FIRST DRAFT

Schools and the Healthy Eye

An Introductory Guide to Teaching Personal Hygiene and Eye Care by means of Enhanced Health Education in Primary Schools in Tanzania

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LEHEP: Lushoto Enhanced Health Education Project
KEHEP: Kongwa Enhanced Health Education Project

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Pictures were drawn by M.M. Masesa.

A number of publications were consulted, most notably:
Victoria Francis and Boateng Wiafe *The Healthy Eyes Activity Book* International Centre for Eye Health, Institute of Ophthalmology, University of London, 1996
Freedom from Trachoma, A practical approach (Edna McConnell Clark Foundation and Helen Keller International) 1994

2. Preface

3. Introduction

This book aims to introduce an approach to health education in primary schools which has been found in Tanzania to be feasible, successful, enjoyable, sustainable and low cost.

Two studies, discussed below, have shown that this approach led to the acquisition of knowledge and changes in attitude in children and, most importantly, to changes in their behaviour and to an improvement in the environmental conditions in their schools. Both studies focused on personal hygiene and environmental sanitation, the second had a particular interest in eye care.

The ideas outlined in this publication will be appropriate for the improvement in teaching and learning both in Tanzania and in other countries where similar problems are facing children and communities.

4. Background

The work outlined here was begun by the Partnership for Child Development which was formally established in January 1992 in order to investigate ways of strengthening school based health services as a means of improving the health and

educability of school age children. The implementation of policy is co-ordinated by the Scientific Co-ordinating Centre at Oxford University. One of the major aims of the Partnership is to strengthen the ability of the education sector to participate in school health programmes and one of the major programmes has been in Tanzania where the Tanzania Partnership for Child Development, known by the acronym UKUMTA from the Swahili version of that name (Ushirikiano wa Kumwendeleza Mtoto Tanzania), has carried out extensive studies into the treatment of parasitic worms. Health education in primary schools was planned from the outset to complement the medical treatment of children.

Two studies were carried out in Tanzania, undertaken by UKUMTA in collaboration with the Centre for International Child Health, Institute of Child Health, University College, London and with the Partnership for Child Development at Oxford University.

Earlier work by UKUMTA had laid the foundations for these studies by giving teachers medical information on parasites but evaluations of that work had also indicated a need to help teachers by giving advice on teaching methods as well. Accordingly, following discussions with the Ministry of Education and Culture and with the Ministry of Health in Dar Es Salaam, a Teachers' Guide to Health Education was written, introducing teachers to active teaching methods and giving suggestions about their incorporation into the curriculum.

It was soon realised that good though that guide may be, there were no resources to distribute it on a large scale and so another approach was taken. This involved introducing teachers to the new methods by means of a workshop. Fifty schools in the Lushoto district of Tanga were involved.

When results of the programme in a randomly selected group of schools were compared with those from a randomly selected group of comparison schools there was good evidence of changes in practices in schools, with particular reference to the provision of drinking water, water for hand washing, general environmental cleanliness and health awareness. Results on changing knowledge or practice in food practices were less encouraging. Follow up enquiries indicated that the work in schools has continued at least a year after the end of the formal study period.

In the second year, the approach was tried in a different part of the country, (Kongwa in the Dodoma Region), focusing on eye care, with equally encouraging results, showing that the approach could be generalised to other regions.

A critical factor in the success of the programme was the fact that teachers were encouraged to accept responsibility for taking initiatives in their own way, with the conditions pertaining in their schools being taken into account. This was achieved by means of the workshop structure.

In the first study, in Lushoto, a preliminary workshop was held over a four day period to introduce teachers to practical teaching methods and to certain medical information about parasites and the need for personal hygiene.

A few weeks later a second workshop was held. Teachers were encouraged to share their experiences and in particular to bring problems. This workshop was teacher driven, with no experts from anywhere.

Each school produced materials which had been developed by children and teachers, including songs, stories and pictures. Equally important, teachers were able to share problems and to help each other come up with solutions. A frequent obstacle

was the lack of time in the school day for extra health education. Some schools overcame this by having a ten minute spot during the morning parade, others realised that if there was no one on the staff to teach one of the specialised subjects, music for example, then that time could be used for health education. Some schools set up health clubs which took place after school hours. The important message from this is that teachers themselves could take responsibility for adapting the methods they had learnt in the first workshop and could also adapt the school day.

This second workshop seems to have been a turning point in the programme, since observers reported that there was more activity and more enthusiasm in schools thereafter. The teachers felt that they were in control of the work, they had been asked to help each other rather than turning to experts from outside and thus they had very much more enthusiasm and confidence.

The same philosophy was followed in the second study, in the Kongwa district of Dodoma: there were some medically based lectures but the introduction of teaching methods was undertaken entirely by a small team of teachers from Lushoto.

This, too, was followed by a second workshop when the Kongwa teachers came together to discuss their work.

An evaluation of the Kongwa activities gave very encouraging results in terms of improvements in children's knowledge and behaviour as well as changes in the school environments. The enthusiasm of the teachers remained high.

In summary, these two studies have demonstrated that it is possible to bring significant changes in children's knowledge and behaviour and to the environmental conditions of their schools by means of an approach to education based on

practical teaching methods which costs no more than the organisation of two workshops. There were no extra books, no posters, no flip charts; the focus was on people. Indeed, one person summed it all up: we are investing in people, not posters.

Three factors seemed to be absolutely critical:

- The first is that teachers were given help with teaching methods that were geared to their classroom needs.
- The second is that when these methods were introduced by other teachers, they gained credibility.
- The third is that teachers were encouraged to be creative in adapting the methods they had been taught and to help each other find solutions to problems and thus to have ownership of their work.

Links with the Community

It is understood that schools and the community can and should link to help provide the best care. The idea of the Health Promoting School is one that has much potential in this context. The topic is not dealt with in this booklet mainly because the projects on which the work is based focused on schools. While links with the community were not ignored, they were not a major part of the work.

5. Rationale

There is a focus on hygiene and eye care in this booklet because experience has shown that awareness in these areas is frequently lacking among children of primary school age. One result is the high prevalence of eye disease, like trachoma, in many parts of the country and in many other sub-

Saharan African countries as well. It is relatively easy to prevent trachoma by means of good hygiene practices, it is all too easy for it to lead to blindness if it is untreated.

Up to now, health education in Tanzania has used traditional methods of teaching. Yet the aim of the lessons should be always to help children improve their understanding in order that their behaviour may change. It is of no use to know that you should wash your hands after using a latrine if you never do this.

The work reported above, in Lushoto and Kongwa, has demonstrated very clearly that teachers can change children's behaviour by using the active, practical teaching methods that are discussed in the second part of this book.

The rationale behind these methods is that children learn better by doing rather than by passively taking notes from a blackboard. This does not mean that formal teaching should be given up altogether; what was observed in the two studies is that a mixture of methods was used. So a teacher may introduce a topic, for example, face washing, by giving a formal lesson on the importance of keeping one's face clean. Then comes the active part which can take many forms: children may perhaps sing a song about clean faces and how important it is to wash several times a day; they may make up a play about what happens to those who do not wash properly; they may make a poster to display to other children. These active methods help to reinforce the messages and help to make them more real.

For more information on such methods see *Health Promotion in Our Schools* by Hugh Hawes, available from TALC, P.O Box 49, St Albans, Herts AL1 4AX, UK.

The practical application of what children have learnt was one of the most impressive findings from the two Tanzanian studies. For example, many people have argued that it is a waste of time to teach children about the importance of clean water if there is no water in the school. This problem was faced by teachers and children together and in many schools children now arrive early and take it in turns to collect water from a nearby source. They also collect firewood and boil the water they have collected.

One major advantage of the approach outlined here is that if facilitates interactions between people. The two workshops method helps interactions between teachers and the active methods of teaching helps interactions between teachers and their pupils. A further step is to use a child-to-child approach to facilitate the interactions between children; older children can often help their younger brothers or sisters or can carry health messages to the home and to the community.

6. Future Action

It is hoped that the ideas outlined in this book will be taken up by colleagues in other parts of Tanzania and possibly by other countries. Whatever is done, and wherever it happens, it is strongly suggested that the three key messages of the approach be followed:

1. While some medical input may be necessary for some conditions, the teaching of new educational methods should, wherever possible, be undertaken by other classroom teachers. There is now a core of teachers in Lushoto and in Kongwa who are capable of passing on their skills to others and their abilities should be used.

2. Practical teaching methods really do help to make the lessons come alive and lead to changes in children's behaviour.

3. Despite all the constraints of time that teachers feel all over the world, if they help each other they can find opportunities to include enhanced health education into the school day. The more responsibility that classroom teachers are given the more effective they can be.

7. Teaching Methods.

The following teaching methods are recommended:

- Short stories and short plays. Stories and plays can be prepared by school pupils themselves. Pupils in upper classes can sit in small groups and write short stories and plays. Those in lower classes can think together and recite the stories or act the short stories. The teacher's role is to group them and assign them topics. The groups can compete by writing stories and reading them in class on similar topics or each group can write on a different topic. The best story is one that is attractive and contains correct health messages.

- Poems and poetic dramas. These should be prepared and recited by pupils themselves. The teacher's role is to ensure that the messages are correct.

- Songs and Traditional dances Health education messages targeting trachoma can be incorporated in popular tunes and songs.

- Discussion. Plenary discussions are recommended as it is easier to ensure that correct messages are conveyed.

-Study tours and Visits: Health walks, tours and visits require careful planning and consultations with other teachers as they need extra time. Health walks can also be planned. Pupils can walk around the school compound or village market and list down health risky areas and when back in class discuss ways of alleviating the risks.

-Practical activities or life skills. Curricular and extracurricular activities can be related. Pupils can make sweeping brooms, leaky tins, refuse pits and other cleanliness materials. They should be encouraged to make some for home use.

- Case studies.

Teaching aids: Teachers and school pupils are capable of preparing health learning materials consistent with the local environment.

- Wall posters
- Pictures
- Cartoons
- Message boards. Schools can have message boards on which daily health messages or mottoes can be written or displayed. These messages can be prepared by pupils. The messages should be short and simple. In Kongwa messages like " wash your face to avoid trachoma, trachoma can ruin your life, don't go to the toilet bare footed, drink boiled water to avoid diseases, eat vegetables to avoid eye diseases and flies are our enemies" were common.

When should health education be taught.

For health education to lead to behavioural and attitudinal changes pupils should be exposed to as many health education sessions as possible. Safe health messages particularly on eye care should be displayed on class or school

message boards. Health education can also be taught during the following sessions:

-School inspection or parade time. In many schools pupils assemble in the morning and before leaving school in the afternoon. A few minutes can be spent giving messages using short plays, songs or poems.

-Periods allocated to health education on the school timetable as per curriculum.

-Utilization of free periods.

-Health education across the curriculum: All teachers should convey important messages when teaching other subjects. They can also convey the days health message as part of the class – teacher greeting. Prefects can also convey the messages. The messages should always be correct.

Teachers should be models and schools should practice what is taught. Pupils should also be encouraged to pass the messages to their out of school friends and even to their families.

8. GOOD PERSONAL HYGIENE TO PREVENT DISEASES

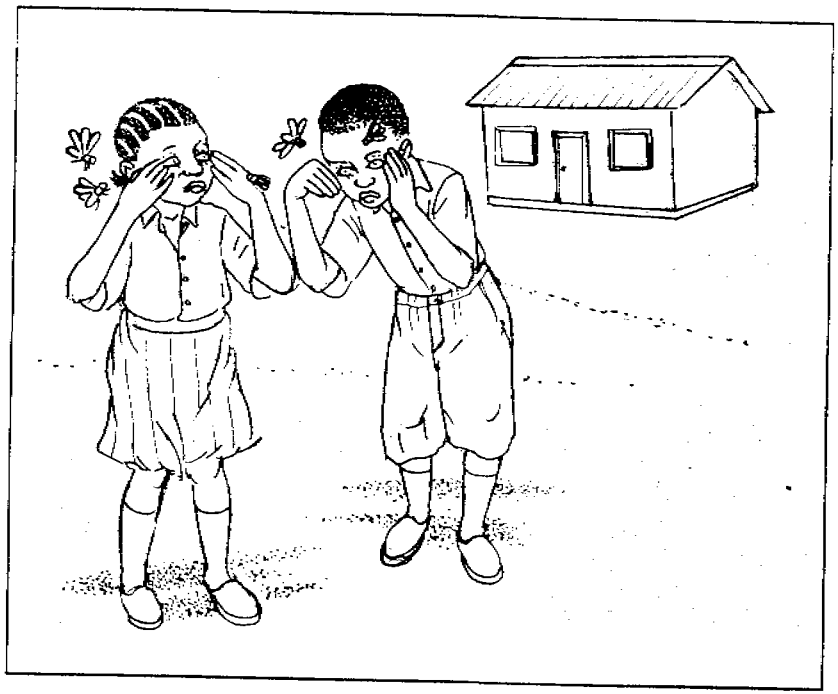
Objectives.

Pupils should be able to.

- Know the importance of personal hygiene.
- Develop a culture of cleanliness.
- Perform health related activities.

<u>Keeping our eyes clean</u>

When we wake up every morning our eyes have a sticky discharge. This is a normal discharge. Sometimes the same discharge is released during the day, when dusty . This attracts flies which may transmit germs from a sick person to a healthy person.



Flies attracted by dirty faces

The importance of keeping our eyes clean.

Eye diseases like trachoma which is a result of dirtiness and flies can be avoided by keeping our eyes clean.

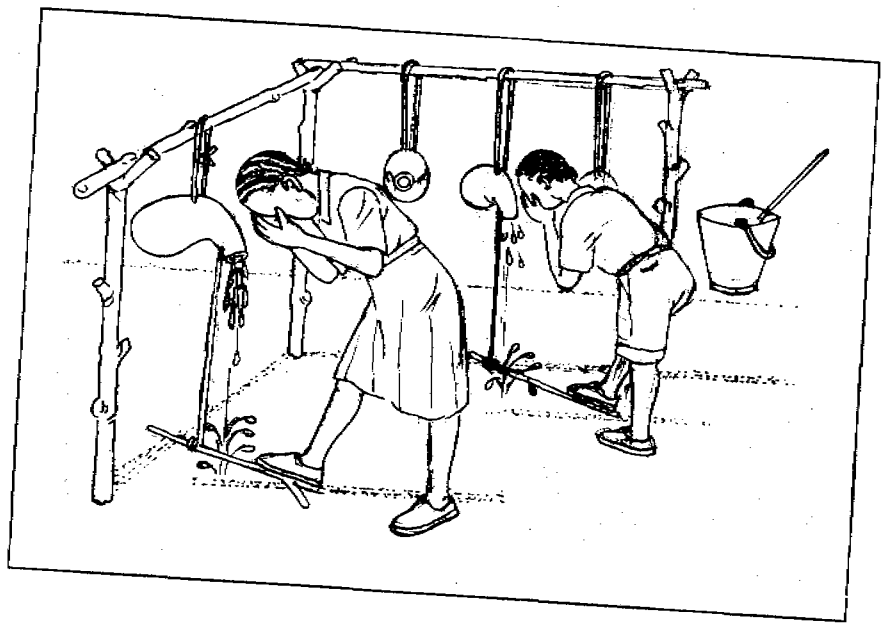
Clean faces and eyes keep flies away. It also makes a person attractive and smart.

Clean face , short hair with a smile

How to keep our eyes clean.

In order to keep our faces and eyes clean we have to wash our faces and eyes with water, preferably with soap. Where soap is not available disinfect your hands with local disinfectants like ash before washing with water.

Never wash your hands and faces from a common container i.e. one vessel used by more than one person. Where there is no running water use a gourd or cup to pour water on individuals hands, one handful at a time, or use leaky tins to economize on water particularly where there is an acute shortage of water. We do not need much water for face washing, in dry areas one litter of water can be used by 30 pupils.



The use of leaky water containers

When should we wash our faces.

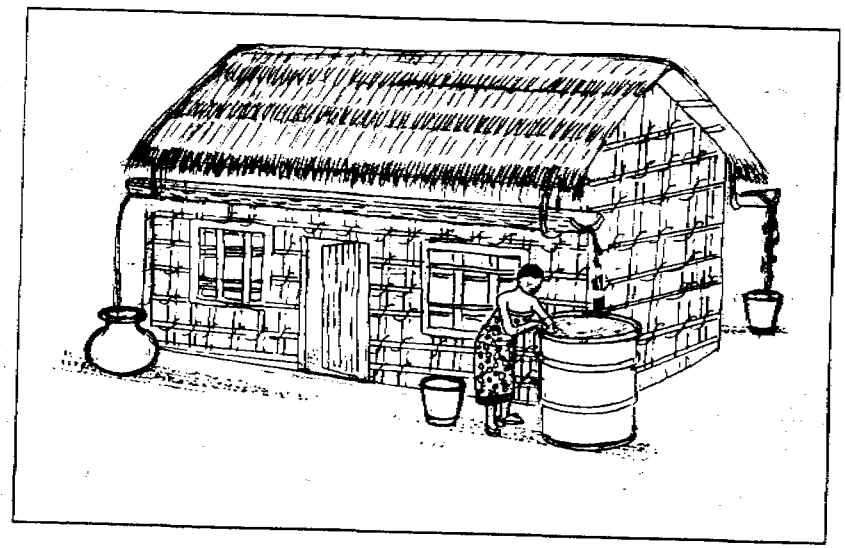
We should wash our faces at least twice a day; morning and evening.

School water sources.

Water can be obtained by harvesting rain water, fetching from wells, streams, rivers, ponds, lakes, tap water or water brought by pupils from their homes.

Water storage in school.

Schools should have large water containers and teachers, health scouts or prefects enlisted from among pupils should organize whole school or class face washing sessions.



Water harvesting storage

Keeping our bodies clean.

Our bodies become dirt as result of various activities which we perform daily. These activities make our bodies sweat. Our bodies also contact other dirt.

How to keep our bodies clean.

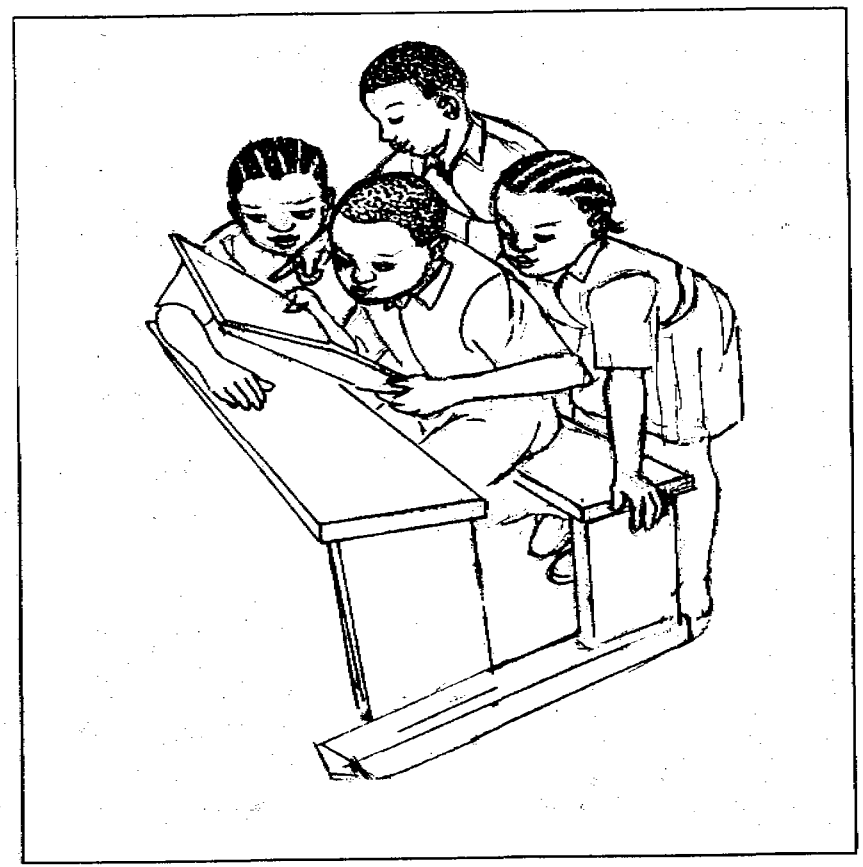
As a result of our bodies contacting dirt daily we need to take a bath regularly, preferably with soap or body scrubber We also need to put on clean clothes after taking a bath. Putting on shoes also prevents our bodies from dirt and from contacting diseases.

A clean boy and girl in school uniforms

The importance of keeping our bodies clean.

Dirtiness attracts germs, flies, lice, bedbugs and the like. These normally cause diseases such as skin diseases and eye diseases.

Cleanliness makes us look attractive and smart. It also makes us not to have a bad smell. This state makes us mix feely with friends and colleagues.



A group of boys and girls, all clean, looking at a book on personal hygiene.

TEACHING METHODS

Poem

i. Avoid blindness, wash your face every morning.
Eye discharge is dirtiness, to be avoided by all.
It sticks like pus , flies enjoy it all.
Wash your face in the morning, avoid trachoma.

ii. Wash your face, it is cure for trachoma.
Play your part, remove all dirtiness.
Cleanliness is your weapon, indeed I assure you.
Wash your face regularly, avoid trachoma.

iii. Don't play in dust, you will catch trachoma.
Avoid dust and dirt, truly I caution you.
You will be in trouble, if you don't listen to me.
Avoid dust, avoid trachoma.

iv. Keep your environment clean, avoid diseases.
Keep your body clean, run away from diseases.
Wash your face and body, defend yourself from diseases.
Trachoma should not spread, it is a dangerous disease.

Personal hygiene song:

i. *This is the way I brush my teeth,*
Brush my teeth
Brush my teeth
This is the way I brush my teeth
Early in the morning

ii. *This is the way I wash my face*
Was my face
Wash my face
This is the way I wash my face
To avoid trachoma

iii. *This is the way I clean my nose*
Clean my nose
Clean my nose
This is the way I clean my nose
To avoid trachoma

iii. *This is the way I wash my body*
Wash my body
Wash my body
This is the way I wash my body
To be smart and healthy

How to evaluate body and eye cleanliness.
- Child to child inspection and advising.
- School health scouts inspecting and advising.
- Teachers daily cleanliness inspection and motivations.

9. FOOD FOR HEALTHY EYES

Objectives:

Pupils should be able to:
- Mention types of food which help to keep our eyes healthy.
- Cultivate some vegetables and fruits which are vitamin A rich.
- Develop a habit of eating vitamin A rich foods

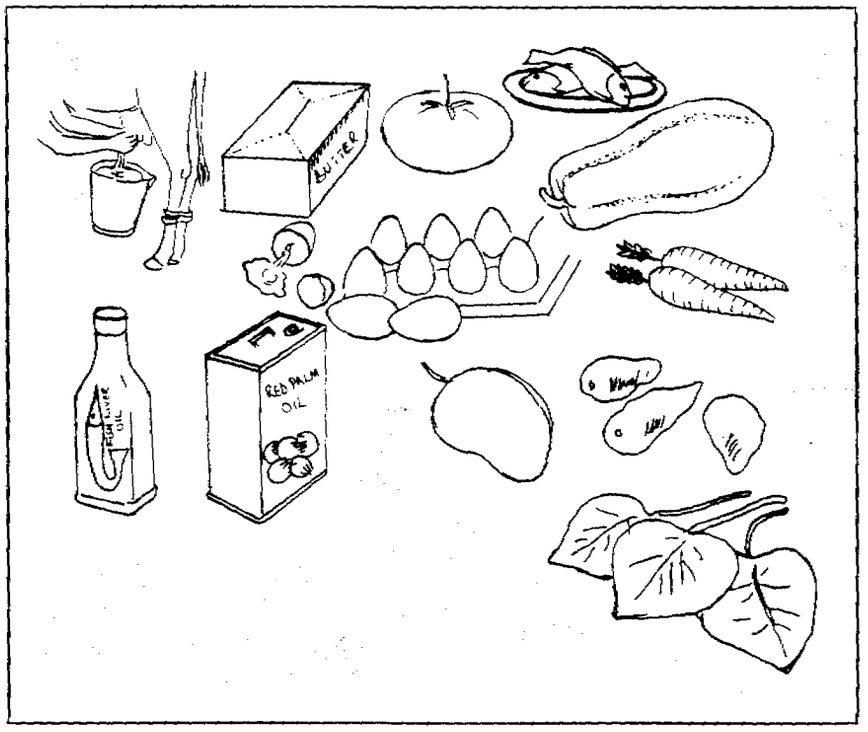
Introduction.

For proper health our bodies need carbohydrates, fats, proteins, vitamins, water and minerals and exercises.
Vitamins are responsible for defending our bodies and hence helping our bodies to function properly. We become sick if we do not eat foods which contain vitamins. Vitamin A is responsible for eye health.

Types of food containing vitamin A

Animal sources: - milk, butter, eggs, animal liver and kidneys and fish liver oil.

Plant sources: - red palm oil, carrots, dark-leafy green and yellow vegetables, sweet yellow potatoes, yellow maize, ripe mangoes, papaya, tomatoes. and pumpkins.



Vitamin A rich foods

Proper preparation of food.

Vitamin rich foods can loose their quality if they are not properly cooked and preserved. Vegetables should not be overcooked.
The drying of vegetables for preservation should be done under shade, to avoid losing their quality because of excessive exposure to sunlight (solar driers are preferred)

Procurement.
Schools should maintain vegetable and fruit gardens, whose products should be consumed by school children. Some of the fruits and vegetables which can be grown in the school compound are tomatoes, spinach, papaya, and sweet potatoes. Where there is an acute water shortage, planting should be done during the rain season.

10. IMPORTANCE OF ENVIRONMENTAL SANITATION.

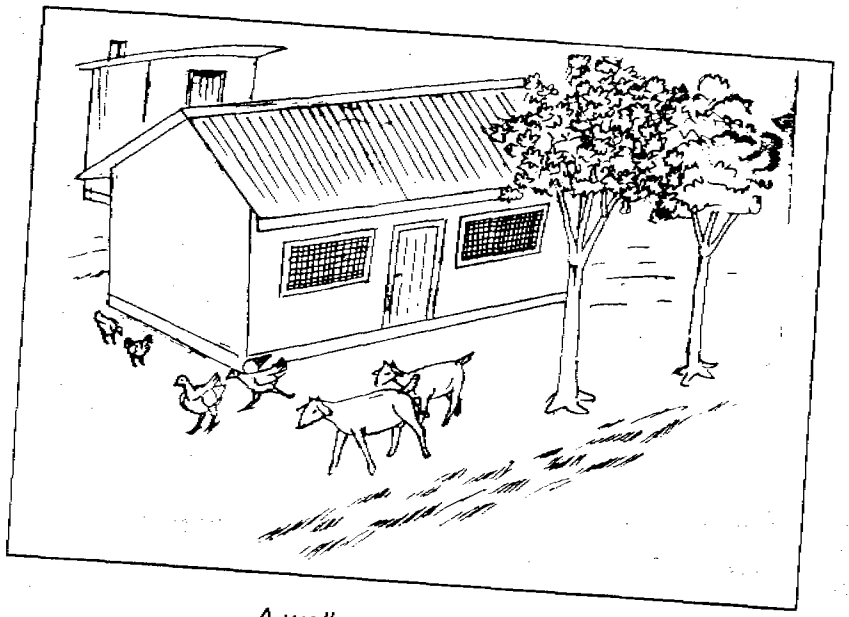
Objectives:
Pupils should be able to:
- Mention the benefits of living in a clean and health environment.
- Develop a culture of appreciating living in an area with a clean and health environment.
- Improve the school environment for the betterment of their health.

Introduction.
Living in a clean environment helps to avoid diseases. To be healthy it is necessary to have healthy surroundings.
A health environment includes well ventilated houses, existence of toilets which suffice the needs of the community and are properly used, proper disposal of refuse, a well

managed compound with shade trees and well managed livestock.

Well ventilated houses.

A well ventilated house should have big windows allowing cross ventilation.. Overcrowding of population and houses should be avoided whenever possible.



A well ventilated house

Use of toilets.

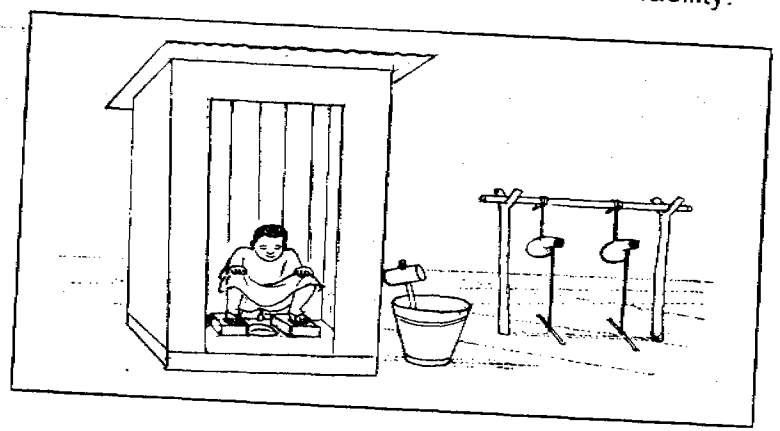
In order to avoid diseases which are caused by faecal contamination , we should have toilets and use them properly. Some of the dangerous diseases which can be transmitted by indiscriminate defecation are:- worms, schistosomiasis, diarrhoea, cholera and typhoid fever.

Toilet sites should be away from water sources and not too near living quarters. For pit latrines, the pit should have a depth of not less than four meters, it should be swept daily and

the pit hole or holes should be covered when not in use to keep off flies. Community toilets like those in school, hospital and markets should be disinfected regularly with modern or traditional methods. Some of the traditional methods are burning grass in the pit or putting ash in the hole and on the toilet floor.

Number of toilet holes will depend on the population of users. In communities like schools it is recommended that there should be enough holes to avoid unnecessary queuing during times of recess and for pupils not to be tempted to rush to the bush. Urinals can be constructed near normal toilets to reduce pressure on the toilets. But even these need to be kept tidy.

Anal cleansing: Toilets should have water for anal cleansing or other materials that can be conveniently used for the purpose. After toilet use hands should be washed with soap to avoid diseases. Leakey water containers should be used for this purpose. These should be placed near the toilet facility.



A pit latrine with a water container and a leaky tin outside

TEACHING METHODS.

Short story

RESPECT ME:

My name is Toilet Choo, I always live with you but you do not realise that I am more problematic than a bomb.

Despite being problematic, who among you does not recognise my usefulness. You all come to relieve yourself in me and I am your close confidant I never reveal your secrets to anybody! Yes, I see a lot of secrets!

Who among you have ever been denied services by me? Yet it is you who make me look bad to you. Why do you make me dirty and then hate me? Why do you make me a source of your diseases?

Who does not know that I have a large stomach?. Why don't you put your defecation into my proper stomach? Why, do you smear my mouth and body? Is defecation lipstick or skin oil? Why don't you clean and make me attractive? What is even worse is that when you dirty me with your excreta you run away? Leaving me to smell badly! You know that my mouth is always open in order to be at your service all day, all night. Why do you allow flies to enter my body? Why don't you cover my mouth when I am not eating? I don't charge you for my services. Why do you kill yourselves through me?

I can use my small bullet called cholera to wipe you out at once. Don't you know my powers? In spite of all this mistreatment I still invite you. But next time you come to me use me as follows:

Drop all your defecation into my stomach.

After shaking my hand, wash your hand before eating.

When using me put on shoes or slippers as a defence against my solders, my askaris!

By Salehe Athumani

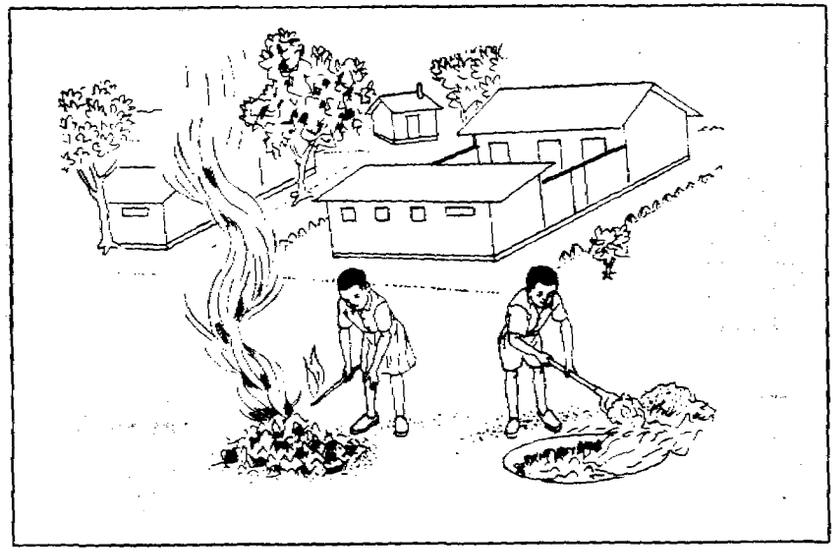
Class VI (pupil)

Gare Primary School, Lushoto, Tanzania.

Disposal of refuse.

Litter accumulates in communities due to natural and day to day activities by man and animals. The refuse can be the cause of various diseases and a breeding ground for flies.

To avoid diseases which are spread by flies all refuse should be dumped in a litter bin or refuse hole and when full, it should be covered with soil or burned regularly.

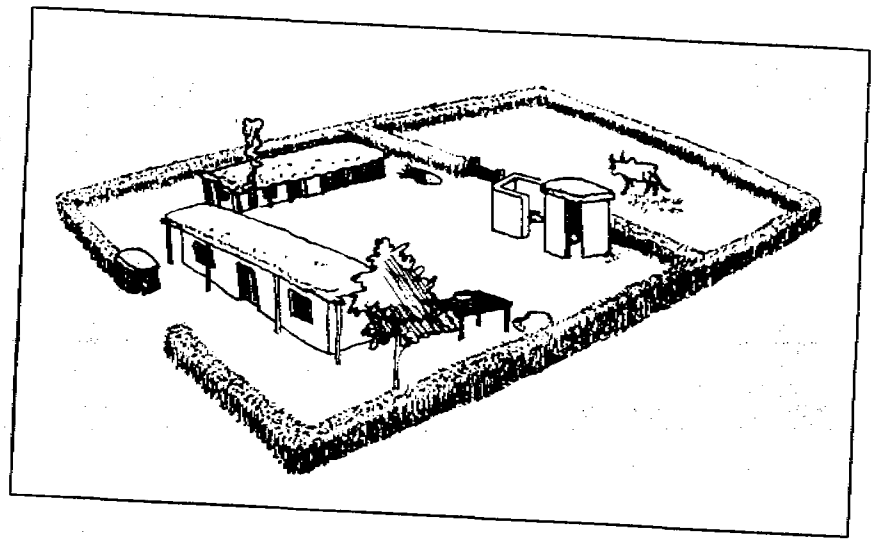


litter pit

Tree planting and good management of the compound

Trees provide shade, fruits, reduces wind speed and dust, makes the environment attractive and can improve the microclimate. By producing fruits and reducing dust they help to control trachoma.

Flowers should also be grown as they make the compound more attractive.
In dry areas drought resistant tree and flower species should be planted.
The family compound should be planned. The toilet should be located in an area which offers privacy and takes care of the wind direction. The kraals should be located at an isolated area within the compound. Litter pits, grain store, fire wood storage area, kitchen and eating utensil drying racks should be properly located within the compound.



A well planned compound.

Good management of livestock.
Livestock form important components of our communities. The most common livestock are cattle, goats, sheep and poultry.

Animal excreta i.e. urine and dung form a favourable breeding area for flies. They are also a source of other diseases. The excreta is however a useful source of farm manure.
We should never live with animals in the same house.
Their excreta should be properly managed by heaping it in an area outside the compound to be used in the farm or to be burned.

11.THE DISEASE THAT DIMINISH OUR EYE SIGHT

Blindness or impaired vision can be caused by the following:
- Being born with impaired vision. This is a very rare phenomenon but it can happen anywhere.
- Increasing age. While it is true that sight often deteriorates with age, it is not true that all old people go blind. Old people with eye problems should also be sent for treatment.
- Accidents in which the eye is damaged; For example, a child may be injured during a game, a snake may spit in a person's eye or when some tree sap enter the eye. A person whose eye has been injured should be taken for medical treatment immediately.
- Malnutrition, especially vitamin A deficiency.
- Disease in the body, for example measles.

Malnutrition and disease can be taken together, for in itself vitamin A deficiency is unlikely to cause blindness, but when it occurs along with an illness like measles in a young child then blindness can follow very rapidly.

There are several other diseases which cause blindness. These eye diseases include:-
- Cataracts. This is known in Tanzania as the 'child of the eye'. It can easily be recognized.
-glaucoma
- river blindness?
- trachoma.

Trachoma is an infectious blinding disease and a major public health problem in 46 developing countries. It is a leading cause of preventable blindness.

Causes and transmission of Trachoma.

The disease is spread from the eyes of infected people to others through person contacts.

The disease mostly affects children and their mothers, brothers and sisters and children care takers. Mothers of young children are particularly at risk, three out of four people blinded by trachoma are women.

Sticky and dirty faces attract flies. When flies touch the eyes of an infected person trachoma causing organisms stick on the hairs of their legs and are carried to the eyes of a healthy person.

The situation is more serious in **d**usty, **d**ry, and **d**irty pastoral areas.

Questions:

Identify the factors in this list which do not cause trachoma:

- Looking after cattle.
- Having many flies.
- Shortage of water.
- Greeting one another.
- Sharing one book in the class room.
- Lack of clean water.
- Crowding in a small house.
- Eating together.
- living near goats and cattle.
- Lack of piped water.

- Not brushing your teeth
- Having a dirty face.
- Drying yourself with a towel.
- Sharing one towel
- Sharing one bed sheet.
- Having a dirty nose.
- sharing eating utensils.

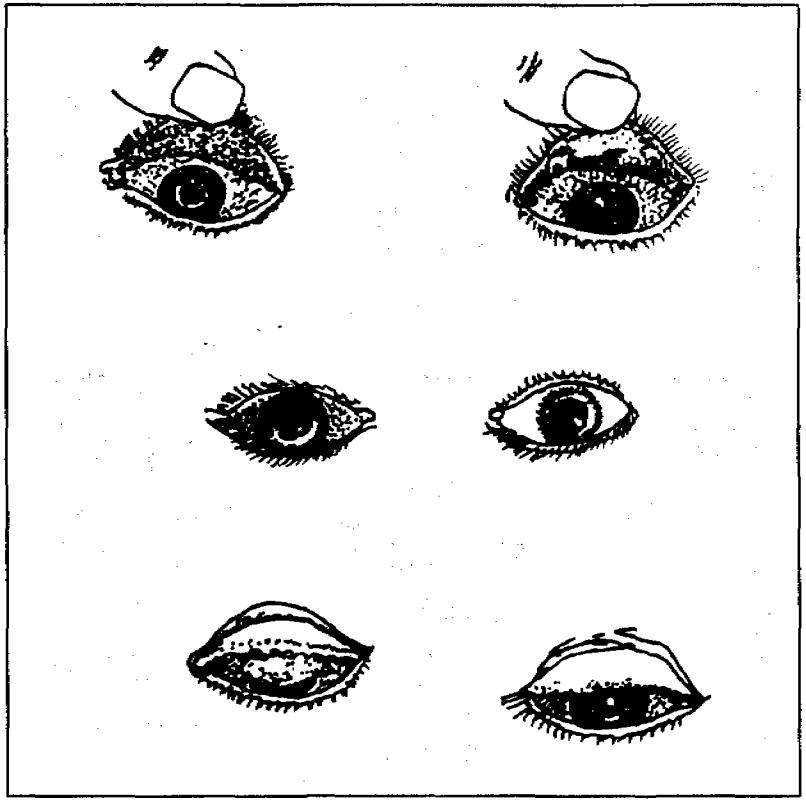
The spread of trachoma

Symptoms of trachoma

It starts with itching as a result of irritation. After sometime, follicles appear on the inner side of the upper eyelid. The follicles may be seen by using a magnifying glass when the upper eyelid is averted. The presence of follicles is a clear sign to confirm that the infection is trachoma. After many years, the follicles disappear and leave white scars in the upper tarsal

conjunctiva. eye lashes may turn inside and bruise the cornea which results in ulcer formation and cornea scaring which may lead to blindness. Removing eyelids with tweezers is only a temporary measure because they grow back.
The disease picture is as follows:-

1. TF----- follicles in the upper tarsal conjunctiva
2. TI ------ inflammatory thickening of the upper tarsal conjunctiva
3. TS --- Scar formation in the upper tarsal conjunctiva.
4. CO --- Scar formation on the cornea.



TEACHING METHODS
Poem
Flies are dangerous creatures,
Filth and faeces their abode.
Trachoma is their partner.
Fingers and fomites are their escorts.

Which is trachoma's playground?
It is the dry and dusty areas
Full of people and cow dung.
Eye and nose discharge uncared for.

12. THE USE OF SERVICES OF PREVENT TRACHOMA.

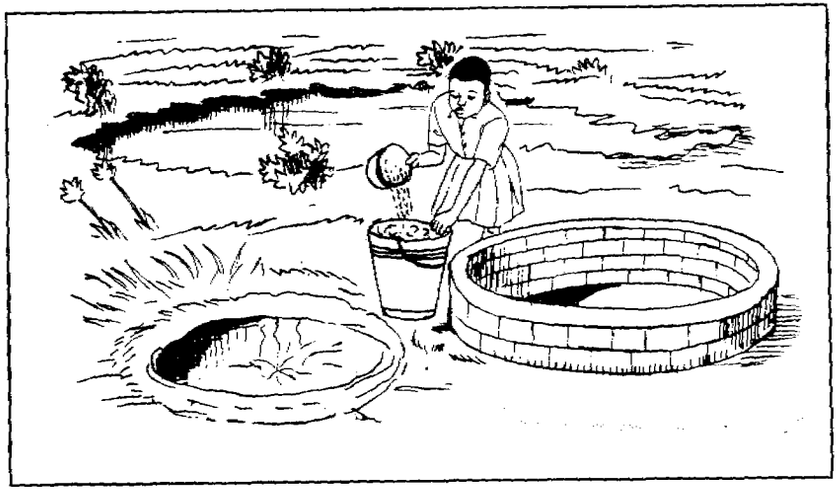
It is apparent that in countries where health related infrastructure is well developed generally diseases have declined in their endemicity and severity. Infrastructure development which should be earmarked in the developing world, should address the need to improve water supply. sanitary supply, maternal and child health services and treatment of diseases.

Water supply:

Water schemes through boreholes, springs, surface water, shallow wells or other sources of tap water can help to preventing diseases by improving water uses which in turn improve personal hygiene and hence preventing the spread of diseases like trachoma.
It is recommended by the WHO that each person should have access to clean piped water within 400 meters away from living quarters by the year 2002.

It is encouraged that communities should have a lead role through participatory rural appraisals on:-

- Contributing towards village water schemes
- Maintenance of water schemes
- Sustainability and replenishment of water-related equipment
- Rain water harvesting



Proper water scheme

On water supply, we encourage communities, pre school children and school children to:-

- Improve face and hand washing especially among pre school and school children
- Improve personal hygiene practices
- Make sure that each school has a back-yard garden for dark-green leafy vegetables.
- Plant fruit and shade trees and flowers in school compounds and in communal farms

- Make sure that each village has a functional water committee
- Ensure clean and constant water supplies

Sanitary :

In places where sanitary services are properly managed, communicable diseases have been seen to decline. There is a need to empower people at all levels to link health and sanitary services as interrelated in the process of disease elimination and eradication.

Prevention and Cure.

There is so far no vaccine, hence concentration should be on prevention by health education and treatment. The best time to treat trachoma is in the early stages. But it is better to prevent it in the first place, the best way to prevent it is by face washing, a very simple method; washing children's faces frequently.

Trachoma is a community disease and its control works best when the whole village or community learns about it and develops strategies to prevent it. Schools can play a major part in the education of the whole community. Schools can spread health messages and act as models.

The **SAFE** strategy should be used in all trachoma infested areas.

S – surgery is relatively simple and does not take long.

A -- Antibiotics. Topical Tetracycline ointment.
Zithromax (azithromycin) tablets or suspension taken orally once a year
Antibiotics are effective in the early stages of the diseases and are simple to administer.

F -- Face washing and increasing personal hygiene.
In area with a great deal of trachoma children often get red, sticky eyes. Like children everywhere, they rub their eyes and they touch their mothers', or brothers' and sisters' faces, thus spreading the disease. Flies are attracted to sticky eyes and they, too help to spread trachoma from person to person. Rinsing the face with water can clear the discharge from the eyes and noses and help prevent the spread of the disease.
E – Environmental Improvement (tree planting , latrine construction and use, refusal disposal, fly control and keeping domestic animals away from dwelling houses.

Sick people should be taken to the nearest hospital or dispensary.
Reinfection: close contact with other individuals in immediate environment can lead to reinfection.

Teaching Method

Short story

Monkey saves the animal kingdom from Trachoma.

A dangerous disease had invaded the animal kingdom. Animals called the disease trachoma since it affected the eyes. Many animals got thin because of hunger. They could not see properly. Meat eaters suffered most as they could not hunt well. Lion, the leader of the animals kingdom called a meeting of all flesh eaters or leaders as they used to call themselves. Animals walked slowly to the meeting, many holding walking sticks.

Lion: Trachoma has affected almost all our families, the lions, cheetahs, wild dogs, hyenas, leopards, wolves and some grass eaters. If we do not get a cure we shall all perish. Whoever finds a cure will rule half of my kingdom.

Cheetah: Our wives and children have been affected more than us.

Hyena Laughing: Ha, ha,ha,haa! give me half of the kingdom, I know the medicine , I learned it from my grandfather who died ten years ago

Leopard: But trachoma was not in the kingdom then and why haven't you cured yourself?

Lion: Give us the cure, we are all desperately looking for a cure

Hyena: Make small tattoos above your eyelids. Put white tree sap drops in your eyes and smear your faces with black soot, the type found in the windowless kitchens. Do it for seven days.

Lion : Disperse and practice, we meet here after ten days

Hyena : All of you must attend to see me take over a half the kingdom

Ten days later, a few animals turned up. The disease situation was worse. Hyena didn't turn up.

Animals shouting angrily: Where is hyena! Bring him forward.

Lion: *Hyena come forward, you have cheated us. I have almost lost the little light left in my eyes*

All animals: *We must kill hyena. Who will save us? We will perish.*

Monkey who used to eat grass but was not eaten by the flesh eaters because his flesh was black and tough. was seating a few steps at the back as an observer. He rose and shouted.

Monkey : (shouting) I think I know the cure. Yes, I have discovered the cure.

All animals turned around in disbelief

Lion: Who is talking in a sharp voice. You short black meat, who invited you ?

Leopard: Let him speak. If he cheats us we will eat him. I know him, he is very intelligent. He is my neighbour, he usually tells the truth.

Lion: Say what you have in mind about the blinder.

Monkey: Your majesty, while sitting on the top of the tallest tree I observed the whole kingdom.

Lion: By whose permission? But go on.*(Lion shouts proudly though sick)*

Monkey: I have observed that hippos and crocodiles do not contact the disease. Also fruits and grass eaters are not affected much. The disease is not known by the civet cat as they defecate in one place and kill flies.

Lion: You cunning round face! Are you suggesting that we eat fruits like birds? Do not degrade us.

Monkey: Look at each others face, can't you see the discharge and the small flies? They touch many eyes. It is the fly which spread the disease.

Cheetah: How can a small thing like a fly spread the disease to big animals?

Leopard: Pease allow him to finish.

Lion: You round face, don't beat about the bush, give us the cure.

Monkey: I have already mentioned all cures! Wash your face, eat grass and fruits, defecate in one place to reduce flies and use your tails to repel flies.

Lion: Don't mention fruits and grass. Respect your leaders!. All animals disperse and practice as monkey explained, and we meet after one month"

One month later, animals come with drums, singing except hyena who stayed very far at the back. They clap as little monkey enters. He had washed so frequently that his face was now hairless.

Lion: Please form a circle around our savior and sing.

All animals made a circle around the monkey and sang joyfully.

Animals: *Face washing, face washing, repel flies X 2*

Monkey: (at the centre of circle) *And don't hate fruit eaters X 2*

Then the King Lion had to fulfil his promise of giving the monkey half of his kingdom.

Lion: *Monkey has saved us, I will give him a half of my kingdom, I will rule the ground and he will rule the trees and eat all the fruits. Leopard can join him.*

Trachoma was thus eradicated in the animal kingdom and animals lived happily. All animals have since been using their tails to chase flies from their bodies. Monkeys have been living on their part of their kingdom feeding on fruits and hyenas are still running away from the other animals laughing. The civet cat and many other small animals still defecate in one place and all animals still fear flies, they repel them with heir tails.

13. Teaching trachoma and other eye diseases via other subjects.

Subject : **History**

Topic: Napoleonic wars.
The disease was prevalent at one time or another in most parts of the world. Frequent wars of the medieval ages helped to spread the disease as by then there was no known cure of the highly infectious disease. No wonder many solders who contacted it ended up blind.
When Napoleon conquered Egypt his solders contacted trachoma and took the disease back to Europe. This disease

had been known to exist in Egypt since the 19th century BC. defeat

Questions. If you were Napoleon how would you have advised your solders before they moved to dry, dirty, pastoral areas?
Where else do you think Napoleon's soldiers could have contacted the disease in Africa?

Topic: Slave trade
Records show that night blindness was a common complaint in slave trade routes.
What do you think was the main reason for the complaint.
What would have been the most practical solution to the problem?
Which other eye disease would you expect to see on slave boats? Give reasons.

GEOGRAPHY

There is usually a high correlation between the geography of a place and trachoma prevalence. The geography teacher can relate trachoma with climates, vegetation and pastoralism.
Questions: Why is trachoma found mostly in arid or semi arid areas?
- Why is the disease prevalence usually low in the hot wet forests?
- How can communities in dry areas change the microclimate of its locality?
- Why are nomadic pastoralists more at risk?

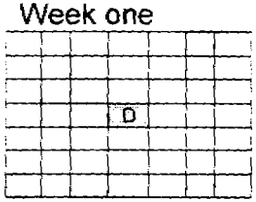
MATHEMATICS

Important messages can be conveyed through almost any topic in mathematics. Relevant statistics can be collected from local dispensaries or from health officers.
Examples:
Topic - Linear and Bar graphs

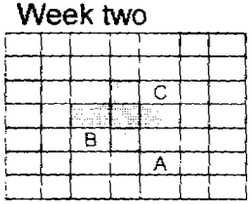
The figures below show the number of trachoma patients who reported at Kibaku health centre from 1994 to 1999
1995 – 900 1996 – 1200 1997 – 950 1998 – 750 1999 – 450
Draw a linear or bar graph to show the disease trend.
Questions:- which year had recorded the highest number of patients?
- has the disease been increasing or decreasing?
- What could be the possible reasons for this change over time?

Topic -Mathematical games.
Using touching squares to show how infectious diseases like trachoma can spread in a situation where you can only infect your closest neighbour.
Exercise: Each pupil draws 10 x 10 squares. Each square is assumed to be occupied by a family in the village. Mr. Dirty Face's family (D) who live in the centre of the village contacts the disease and spreads it to their neighbours. If it takes a week for the disease to spread to the next family, how many weeks will it take for trachoma to affect all families in the village?

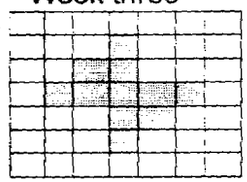
Week one



Week two



Week three



How many weeks would it take for the disease to spread through the village if three families (ABC) villagers followed all the principles of health.

LANGUAGES.
Language teachers can convey important health education messages through poems, drama, songs, syntax, grammar or structures, short stories, comprehension passages and questions and other general reading passages.

Science
In Tanzania health education topics are included in the science syllabus.

Work skills. Pupils can be taught how to disinfect toilets using traditional methods like dry ash. They can also be trained to make sweeping and cobweb brooms

Civic education. How can trachoma affect the economic development of an area?
Is there any correlation between poverty at all levels with trachoma?
What is the role of education in trachoma control.