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1. Introduction:

Over the last 20 years, about 2000 hectares of gazetted forests have been lost annually. This has been taking place for the establishment of horticultural plantations (mainly for flowers and fruits), the planting of fast growing exotic trees ie. , Pine and Eucalyptus, new human settlements, and over-exploitation for firewood and charcoal burning for subsistence and commercial purposes. It has also been noted that communication purposes where roads and railway lines go cutting through the forest is another contributing factor, not forgetting the ever growing trend of urban development.

These losses of forest cover have a severe impact on the biodiversity. Given the above outcome, strident measures have to be taken to help in averting the situation. The emergence of conservation clubs, action groups etc, have actually helped a great deal in conserving the existing forests and the replanting of new ones in the country. A lot more is needed. The birth of the Green Belt Movement preceded many community based organizations, which have so far been able to tend seedlings and the actual planting of over 20 million trees.

2. Importance of Indigenous Forests:

Forests are important in a number of factors, these include:

(A) Biodiversity;

This refers to the different plants, animals, microorganisms and the ecosystems in a certain region. They provide habitat for a wide range of species both animal and plants; some are very rare and endemic. An example of such is the Sokoke Arabuko Forest along the Kenyan coastline which houses the Scops Owl species with no other forest in the world housing it.

(B) Water Regulation and Conservation:

Many forests are situated on high rainfall areas. The trees and their litter help the rain water to drip into the soil slowly, hence elevating the water table for the regulation of the water runoff. In this case the forest retain the rainfall water like a sponge slowly releasing it into the rivers and streams for an ever-flowing activity. Anytime a

forest is destroyed, the amount of rainfall changes rapidly. It also causes unexpected flash floods due to the disappearance of the litter layer on top of the soil.

At the same time, the streams and the rivers undergo a gradual siltation process resulting to acute water shortages. The trend may eventually result to a complete drying of the stream or river.

(C) Soil Conservation:

Besides the prevention of the runoff, tree roots help in binding the soil particles together, which in turn prevents soil erosion. The litter from the leaves and the decaying logs helps in the moisture retention and provides humus respectively. Most of the trees in the forest help in fixing nitrogen in the soil which in turn gives a high productivity. Wind erosion is also reduced since the trees act as windbreaks.

(D) Soil Nutrient Cycling:

Trees form a very important part of nutrient cycle, ie carbon, oxygen and nitrogen. They use light energy from the sun to convert water and carbon dioxide into sugar, and then provide oxygen as a by-product. The oxygen released is then used by all the living creatures for respiration. Trees also help to keep the carbon dioxide and the oxygen levels in the atmosphere stable.

Were trees to be reduced greatly, the atmospheric carbon dioxide would greatly increase, thus posing a very negative change in the global climate. The carbon dioxide in the atmosphere is of great importance for life to exist on earth, but too much of it can lead to global warming. This happens because the carbon dioxide trapped in the atmosphere absorbs heat that would radiate into space and thus keep the earth warm. The global warmth increase has drastic consequences among them: the reduction of the sea ice, rise in sea levels, and vegetation changes. Tree species like Albizia and Accacia Albida contain nitrogen-fixing bacteria in their roots, which help in adding nitrogen to the soil hence improving its fertility.

(E) Forest Products Provision:

Well over 4.5 million people in Kenya are estimated to use forests for subsistence and commercial purposes.

This include wood products eg, timber, poles, fuelwood and chacoal. Others are non-wood products among them water, fruits, honey, medicinal herbs, fodder for livestock and animals for wild food purposes.

(F) Public Amenity and Recreation:

There is no better place that offers natural beauty, peace and tranquility for recreation such as picnics, out door private studies and other activities, than our forests. The Nairobi Arboretum is a living example with scores of people thronging the place on daily basis. Tourism if developed in forests can also generate a valuable foreign income besides creating employment. A good example for this is the Tree Tops and The Ark, both situated deep in the Abedare Forest in Central Kenya.

3. Type of Trees Planted

During the planting activity (Plant for the Planet Project) thousands of trees were planted countrywide, as the campaigns were vibrant. The Total Eco Challenge had done a great job in mobilising people from community-based organizations, youth and action groups in the actual planting activity countrywide. Forestry and Environmental clubs in schools comprised the largest number of volunteers. Cosmos Education Kenya Branch also took part in the exercise. CE Kenya was the group in charge of the schools.

Quite a wide variety of trees were planted both indigenous and exotic. In the grid below, we have carried out a report of just a few trees, which were planted in large numbers. We have six columns, with each column having useful information about particular tree species. Although we have thousands of species of the trees, we have featured only a few in each category according to uses and commonness.

No.	scientific name	common name	local / vernacular name	zone	growth rate	primary uses	other key features
1	Albizia Lebbeck	womens tongue	Kirongo	upper	rapid	medicinal,fodder	widespread
2	Artocarpus hetelophyllus	jackfruit	Mfenesi	coastal/upper	rapid	fruit,gum,timber	worlds biggest fruit
3	Azadirachta Indica	neem tree	mw arubaini	c/medium range	rapid	highly medicinal	widespread
4	Casuarina equisetifolia	Casuarina	Mwinje	coastal	rapid	fire wood,soil stabilizer	nitrogen fixing
5	Ceiba Pentandra	kapok tree	kafamba	coastal	rapid	fibre from seeds	layered branches
6	Eucalyptus camaldulensis	red river Gum	mubau	upper	very rapid	dense timber	coppices well & termite resistant
7	Eucalyptus globulus	tasmanian blue gum	mbanya	upper	very rapid	timber,plywood,poles	very hard timber,straight stem
8	Eucalyptus grandis	sydney blue gum	muringamu	upper	very rapid	timber,plywood,poles	massive and straight & tall
9	Gravillea Robusta	Silky oak	mukima	upper	very rapid	furniture/plywood	very 'good in angroforestry
10	Mangifera indica	mango tree	muembe	general	medium	fruits and woodfuel	several varieties
11	Parsea americana	avocado tree	mukorobia	upper	very rapid	fruits,woodfuel and oil	several varieties/toxic to animals
12	Psidium guajava	guava tree	mubera	coastal/upper	medium	highly edible fruits	widespread in East Africa
13	Schinus molle	pepper tree	mkombokombo	upper	rapid	medicinal & bee forage	very drought resistant,spice mixes
14	Sygium cuminii	java plum	mzabarau	upper	rapid	timber,stools,poles	naturalised in East Africa
15	Terminalia mantaly	terminalia tree	mfirimbi	general	rapid	ornamental/shade tree	very drought resistant,spread layers

Nb* Although these trees do quite well in the stated zones,they can as well grow in other areas even if the growth may be relatively slow

The below list consists of Indegenous Trees widely found in Kenya

No.	scientific name	common name	local / vernacular name	zone	growth rate	primary uses	other key features
1	Acacia Abyssinica	umbrella thorn	munyinya	upper	medium	woodfuel,edible gum	shade and ornamental
2	Acacia polycantha	falcons claw	mgunga	medium	medium	medicinal poles,stools	termite proof
3	Acacia seyal	white thorn	mugaa	medium	medium	edible gum,medicinal	drought resistant
4	Balanites aegyptiana	desert date	mururui	general	slow	timber,fodder & gum	wood very durable,termite resistant
5	Brachylaena huilensis	silver oak	muhugu	coast/upper	medium	carvings	tough wood when mature
6	Cordia africana	cordia tree	muringa	medium/upper	very rapid	timber,edible fruit,gum	very durable timber
7	Croton megalocarpus	croton	mukinduri	upper	rapid	woodfuel,shade	pioneer species for forests
8	Dombeya torrida	dombeya	mukeu	upper	medium	medicinal,tool handles	ropes made from back fibres
9	Ficus natalensis	back cloth fig	mugumo	medium/upper	medium	medicinal,back cloth	often sacred
10	Ficus sur	cape fig	mukuyu	medium/upper	rapid	edible fruit,medicinal	traditionally ceremonial
11	Ficus sycomorus	sycamore fig	mukuyu	medium/upper	medium	timber,fuel,fruit	exellent for birdlife,germinates on other trees
12	Janiperus procera	cedar(african pencil)	mutarakwa	medium/upper	medium	timber,posts,furniture	overexploited,straight when young
13	Kigelia moosa	sausage tree	mw engea	upper	medium	multiple medicinal	widely used in beer making
14	Ocotea usambarensis	camphor	muthaiti	upper	medium	exellent timber	fast initial grow ,overexploited
15	Olea europea	wild olive	mutamaiyu	medium/upper	slow	high priced timber	high quality chacoal
16	Trichilia ametica	cape mahogany	mururi	upper	medium	timber,posts,furniture	seed oil for soap,light timber
17	Vitex keniensis	meru oak	muhuru	upper	rapid	fruits and furniture	timber highly priced

Nb* Although these trees do quite well in the stated zones,they can as well grow in other areas even if the growth may be relatively slow

4. The Planting Methodology and Packaging Preservation:

During the planting activity, several steps have to be followed so as to enable the exercise to be successful.

Hole: The hole should be rectangular and deep enough to accommodate the plant and the foster soil.

Plant: The plant should be supplied with enough water while still in the paper in order to make it easier for somebody to remove the plant without necessarily tearing the wrapper.

Soil: The soil from the hole point should not be discarded as it is used to strengthen the new plant's upright standing position.

Apparatus: One should have the tools ready i.e., spades, manure fork etc.

Planting Procedure:

1. Water the plant while still in the wrapper and let it soak freely for at least ten minutes.
2. Dig the hole size (1 meter).
3. Get the finest soil from the hole and mix it evenly with farmyard manure if it is available, then fill the hole, before digging a small hole at the middle of the main hole.
4. Press gently the sides of the wrapper holding the plant, then peel off the plastic carefully.
5. Place the plant right in the middle of the hole and let the mixed soil support the plant.
6. Make sure the plant is firm enough, wash the plastic letting the water to pour right inside the plant's area. By so doing, you will have another chance to plant another seedling in the same plastic wrapper for tending purposes.
7. You may require to shield the plant from external aggression by putting up fencing around. After all this have been accomplished, leave your plant to grow and make sure to give it maximum care.

Do you know that as by today (30th March 2005) a total of 70 million tree plants have already been planted in the Plant for the Planet Project? Remember that this have only taken 1 year. The target is to plant a total of 5.4 billion within a period of 5 years.

5. The Quotes Quota!!!

“Wonderful, it can't get any better than this, aaaah may be in Heaven”

The Nobel Peace Prize winner Professor Wangare Maathai soon after she learnt of her achievement.

“Peace on earth depends on our ability to secure our living environment”

Mr. Ole Danbolt Mjoes, the head of Norwegian Nobel Committee.

“I am happy to note that by planting this tree, I have slowed the desertification by a certain percentage”

Bridgit Syombua, The Executive Director, Cosmos Education Kenya.

“Within those few hours I have volunteered to plant all those seedlings, I know that I have done something commendable for the future generations”

Susan Murabana, The Global Treasurer of Cosmos Education

“Understanding is growing throughout the world of the close links between the environmental protection and security”

Mr. Klaus Toepfer, the head of the UN Environmental Program, Nairobi Kenya

“What else is great for the day today, than the job we have done???”

Master Isaac Musyoka, volunteer / member, Cosmos Education Kenya, after a tree planting exercise in Nairobi

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Report by Peter Kanja, Director of Education, Cosmos Education Kenya



Young Pine Trees ready for Planting
Please note the Tamarindus Indica (Tamarid) at the fore-front



The Cordia africana (The Cordia tree)



The Eucalyptus Saligna (The Sydney Blue Gum)



The Nairobi City Park



The *Gravillea Robusta* (Sicky Oak)



The Nairobi Arboretum Rules and Guidelines



The Giant Bamboo