

KOMBA

Issue 3 - 2011

Talking conservation-

Hippos

*plus much more
inside*

WCK motto "Learn to conserve for a better tomorrow"



KOMBA is the Kiswahili name for the Lesser Bushbaby and the symbol of the Wildlife Clubs of Kenya (WCK). The magazine is owned and published by the WCK.

WCK - P.O.Box 20184 PC 00200 Nairobi Kenya



Get your African fish eagle poster inside

Hamjambo

WCK members



At one time, nobody gave much thought to hippos. There were so many in the rivers and fresh water lakes. Turtles swam in the oceans and nested on safe beaches. Hundreds of vultures would swarm around a dead animal, keeping the wilderness free of rotting and stinking carcasses. And no safari was complete without hearing the unforgettable piercing cry of the magnificent African fish eagle.

Today, all their numbers are on the decline. The good news is that we have people who are committed to saving them through research and public awareness, writing and the performing arts. We want you to be part of the team just like the late Professor Wangari Maathai, a great woman who passionately believed in saving the environment - and many a time had to brave the worst from others. But she saved a lot of trees. This issue of *Komba* is dedicated to her.

Be inspired

WCK Objectives

- To spread interest and knowledge about wildlife and the environment among the people of Kenya in particular and East Africa in general
- In this way, to make them aware of the great economic, cultural and aesthetic value of natural resources
- To develop a better understanding of the need to conserve natural resources for the benefit of the nation and its people

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The WCK Governing Council

is made up of representatives of various stakeholding government departments & parastatals, conservation entities and club patrons as follows:

Mr. Rick Anderson - *Director, AFEW (K)*

Mrs. Margaret Byama

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Inviolata Sitati - Western

Komba Editorial

Rupi Mangat - Editor

Philip Gitahi, Margaret Otieno, Linah Wodera.

Cover: Hippo in river

Inside

4. A Turtle's Journey

The beautiful ocean animal is made of rubber flipflops washed ashore



8. Read about the forest on Manda island in Lamu

14. Hippo conservation

These big mammals are disappearing fast unless we save their rivers and lakes



22. The African White-ringed Atlas Moth



Middle poster The African fish eagle

WCK CLUB BENEFITS

- * 3 issues of Komba-WCK termly magazine
- * Reduced entry fee to KWS Kenya National Parks & Reserves
- * Free lectures and video/slide shows
- * Borrow Wildlife Video Films at reduced rates
- * Students' half rate accommodation at the WCK hostels
- * WCK roadshows by the Mobile Education Unit
- * The chance to help conserve wildlife
- * The chance to win prizes in WCK competitions.

Remember to renew your membership early every year!

Komba is owned and published by WCK

A Terrific Turtle Journey



FINISH

The finished turtle



What's that?
Turtle on lorry



Men loading turtle on lorry



Making the turtle



Casting
the turtle



A walk on the beach to collect
junk to make a turtle



START

This makes the
turtle - rubber slips
that turn up as
waste from the sea

a flipflop turtle

by Kennedy ole Kariuki



*“Environmental laws are better today, but laws are not enough.
You have to instill values in people to effect lasting change”*

Bill Eichbaum, Vice President, Marine and Arctic Policy, WWF

The first thing that comes to your mind when you see the giant size turtle at Nakumatt Diani, on South coast is that it must have taken a lot of flip-flops to make the turtle. Well that's true because the message on its banner reads **“it took 1000 flip-flops picked from our beaches to make this turtle... It only takes one to kill one. Make sure it's not yours!”**

At Camp Kenya, 289 pupils from schools from abroad and 143 pupils from local schools spent a month training to make artistic things from plastic flip-flops (rubber slippers) collected from the beach. They made flip-flop crafts like juggling balls, dolphin and turtle key holders while others made colorful necklaces, bracelets and anklets. Learning this eco-art is a rewarding skill especially

when it helps to make Diani beach clean with no plastic waste lying around. It means more turtles and other marine lives have been saved.

Five of the world's eight species of turtles come to nest and feed off the coral reef along the Kenyan coast. These are the Green turtle, Hawksbill turtle, Olive Ridley turtle, Leatherback turtle and the Loggerhead turtle.

Seven of the world's nine dolphin species are also found here. These include the Bottlenose dolphin, Common dolphin, Spinners dolphins, Humpback dolphins, Risso's dolphins, Spotted dolphins and the Rough toothed dolphins. All these marine species are classified as either endangered or critically endangered. Their biggest threats are habitat loss through construction, development, poaching turtle meat and eggs, by-catch by local fishermen and semi-industrial

fisheries. Added to the list is marine pollution, which is reason enough to want to rid the beach of all the plastic and non-biodegradable wastes, some which can take up to 600 years to degrade into the natural environment. Camp Kenya is also working with school groups to survey beaches and record the marine life including regular beach clean-ups. The flip-flops collected are joined to each other to make large sheets to make iobjects like the ones mentioned above. There is work in progress on a gigantic whale-shark. The eco-art is helping many people to earn a living while saving endangered wildlife and cleaning the beaches.

Kennedy is an intern at Camp International. He is a project co-ordinator while doing a bachelor's degree on Environmental Studies and Community Development at Kenyatta University.

Honouring Professor Wangari Maathai



Hats off and hail our departed heroine
Our Love and Respect rest deep in our hearts
Now that you have taken leave, *Mama miti*
Our voices failed to praise you, dear Mama
Your trees, by millions, continue to rustle silently in praise.
Reaching into the sky; Giving thanks to God
In her footsteps we should emulate
Never giving up; struggles for Nature preservation
Greening hills and valleys; every dawn and dusk

When the sad news of your demise hit us
All sober minds bowed with grief
Not just in Kenya, but past the borders
Grandest eulogies echoed over and over
A heroine has departed our midst
Rest in Peace, *Mama miti*
In her footsteps we should emulate

Mama miti, *Mama Mazingira*
You tirelessly championed for the Environment
Traversing the globe planting trees
Advocating for Human rights

Mentoring the youth and old alike
A heroine we will forever cherish
A Source of Inspiration; a defender of Nature
Aake up the vision-earthly brethren
Hats off to the departed liberator
And forever keep the candle alight
In her footsteps; we should emulate.

By **Tsofa A M. Mweni**

WCK

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A Great Lady Remembered

The governing council, members and the staff of WCK in the spirit of conservation pay tribute to **Professor Wangari Maathai**, a GREAT lady. We honor her care and passion for the environment.



WCK vows to continue your noble work, to embrace the objectives of the GREEN BELT MOVEMENT in Kenya and beyond.

We wish the family strength and courage at this time of loss.

Professor, the youth who you inspired say
*"HONGERA for the great achievement you made.
Rest in peace.. Your legacy will live on at WCK!"*

WCK Annual Membership

*Club - Ksh 1000
Associate - Ksh 500
Corporate - Ksh 5,000
Foreign - USD 30 or Sterling Pound 20 or 25 Euros
Student membership cards - Ksh 30
Video library subscription - Ksh 200
Video library registration - Ksh 500
(Only one tape allowed at a time)

Hostel Accommodation

Ksh 150 - member student per night
Ksh 200 - non-member student per night
Ksh 150 - WCK adult teacher members
Ksh 250 - non WCK adult members
East African - Ksh 300 per person per night
Non resident - Ksh 500 per person night
Msa Rates - Members Ksh 300, Non members Ksh 400

Guest House

Nakuru

Adult - Ksh 1,250
Children - Ksh 600
Mombasa - contact the Mombasa office

Hall Hire

WCK members - Ksh 3,500
Non members - Ksh 5,000

Manda island *Forest*



By Twahir Ali from
Lamu Marine Conservation Trust”
www.lamcot.org



**Mangrove
shoreline**

Manda is a semi-arid island in the Lamu archipelago. Its size is 25 square miles. It lies east of Lamu Island and south of Pate Island. It is a hilly island with sand dunes. In some places there are muddy shorelines, perfect for mangrove forests where migratory birds come to feed and rest. There are some spots which are sandy and rocky. There are no cars on the island. People sail to the mainland and the other islands in local boats and dhows.

Manda is more fertile than Lamu island and has forests of mangroves, acacia trees and other plants. The shoreline has a dense mangrove forest with trees growing up to 15 to 18 meters high. The tallest mangrove tree is said to be in Tanzania at 25 meters high. There are seven species of mangroves on Manda listed below with their Kiswahili names:

- *Rhizophora mucronata* (*mkoko*)
- *Bruguiera gymnorrhiza* (*mshinzi*)
- *Avicennia marina* (*mchu*)
- *Ceriops tagal* (*mkandaa*)
- *Sonneratia alba* (*mlilana*)
- *Xylocarpus granatum* (*mkomafi*)
- *Heritiera littoralis* (*mkungu*)

Mangroves are very useful.

Here's why:

- They are home for small fish and animals
- They protect the coast from soil erosion
- They are a source of medicine. The seed of *Xylocarpus granatum*, for example is used to treat sores
- They provide timber, wood for fuel and provide wood for construction of the dhows

The inner part of Manda is acacia forest covering more than seventy five percent of the island. The acacia forest is home for many species of birds and other animals. The forest is protected with the help of the government. Deforestation is a thing of the past.

Until a few years ago, it was the best feeding ground for a herd of elephants. The elephants crossed Mkanda channel from Mokowe the mainland during the dry season to browse in the forest. The crossing does not happen any more because seven years ago, Mkanda channel was dredged. The channel is about 10 metres wide and is the main sailing route to the

eastern islands of Lamu. Before the channel was dredged, the boats could not sail through during low tide but had to wait for the following day for the high tide. Now the boats can sail to the other islands at any time.

Some birds of Manda

- Carmine bee eaters
- Madagascar bee eaters
- Little bee-eaters which trap bees for food.

Reseachers studying the Little bee eaters found this:

when a Little bee eater catches a bee in flight, it squeezes the bee's abdomen against a tree to remove the venom.

Once that is done, the Little bee eater goes on to eat the bee.....Amazing!



Little bee-eater

There are two indigenous tribes living on Manda - the Cushites (Orma) and the Luos. There's only one school and pupils from the furthest point on the isalnd have to walk two hours to get to school.

The Ormas are pastoral and keep goats and sheep but they are also involved in conserva-tion. They guard

the turtle nests to which the Lamu Marine Conser-



Turtle swimming

vation Trust takes its guests to see the turtles hatch.

The two species of turtles on the island are the Green turtle and the Hawksbill turtle which come to the shore to lay eggs. The more it rains, the more nests are laid and vice versa. LMCT has recordes of nests going 20 years back.

The other tribe is the Luo who came from up country in the 19th century and started to make building blocks from coral.

Trees of Manda

- Baobab (adasonia digitata)
- Neem (cures malaria)
- Palm trees plantations on which animals such as mon-keys, birds and others feed. These palm trees were not planted by people but were dis-persed by wild animals such as



Baobab tree

International Year Of Forests - 2011



The United Nations has declared 2011 as the Inter-national Year of Forests to raise awareness of sustain-able forest management, con-servation and climate change. 50,000 square miles of defor-estation happens per year.

elephants who ate the whole nut before passing it out of its digestive system.

Palm trees are used to produce palm wine and are a source of food for monkeys, bushbabies mouse birds and bats.

There are two species of monkeys, the Vervet monkey and the Blue monkey. There are also a few baboons in the bushes and the mangroves.

There are many conservation activities on Manda to protect its biodiversity such as monitoring the forest and its birds, promoting eco-tourism, agriculture for forest conservation and nature-based enterprises such as rearing butterflies and silk moths, harvesting honey, collecting poles and wood for fuel.

Manda has a historical forts which are now ruins. The town dates back to the 9th and 10th centuries and traded with the Persian Gulf. Sending exportig ivory and mangroves. At the heights of its power the town covered some 40 acres (160,000 m2). It was thriving until the 13th century when it began to decline. Both Manda town and Takwa were probably abandoned due to lack of water in the first half of the 19th century. In the 1960s the Kenya Department of Agriculture recommended build-ing several concrete catchments called jabias to capture rain water on the island. Two jabias were built and many families moved onto the island, farming maize, cassava, simsim and cotton.

The people of Shella once lived there before the fresh water became salty forcing the com-munity to move form Manda to Shella.



Grey plover in non-breeding plumage
Photo credit: Tasso Leventis

Grey Plovers

Kenya's visitors from far, far away



Grey plover in flight by Peter Usher

When you visit the sand flats of Mida Creek near Watamu, **writes Colin Jackson of A Rocha Kenya** you will hear the far-carrying sound 'piu-wiii'. In fact along much of the coastline you'll hear this delightful call of one of our longest-travelling visitors from Asia, the Grey Plover *Pluvialis squatarola*

Much of the time when they are with us, this large plover is a drab grey colour the same as many of the other species. But come April when it is getting ready to head to the Arctic Circle to breed, it puts on a dashing plumage of jet black underparts and span-gled silver. The upperparts turn white and black.

Plovers as a group have short, strong bills and large eyes for seeing prey on the surface of the sand and pecking it - they don't probe deep into mud like sandpipers do. As a result they tend to stand still a lot looking around them to see a prey item and then run and peck at it thus giving them a 'start-stop' feeding behaviour. Grey Plovers are no exception and you'll find them thinly spread on the reefs along our shores or open sand and mud flats at places like Mida Creek feeding on marine worms, crustaceans and molluscs.

Grey Plovers breed on the tundra of the high arctic along the northern coastline of Russia, a distance of 8,000kms one way.

Over the past 14 years over 120 of these birds have been ringed by A Rocha Kenya researchers at Mida Creek but as yet we have not had one reported from overseas.

However we do sometimes retrap birds we have previously ringed and on 4th September 2011 we caught one wearing a ring which turned out was one we had ringed on 11th March 1999 - making it 12 years, 6 months and 9

days old... though it was an adult when ringed so would have been at least 14 years old!

This is not the oldest recorded one however - one in Britain was found 25 years, 1 month and 18 days after it had been ringed!

The hope is that by putting a ring on the bird's leg that is labelled with 'Inform Museum Nairobi' and a unique ID number, that someone will find it in Russia or somewhere along the route to or from and will report it so that we can work out where they actually go to and what route they take. That way we can protect them better by ensuring the wetland sites they use are properly conserved.

read more on www.arocha.org

Helping Hippos in the rivers and lakes

By **Erastus Kanga**

Assistant director and head
Ecosystems and landscapes
conservation department
at Kenya Wildlife Service
ekanga@kws.go.ke

Everyone knows the common hippopotamus with its barrel-shaped, almost hairless body weighing about 1500 to 3000 kg. The Scientific name for hippo is *Hippopotamus amphibius*. The Egyptian pharaohs knew the hippos from about 5,000 years ago. They were worshipped as gods and have been portrayed in art down the ages. The ancient Greeks called them the 'river horse'. The hippo is the third-largest land living mammal after the elephant and the white rhino.

Hippos are semi-aquatic herbivores. There are two types of hippopotamus - the Common and the Pygmy hippopotamus. The common hippo is seen in almost all the rivers and fresh water bodies Kenya. The Pygmy hippo is much smaller and weighs about 200 to 300 kg and is found in West Africa.

Hippos can be dangerous and destructive especially in farms. They become aggressive when they are harassed by people, especially those coming to their pools.

They spend almost the entire day in water - mostly rivers and fresh-water lakes where they mate, play, fight and also defecate. In other words, fresh water rivers and lakes are at the centre of their social life.

Hippos are grazers and prefer short grasses along banks of water bodies. Hippos stay in social groups of about 40 individuals which has one dominant bull surrounded by cows and their young ones. These social groups are called "schools".

When the young bulls mature, they are chased away so that they establish their own territories. It's not easy for the young males to do this because it means that they have to fight to win over a new territory and sometimes these fights of supremacy lead to death.

Hippos normally stay in their pools or sand banks during the day and leave at night to look for pasture. They graze the entire night to fuel their enormous bodies - and hence their presence in the area has a large impact on the vegetation.



Hippos mum and baby

Hippos need water for their survival. Their skins are super-sensitive to the sun and despite looking so tough, hippos are easily sunburnt if they are out of water for long. However, despite our knowledge that hippos require water and wetlands for survival, wetlands are severely threatened while research on hippos is very little in Kenya.

Therefore, to fill this important gap in our knowledge on hippos in Kenya, I explored the population status of hippopotamus in the Masai Mara, which is one of Kenya's best wildlife reserves. I surveyed and counted hippos along 155.3 km of the Mara river system using foot counts. I

counted 4,170 hippos in 171 schools in the Mara. This may be one of the largest single hippo populations in Kenya making up about 3% of the African hippopotamus population. Hence, Masai Mara is an important hippo conservation stronghold in Kenya and Africa.

Comparisons with earlier surveys suggest that this



Hippo underwater - it doesn't swim but walks on the riverbed

Mara hippo population increased by 69.6% between 1971 and 1980 within the Masai Mara National Reserve and, although the population did not increase within the



Hence, Masai Mara is an important hippo conservation stronghold in Kenya and Africa.

reserve during 1980-2006, it increased by 359.4% in the pastoral ranches during this period against a background of deteriorating habitat conditions. This suggests that the community pastoral ranches in Masai Mara provide important

habitats for hippos

However, increased human activities, especially land-use changes on the group ranches, livestock herding and destruction of the Mau catchments of the Mara River, are a threat to hippos.

Hippos play a very important part in keeping the rivers healthy with their dung. When they walk along the river beds, they help to air the soils. This keeps the water from stagnating and hence alive for other fish and crocodiles and plants.



Hippo spoor



A pod of hippos

Say what?

Hippo facts



- Hippos are the third-largest living land mammal, after elephants and white rhinos.
- A hippo's foot has four webbed toes which splay out to distribute weight evenly.
- It has very thick, almost hairless skin.
- The hippo has neither sweat nor sebaceous glands. Water or mud keep it cool. It secretes a slimy red fluid which protects its skin against the sun and could heal wounds.
- The hippo's flat, paddle-like tail is used to spread excrement to mark territory.
- Two hippo species are found in Africa.
- The large hippo is south of the Sahara.
- The smaller (440 to 605 pounds) species of hippo is the pygmy hippopotamus (*Choeropsis liberiensis*). It's rare and found in West Africa. It's shy and a solitary forest dweller, and was only discovered about a century ago.
- Hippos have a social system.
- They live in mixed groups of about 15 individuals with a territorial bull.
- In periods of drought large numbers are forced to gather near pools of water. This overcrowding disrupts the hierarchical system, resulting in fights
- Old scars and fresh, deep wounds are signs of daily fights.
- A single young is born either on land or in shallow water.
- In water, the mother helps the newborn to the surface, later teaching it to swim. Newly born hippos are relatively small, weighing from 55 to 120 pounds, and are protected by their mothers, not only from crocodiles and lions but from male hippos that may not bother them on land but attack them in water.
- Young hippos can only stay under water for about half a minute, but adults can stay submerged up to six minutes.
- Young hippos can suckle under water by taking a deep breath, closing their nostrils and ears and wrapping their tongue tightly around the teat to suck.
- A young hippo begins to eat grass at 3 weeks, but its mother continues to suckle it for about a year. Newborns often climb on their mothers' backs to rest.
- Hippos are agile and often climb steep banks each night to graze on grass.
- They exit and enter the water at the same spots and graze for four to five hours, covering one or two miles, with extended forays of up to five miles.



Important Notice to WCK clubs, patrons and members

To visit a Park or Reserve, you must ensure the following

- Carry your Wildlife Club Certificate.
- Each member must carry personal WCK membership card, with passport size photograph attached and signed by both member and Patron (Photo of head & shoulders)
- School rubber-stamp is stamped in the right place on the member's card (across the photo)
- Members must be from class 4 and above.
- Renew club membership by June every year
- Purchase copy of "How to Have a Successful Wildlife Club"
- Patrons renewing membership MUST give a list of member students and what conservation activity the school is carrying out
- Submit biannual activity progress reports from their clubs (the template of which should be sent to the WCK education officer) and the best performers shall be awarded

Certificate of Registration and Privileges

The Certificate verifies that you paid a fee to register your club with the national association of Wildlife Clubs of Kenya (WCK). WCK is NOT affiliated with Kenya Wildlife Service (KWS).

The two are completely separate organizations.

Kenya Wildlife Service, formerly known as Kenya National Parks, subsidizes fees for officially registered Wildlife Clubs. However, there are reported cases of abuse of this privilege.

Examples

Some schools send an entire class, with the Wildlife Club members. KWS does not allow this. KWS reserves the right to deny such a group subsidized entry reserved for Wildlife Club groups.

Some schools register a day before a visit to a Park to gain subsidized entry. KWS will not recognize this certificate. Your club must be registered at least a month in advance.

The actions below are not allowed

- Teachers using student members' cards
- Writing the cards in pencil
- Fixing the photos with staples instead of glue
- Taking students from one class and not WCK club members
- Not having conservation/ club activities in your school
- Not stamping the cards appropriately

Any school found to have done any of the above will be penalised as below:

- The name of the school wildlife club that has violated its membership privileges will be published in Komba
- The school wildlife club shall be barred from entering all KWS managed Parks for three years using their club membership- You are free to visit the parks as a non-member at your convenience
- Permanent denial of membership to WCK
- The Governing Council resolved that legal action will be taken against any members who abuse their privileges even after being warned

KWS Entry Fee for WCK members:

Category	Members	Non WCK - Members
Student	50/=	200/=
Bus	1,000/= regardless of capacity	3,000/= 44 Seater and below

African fish eagle

by Shiv Kapila





kɔmba
Issue 3- 2011

From *Koroboi* to Solar energy

By Joseph Okwach

Head teacher

Philip Kirui

Assistant Education Officer

WCK Western region



Mwoki primary school in Vihiga County has a solar energy project supported by the Wildlife Clubs of Kenya Western region.

Musinde Muliro University, DEO Vihiga, Mr Omino of National Bank of Kenya and Dr Ganira, the general superintendent of PAG.

Lit by a solar lantern:
School children studying in its light at night.

The pupils until recently used the tin lamp locally called *koro-boi* because there is no electricity in the village to study when dark. Their performance was below average for many years. Now, with the solar project the pupils can study longer in better light and this has improved their school grades.

The pupils and teachers later visited Sagam Primary School in Siaya to exchange ideas. With support from WCK Western, the school also visited Kakamega forest.

The 2010 KCPE results improved to a mean score of 271 placing the school in position 19 in the District out of 67 schools.

The local leaders and sponsors are happy with the school's success. An education day to celebrate the achievement was arranged and was attended by Area MP Hon Yusuf Chanzu, DC Muli, Prof. Embeywa of

Deforestation in Nandi Escarpment

By Tarus in Nandi Hills

Nandi escarpment is one of the catchments for Lake Victoria. The escarpment covers an area of 6,500 square kilometers. It supports Lake Victoria and its environs as a water source with springs and rivers flowing through it, supporting livelihoods in the plains below. However this one forest-filled escarpment is under serious threat because of the following reasons:

Illegal Logging

Locals living along the escarpment are felling trees illegally for charcoal and timber. They even go up to the springs to cut the trees and this is drying the springs, rivers and streams.

Farming on the slopes

The local people farm on the slopes because of the long rains which bring good crop. The large river valleys like Kasurur are most affected. This has resulted in soil erosion and landslides.

Charcoal trade

It's the main cause of deforestation. Unfortunately, it's mostly the youngsters who instead of being in school are burning trees for charcoal. Huge sacks of charcoal are ferried to town everyday.

Bushfire

This coincides with the dry season between November and February. It has severely affected the rain pattern. Farmers are experiencing unreliable rainfall leading to food shortages in the area.

Solutions

Establish Sosiot Tree Nursery

Started in 2003, it provides seedlings to schools and does educational exchange visits.

Education and Awareness

15 primary schools do forestry and agro-forestry programmes. Through our tree planting many people are planting trees on the hills to restore forests.

the predator from the skies threatened on land

the african fish eagle

By Shiv Kapila
Raptor scientist

Shiv Kapila releasing an adult African Fish Eagle back to the wild after attaching a ring on its foot, and taking some blood for toxicology tests

Shiv Kapila's been studying African fish eagles around the lakes and writes about one particular lake, Baringo and the threat to the raptors from a poison called Furadan

Lake Baringo is, after Lake Turkana, the most northern of the Great Rift Valley lakes of Kenya, with a surface area of about 130 square kilometres. It is about 970 metres above sea level. The lake is fed by several rivers like the El Molo, Perkerra and Ol Arabel. It is a freshwater lake but with no obvious outlets; the waters

are assumed to seep through the lake sediments into the cracked volcanic bedrock. The other freshwater lake in the Kenyan Rift Valley is Lake Naivasha.

Baringo: African fish eagle: From the 70 individuals in the 1970s, the population in 2010 was 20 individuals

Both lakes are about the same size but lying in different landscapes. Lake Baringo is in a semi-arid desert, isolated from other permanent water

sources. The habitat is perfectly suited to the requirements of the African Fish Eagle, *Haliaeetus vocifer*, with steep, tree-lined cliffs overhanging in the lake and many fish.

But African fish eagle populations have declined around Baringo since the early 1970s. From the 70 individuals in the 1970s, the population in 2010 was 20 individuals. The main threats to the birds are deforestation for fuel and building materials, and increasing human population around the lake. In recent times, however, the main influence on this population decline is from indirect poisoning.

Superb flier

A young African fish eagle



The crocodiles sometimes attack the herders' goats. The herders take revenge by lacing carcasses with Carbofuran. Carbofuran, or more commonly known as Furadan is a widespread poison and is outlawed. However, it is still sold in agro-vet shops across the country to known customers. This poison is extremely toxic.

African fish eagles, attracted to the poison-laced bait, have been killed feeding on the poisoned bait meant for crocodiles. In one case in 2006, 13 African fish eagles and eight crocodiles died of Furadan poisoning. It is suspected that at least two more African fish eagles have been killed in another, unconfirmed report.

The most damage was done on the largest island, Ol Kokwe, where four out of five pairs of Fish eagles were

killed. Because of Baringo's isolation from other rift valley lakes, and its arid characteristics, **roaming African fish eagles do not fly through the area. As a result, few, if any, of these lost eagles have been replaced: A female African fish eagle that lost its partner in the 2006 poisoning incident has yet to find a mate.**

A worrying aspect of this decline in African fish eagle numbers is the effect on the remaining population. With such a small gene pool and with little or no entry of new

reproductive adults, the resident African fish eagles are showing signs of stress. Of the seven African fish eagles trapped and banded in the last few months, six have shown leucism (patches of feathers without any pigmentation) and hyperkeratinosis (deformities in the scales of their feet which are made of the same material as your fingernails). **These conditions are common in inbred populations.**



An adult Fish Eagle's wing showing leucistic patches

The adult African fish eagles were also very underweight, even though their body condition was healthy, but they were simply much smaller than the normal African fish-Eagles.



Adult African Fish Eagle showing hyperkeratinosis on its feet

African fish eagle fact file

- African Fish Eagles are indigenous to sub-Saharan Africa, ranging over most of continental Africa south of the Sahara Desert.
- It is known by the Masai as *Tai*, or “keeper of the water.”
- The scientific name for the African fish eagle means ‘sea eagle’ from the New Latin word *Haliaeetus*, and vocifer because it has a loud and clear call, named by the French naturalist Francois Levillant, who called it ‘the vociferous one’
- The African Fish Eagle is a large bird. The female can weigh up to 3.2-3.6 kg (7-8 lbs). She is larger than the male who weighs 2-2.5 kg (4.4-5.5 lbs).
- Females have wingspans of eight feet and males have wingspans of six feet.
- The African fish eagle is still quite common near freshwater lakes, reservoirs, and rivers, although they can sometimes be found near the coast at the mouths of rivers or lagoons. African Fish Eagles are said to be monogamous - in other words, they mate for life.

Shiv Kapila is a Raptor Biologist supported by The Peregrine Fund and the National Museums of Kenya. The African Fish Eagle program is part of the East Africa Program run by The Peregrine Fund. The Peregrine Fund is a US based conservation organisation that funds research and education on raptors, or birds of prey. All pictures are by Shiv Kapila.



Read more on raptors on www.peregrinefund.org

More news from Lamu Marine Conservation Trust (Lamcot)

LAMCOT tags turtles as a way of following them. Recently, a few big female turtles returned to lay eggs on Shella beach on Lamu island. They had been tagged by Carol Korshen the founder of the turtle project 20 years ago as hatchlings. Females return to lay eggs on the very beach they were born.



Local school kids on Shella watching newly hatched turtles emerging from the eggs in the sand nest



Newly hatched turtle hurrying to the ocean. It must reach water as soon as it hatches otherwise its muscles become dehydrated and it will die.

kasa@peponi-lamu.com

www.lamcot.org

The African white-ringed Atlas moth





The African White-ringed Atlas Moth

Kenya's largest moth



Dino with an African White-ringed Atlas moth - it's enormous!

Kenya is home to an amazing diversity of moths and butterflies, tells **Dr Dino Martins**. The largest moths in Kenya - and the world - are the Emperor and Atlas Moths (in the family Saturniidae). The Atlas Moth of Asia reaches a wingspan of over 30 cm (one foot) in some females. In East Africa, some Emperor and Atlas Moths reach wingspans of up to 17 cm.

The African White-ringed Atlas Moth is one of the most striking and beautiful of these moths. The moth's scientific name is *Epiphora mythimnia* and it mostly feeds as a caterpillar on *Croton sylvaticus* at Kakamega Forest. It eats other food plants in other locations including *Ziziphus mucronatus*.

The wings of Emperor and Atlas Moths have distinctive eye-spots. They are centrally-placed transparent windows known as 'glass-spots'. These glass-spots are in turn ringed by circles of contrasting colour and more developed on the hind pair of wings.

When the insect is disturbed or alarmed, the wings are quickly spread. This flashes the eye-spots at a would-be predator. **The sudden appearance of bright, large 'eyes' in the darkness serves as a deterrent to predators like lizards or spiders.**

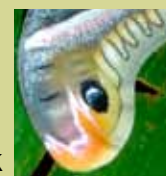
In some species, such as the Frosted Emperor (*Athletes semialba*), the eye-spots bear a striking resemblance to the face of an owl! Studies with caged birds have shown that the eye-spot patterns elicited the most alarmed responses.

In addition, freshly emerged Emperor and Atlas Moths can squirt a smelly fluid when molested which tastes bad because of the food plants they eat.

The flashing of the eye-spots works in many ways. First, a sudden burst of angry colour when it is least expected surprises would-be predators to pause and rethink their actions.

Should the attack continue, the eye-spots draw attention away from the head and body of the moth. By pecking or lunging at the eye-spots, a predator's attention is not on the vulnerable parts of the moth's body. The moth can then escape with only damaged wings, but the vital head and body intact. They can still fly and importantly, reproduce. Each escape increases their success as a species.

The eye-spots vary among the Emperor and Atlas Moths. Many are circles of contrasting colour. A few have evolved eye-spots that reflect light, like a real eye, due to large angular glass-spots. In the circles of colours, the 'irises' of some moth's eye-spots there are tiny light-coloured markings. These help create the effect of a sharp 'glint' - the fleck of reflected light typical of many true eyes. In the African White-ringed Atlas Moth the tips of the wings have the shape and colouring of a snake.



Dr Dino Martins is an entomologist who grew up in Eldoret watching insects. He is a National Geographic Emerging Explorer for 2011. Email: insects@naturekenya.org



Burning ivory to stop the ivory trade

President Mwai Kibaki lit a bonfire of 335 confiscated tusks and 41,000 ivory trinkets on 20th July 2011 worth more than Ksh 1,000,000,000 at Manyani, Tsavo National Park to fight the rise in poaching and the illegal trade in ivory.

He told the crowd gathered at the Kenya Wildlife Service training facility that Kenya is determined to stop the illegal trade in ivory.



President Kibaki setting the ivory pile ablaze

Although elephant numbers have increased in recent years, conservationists warn about a second crisis as poachers try to satisfy China's appetite for ivory. The burning, though hosted by Kenya, was carried out by the Lusaka Agreement Task Force, a group of seven African countries that work to protect flora and fauna. The burned ivory was confiscated by officials in Singapore in 2002. It was then sent to Kenya, where DNA analysis found that the tusks originated in Zambia and Malawi. A global ban on the ivory trade in 1989 briefly stopped the poaching. But now with booming Asian economies and increasing demand for land, poaching is on the rise. Africa had 1.3 million elephants in the 1970s but has only 500,000 today.

Kwale Eles Home

An interesting story about a home built from elephants' money

By **Salim S. Mwamasumbi**

Mwamasumbi has been the WCK patron at Ngonzini Primary School for 10 years. The school in Shimba Hills overlooks Mwaluganje Elephant Sanctuary.

Salim is the founder of Shimba Hills Forest Guides Association in Kwale town and has a story to share about his home and the elephants of Shimba hills.

"In 1980, the Kwale elephants raided my mother's farm in Ngade in Gondoni, destroying all the coconut and cashewnut trees. The Kenya Wildlife Service (KWS) paid my mother, Mwanajuma Mwamrezi compensation money for the crops destroyed by the elephants.

My mother is very wise. She spent some of the money to buy building poles from Shimba hills forest. Then she bought a plot near Kwale High School where she built a house where we live.

When I formed the Shimba Hills Forest Guides Association (SHIFOGA) I invited volunteers to come and work with us. Since 2007 we have had volunteers from Japan, Germany, France, UK, USA, Canada, Brazil and Norway.



Our home is called the Kwale Eles Home. It supports the conservation of Shimba Hills. My mother is a member of Shifgoa and has given land to the Wema Cultural Dancers who perform at Shimba Hills lodge.

WCK Coastal Chat

WCK Coastal Patrons @ WCK Mombasa Centre

The Coast province patrons from Mombasa, Malindi, Kilifi, Lamu, Tana River, Taita/Taveta, Msambweni and Kwale met on 6th August 2011 for a workshop at the WCK Mombasa Conservation Education Centre to highlight the conservation challenges in their locations and discuss ways forward.

The Coast Province Chairperson Mr. Hassan Mwadima spoke of the important role of patrons to create conservation education awareness amongst the youth.

He asked patrons not to misuse the privilege of WCK membership to the parks and reserves managed by KWS by registering late. He said field trips were meant for educating youngsters on conservation. KWS has changed the rules for entry for WCK members. Patrons must comply with KWS regulations. Only two patrons, a driver and one bus per school are accorded special rates.

Mr. Hassan said that WCK patrons are at the forefront of teaching conservation education through projects that are creative and innovative such as creating nature trails, waste management and others. Maryam Jenneby the Malindi education officer spoke about the importance of mangrove trees and the re-forestation programmes that her office supports at the coast like the income generating projects in

partnership with the EU and WWF on pond farms for fish and making 'Jenneby' fishing nets for the local people.

Issues on the greenhouse effect and global warming were discussed and ways to combat climate change through education for sustainable development. Based on the theme 'The International Year of Forests' and 'Forests: degraded versus conservation' a competition was organized for the coast region. 106 entries were received in art, poetry and essays.



Western Indian Ocean Marine Science Association (WIOMSA) Art Competition *"Coping with global change"*

By **Mtengo k. Mtengo**

The WIOMSA 7th Scientific Symposium was held in Mombasa in October 2011. It included an art competition with the theme *"Coping with global change"*.

WIOMSA is a regional professional, non-profit, non-governmental membership organization dedicated to promoting educational, scientific and technological development of all aspects of marine sciences throughout the Western Indian Ocean.

The winners of the art competition were drawn from Kilifi, Kwale and Mombasa counties. The WCK members had their fine art reflecting the beauty of the coast and oceans. They were then ferried to the WCK Mombasa hostels on Ketty tours buses



Ocean beauty - the Tiger shark

for the night, followed by an unforgettable visit to Haller Park courtesy of to Lafarge Ecosystems.

At Haller Park, the winners were taken on a guided tour. The club members were impressed by the rich variety of animals such as birds, mammals and reptiles found in the park that was once a barren quarry. It was a life-changing experience that broadened the knowledge of the WCK members on environmental conservation. We are happy that Kenya hosted the WIOMSA scientific symposium which gave us an opportunity to learn more about marine issues.

Walking Proud Heritage Tours

by Mtengo K. Mtengo

WCK coast region, supported by World Wide Fund for Nature (WWF) and Friends of Fort Jesus (FFJ,) has an exciting heritage programme for WCK members to appreciate the heritage resources at the coast and the need to preserve it. It gives the rural schools a chance to visit town.

Rural schools with WCK clubs are sponsored to visit the 16th century Fort Jesus where they are taken on a guided tour of the Fort as well as the historical Mombasa old town.

The following schools from Kaloleni had a chance to sample the Heritage tour
Moi Kadzonzo Girls Sec.
Tsangatsini Sec.
Tsangatsini primary
Ndatani primary school.

The group arrived at Fort Jesus and was welcomed happily by the staff of FFJ. The group was first treated to breakfast at the Fort Jesus restaurant and then introduction to the staff. Everyone received stationary and Mr. Taibali Hamzali gave vivid history of the old town.

He then led the group to Mandhry mosque, completed in 1570 and the

first one built in the country and still in use. Walking through the narrow twisting alleys, he pointed to houses that are cen



**17th century
Mandhry mosque**

turies old, constructed with coral stone with ornate latticework on balconies and windows and carved doors in ancient beautiful Asian style. Mr Hamzali showed the spot where slaves were assembled and prepared for sale and shipped abroad through the old port(harbor). The group then had a glance of the port's history and shipping operations.



16th century Fort Jesus built by the Portuguese and now a World Heritage Site because of its architecture



Narrow street in Old Town, Mombasa

The house that caught the attraction of the WCK members is the eleventh house believed to have been lived in by the great explorers of the Church Missionary Society like Ludwig Kraph and Johannes Rebmann. Kraph wrote the first dictionary and grammar of the Swahili language including the bible. The two missionaries were also the first to tell the outside world of the two snow-covered mountains - Kraph saw Mt Kenya and Rebmann saw Kilimanjaro.

However, this internationally recognized heritage site is threatened by pollution and mismanagement. Noisy tuk-tuks pollute the air carrying tourist to and fro.

The members returned to the Fort for a tasty lunch of Swahili dishes served by FFJ staff. After the lunch there was a guided walk within the Fort with the historian, Mr Hassan Mohamed at the National Museums of Kenya.

International Vulture Awareness Day (IVAD)



Ruppell's Vulture by
Dr Munir Virani of
The Peregrine Fund



Celebrating the culture



Participating organizations at IVAD

The International Vulture Awareness Day (IVAD) 2011 was celebrated on 7th October at the Ol Pejeta Conservancy in Laikipia. Vultures first appeared on earth about 40 to 50 million years ago, coinciding with the emergence of modern, grazing mammals (vulture food!).

Sadly, vultures are fast disappearing from our skies - in Kenya there has been a 96 per cent decline in the last twenty years, similar to India. One of the reasons for the decline is using poisonous chemicals like Furadan, which the pastoral use to lace carcasses to bait lions and crocodiles when they have killed the pastorals' animals. When the scavenging birds like vultures feed on the car-

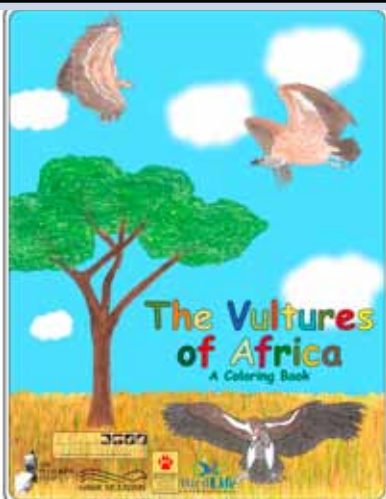
casses they die quickly. Today six of the eight vulture species are listed as globally threatened. The Bearded vulture may follow.

IVAD is an internationally coordinated event that began in 2009 to increase public understanding and awareness of the need to conserve vultures. The event at Ol Pejeta brought together 120 students from neighbouring schools. This year's theme for the art competition was **'The role of vultures in maintaining the cycle of life'**.

An Egyptian Vulture was sighted at the Conservancy. This species was thought to have been extinct from the Laikipia.

Ol Pejeta Conservancy thanks:

Samuel Mutisya
The Raptor Working Group
Kenya Wildlife Service
BirdLife International
Laikipia Wildlife Forum
Nyahururu Bird Club
National Museums of Kenya
Wildlife Clubs of Kenya
Mpala Research Centre



The Vultures of Africa by *Martha N. Mutiso*

Get this fantastic colouring book full of information about vultures in Africa.

The book is available at Nature Kenya at Ksh 330.

A *priceless gift from our ancestors*

By **Gloria Borona**

at the Trust for African Rock
Art (**TARA**).

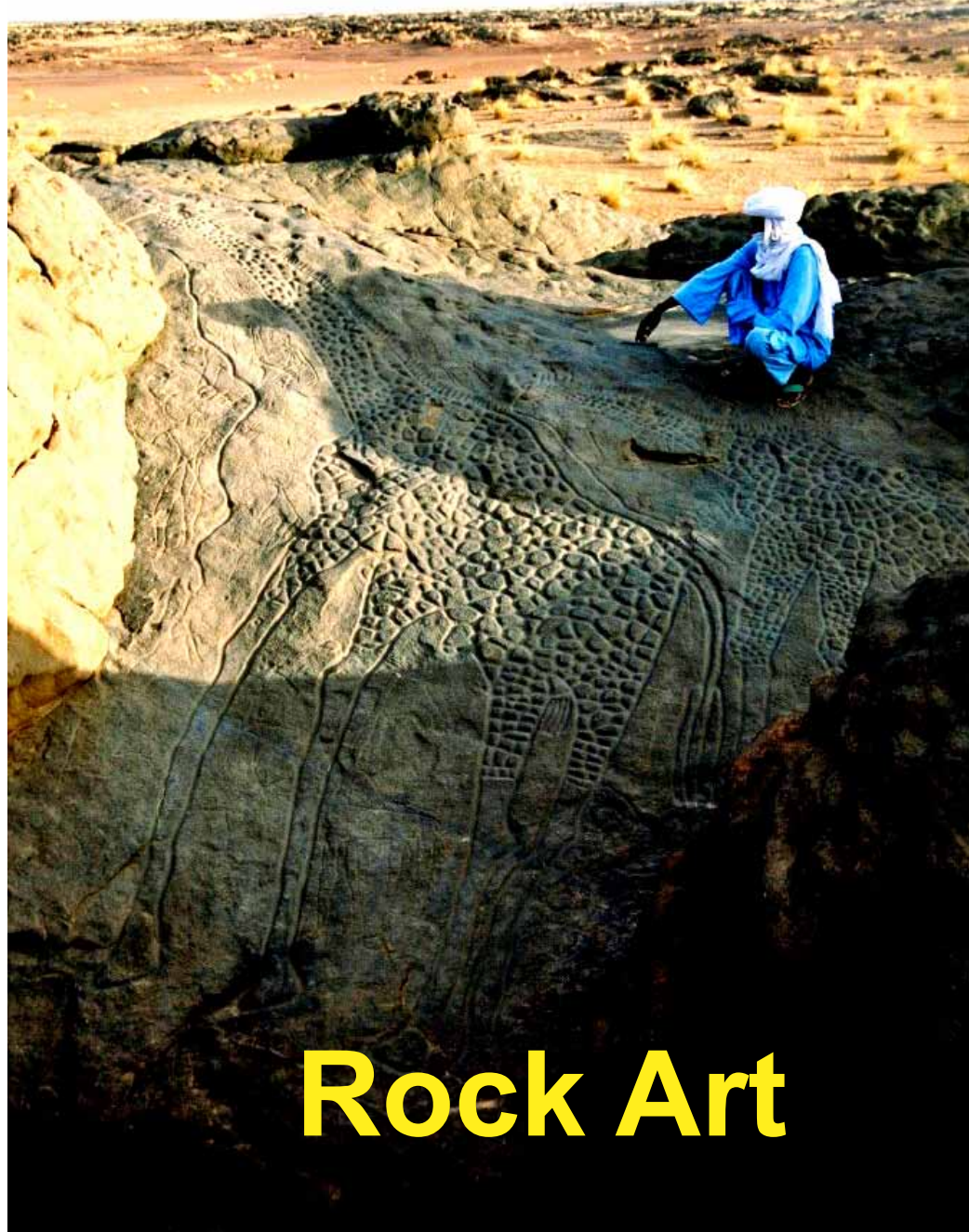
All Pictures: courtesy **TARA**

Long ago, before paper and writing were invented people drew and painted images on rocks. These images are called rock art.

Every continent, except Antarctica has rock art but Africa has more diverse and older rock art than other continents.

In Africa, the images represent animals, people and designs. Rock art is an early form of communication that helps us understand how our ancestors saw their world.

Africa's rock art shows the very beginning of human imagination and thought.



Rock Art

6,000 year old engravings of giraffes in Niger

Some rock art are painted on rocks. These are called rock paintings. Look at the picture of the circular paintings from Mfangano Island in Kenya. Others were made by scraping or scratching on the rocks. These are called rock engravings. Look at the picture of the giraffe engravings from Niger. These giraffes were carved on the rock 6,000 years ago! Most of the art was done thousands of years ago during Stone Age. Stone tools are often found near rock art sites. Archaeologists study stone tools and rock art to find out how the art was made and what it means.

Our ancestors used different materials like ochre, egg yolk, blood, animal fat, plant sap to make the paint. Sometimes you find images painted in red, white or yellow depending on the pigment that was used to make the paint. Rock engravings are made with a hard stone such as quartz. What does the art mean? It is difficult to know the exact meaning of rock art because it was made long ago. It is however believed that most of the rock art in Africa is related to humankind's spiri-

tual beliefs. Some rock art sites in Africa are associated with rain making ceremonies like at the rock art sites in Mfangano Island, Suba District that were used for these ceremonies until the 1980's.

TARA, an NGO based in Nairobi records the rich rock art heritage of Africa, so that this information is accessible to people. TARA works to safeguard the sites even in remote places. TARA does this through survey, conservation, documentation, exhibitions, publications and community projects.



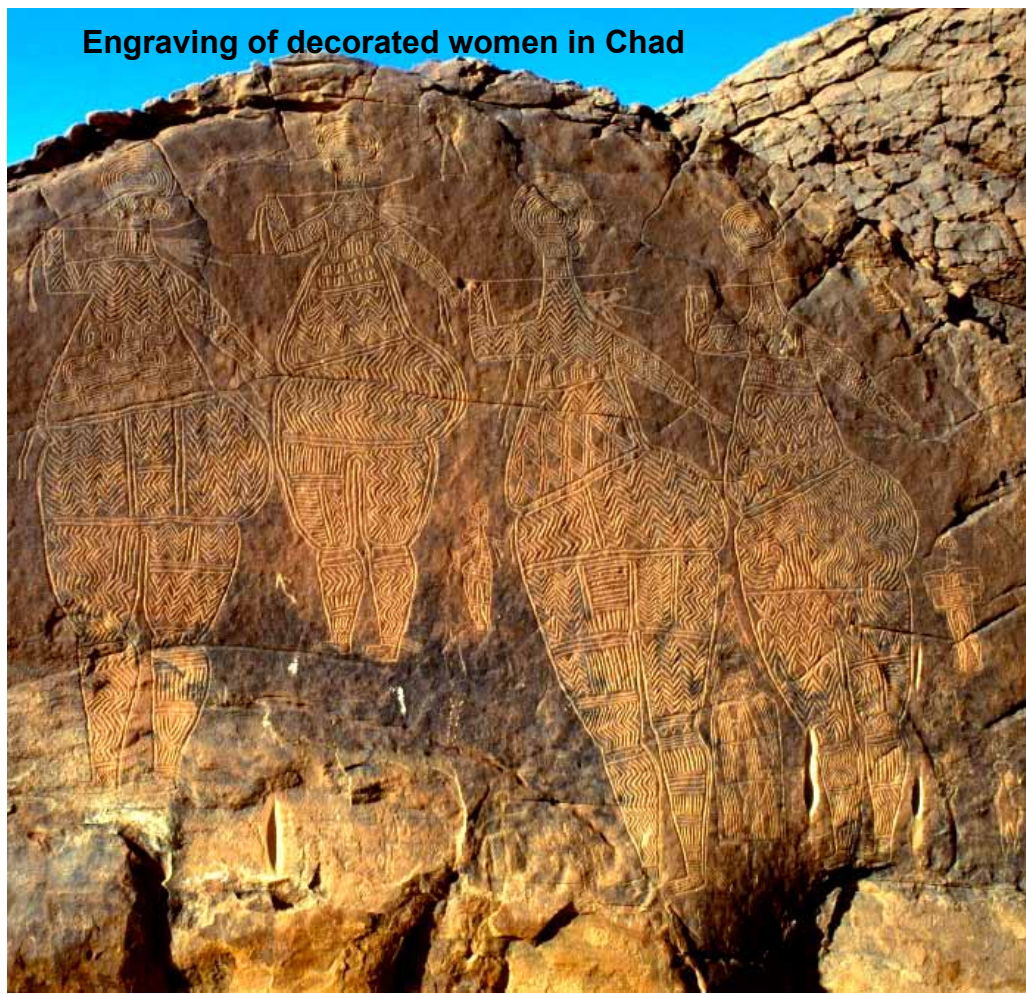
Rock art site on Mfangano island, Lake Victoria

Rock art can be damaged by people or by natural factors such as sun, rain or weathering. People damage rock art by writing on it, stealing it, cutting trees around the sites, farming and charcoal burning near the sites. We must protect rock art from any damage so that people in the future may see or study it. Many tourists visit rock art sites in Kenya and the world. In Kenya, you can visit rock art sites in Mfangano Island, Kakapel (near Bungoma) and Turkana.

Kofi Annan and Nelson Mandela, the great African leaders support conserving African rock.

Nelson Mandela: “Africa’s rock art is the common heritage of all Africans, but it is more than that. It is a cultural gift from our ancestors that can bring diverse people together - with pride and a common commitment to share and preserve it. “

Engraving of decorated women in Chad



Kofi Annan: “To Africa’s children, I would like to say, you are the future of Africa, study your proud history and protect Africa’s rock art. “

**Any rock art sites near you?
Have you seen any damage at rock art sites?
Please write to
TARA
P.O Box 24122-00502
Nairobi
www.africanrockart.org
Facebook:
Trust for African Rock Art**



Activity For primary level

The Butterfly Mobile From egg to adult butterfly

Make a mobile that shows the complete metamorphosis of a butterfly from egg to larva (caterpillar) to pupa to adult (the butterfly).

What you need

- Many colors of construction paper, oak tag, or gift wrap
- Pencil
- Scissors
- String
- Glue stick
- A sturdy paper plate
- Markers, crayons, or paint
- Stapler or tape



Life cycle of butterfly and moth



Egg



Larva
(caterpillar)

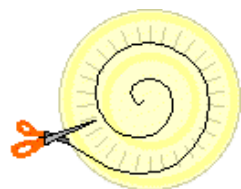


Pupa

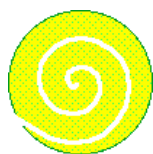


Butterfly

Staple or tape the stages in the butterfly's life cycle to string and then to the paper plate. Attach another short length of string to the plate; it will be used to hang the mobile up.



Draw a spiral on a paper plate. Cut along the line.



Decorate the paper plate using markers, crayons, or paint.



Using green construction paper, draw a leaf and cut it out. Either draw tiny butterfly eggs on it or glue on tiny paper circles. A cluster of butterfly eggs are usually laid on the underside of a leaf; the eggs are white or yellow or greenish, and are circular to oval.

Draw and cut out a caterpillar (the egg hatches into a caterpillar, which spends its entire time eating leaves).



Draw and cut out a pupa (the stage during which the caterpillar makes a protective case around itself and turns into a butterfly). Decorate it.



To make butterfly wings, fold a small piece of paper in half, and draw half a butterfly along



Using dark paper, make body for your butterfly (it's basically a long oval with a circular head).



Glue the body to the wings and decorate your butterfly.

cttr ad

giraffe centre
advert