secondary school teachers since 1974. It has been an in-service course for all teacher trainees since 1985.

- Association of African Universities Conference in 1978 urged universities to redirect their traditional disciplines in order to heighten their students' environmental awareness.

1979 Kenya's national symposium on EE led to the adoption of the integration approach of EE at the formal education level. Environmental components fused into subjects such as geography, agriculture and science. Since 1985, environmental issues have been defined and integrated into the curriculum and taught in Kenyan schools.

The decades leading to the world summit in 1992, Education was taken as an indicator of development and not as a vehicle to development. Even in centers where education and development were viewed as interconnected, the education system was not as responsive to the needs of the people as it really should.

### **National goals of EE since Rio**

To further develop and strengthen environmental education in Kenya, the Kenya report to UNCED 1992 recommended the need to focus on the following:

- Institutional building and strengthening for environmental education.
- Improved coordination and networking at national, regional and international level.
- Building environmental awareness in policy makers, politicians and cadres and technical personnel in respective responsible positions in the government.
- Integrating the environmental dimension into all aspects of planning and management in the government.

The overall goal is to introduce comprehensive environmental education programmes in the formal education sector, from pre-primary to University to enable all its users assume responsibility and action towards sustainable use of the environment. However there are specific goals for each level of education.

Integration of environment and development concepts into existing contexts

- Following the recommendations of the, Presidential Commission appointed in 1998, environmental education themes and messages were introduced in the curriculum at the pre-primary, primary and secondary schools, primary teacher education and institutes of technology using the multi-disciplinary approach. This approach was preferred against introducing environmental education as a subject as it is in the diploma colleges and universities, because the environmental education content is
- The Ministry of Education has already initiated the process of reviewing, the curriculum through the Presidential Commission appointed in 1998. It is hoped that appropriate messages on the environment will be incorporated in each teaching, subject to make environmental education in schools a reality.

### **Pre-Primary and Primary Level Curriculum**

Develop the children's appreciation and value of the environment in its totality

- Enrich the children's experience by developing their imagination, creativity and thinking power, self-reliance, sensitivity to and therefore inquisitiveness or investigation into the varied and diverse real world in which we live.
- Develop a children's consciousness for safety within the environment and thus acquire positive healthy attitudes and lifestyles.
- Promote understanding of the material environment and appreciation for its protection and utilisation using scientific and technological knowledge approaches (e. g. problem solving) and skills.
- Develop within the individual as a member of society, good social habits, a sense of respect, co-operation and collective responsibility which are useful for harmony, co-existence in and care of the environment.
- Strengthen the practical approach to environmental education in schools and establish networks for environmental conservation action between schools and the community.

## **Secondary Level**

Strengthen the ecological foundation and conceptual awareness by exploring further to identify new things or phenomena and relationships and also acquire greater experience with a variety of environmental problems and issues both current and probable.

- Transfer the knowledge acquired by applying principles in a variety of situations and in the process develops ability to discriminate between relevant and irrelevant features of problem situations and in providing logical answers to specific question.
- Expose students to current local, regional and international environmental issues and initiatives thereby consolidating their perceptions and competencies and appreciation for international/community cooperation.
- Help the students understand and communicate how people's behaviour individually and collectively impact upon the environment from an ecological perspective.
- Develop further students' environmental consciousness and ethic by strengthening their sense of self discipline, spiritual values, individual sensitivity to and care for the environment on the one hand, and on the other team-work, cooperation and collective responsibility.
- Cultivate and strengthen a sense of belonging to the community and the readiness to apply acquired practical environmental education skills in solving problems in the community.
- Prepare the students for the professional post-secondary stage of education fields of environmental management.
- Strengthen the established networks for environmental education in schools.

## **Achievements of EE after Rio**

- As regards pre-primary education the government has instituted a broader concept of Early Childhood Development (ECD) programme which embraces all of the under 6 year olds who comprise about 20 per cent of the total Kenyan population. Emphasis will

be put on the need to provide integrated services that meet the cognitive, social, cultural, spiritual, emotional, health, nutrition, educational care and protection needs of children. (GOK, 1997).

- Environmental education is being taught as a full course in Moi and Kenyatta Universities. At Kenyatta University, students pursuing bachelor of education degree must take a core cause in environmental education.
- The Ministry of Education has already initiated the process of reviewing the curriculum through. It is hoped that appropriate messages on the environment will be incorporated in each teaching subject to make environmental education in schools a reality.
- KIE in collaboration with PEEPSEA has developed textbooks for primary schools on the subject of environment. Teachers' guides on the subject have also been developed.
- Science syllabus is designed to enable learners acquire and preserve certain useful attitudes about themselves and their relationship with the environment.
- A variety of teaching methods have been developed and are encouraged. Such methods as the inquiry approach, fieldwork and hands-on-learning of environmental issues.
- Introduction of a new approach of inculcating environmental knowledge known as Environmental Action Learning. This has been by the Kenya Organisation of Environmental Education (KOEE).

### **Constraints**

- Lack of / or inadequate environmental policies and legislation.
- Schools lack training facilities and students get little exposure on environmental management issues.
- Shortage of funding and inadequate mobilization of resources.
- Environmental Education is still unclear to many.
- Teachers trained in EE are few and the in-service and pre-service training is being implemented slowly.
- There are few trained school inspectors to supervise the subject at all levels.
- There has been a reduction of examinable subjects and so the thought of introducing EE as another subject is far from being taken up.
- Examinations play a significant role in determining the context and the process of teaching. This has meant more didactic teaching and rote learning, which are clearly incompatible with the more practically oriented
- The centralization of the school curricula which makes local adaptation to the very diverse environments of communities difficult.
- The infusion of EE components in subjects however has not adequately offered opportunities to learn "for" environment. The common practice in schools is merely teaching "from and about" the environment. Learning for the environment is achieved when people's behaviour is changed towards better use and management of the environment.

### **Way Forward**

- Reaffirm the role of education in building civil society
- It requires the good will and support by the Education Authorities and other leaders within the political set up to make meaningful reforms.
- A mechanism to promote exchange of ideas, information and materials needs to be encouraged and strengthened. Linkages should be promoted amongst experts, institutions and donors so as to reduce duplication of efforts and wastage of meagre resources.
- Environmental education must initially concentrate on the local environment around its target group in order to effectively reach the audience, educators must be able to translate broad global imperatives to suit local realities.
- Efforts in education should also be tailored to address the needs of the schools and the community. This would enable the learners and the community to develop a shared vision by addressing the inherent environmental problems in the society and be involved in the development of action learning programmes.
- Schools and other non-formal learning institutions in the community should therefore be encouraged to incorporate action learning programmes in their day-to-day activities to be part and parcel of the learning process.
- There is need for Innovation in modes of delivery and in tailoring the content to the needs of end-users.

#### **Environmental education at tertiary level**

This sub sector is composed of Teacher Education, Polytechnics, and Technical Institutes, Institutes of Technology and the Universities. The overall goal is to train environmental experts.

#### **Achievements**

- In the Kenya polytechnic and some of the teacher training colleges such as Kenya Science teachers college, environmental education is offered.
- In specialised training institutions owned and managed by government, NGOs and individuals some elements of environmental education are taught. Some of these institutions are Naivasha Wildlife and Fisheries Institute, Water Training Institute, Londiani Forest College, Medical Training Institute and agricultural Colleges and Institutes.
- At Moi and Kenyatta Universities, fully-fledged schools focusing on environmental education, planning and management have been established.
- Private Universities are offering environmental courses.

#### **Constraints**

- Lack of teaching facilities such as well equipped laboratories.
- Students get limited practical exposure on environmental management issues due to financial constraints of organising field trips.
- Duplication of courses in departments and schools of environment.

- Relevance of the training curricula in use.
- Gender parity has not been achieved in the admission of the students.

### **Way forward**

- Need to equip the laboratories.
- Avail funds for students to undertake more field trips so that they can get the practical knowledge on environmental issues.
- Design curricula such that the graduates will have a training that will be relevant to the realities on the ground.

## **Non-formal environmental education**

This is education out side the formal sector. It is a vast area ranging from the adult literacy education, “Functional” literacy programmes to a number of community and action oriented projects. Some are directly concerned with EE while others concentrate on specific subjects such as gender, technology, civil education, water, family planning, among others. See Annex for NGOs active in environmental education in Kenya.

The Sessional Paper No. 6 of 1999 on Environment and Development and the Environment Management and Co-ordination Act (1999) recognise the importance of non-formal education in the sustainable management of the environment.

Non-formal education is critical in achieving sustainable development because; Majority of environmental management practises are carried out by adults who are out of formal education and; the Rapidly changing situation in environmental management calls for continuous learning to enable people top respond appropriately to the new situations and so non-formal education has a significant role even for those who have had much formal education.

### **National goals**

- To facilitate the development of effective relevant non-formal environmental education and community training programmes by different agencies.
- To promote the integration of environmental education into all relevant non-formal and community training programmes.
- To build capacity for effective non-formal environmental education and community training among the different agencies.
- To promote the empowering techniques in non-formal and community training.
- To provide communities, social groups and individuals with opportunities to be actively involved at all levels in working towards resolution of environmental problems.
- To create opportunities to develop and use analytical skills to analyse their environmental situation and decide to take appropriate action.

### **Status before Rio 1992**

- Has been well established over a long period of time as far as protection and conservation of special sites is concerned. e. g the conservation of kaya forests among the Miji kenda, circumcision forests among the Maasai, circumcision wetlands among the Bukusu, and sacred groves among the Agikuyu.
- Apprenticeship has been going on for along time. This has especially been on specialised skills such as black smithing and herbal treatment.
- Government departments have been conducting non-formal environmental education. For instance KWS, Forestry department etc.

### **Achievements since Rio**

- Conservation of biodiversity as a result of knowledge passed down informally as in the case of the Kayas, the circumcision wetlands and the sacred groves.
- Conflicts between people and wildlife has been minimised in the conservation areas as KWS continues to reach out to these communities via informal education programmes.
- In Kenya HIV/AIDS awareness level has soared to over 90% as a result of informal educational campaigns spearheaded mainly by NGOs.
- People have participated in nation building with the assistance of skills acquired informally. For example women and youth in self-help groups have been able to initiate income-generating activities.
- Many NGOs have been established and a majority of them have been involved in passing on non-formal education. To date, over 2000 NGOs have been given registration certificates and are spread all over Kenya. They have reached areas, which the government has been unable to.
- NGOs have worked and they supplement government effort in the provision of environmental education.
- Private sector has been active in promoting environmental education. Leading in this pack is Bamburi, which has been rehabilitating lime quarries after extracting limestone for cement, manufacturing. Paper is another one involved in afforestation programmes due to its interests in forests and trees in general. Oil companies are also in it. BP/Shell seems ahead with its recent introduction of unleaded petrol.
- Industries have been promoting environmental education especially through ecolabelling. “Ozone friendly”, “Please reuse”, “Manufactured from recycled paper”, etc have all become common phrases on containers of goods and this is impacting positively on the population in as far as environmental knowledge is concerned.
- Short course organised by the Kenya Institute of Administration have trained professionals in Environmental Impact Assessment and its related disciplines.

### **Constraints**

- Poor networking among the stakeholders has led to duplication of activities leading to enormous resource wastage. This has especially been so among NGOs and it has sometimes been misconstrued as wrangling in the billion shilling sector.

- Absolute poverty has undermined the effectiveness of environmental education campaigns in that when survival is threatened, even with the knowledge of environmental protection, the poor resort to unsustainable production and consumption patterns.
- Lack of a clear policy to guide dissemination of non-formal environmental education that meant that it is usually conducted in an un coordinated manner thus reducing effectiveness.
- There are no established mechanisms of assessing its effectiveness.
- Modern values have spelt death knell for non-formal environmental education concepts such as conservation of sacred groves and circumcision forests.
- Inadequate funds to mount such programmes in some areas.
- Insecurity has forced some organisations to pull out their projects and withdraw their staff. This has been so especially in North Rift and parts of North Eastern province.

### **Way Forward**

- Just as there are regional networks of NGOs dealing with particular issues, there is need for national and regional networks of organisations in informal environmental education.
- For effectiveness in delivery a policy on informal environmental education need to be formulated by all the stakeholders.
- There is need for the recognition of the central role this kind of education is playing in national development and therefore it should not be spurned. A case at hand is the contribution of herbal medicines in the national health delivery system. In other areas, it is the only form of education available to the population.
- More financial support should be accorded especially to women and youth groups that in some cases are the only providers of such education in the rural areas.
- There is need to tie informal environmental education to poverty reduction initiatives.
- Indigenous knowledge in environmental conservation needs to be tapped.
- Involvement of more youth in environmental issues.
- Environmental messages in posters, brochures and billboards should be published in more languages than just English and Kiswahili for the masses to understand.
- Development of training manuals is critical for interested groups to learn.

### **Adult education**

Ignoring adults in the area of education for sustainability will be to our own peril. For it is this adult who did not receive an education for sustainability, will not be returning to school, but who make the daily decisions and take the daily actions, which so profoundly affect the biosphere. Also resistance to and transformation of societal structures emerges from the adult population, and is premised upon men and women's ability to learn new ways of seeing the world and acting within it. It is the adults who are the force of change in both the domestic and global arenas. It is they who ultimately transform or maintain the status quo.

The Hamburg Declaration on Adult Learning recognised the critical role that adult education holds in the quest for sustainable development. It stated that. “Adult environmental education can play an important part role in sensitising and mobilizing communities and decision makers towards sustained environmental action”.

Adult learning in relation to environment, health and population was therefore one of the themes covered during the Hamburg Conference. The Parties committed themselves to promoting the competence and involvement of civil society in dealing with environment and development problems by:

- Making use of adult education activities in order to increase the capacity of citizens from different sectors of the society to take innovative initiatives and to develop programmes based on ecologically and socially sustainable development.
- Supporting and implementing adult education programmes designed to give people the chance to learn and interact with decision makers on the environmental and development issues, in particular on the need for changes in production and consumption patterns;
- Integrating indigenous and traditional knowledge of the interaction between human beings and nature into adult learning programmes, and by recognizing that minority and indigenous communities have special and authority and competence in protecting their environment;
- Ensuring the accountability of decision makers in the context of the policies relating to environment, population and development;
- Integrating environment and development issues into all sectors of adult learning and developing an ecological approach to lifelong learning.

### **Status before Rio**

Adult literacy programme launched in 1979 but with time, the enthusiasm with which it had been launched waned due to a variety of reasons.

In literacy programmes, women outnumber men. In 1980 and 1985, 78% of those enrolling into adult literacy classes were women. Their participation has been falling with 1% decrease in female participation in 1992.

### **National goals**

- To eradicate illiteracy by providing basic skills of reading, writing and numeracy.

### **To sustain literacy through continuing education**

- To provide relevant knowledge, skills and attitudes for work.
- To create the spirit of self-reliance, positive attitudes and behaviour towards work and society.
- To promote nationalism, patriotism and awareness of the role of the individual in national development.

### **Achievements since Rio**

- Literacy rate in Kenya at 60%. Majority of the illiterates are women: while the literacy rate for men stand at about 69%, for women it is 40%. However there are considerable regional disparities. There are districts with literacy rates below 40% and others with rates above 70%.
- There has been formation of NGOs whose aim is to promote adult literacy in the country.
- Several educational programs for workers in Kenya have been organized.
- Resource materials in the form of publications, placards and posters produced by this section are usually sent to various groups and institutions on request.

### **Constraints**

- General lack of awareness of the benefits of literacy, especially in certain parts of the country where geographical and historical circumstances did not favour early appreciation of education.
- Insufficiency linkages between literacy materials and functional needs of the learners.
- Preponderance of untrained teachers.
- Inadequate supply of teaching/learning materials.
- Inadequate financial support owing to the competing priorities for meagre government resources.

### **Way forward**

- Make use of adult education activities in order to increase the capacity of citizens from different sectors of the society to take innovative initiatives and to develop programmes based on ecologically and socially sustainable development.
- Support and implement adult education programmes designed to give people the chance to learn and interact with decision makers on the environmental and development issues, in particular on the need for changes in production and consumption patterns;
- Integrate indigenous and traditional knowledge of the interaction between human beings and nature into adult learning programmes, and recognizing that minority and indigenous communities have special and authority and competence in protecting their environment;
- Ensure the accountability of decision makers in the context of the policies relating to environment, population and development;
- Integrate environment and development issues into all sectors of adult learning and developing and ecological approach to lifelong learning.

# PROMOTING PUBLIC TRAINING

Training is one of the most important tools to develop human resources and facilitate the transition to a more sustainable world. It should have a job-specific focus, aimed at filling gaps in knowledge and skills that would help individuals find employment and are involved in environment and development work. Training programmes should promote a greater awareness of environment and development issues as a two way learning process.

## **Agenda 21 objectives:**

- To establish or strengthen vocational training programmes that meet the needs of environment and development with ensured access to training opportunities, regardless of social status, age, gender, race or religion;
- To promote flexible and adaptable workforce of various ages equipped to meet growing environment and development problems and changes arising from the transition to a sustainable society;
- To strengthen national capacities, particularly in scientific education and training, to enable governments, employers and workers to meet their environment and development objectives and to facilitate the transfer of new environmentally sound, socially acceptable and appropriate technology and know-how;
- To ensure that environmental and human ecological considerations are integrated at all managerial levels and in all functional managerial areas, such as marketing, production and finance.

## **National goals**

- Integrate environmental and development issues within disciplines, courses, professions or vocations
- To train and educate middle level technical manpower to cater for the economic, technical and ecological needs of the country.
- To introduce in teacher education the environmental elements in any pedagogical course to correlate with subjects the teachers will teach in schools.
- Enhance initiatives towards the identification and solving local environmental problems but equally develop global perspectives on and actions geared toward sustainable development.
- Formulation of a training system that will provide a less painful transition from education and education and training institutions to work at all levels by focusing on the production of employable graduates.

## **Status before Rio**

- Majority of teachers do not understand environmental education goals and principles, that most teachers do not use teaching methods that would motivate learners to be actively involved in achieving goals for sustainable development.
- The local environment was not being used for teaching on the environment and that books are lacking on environmental education.

## **Achievements since Rio**

- Various NGO's, Private companies and public institutions have taken up public training on environment, micro-enterprise development etc. This has been through seminars, workshops, and short courses on diverse environmental themes.
- Public institutions in this area include the Youth Polytechnics, National Youth Service, Institutes of Technology, Technical Training Institutes, National Polytechnics and Universities. They have five levels of training, namely artisan, craftsman, technician, technologist and master of technology.
- In Kenya there are definite EE Programmes for the Teacher Trainee. The Student teachers undergo a formal Course in EE.
- There are also attempts to in-service practising, teachers in EE. Government and Non-Governmental organisations have organised ad-hoc seminars, workshops, and short courses. The impact of these efforts however, is still very low.
- In Kenya efforts have been made to develop Teacher Trainers in EE after the realisation that most teachers had no relevant training about environmental issues and were unable to teach the subject effectively, even when it is in the syllabus.
- The first full undergraduate courses in environmental studies have been initiated at Kenyatta University through the Faculty of Environmental Studies.
- Training offered by private institutions, government institutions, church based institutions and NGOs. There are numerous private colleges especially in the urban areas offering a wide variety of courses.
- Training is in specialised areas, which cover some environmental sectors such as health, water, forestry, agriculture etc.
- There are special schools for training the handicapped in various skills.
- To cope with the demand for trained teachers, in 1991, 5 more teacher-training colleges were established bringing the total to 22. In 1992, 3 more were established and thus they became 25.
- Teacher trainees increased from 14136 in 1988 to 18992 in 1992.
- Secondary school teachers trained in two diploma colleges and four public universities.
- In Nairobi slums there are 30 non-formal schools to cater for the poor. The respective slum communities run these schools with the assistance of NGOs and other donors.
- In Nairobi and Kisumu, there is non-formal training of maids.
- In the pastoral communities such as the Samburu and Maasai, there is a training programme for boys and girls who are involved in herding livestock.
- Islamic Madrassas are prevalent along the Coast, North Eastern province and urban centres with a large concentration of Muslims population.
- Public training programmes for school dropouts have been initiated mainly by NGOs.
- In recognition of this and other community development initiatives the government constituted an NGO co-ordination body in 1992.

## **Constraints**

- Inadequate financial resources have made many training programmes to stall while others have virtually collapsed. This has been the case especially with community-managed polytechnics and government run vocational training centres.
- Financial mismanagement of the training institutions.
- Lack of follow-ups to evaluate the impacts of the training activities. This is especially severe with NGOs that in most cases conduct weeklong training seminars but rarely goes to the ground later to ascertain whether the desired impact was felt.
- Negative attitude towards non-formal trainings. It is seen as the last option and is for people who have failed. Village polytechnics are especially spurned as bastions for primary school failures.
- High demand for public training, which is not being fulfilled due to lack of resources.
- Recognition of the credentials obtained from these institutions. Those trained in the non-formal schools would find it hard to get admission in public secondary schools.
- Public training is conducted in a spasmodic manner without a clear policy as to where it should head.

## **Way forward**

- The increased demand for training due to population growth calls for establishment of more training institutions and expansion of the existing ones.
- Need to formulate clear policies to guide public training.
- Incorporation of environmental issues in general training in areas such as secretarial, computer, accounts, defence, police etc.
- Formation of networks of NGOs conducting public training for effective resource utilisation and to avoid projects duplication, which results in resource wastage.
- There is need to decentralise training activities by NGOs which in times past have tended to concentrate their training workshops in the urban areas thus marginalizing rural populations which, equally need to be trained on various issues.
- Training providers should conduct routine follow-ups to check whether the desired results were obtained and to identify areas with new training needs.
- There is need to maximise the use of the available resources, both in schools and community groups as they are the foundation through which the youth are shaped into responsible citizens.

# INCREASING PUBLIC AWARENESS

## Agenda 21 Objectives

Awareness is used to focus more on the process of awakening and raising people's sensitivity or concerns about an issue or situation for example environment in this case. Awareness can be achieved through formal and non-formal education.

This is based on the fact that there is still considerable lack of awareness of the interrelated nature of all human activities and environment due to inaccurate or insufficient information.

The objective of this programme area is to promote public awareness as an essential part of a global education effort to strengthen attitudes, values and actions, which are compatible with sustainable development.

It is important to stress the principle of devolving authority, accountability and resources to the most appropriate level with preference given to local responsibility and control over awareness-building activities.

Developing countries are particularly plagued by lack of technology and expertise. There is need to increase public sensitivity to environment and development problems and involvement in their solutions and foster a sense of personal environmental responsibility and greater motivation and commitment towards sustainable development.

## Status before Rio

- There is no institutional framework for promotion of public awareness on environmental issues in Kenya. Instead, various publics, NGO and individual actors promote environmental awareness on an ad hoc basis.
- Environmental awareness is promoted through various methods. The methods include public meetings, use of audio visual aids, media, radio, TV, posters, drama etc.
- Popular and effective campaigns are normally held during environmental commemoration days such as the World Environment Day, World Water Day, Tree planting Day, etc. During these days, the public is sensitised through mass participation in tree planting, clean up campaigns, building of gabions etc.
- The liberalisation of both print and electronic media has greatly opened numerous channels for environmental awareness campaign and environmental information dissemination. There are now increasing number of articles and presentation on environmental issues in both print and electronic media respectively.
- There is also increasing number of websites being set up by different organisations and individuals to provide environmental information.
- Introduction of plural politics and good governance advocacy in the early 1990's strengthened the NGO community in their effort to campaign against environmental destruction and create public awareness.
- NGOs have been on the front line in creating environmental awareness through diverse means. Most NGOs have newsletters, periodicals, brochures, magazines and other publications, which serve to stir up the conscience of the society in so far as environmental issues are concerned.

- NGOs have mobilised the citizens to protest against environmentally destructive actions such as the proposed forests excision. As a result the people have become aware of the immediate threats to their survival demanding their swift response.
- Provincial administration and natural resources extension workers convene local meetings or use other fora to discuss sustainable development issues.

### **Achievements since Rio**

- Data on levels of environmental awareness in Kenya is scarce. But, going by recent responses by the citizens to various environmental issues, one can conclude that a lot has been achieved. For instance, over 35,000 people appended their signatures in a bid to petition the Minister of Environment against the proposed excision of natural forests in various parts of the country.
- Formation of Neighbourhood Associations in the urban centres to look at environmental issues among other things is an index of heightened awareness to protect the environment.
- Registration of more and more NGOs and CBOs, which are focusing only on the environment.
- Enactment of the Environment Management and Co-ordination Act and establishment of various institutions to oversee its implementation.
- Adoption and use clean fuel such as solar power by communities.
- People are participating more in resisting actions either by the government, private sector or individuals, which are seen to be a threat to the environment. This is especially in the fight against grabbing public land or other such land that is deemed to be ecologically or otherwise significant.

### **Constraints**

- Lack of a sustained effort to continually educate the public about the intricate relationship among the various environmental components. Actions of awareness raising by the stakeholders have been erratic spurred by impending environmental catastrophes.
- Conflicts of interests that have pitted the government on one and environmentalists on the other. The latter in their business of conscientising the masses about environmental ills being condoned by the government have been accused of incitement. This has served either to quench the fire of environmentalism locally or to maintain it at temperatures that are of very little consequence.
- Victimisation of civil groups that are seen as vocal in opposing projects where the government has stakes but are ecologically destructive.
- Inadequate data as to the levels of awareness by gender and the issue at hand such that it becomes hard to identify which areas need what kind of intervention.
- Failure by the press to sustain environmental debate in the public arena. They only cover an issue so long as it is in vogue and selling. This kind of sensationalism has not augured well with the need to create an environmentally aware citizenry.

- Marginalisation of women in decision-making and leadership spheres. For instance it is men who participate most in farmers field days and farmers training seminars.
- High levels of poverty which have made the poor masses to resign to fate and see environmental concerns as a reserve for the rich.
- Poor net working among NGOs in the field. Conflicts in interpretation of laws relating to environmental management.
- Majority of Kenyans have not been sensitised on the environment and a majority of them have adopted don't care attitude.

### **Way forward**

- Develop an appropriate communication strategy that includes the radio, TV, newspapers, magazines, and posters to disseminate information emanating from environmental activities.
- Involve the mass media in providing environmental information.
- Improve information exchange among communities through training and networking.
- Build alliances with legislators who are sympathetic to the environmental cause so as to use them as mouth pieces in sustaining the flame of environmentalism in the corridors of influence.
- Link all environmental conservation activities to poverty alleviation efforts.
- Prepare information packages in local languages.
- Avail resources-both human and financial to develop an awareness.
- Intensify the use of mass media to sensitise the public to environmental issues.
- Encourage networking among environmental organisations and institutions.
- Promote active participation of business community, religious and other groups in environmental awareness campaign.
- Co-ordinate the training of trainers at local level in environmental management skills and activities.

## NGOs in Education for Sustainable Development

There are a number of Programmes and Projects going on, partially completed and others requiring funding in Kenya. These include curriculum development, development of teaching materials, training of teachers, schools planners, curriculum developers, research in pedagogy, content and methods in EE, educating and informing the general public on environment etc. Other projects involve the school Youth in environmental activities such as raising tree-seedlings, planting trees, soil and water conservation, cleaning of streets and garbage collection.

The NGO sector has pioneered a host of activities in Kenya. For instance, the vibrant environmental movement can be credited to the sector. It is NGOs that have fought tooth and nail to: protect our forests and public parks, safe guard our waters, promote environment friendly technologies and promoting wastes reduction, recycling and reuse among others. The role of NGOs in promoting education for sustainable development in Kenya cannot be overstated. In recognition of the central role NGOs are playing in various fields of development, National Council of NGOs was formed. To date over 2000 NGOs have been registered each focusing on a specific area. There are numerous projects being implemented by various NGOs in the education sector. Since it was not possible to examine all the NGOs operating in Kenya, few of them were singled out for the purpose of illustrating their critical contribution.

### NGOs active in Environmental Education, Awareness Raising and Public Training

Name of NGO	Area of Focus
The Green Belt Movement	Forests conservation, re-forestation, land issues and environmental advocacy
Eco-News	Environmental awareness
Uvumbuzi Club	Promotion of sound environmental management
Mazingira Institute	Promotion of Environmental Conservation
Kenya Organisation of Environmental Education (KOE)	Application of environmental policy at school level through establishment of eco schools
East African Wildlife Society	Promotion of wildlife and environmental conservation
Wildlife Clubs of Kenya (WCK)	Promoting conservation education among youths in institutions of learning
Society for Protection of Environment in Kenya (SPEK)	Strengthen conservation skills among village groups; promote the use of cultural, religious and traditional knowledge in environmental activities.
Undugu Society of Kenya	Provide training in various to street children and other disadvantaged children such as the very poor in the urban slums
Kenya Consumer organisation	Educating the public concerning their rights in so far as the consumption of various goods and services is concerned
Sustainable Community Development Services (SCODE)	Promoting the use of energy saving stoves and solar technology.
Kenya Institute of Organic Farming (KIOF)	Training farmers on organic farming practises
Forest Action Network (FAN)	Promotes the conservation of forests in Kenya
Friends of the Mangrove	Conservation of mangrove forests along the coast and related ecosystems.

<b>Name of NGO</b>	<b>Area of Focus</b>
Friends of Nairobi Arboretum (FONA)	Protection of the Nairobi arboretum as recreational and educational centre
Learning and development Kenya (LDK)	Education promotion among the disadvantaged groups such as the urban poor and pastoralist girls
World Vision –Kenya (WV-K)	Diverse programmes in community development, relief assistance, micro enterprise promotion and education sponsorship programme.
Maendeleo Ya Wanawake Organisation (MYWO)	Supports various projects for the improvement of the welfare of women. Has girlchild education programs in Kenyan districts where dropout rates are highest.
Handicap International (HI)	HIV/AIDS awareness raising in schools that have recognised high risk behaviour to transmission of HIV
Kenya Association of Adult Learners (KALA)	Promotion of adult education. Has launched campaigns on girls and women education in Province.
CARE-Kenya	Has launched in collaboration with 10 local NGOs a programme known as Basic Education Fellowship (BEF) which has allowed residents called fellows in rural areas to provide basic educational services in their areas.
National Council of Women in Kenya (NCWK)	Providing training to women especially on leadership and also on how to conduct advocacy
Intermediate Technology Development Group (ITDG)	Development of appropriate technologies and training communities to adopt them
Compassion International	Sponsoring children from poor families for studies among other activities
Kenya Association of Adult Education (KAEA)	Has initiated an Information Technology training programme which targets school leavers from needy families interested in IT but cannot afford to pay fees charged by the commercial colleges
Legal Resources Foundation (LRF)	Training citizens on their rights. Has initiated law clubs in secondary schools.
Federation of African Women educationists (FAWE)	Promotion of education of women and girls
Partnership For Productivity (PFP)	Trains grassroots women on pooling financial resources to create a pool from which individual group members can access credit. Women are also trained on how to initiate and manage small businesses.
Kenya Women Finance Trust (KWFT)	Trains women on meaningful income generating projects and advances credit to women through registered women groups.
Abantu For Development	Has been actively involved in training women on management and service delivery
Sustainable Community Development Services (SCODE)	Training communities on alternative energy especially the use of solar energy and use of fuel saving stoves.
Undugu Society of Kenya	Assists children in the slums to acquire skills through its non-formal schools located in various slums of Nairobi. Vocational training at Undugu is geared to give learners skills in various trades

## **Annex I:**

# **TBILISI OBJECTIVES AND PRINCIPLES FOR ENVIRONMENTAL EDUCATION**

### **Objectives**

- Awareness-to help social groups and individual acquire awareness and sensitivity to the total environment and its allied problems.
- Knowledge-to help social groups and individual gain a variety of experiences in, and acquire a basic understanding of the environment and its associated problems.
- Attitudes-to help social groups and individuals acquire a set of values and concern of feeling for the actively participating in environmental improvement and protection.
- Skills-to help social groups and individuals acquire skills for identifying and solving environmental problems.
- Participation-to provide social groups with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

### **Principles**

- View the environment in its totality (natural, built, technological and social)
- Be a continuous life-long process (including formal and non-formal stages)
- Be interdisciplinary in its approach
- Examine issues from local, national, regional and international points of view
- Focus on current situations while taking an historical perspective into account
- Promote the value of co-operative prevention and solutions of problems
- Consider environmental aspects of developments and growth
- Enable learners to discover symptoms and real causes of environmental problems
- Emphasise the complexity of environmental problems and the need to critical thinking and problem solving skills
- Utilise a diverse array of educational approaches to teaching and learning form the environment with emphasis on hands-on, practical activities (UNESCO-UNEP, 1978).

## **ANNEX II:**

### **THE UNCED EARTH SUMMIT 1992 (AGENDA 21) OBJECTIVES OF EDUCATION FOR SUSTAINABILITY**

- i. To achieve environmental and development awareness in all sectors of society on a worldwide scale as soon as possible;
- ii. To strive to achieve the accessibility of environmental and development education, linked to social education from primary school age through adult hood to all groups of people;
- iii. To promote the integration of environment and development concepts including geography, in all educational programmes, in particular the analysis of the causes of major environment and development issues in the local context, drawing on the best available scientific evidence and other appropriate sources of knowledge, and giving special emphasis to the further training.
- iv. To endorse the recommendations arising from the World Conference on Education for All: Meeting Basic Learning Needs and to strive to ensure universal access to basic education and to achieve at least 80% of girls and 80% for boys of primary school age through formal schooling or non-formal education and to reduce adult illiteracy to at least half of its 1990 level.

#### **The activities proposed for the first programme area include, in turn:**

- i. Governments should strive to update or prepare strategies aimed at integrating environment and development as a crosscutting issue into education at all levels within the next three years. A thorough review of curricula should be undertaken to ensure a multidisciplinary approach, with environment and development issues and their socio-cultural and demographic aspects and linkages.
- ii. Countries are encouraged to set up advisory national environmental education co-ordinating bodies or round tables of representatives of various environmental, developmental, educational, gender and other interests, including non-governmental organisations to help mobilize and facilitate different population groups and communities to assess their own needs and develop the necessary skills to create and implement their own environment and development initiatives.
- iii. Educational authorities, with the appropriate assistance from community groups of non-governmental organisations, are recommended to assist or set up pre-service and in-service training programmes for all teachers, administrators and education planners as well as non-formal educators in all sectors, addressing the nature and methods of environmental and development education.
- iv. Relevant authorities should ensure that every school is assisted in designing environmental activity work plans, with the participation of students and staff.

- v. Education authorities should promote proven educational methods and the development of innovative teaching methods for education settings. They should also recognise appropriate traditional education systems in local communities.
- vi. Countries could support university and other tertiary activities and networks for environmental and development education. Cross-disciplinary courses could be made available to all students. Existing regional networks activities and national university actions which promote research and common teaching approaches on sustainable development should be built upon, and new partnerships and bridges created with the business and independent sectors as well as with all countries for technology know-how and knowledge exchange.
- vii. Educational authorities with appropriate assistance of non-governmental organisations, including women and indigenous peoples' organisations, should promote all kinds of adult education programmes for continuous education in environment and development, basing activities around elementary/secondary schools and problems. These authorities and industry should encourage business, industrial and agricultural schools to include such topics in their curricula.

### **Means of implementation**

More support for education, training and public awareness activities related to environment and development could be provided by;

- i. Giving higher priority to those sectors in budget allocations, protecting them from structural cutting requirements
- ii. Shifting allocations within existing education budgets in favour of primary education, focus on environment and development.

## **ANNEX III:**

### **SIGNIFICANT EDUCATION RELATED DECLARATIONS/ CONVENTIONS**

- 1979: Convention on the Elimination of All Forms of Discrimination against Women. (CEDAW)
- 1990: World Declaration on Education for All. Meeting basic Learning Needs. (Jomtien)
- 1990: World Declaration and Plan of Action for the Survival, Protection and Development of Children.
- 1990: Convention on the Rights of the Child (CRC)
- 1993: Human Rights Vienna
- 1993: Ouagadougou Declaration and Framework for Action for the Education of Girls
- 1994: International Conference of Population and Development, Cairo.
- 1994: African Declaration and Platform for Action, Dakar.
- 1995: The World Summit for Social Development, Copenhagen
- 1995: The Beijing conference on Women
- 1996: The Amman Affirmation
- 1996: The Kampala Declaration and Framework for Action on the Empowerment of Women through Functional Literacy and the Education of Girl-child.
- 1997: The Humburg Declaration and the Agenda for the Future.
- 1997: The Thesaloniki conference

## **ANNEX IV:**

### **POLICY DOCUMENTS RELEVANT TO THE PROVISION OF EDUCATION IN KENYA**

- i. Report of the Kenya Education commission 1964
- ii. Sessional Paper No. 10 of 1965 on African Socialism and its Application to planning in Kenya.
- iii. Sessional paper No. 5 of 1968 on Special Education for The Handicapped Persons in Kenya
- iv. Report of the National Committee on Educational Objectives and Policies 1976
- v. Report of the Presidential Working Party on Second University
- vi. Report of the working Party on Financing of Higher Education, 1982
- vii. Sessional paper No. 1 of 1986 on Economic Management for Renewed growth
- viii. Report of the Presidential Working Party on Education and Manpower Training for the last Decade and Beyond 1988
- ix. Sessional Paper No. 2 of 1996 on Industrial Transformation to the Year 2020
- x. Policy Framework Paper on Economic Reforms for 1996-1998
- xi. Various National Development Plans
- xii. Master Plan on Education and Training to the year 2010.

## **ANNEX IV:**

# **KENYA NATIONAL ENVIRONMENT ACTION PLAN (KNEAP)**

### **Formal Environmental Education**

- Formulation of a national strategy on environmental education.
- Encourage universities and other institutions to intensify study and evaluation of the quality of environmental education and avail results to implementing organizations.
- Increase in-service environmental education for trainers and evaluators.
- Incorporate environmental education in the formal syllabi as an examinable subject at all levels of education.
- Monitor and regularly evaluate the sustainability of environmental education programs.
- Upgrade and strengthen the existing institutions to meet the needs of formal and non-formal environmental education.
- Introduce environmental education departments in all pre-service training institutions.
- Introduce training levies and require industries benefiting from personnel trained in environment matters to pay.
- Collect, study, store, analyze and disseminate the indigenous knowledge of Kenyan communities.

### **Non-formal environmental education**

#### **Recommendations**

- a). Extend environmental education and awareness to leaders and decision makers in government, NGOs, the private sector and donor agencies.
- b). Involve more youth in environmental issues. This can be done through organisations like Young Farmers Clubs, Wildlife Clubs of Kenya, Girl Guides, Boy Scouts, etc
- c). Publish environmental messages in various languages besides English and Swahili
- d). Prepare and update training manuals and resource guides for environmental and sustainable development education.
- e). Attach trained environmental extension officers to District Environmental offices
- f). Recognise and respect moral and socio-cultural aspects and interests of target groups in training programmes
- g). Equip more target groups with specific environmental education and training packages
- h). Tap indigenous knowledge on the environment
- i). Establish training committees at the national, district, divisional and locational levels to prioritise, organise and conduct non-formal training at all levels with the full participation of communities.

## **Public Awareness**

### **Recommendations**

- a). Intensify the use of mass media to sensitise the public to environmental issues
- b). Improve access to environmental information by the media, individuals and communities
- c). Use professionally researched materials in the public awareness campaigns
- d). Prepare information packages in local languages for local communities
- e). Develop specific environmental programmes for the mass media and strengthen the production of documentary films, videos, slides, posters etc. on environmental issues and activities.
- f). Avail human and financial resources to develop an awareness
- g). Encourage networking among organisations and environmental institutions
- h). Organise competitions for environmental conservation among schools, villages, locations, sub-locations, divisions, districts and at national level.
- i). Recognise and affirm the role of culture and indigenous knowledge in environment and development.

### **Plan of Action**

#### **Actions which can be taken immediately**

- a). Review the education policy with a view to strengthening environmental education in the formal curriculum and in the national examinations.
- b). Redefine and reformulate existing strategies such as District Focus for Rural Development, harambee, extension packages, etc. to incorporate more flexible locally based participatory approaches to environmental planning and management.
- c). Develop strategy that enhances community participation in resource management and promotes equitable distribution of benefits.
- d). Involve the mass media in providing environmental information

#### **Important Activities Requiring Funding**

- a). Formulate a national environmental education strategy
- b). Orientate policy and decision makers and train project managers, extension and field staff in participatory methodologies
- c). Improve the exchange of information, skills and technology among communities through training, networking, incentives and other relevant programmes
- d). Develop specific environmental education curricula for all levels of education
- e). Collect, study, store, analyse and disseminate indigenous knowledge.
- f). Organise workshops and seminars to prepare training packages for use by the institutions already implementing environmental education curricula.

**Long term priorities**

- a). Train communities in leadership skills and environmental planning and management.
- b). Strengthen the process of involving communities in decision making.
- c). Empower communities through financial, training and appropriate technological support.
- d). Enhance the capacities of local governments to involve communities in environmental activities
- e). Monitor and evaluate environmental education and awareness
- f). Develop an appropriate communication strategy that includes radio, TV, documentary films, newspapers, magazines and posters to disseminate information emanating from environmental activities.
- g). Produce newsletters and magazines to promote networking on environmental education and training.

## **ANNEX V:**

# **NATIONAL ENVIRONMENTAL MANAGEMENT AND COORDINATION ACT**

## **Stakeholder Participation, Education and Public Awareness Strategy and Plan**

### **VISION, MISSION AND STRATEGIES**

#### **STAKEHOLDER PARTICIPATION**

##### **Vision.**

By the year 2025 stakeholder participation ideals would have been fully operationalised in all environmental planning and management and programmes and activities.

##### **Mission.**

To create and develop a framework that ensures adequate awareness, knowledge, skills, values and attitudes for stakeholder participation in sustainable environmental management and resource utilisation.

##### **Strategy Objective**

The general strategy objective is to enhance stakeholder participation in the implementation of the Act for purposes of ensuring sustainable environmental management.

The specific objectives are:

- To sensitise the Environmental Management and Co-ordination Act to all stakeholders through mass media communication and meetings and other fora
- To co-ordinate capacity development of stakeholders (NEMA staff, staff of lead agencies, NGOs, District Environmental Committees, Civil Society, Judiciary, Local Govt, CBOs etc in environmental laws and policies, environmental planning, protection and conservation, review of EIA studies, environmental audit and monitoring, environmental quality standards.
- To facilitate the training of key stakeholders (Local Govt, NGOs and Communities) in participatory methods to allow participation and integration of environmental management in local plans and programmes;
- To co-ordinate and facilitate the development and implementation of community focused programmes that enhance natural resource management and productivity and act as best practices of environmental management.
- To encourage and strengthen the formation of environmental stakeholder/advocacy groups.

- To assess/evaluate the level of participation and the impact of on-going selected environmental projects to elucidate lessons learnt;
- To provide policy briefs on environmental issues to all stakeholders including government policy makers, private sector, civil society and management of lead agencies.

## **ENVIRONMENTAL EDUCATION**

### **Vision**

To create an enabling environment and opportunities to every person to acquire knowledge, values, attitudes, commitment and skills needed to protect the environment and enhance sustainable development by the year 2025.

### **Mission**

Integrate environmental education into the entire national education system.

### **Strategic objective**

The general strategic objective is to co-ordinate the integration of environmental education into the entire formal education system from pro-primary to university in the whole country.

The specific strategic objectives for formal education are:

- To facilitate a comprehensive review of the environmental education offered at different levels of learning and training with a view of formulating relevant environmental education curricula for each level and ensuring that environmental education is made as integral part of the entire national education system.
- To facilitate in the training of curriculum developers and the development of environmental education curricula for all levels of learning and training institutions in the country.
- To participate in the formulation of implementation of a strategy for training of trainers in formal environmental education at all levels.
- To co-ordinate the production of basic environmental education teaching materials particularly those that relate to the Environmental Management and Co-ordination Act e. g. protection and conservation of the environment, environmental planning, EIA, environmental audit and monitoring, environmental quality standards etc.
- To co-ordinate the review and strengthening of existing policies/laws to recognize formal environmental education as a cross-cutting subject that should be taught and examined in all learning and training institutions.

The specific objectives for non-formal environmental education are:

- To co-ordinate a training needs assessment for non-formal environmental education in the country

- Co-ordinate the development of non-formal environmental education curricula for lead agencies, civil society, the industry, NGOs, CBOs and the general public.
- Facilitate and co-ordinate the training of trainers of non-formal environmental education
- Co-ordinate the preparation of non-formal environmental education training materials
- Train NEMA and lead agencies staff, NGOs, civil society, CBOs, the private sector in key environmental topics and development of awareness programmes and implementation of environmental micro-projects
- Promote non-formal environmental education through mass media (radio, TV, Internet, posters, newsletters environmental messages etc).

## **PUBLIC AWARENESS**

### **Vision**

Most Kenyans to achieve the development of adequate environmental awareness, knowledge, attitude and practical skills in environmental management to ensure sustainable development by the year 2025

### **Mission**

To develop and implement environmental awareness campaign and activities at the national, district and local levels.

### **Strategy Objectives**

The general strategic objective is to increase public awareness and understanding of the linkage between environment and development and promote the development of environmental protection culture in all sectors of the society

The specific strategic objectives are:

- Mount mass media campaign through radio, TV, press and public barazas to mobilise and sensitise the public and specific target groups on the Act and the need to protect the environment.
- Co-ordinate and strengthen the promotion of environmental public awareness activities through establishment of networks amongst partners
- Sensitise the mass media as change agents, about environmental management and the need for behavioural change.
- Co-ordinate the development and promotion of indigenous knowledge and practices in environmental conservation.
- Facilitate the training and promotion of the integration of gender concerns in environmental policy, planning and implementation
- Promote the development and distribution of materials (posters, newsletters, film/video etc) to support all training and awareness initiatives at all levels of the society
- Co-ordinate the training of politicians, civil society, civic leaders, NGOs, CBOs, District Environmental Committees in environmental management

- Co-ordinate the training of trainers at local level (village, sub-location, location etc) in environmental management skills and activities
- Promote the establishment of competition and award schemes for locations, divisions, and districts and at national levels.
- Promote active participation of business community, religious and other groups in environmental awareness campaigns.

## ANNEX VI

# STATISTICAL INFORMATION ON EDUCATION IN KENYA

### Primary School enrolment by Gender selected years 1963-95

Year	Girls	Boys	Total	Growth Rate. (%)
1963	304,829	586,274	891,103	-
1965	379,393	662,753	1,042,146	16. 95
1970	591,282	836,307	1,427,589	36. 99
1975	1,319,654	1,561,501	2,881,155	101. 82
1980	1,864,014	2,062,615	3,926,629	36. 29
1985	2,267,511	2,434,903	4,702,414	19. 76
1990	2,625,943	2,766,376	5,392,319	14. 67
1995	2,734,091	2,802,305	5,536,396	2. 67

### Secondary School Growth Rates by Gender 1963-1995

Year	Girls	% Increase	Boys	% Increase	Total	Growth Rate
1963	9,567		20,553		30,120	
1965	13,256	38. 6	37,720	68. 9	47,976	59. 3
1970	37,528	183. 1	89,327	157. 3	126,855	164. 4
1975	81,529	177. 2	145,306	62. 7	226,835	78. 8
1980	162,889	99. 8	237,018	63. 1	399,907	76. 3
1985	167,174	2. 6	270,033	13. 9	437,207	9. 3
1990	264,766	58. 4	353,695	31. 0	618,461	41. 6
1995	290,581	9. 8	341,807	-3. 4	632,388	2. 3

### Growth in Public Universities Student Enrolment - 1963-1995

Year	Level	Enrolment	% Growth
1965-1970	Undergraduate	6,494	
	Postgraduate	457	
1970-1975	Undergraduate	11,984*	84.54
	Postgraduate	1,124*	146
1975-1980	Undergraduate	23,417	95.40
	Postgraduate	2,639**	134.79
1980-1985	Undergraduate	28,792***	22.95
	Postgraduate	5,749***	117.85
1985-1990	Undergraduate	75,291	161.5
	Postgraduate	6,770	17.76
1990-1995	Undergraduate	151,550	100.80
	Postgraduate	6,564	-3.04

\*Enrolment figures for 1970/71 and 1971/72 not included. \*\* Enrolment figures for 1979/80 for postgraduate not available. \*\*\* Enrolment figures for 1982/83 were unavailable.

Source: *Statistical Abstracts. 1970, 1978, 1980, 1985 & 1995.*

### Trends in Educational Enrolment, 1963-1995 (000's)

Education	Enrolled 1963	Enrolled 1995	Male/Female Ratio	1963-95 Annual
Primary	862.00	5,545.00	1.02	5.70
Secondary	30.00	632.00	1.18	9.50
University	0.57	44.91	2.79	13.60
Teacher Training	4.00	16.878	1.05	4.50
Technical	1.00	8.15		6.60
Polytechnics		7.93	3.22	

Source: *Government of Kenya (1997b) : National Development Plan, 1997-2010. p. 133.*

### Completion Rates at Primary School Level.

Year in Std 1	Year in Std 8	Enrolment in Std 1 (000's)			Enrolment in Std 8 (000's)			% Completing Std 8.		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1981	1988	463.2	408.2	844.5	206.6	161.8	368.4	47.4	39.6	43.6
1982	1989	467.8	440.9	908.8	224.1	190.5	414.6	47.9	43.2	45.6
1983	1990	460.6	429.4	890.0	210.4	174.1	384.5	45.7	40.5	43.2
1984	1991	447.2	417.4	864.6	207.3	173.7	381.0	46.4	41.6	44.1
1985	1992	436.5	412.1	848.6	195.0	198.8	393.8	44.7	48.2	46.4
1986	1993	473.0	439.0	912.0	210.4	185.3	395.7	44.5	42.2	43.4
1987	1994	476.0	442.3	918.3	212.5	190.3	402.8	44.6	43.0	43.9
1988	1995	491.6	461.2	952.8	211.6	194.0	405.6	43.0	42.1	42.6
1989	1996	482.2	457.3	939.5	217.3	199.0	416.3	45.1	43.5	44.3

Source: Central Bureau of Statistics and Various Issues of Economic Survey.

### Participation Rates by Level and Sex

Level	1989			1996			Sex Ratio.
	National %	Girls %	Boys %	National %	Girls %	Boys %	
Primary	95.00	93.00	97.00	77.50	76.50	78.5	49:51
Secondary	30.75	24.80	36.70	27.35	24.30	28.4	46:54

Note: The sex Ratio is based on 1996 data

Source: Government of Kenya 19997c Draft Master Plan on Education and Training.

### Primary School Enrolment (in 000's) by Class and Sex 1993-1996

Class	1993		1994		1995		1996	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1	472.5	446.1	491.0	463.4	492.1	459.9	494.2	463.9
2	409.9	384.2	424.5	399.8	426.8	405.8	437.4	414.9
3	387.4	369.0	387.7	378.7	392.3	373.3	397.0	374.7
4	369.6	364.1	379.3	374.9	368.1	366.2	372.9	364.2
5	324.4	326.5	330.0	337.0	329.2	334.2	330.9	330.8
6	288.8	292.5	294.3	296.7	292.0	300.4	297.2	307.0
7	298.1	299.8	295.5	301.2	290.2	300.5	296.2	299.0
8	210.4	185.3	212.5	190.3	211.6	194.0	217.3	199.0
Total	2,761.1	2,667.5	2,814.8	2,742.0	2,802.3	2,734.1	2,843.4	2,754.3
G. Total	5,428.6		5,556.8		5,536.4		5,597.7	

Source: Economic Survey, 1997

**Primary School Gross Enrolment by Province and Gender, 1992-96 (000's)**

Province	1992			1993			1994			1995			1996		
	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total
<b>Coast</b>	164.7	200.4	365.1	158.7	194.2	352.9	155.7	184.1	339.9	167.4	185.2	352.6	168.4	199.6	368.0
<b>Central</b>	452.6	449.4	902.0	454.9	451.7	905.7	451.3	447.0	898.3	472.2	470.2	942.4	451.7	452.3	903.9
<b>Eastern</b>	524.8	525.5	1,050.2	515.6	508.1	1,023.8	525.0	505.5	1,030.4	514.9	505.9	1,020.8	524.5	517.6	1,042.1
<b>Nairobi</b>	75.2	77.1	152.4	60.2	62.4	122.6	76.4	77.3	153.7	78.2	78.9	157.1	77.1	77.8	154.6
<b>R. Valley</b>	615.1	652.6	1,267.7	580.4	611.9	1,192.3	607.3	638.2	1,245.5	615.0	648.1	1,263.1	636.5	666.5	1,303.1
<b>Western</b>	386.4	385.6	772.0	381.9	377.1	759.0	389.8	388.9	778.7	395.6	388.0	783.6	399.6	393.4	793.0
<b>Nyanza</b>	494.1	526.8	1,020.9	508.6	537.2	1,045.7	525.7	549.7	1,075.4	483.2	508.5	991.7	485.8	510.9	996.7
<b>N. Valley</b>	10.6	23.2	33.8	7.9	18.4	26.3	11.1	24.2	35.3	7.6	17.5	25.1	10.5	25.3	35.9
<b>National</b>	2,723.5	2,840.5	5,564.0	2,667.5	2,760.9	5,428.4	2,742.2	2,814.8	5,557.0	2,734.1	2,802.3	5,536.4	2,754.3	2,843.4	5,597.7

**Projected Demand for Education, 1997-2001**

Educational	Age (Yrs)	1977	1999	2000	2001	Percent Increase
Primary School	6-13	6.03	6.25	6.36	6.46	7.0
Secondary School	14-17	2.72	2.82	2.85	2.89	5.9
Tertiary School	18-22	2.95	3.16	3.25	3.34	13.1
<b>TOTAL</b>	<b>6-22</b>	<b>11.71</b>	<b>12.24</b>	<b>12.47</b>	<b>12.68</b>	<b>8.3</b>

Source: National Development Plan 1997-2001

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