



# Kuishi Maisha Yenye Afya



## Kwenye Kingo za Mto Tana

Healthy Living Beside the River Tana



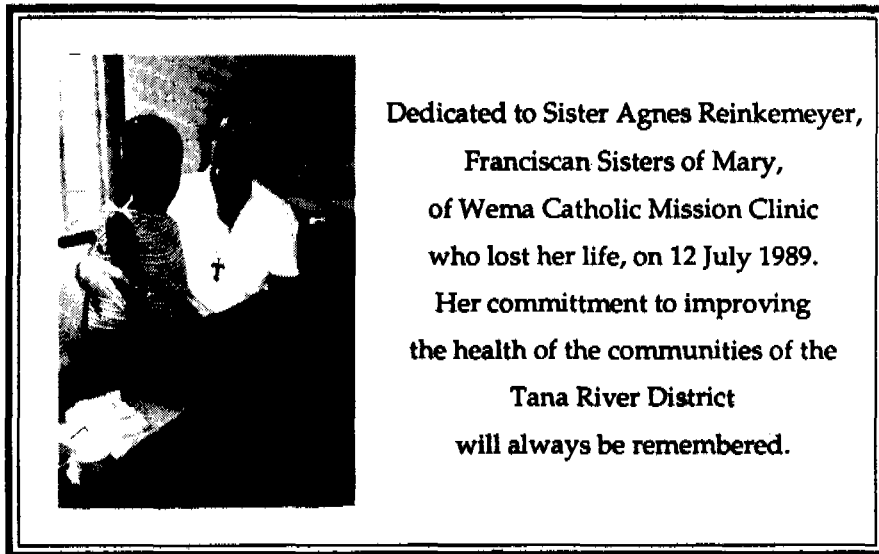
This manual was designed by the Community Health Division  
**KENYA WATER FOR HEALTH ORGANISATION (KWAHO)**  
for the Lower Tana River Shallow Well Programme.

Developed and illustrated by Juliet Waterkeyn.

# Kuishi Maisha Yenye Afya Kwenye Kingo za Mto Tana

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Healthy Living Beside the River Tana



Kifaa cha kufundishia kilicho tengezewa wafanya kazi wa afya katika wilaya ya Tana River kwa ugawaji miongoni mwa vikundi vya wanawake vya Orma na Wadei na mabaraza ya maji katika maeneo ambayo tayari yamepata maji safi.

A teaching aid developed for health workers in the Tana River District for distribution amongst the Orma and Wadei Womens' Groups and Water Committees in areas where protected water has already been obtained.

# Chairman's Foreword

KWAHO has embarked on many serious programmes to accelerate community training in water and sanitation in support of government overall objectives of achieving health for all Kenyans by the year 2000.

The provision of safe drinking water is one of the most fundamental requirements in the project areas where KWAHO operates. However, it is important that water provision is coupled with the full understanding by the communities of the connection between personal hygiene and methods of water utilization with many water-related diseases. This is also one of the key elements of Primary Health Care which is being addressed in Kenya, in the Child Survival and Development Programme.

Although KWAHO has an extensive network of "water for health assistants" working in the field, providing the training that is so vital a component in any community-based project, these field officers have little in the way of teaching aids to make their message clear. This booklet was therefore developed as part of a series that aims to provide a manual for each project area, dealing specifically with the technologies used in the area and relating to the particular health problems of the district.

Three such booklets have been produced to date, relating to water supply projects in Kwale District (in Swahili), South Nyanza District (in Luo) and this particular one (in Swahili), which reflects the problems of those communities living on the banks of the Tana River, in the District of that name in Coast Province. The illustrations are intended to provoke discussion and convey specific messages on health matters related to each particular community, and for this reason, the booklets should be used only in the areas for which they were designed.

It is a pleasure to note that KWAHO in its small way is contributing towards the remedy of these problems by developing a training system that should create a more general awareness among the communities living in the project areas.

This booklet is intended to supplement what the Ministry of Health is striving to achieve in these areas and this effort is highly appreciated. It is therefore my sincere hope that this booklet will be made use of in the way that it deserves and that it will go a long way towards ensuring that the training activities in KWAHO's project areas achieve the desired goal of improving community health through the knowledge and practice of better hygiene in the home.



James A. Aremo

*Chairman, KWAHO*

# Executive Summary

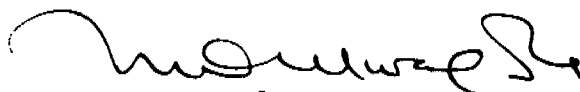
Kenya Water for Health Organization (KWAHO) is an indigenous Non-Governmental Organization which supports community efforts in the rural areas to achieve safe drinking water and better sanitation facilities.

To achieve sustainable projects, KWAHO places great emphasis on community mobilization at every stage of the project. To this end, methodologies have been developed whereby rural communities are involved from the beginning, with project identification and planning, and follow through with the implementation of the project. KWAHO's role is to train community leaders and village technicians in operation and maintenance, so ensuring an ongoing water supply. The training of men and women at the village level has, therefore been one of KWAHO's major concerns.

Whilst the primary goal is to supply clean water, this benefit to health can be lost through poor hygiene practices due mainly to ignorance of health hazards. With effective training, these habits can be changed without undue demands on the workload of the women themselves, or on their income, so ensuring a more healthy life for communities where clean water is already available.

For this reason, KWAHO has set up a division of Community Health, with a section producing health education material suitable for the project areas concerned. Although to date these messages have focused on the much needed subject of water-related diseases and sanitation, there are many other concerns besides these that are crucial and need to be addressed if a healthy family is our objective. With the formation of a Women in Development Division within KWAHO, there is the need to focus on a more broadly based type of training material, which should encompass nutrition, immunization and home industries.

This booklet therefore, developed for the Orma and Waday communities living at Wema and Garsen, Tana River District, is intended as the basic training manual in water-related diseases, for KWAHO's Shallow Well Programme, where by the end of the first phase (1989) over 40 wells had been supplied. In line with KWAHO's 'culture specific' approach, a separate training material has been developed for the Pokomo communities living in the area. As KWAHO has water projects in every province throughout the country it is expected that eventually each area will be catered for, until a comprehensive series of training material exists. In this way, KWAHO hopes that this will also help to compliment government programmes in these areas.



Margaret Mwangola

*Executive Director, KWAHO*

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This manual was designed by the Community Health Division  
**KENYA WATER FOR HEALTH ORGANISATION (KWAHO)**  
for the Lower Tana River Shallow Well Programme.

Developed and illustrated by Juliet Waterkeyn.  
Health messages developed by Wilson Kinoti and Sr. Agnes Reinkemeyer.  
Pretested with the help of the Orma and Wadei Communities.  
Translated by Suleiman Juma, assisted by Connie Kiprop.  
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# VIINI NI NINI?

## Unajua viini ni nini?

Viini ni vijidudu vidogo sana ambavyo hatuwezi kuviona kwa macho matupu. Ingawa hatuwezi kuviona viko kila mahali. Hivi vijidudu vina manufaa kwetu. Bakteria kwa mfano zinatumiwa kwa kutengeneza dawa za kuponya watu - penicillian na aina ya kovu inayoua viini vingine.

## Maziwa huganda namna gani?

### Na pombe huchacha vipi?

Kuna vijidudu (Bakteria) ndani ya vyakula vyote.

Hiyo ndiyo sababu chakula huharibika na kuoza.

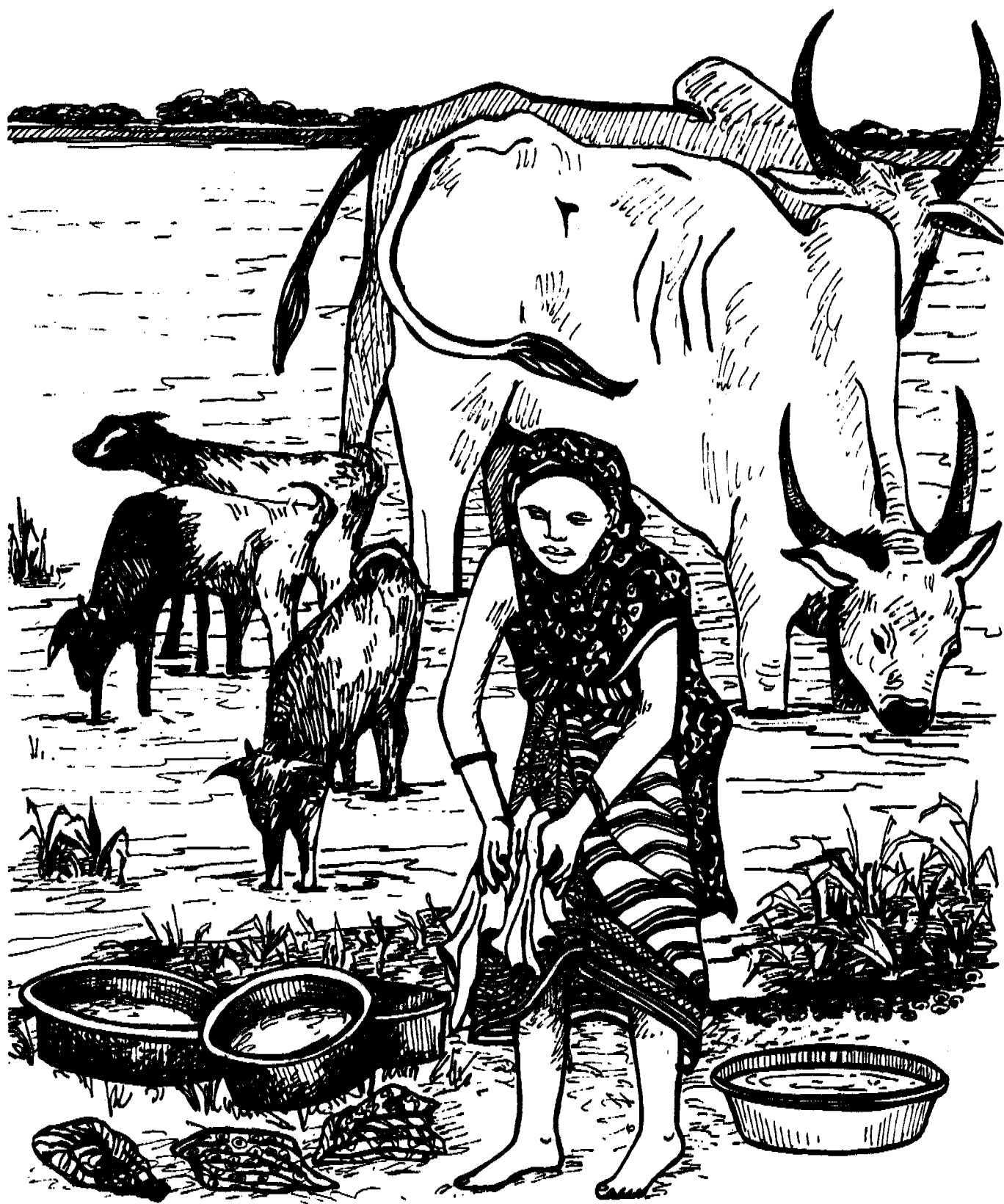
Kwa upande wamaziwa au pombe tukitaka maziwa yagande au pombe ichache tunaviacha vijiduduhivi vi fanye kazi yao kwa sababu vijidudu vyenyewe vina manufaa kwetu. Ingawa hatuvioni lakini viko na vinatufanyia kazi. Unaweza kuviona kwa darubini.

Hata hivyo, sio vijidudu vyote vina manufaa. Vijidudu vingine vinaleta magonjwa na vingine vinaharibu damu na ngozi zetu.



# Tunatumiaje maji ya mto?







# Kunywa maji ya mto

**Je, haya maji ni salama kunywa?**

La, haya maji ni hatari kwa sababu yamechafuliwa na wanyama na kinyesi cha wanadamu.

**Kitu gani kitatokea ikiwa utakunywa maji haya?**

- Utapata
1. Kichocho
  2. Kuhara
  3. Kutapika
  4. Michango

**Je, kuhara huletwa namna gani?**

Bi. Fatouma hakujua jinsi kuhara kunavyoletwa. Hapa anateka maji ya kunywa mtoni. Haya maji yanaonekana masafi kwa hivyo, anayanywa. Hawezi kuamini kwamba kuna kitu cho chote kibaya mpaka akione. Lakini kuna vitu vingine vidogo sana ambavyo hatuwezi kuviona kwa macho yetu. Wataalamu wakituambia tukubaliane nao.

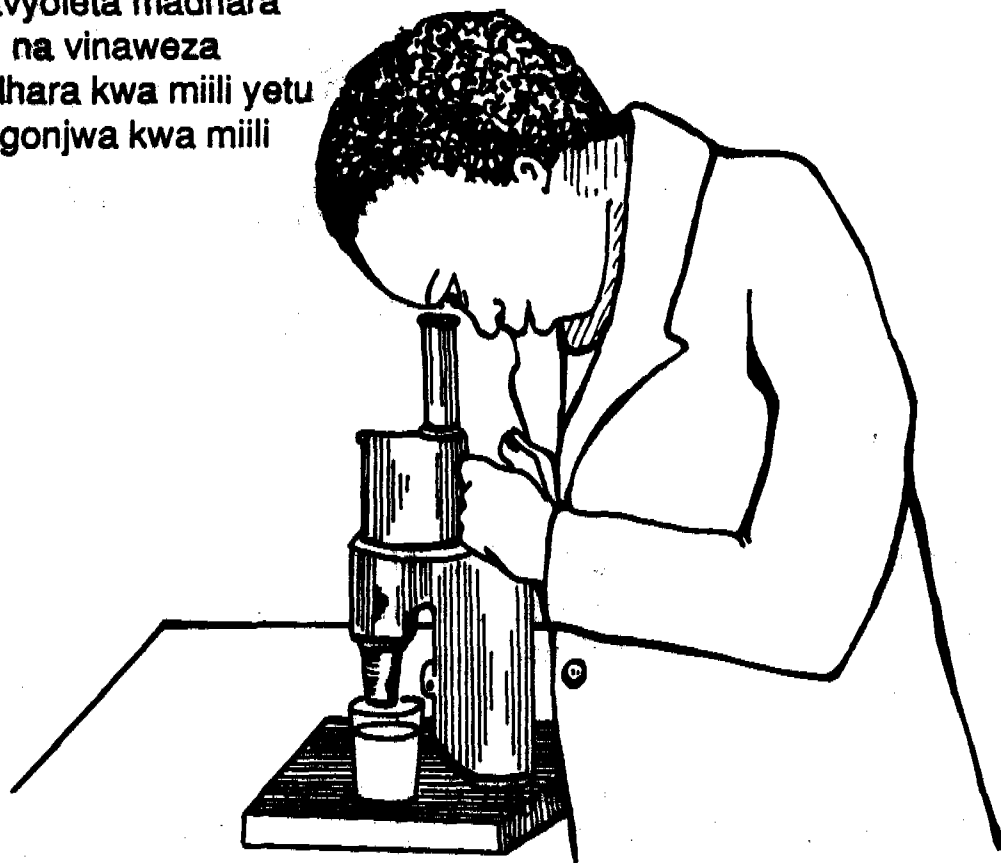


# Uchunguzi ma maji kwa Durubini

**Viini ni nini?**

**Unaweza je kuviona viini?**

Daktari akiyaangalia maji haya ambayo Bibi Fatouma ameyanywa kwa darubini hivi ndivyo anavyoona. Haya maji yana vijidudu vinavyoogelea na vinaishi humu. Hivi vijidudu vinaweza kuwa na manufaa na madhara kwa mwanadamu. Vijidudu vinavyoleta madhara vinaitwa viini na vinaweza kufanya madhara kwa miili yetu kwa kuleta ugonjwa kwa miili yetu.



# Maji ya mto yana vijidudu mpaka uyachemshe

## Njia zingine za kutakasa maji.

1. Kwa kuyachuja kabla ya kunywa.
2. Kwa kuruhusu maji yasimame mpaka uchafu utue chini (mitungi mitatu). Kichocho ndani ya maji kitakufa kama maji yatahifadhiwa kwa siku mbili (Masaa 48).
3. Tia dawa aina ya Aluminium Sulphate ambayo inafanya matope kuganda na kutua chini.
4. Watu wengine wanatumia Jik.



## Je njia hizi hutakasa maji kabisa?

Njia hizi zinasaidia na tusiziache lakini sio salama sana kwani viini bado vina baki ndani ya maji na baadaye vinalete magonjwa.

## Kwa nini kuchemsha maji ni njia ya pekee iliyo salama ya pekee ya kuua viini?

Kwa sababu ioto jingi huua viini. Kuhakikisha kuwa vijidudu vyote vimekufa lazima uyachemshe maji kwa dakika sita zaidi baada ya kuchemka.

# Maji masafi— Mtambo wa mkono



## Maji masafi hupatikana wapi?

1. Kutoka kwa mitambo ya mkono.
2. Kutoka kwa chemchemi.
3. Maji ya mvua kutoka kwa paa za nyumba.

## Je, kuna haja ya kuchemsha au kutakasa maji haya?

La, haya maji ni safi kabisa.

## Kwa nini unadhani maji yanayotoka ardhini ni safi?

Kwa sababu maji yanayotoka ardhini hayawezi kuchafuliwa na kinyesi cha au wanyama. Haya maji yanaweza kuchachafuliwa tu ikiwa kuna choo kisiichozi mita 30 kutoa mahali hapo Kinyesi kinaweza kupenya kisimani na kuyachafua maji. Hata hivyo, ikiwa choo ni zaidi ya mita 30 haya maji yatachujwa na yatakuwa safi.

## VIINI VINAENEZWA NAMNA GANI?

### Mikono yetu hutawanya viini

Abdi ametoka kwenye zizi ambapo alikuwa anaondoa samadi ili achome. Kuchoma samadi kila siku ni mazoza mazuri. Inahifadhi usafi na hupunguza inzi.



### Viini vinapanda namna gani kwa mikono yetu?

Tunapofanya kazi, tunagusa vitu vingi ambavyo ni vichafu.

### Ni vitu vya aina gani vinavyo fanya mikono yetu kuwa michafu?

1. Kukama ng'ombe au kugusa wanyama.
2. Kukusanya samadi ya ng'ombe kwa mikono.

### Uchomaji wa samadi hupunguza nzi kwa njia gani?

Kwa sababu inzi wanavutiwa na samadi wanataga mayai juu yake. Moto utaharibu mayai hayo.

### Je, moto una kazi gani zaidi?

Ni mpango mzuri kuchoma takataka, chakula kilichooza, mifupa na kadhalika kila siku. Ikiwa takataka zitaachwa karibu na nyumba zitawavutia inzi nyumbani kwetu. Inzi wataleta viini utoka kwa samadi na kuchafua chakula chetu.

## **Kutayarisha chakula kwa mikono michafu husababisha kuhara**



**Inzi hubebaje viini**

**Inzi pia hubeba viini**

Inzi wanavutiwa na vitu vichafu ili wapate chakula na watage mayai hapo. Wanaenda kwa kinyesi cha wanadamu na wanyama na aina zote za nyama na mboga zilizoza, vidonda na chakula chetu.

**Inzi wanatawanya viini namna gani?**

Viini ni vidogo sana hatuwezi kuviona kwa macho matupu. Inzi wanatembea juu ya vitu vichafu halafu wanaingia jikoni.

Wanapotembea juu ya chakula chetu tayari miguu yao ni michafu na inabeba viini vinavyosalia juu ya chakula chetu. Hapo ndipo tunakula viini hivi ndani ya chakula chetu.

Viini viko kila mahali hasa katika kinyesi cha wanadamu au wanyama. Viini vinaingia ndani ya milli yetu kupitia majeraha, mdomo, pua, macho, masikio na mahali pa haja ndogo. Viini viko kila mahali hasa katika kinyesi cha wanadamu au wanyama.

# Uchafuzi wa chakula na maji yakihifadhiwa vibaya

Ingawa Bi. Fatouma anayachota maji masafi kutoka kwa mtambo wa maji jamaa zake wangali wanaugua ugonjwa wa kuhara.



**Unaweza kutona kinachosababisha shida zake katika picha hii?**

1. Abdi amekuwa akicheza kwenye uchafu hapo nje. Ana kiu na amekuja kunywa maji. Mikono yake ni michafu lakini amekibeba kikombe na kutumbukiza mikono ndani ya maji. Mikono yake imeacha viini ndani ya maji. Sasa jamaa wote wataugua ugonjwa kuhara kwa sababu ya mikono michafu ya Abdi.

2. Mbuzi na kuku wanaruhusiwa kuingia ndani ya nyumba na hali vyakula vimeachwa bila kufunikwa na vyombo vyote vimeachwa sakafuni. Mbuzi wanalamba masahani na hali walikuwa wanakula takataka hapo nje. Mdomo yao ni michafu.
3. Kuku wanakanyaga chombo kilicho na maji ya kunywa. Hicho chombo hakina kifuniko kwa hivyo, kinyesi cha kuku kinaingia ndani ya haya maji na kuyachafua.
4. Inzi wanatua juu ya vyombo ambavyo vimeachwa ovyo kila mahali. Inzi wanatembea juu ya chakula na kuacha viini. Lakini kuhara kunaweza kuzuiliwa kwa kufunika chakula na maji.

### **Unajua magonjwa mengine yanayoua na yanaletwa na kunywa maji machafu?**

1. Kipindupindu—homa, kuhara sana, kumalizika kwa maji mwilini, unyonge na kifo.
2. Ugonjwa wa ini—maumivu tumboni, homa, macho yanakuwa manjano na kuwa mnonge.
3. Homa ya tumbo—kuumwa na kichwa, homa, maumivu ya tumbo, kuhara na wa.siwasi.
4. Kuhara damu—kuhara sana, kumalizika maji mwilini na homa.

Viini viko kila pahali hasa katika kinyesi cha wanyama au binadamu. Viini vinaweza kuingia ndani ya miili yetu kupitia majeraha, mdomo, pua, macho, masikio na mahali pa haja ndogo.

### **Viini vinaingiaje ndani ya miili yetu kupitia mdomo?**

Mikono yetu inabeba viini na kuingiza ndani ya miili yetu. Tunaweka mikono mdomoni tunapokula. Kwa hivyo, chakula na maji ni njia muhimu ambazo viini vinatumia kwa kuingia ndani ya miili yetu.



# Kunawa mikono bila sabuni hakuondoi viini vyote

## Jinsi ya kukuza tabia hii?

1. Kama wangetumia sabuni wangukuwa na mikono safi. Sabuni huondoa jasho na mafuta mikononi. Maji huondoa vumbi tu. Sabuni huondoa viini vinavyojificha chini ya makucha.
2. Jamaa wote wanatumia taulo moja. Ikiwa mmoja wao ana ugonjwa ya ngozi basi wote wataambukizwa. Ni bora kuwacha kutumia taulo ili mikono ikauke yenyewe
3. Watu wote wasitumie maji yale tu kwa kunawa mikono. Njia bora zaidi ni kila mtu amwagiliwe maji kutoka chombo kingine.



# Kula chakula kichafu kunaweza kulete kuhara

## Chakula hiki kimechafuliwa namna gani?

1. Mbuzi wamelamba masahani.
2. Chakula kimetayarishwa kwa mikono michafu.
3. Chakula kimekuwa baridi.
4. Inzi wanatembea juu ya chakula na kutawanya viini.
5. Wanakula kwa mikono ambayo hawakunawa vizuri.

## Tunaweza kufanya nini ili kuzuia uchafu huo?

1. Tumia chakula chote baada ya kupika.
2. Hifadhi chakula kilichosalia kwa kufunika vizuri.
3. Usiruhusu mifugo kuingia ndani ya nyumba.
4. Nawa mikono kwa sabuni kabla ya kushika chakula.



# VIINI VINAWEZA KUTUFANYA NINI?



Je, jambo hili linaendelea kwa jamaa yako?

## **Kuhara na kutapika husababishwa na chakula kibaya au maji machafu.**

Mohammed anajisikia vibaya. Anasikia tumbo limejaa na anataka kutapika.

Abdi ameanza kutapika. Wakati mwingine ugonjwa ukizidi mtu atasikia kutapika na kuhara kwa wakati mmoja.

Ali anahara sana. Hawezi kujizuia na tumbo lake limevimba. Anaendelea kuhara wakati wote na amekuwa mnyonge.

### **UNAWEZA KUFANYA NINI ILI KUEPUKA KUHARA NA KUTAPIKA**

1. Nawa mikono yako kabla ya kutayarisha chakula. Kila mara tumia sabuni.
2. Nawa mikono yako baada ya kujisaidia au baada ya kumuosho mtoto akijisaidia.
3. Usile chakula kilichoachwa ovyo tu, kwa vile kitakuwa kimeharibika au kimechafuliwa na inzi.
4. Kula chakula moto.
5. Usimruhusu inzi jikoni.
6. Usiwaruhusu kuku na mbuzi jikoni.
7. Weka kiwanja chako katika hali ya usafi kwa kuchoma takataka zote na pia choma samadi ya n'gombe.
8. Osha vyombo vyote pindi baada ya kula na uvikaushe kwenye mahali pa kukausha vyombo lakini sio sakafuni.
9. Kila mara osha matunda na vyakula vingine vinavyoliwa vbichi kabla ya kuvila.
10. Siku zote osha matunda na chakula choteambach ni kibichi kabla ya kukila.

# Ukosefu wa maji mwilini kutokana na kuhara unaweza kuwaua watoto



Ali amepoteza maji mengi mwilini kwa sababu ya kuhara na anasikia kiu na ni mnyonge.

Huu ukosefu wa maji unaweza kuua watoto kama wataachwa bila maji kwa muda mrefu.



# **Kama mtoto hatapata nafuu baada ya siku moja mpeleke kliniki [zahanati]**

Ali amekuwa akihara kwa siku tatu sasa. Bi. Fatouma anagundua kuwa hali ya Ali itakuwa mbaya kama hampelika hospitalini. Muuguzi ana wasiwasi anapona jinsi Ali amekuwa mgonjwa na anamueleza Bi. Fatouma kuwa angemleta mtoto mapema.

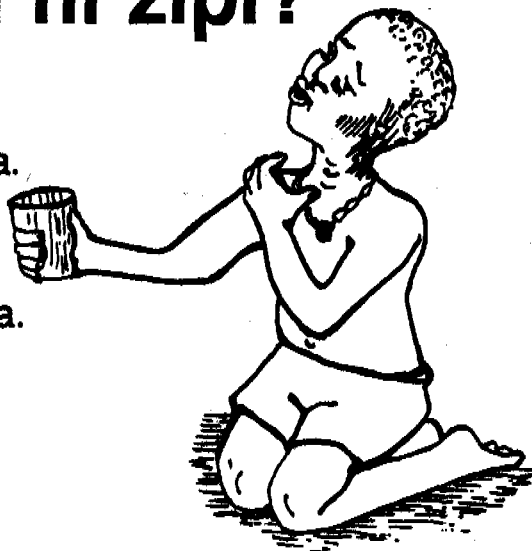
Muuguzi anaeleza kuwa kuna aina mbili za kuhara. Moja ni ile inayoweza kuponywa nyumbani kwa kunywa maji na kula chakula kizuri. Aina ya pili ni ile ambayo inahitaji dawa za kuua viini na hizi dawa zinapatikana kwenye zahanati (kliniki). Kama kuhara hakuapona basi ni kule kuhara hatari zaidi.

**Ali alikuwa karibu kufa**



## **Dalili za ukosefu wa maji mwilini ni zipi?**

1. Mdomo hukauka na kupasuka.
2. Macho yanadidimia.
3. Hakuna machozi mtu anapolia.
4. Mkojo huwa kidogo na ina harufu mbaya.
5. Ngozi hukauka sana.
6. Kwa watoto wadogo utosi hudidimia.



## **Unaweza kukumbuka wakati mwingine ambapo mwili huwa na ukosefu wa maji?**

1. Wakati wa joto jingi na tunapotoa jasho jingi na hali hatuna kitu cha kunywa.
2. Tunapokuwa na homa mwili huwa na joto jingi kwa hivyo, mwili hupoteza maji mengi.

Wakati mwili unaonekana hauna maji lazima mgonjwa apate maji mengi kiasi anachoweza. Kama akitapika, mpe kidogo kidogo kwa kijiko baada ya kila dakika chache. Hiyo ndiyo njia nzuri na rahisi kwa mama kutumia ili kumsaidia mtoto mgonjwa ambaye hana maji mwilini na anahara.

# Kila mara mpe mwenye kuhara maji mengi ili kuzuia maji kumalizika mwilini

**Utafanya nini kama mtu anahara au ana ukosefu wa maji mwilini?**

1. Endelea kumpa kinywaji kila wanapotaka hasa baada ya kuhara.
2. Kama watoto hawajiwezi kabisa uwape maji kidogo kidogo kwa kijiko. Mtoto anahitaji vikombe vitano vya kinywaji kila siku na mtu mzima ana hitaji lita mbili kila siku ili kuzuia ukosefu wa maji mwilini.



## **Vinywaji gani ni bora kwa mgonjwa?**

ORS za paketi, maji ya matunda hata soda ambayo itawapa moyo wa kunywa kitu. Maji yo yote safi hata kama ni chai, maji ya sukari au asali, au maji ya mchele. Supu ni bora zaidi kwani itawapa nguvu.

Ali alipewa maji maalum ya inayoitwa Oral Rehydration Solution (ORS) inayonunuliwa dukani na inachanganywa na maji. Hicho kinywaji hurudisha chumvi na maji yaliyopotezwa mwilini na hufanya mwili kuwa na nguvu tena.

Hiki kinywaji kinaweza kutengenezwa nyumbani kwa kuweka chumvi kidogo, sukari mkono mmoja na maji yaliyochemshwa kikombe kimoja. Hata hivyo, tengeneza kinywaji hicho kwa mashauri ya wauguzi ama sivyo, mchanganyiko huo inaweza kuwa na madhara zaidi.



## Kutompatia mtoto chakula anapohara kunafanya hali yake kuwa mbaya zaidi

Bi. Fatouma anahakika kuwa akimpa Ali chakula wakati anapohara kitamfanya kuwa mgonjwa zaidi. Maskini Ali hajala cho chote na matokeo yake ni kuwa baada ya siku mbili amechoka na dhaifu.



## Utasikiaje ikiwa hutakula kwa siku moja au mbili?

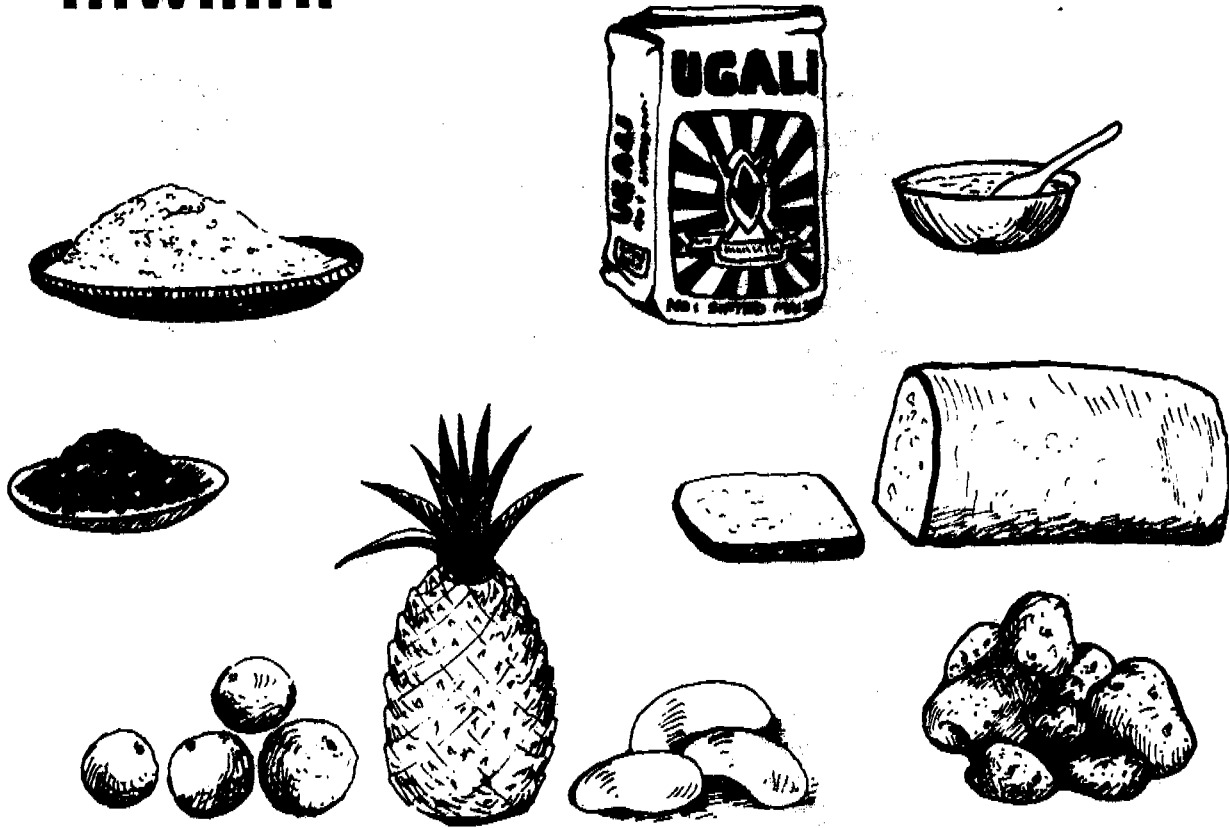
Itakuwaje kwa yule ambaye anahara na kutapika ikiwa hatapata chakula kwa siku moja au mbili?

Baada ya kwenda kliniki alijna jinsi ilivyo muhimu kuendelea kumpqa mtoto mgonjwa chakula kwa kiasi kidogo ili kuendelea kumpa nguvu.



Wagonjwa wanahitaji kula ili wapate nguvu ili mwili uweze kupigana na viini vya magonjwa. Ingawa hawezi kutaka kula, ni sharti apewe chakula nyororo kidogo kidogo kila mara. Mtoto asiyepata chakula cha kutosha anaweza kufa kwa kuhara kwa sababu ya njaa. Mtoto mwenye nguvu anaweza kupigana na kuhara kuliko mtoto mnyonge na ambaye hapati chakula kizuri. Bi. Fatouma anajua chakula kilichopikwa vizuri na nyororo kitasaidia mtoto kupona haraka.

# Sikuzote mpe mtu ambaye anahara chakula kingi ili kuzuia ukosefu wa maji mwilini



**Jeni sawa kumpa mtoto kupewa chakula hata kama anahara punde tu baada ya kula?**

Ndiyo. Ni muhimu kujaribu kumpatia mtoto chakula. Hata kama ikionekana chakula hakibaki tumboni lakini kuna kiasi kidogo kinabaki.

**Chakula cha aina gani kinafaa kwa mtoto anayehara?**

Chakula nyororo kama vile wali, uji viazi vilivyopondwa, uji wa maharagwe, mkate, samaki, matunda kama vile ndizi mbivu, machungwa, maembe na mananasi. Chakula cha mafuta si kizuri sana.

# **Kila mara endelea kumnyonyesha mtoto anayehara**

**Bi. Fatouma amefundishwa kuwa chakula kizuri kwa mtoto anayehara ni maziwa ya mama. Maziwa ya mama yanayeyuka haraka tumboni na yana nguvu ya kukinga mwili kutokana na viini.**

**Ni sharti watoto wanyonyeshwe pindi wanapotaka maziwa hata kama matokeo yake ni kuhara zaidi. Watoto wachanga sana ni rahisi kufa kutokana na ukosefu wa maji mwilini au njaa kwa sababu ya mazoezi mabaya wakati watoto wanapohara.**



**JINSI YA KUKINGA  
JAMAA YAKO KUTOKANA NA VIINI:  
Hifadhi maji ya kunywa ndani ya chombo  
kilicho na kifuniko**

**Je, kuna njia bora ya kuhifadhi maji?**

Haya maji ya kunywa yamehifadhiwa vyema kwa vile watoto hawawezi kuingiza mikono ndani wanapotaka maji ya kunywa. Mtungi una kifuniko na jerrycan pia ina kifuniko kwa hivyo, kuku na wanyama wengine hawawezi kuyachafua haya maji.

**Chombo cha aina gani ni kizuri kutumiwa?**

Manufaa ya kibuyu (jerrycan) ni kuwa mtu hawezi kuingiza mikono ndani lakini vigumu kuyamwaga haya maji wakati jerrycan imejaa na pia si rahisi kuisafisha.



Mtungi ni rahisi lakini lazima uwe na kata na ni lazima watoto wafundishwe vizuri kutoingiza mikono yao ndani ya maji.

# Nawa mikono kabla ya kutayarisha chakula

**Je, unaweza kuziona katika picha hii jinsi Hadija amezibadilisha njia zake za kupika?**

1. Sasa Hadija ananawa mikono yake kwa sabuni kabla hajagusa chakula.
2. Kiwanja cha nyumba yake ni safi hata hakuna nzi. Anafunga mlango ili nzi wasiingia jikoni ambako anatayarisha chakula chake.
3. Anawaweka mifugo nje na anahifadhi chakula kama kimefunikwa na hakiwezi kuchafuliwa.
4. Anawapa watoto wake vyakula aina zote tatu kwa vile anajua hiyo ndiyo njia bora ya kuzuia jamaa yake kutokana na magonjwa.



# **Kila mara nawa mikono na sabuni**

**Unaweza kuona jinsi jamaa ya Bi. Fatouma wanavyonawa mikono sasa?**

1. Sasa Bi. Fatouma anafahamu kuwa ni vibaya kwa kila mtu kunawa mikono kwa chombo kimoja katika maji yale yale tu.
2. Binti yake, Hadija, anamwagia maji mtoto wao mdogo anaponawa mikono.
3. Wote wananawa wakitumia sabuni.
4. Hawatumii taulo.

**Njia gani ambazo  
Fatouma anaweza  
kupata viini  
mikononi  
mwake?**



# Chakula salama ni chakula moto

Bi. Fatouma anajua kuwa chakula kikiachwa ovyo ovyo viini vitaingia ndani na kuharibika. Pia inzi watatua juu yake na kueneza viini. Chakula salama sana ni chakula moto kwa sababu joto huu viini.



## Aina gani ya vyakula vinaleta afya na vinafaa mwilini?

1. Chakula cha kujenga mwili: samaki, nyama, maharagwe, mayai, na maziwa.
2. Chakula cha kukinga mwili: mboga na matunda.
3. Chakula cha nguvu: mkate, ugali, viazi, wali na sukari.

# Safisha sahani pindi baada ya kula

Baada ya chakula Hadija anachukua vyombo vyote na kuviosha kwa sabuni punde tu baada ya kula. Anafahamu kuwa sahani chafu zinavutia inzi na inzi wanatawanya viini.

Sasa sahani zinawekwa juu ya meza ili zikauke na ziwe mbali na uchafu na wanyama ambao wanachafua kwa viini.



**Tumia mahali pa kukausha vyombo**





## **KICHOCHO**

**Kitu gani kinatendeka  
katika picha hii?**

Huyu mvulana amewaleta mbuzi mtoni kunywa maji. Mbuzi wanapokunywa maji kijana anaenda kujisaidia hapo karibu na mto. Kinyesi chake kitabebwa na maji ya mvua hadi mtoni. Ikiwa huyu kijana ana kichocho basi ataieneza kwa wale wote wanaotumia haya maji. Hiyo ndiyo njia mahsusi ambayo kichocho kinaenezwa.



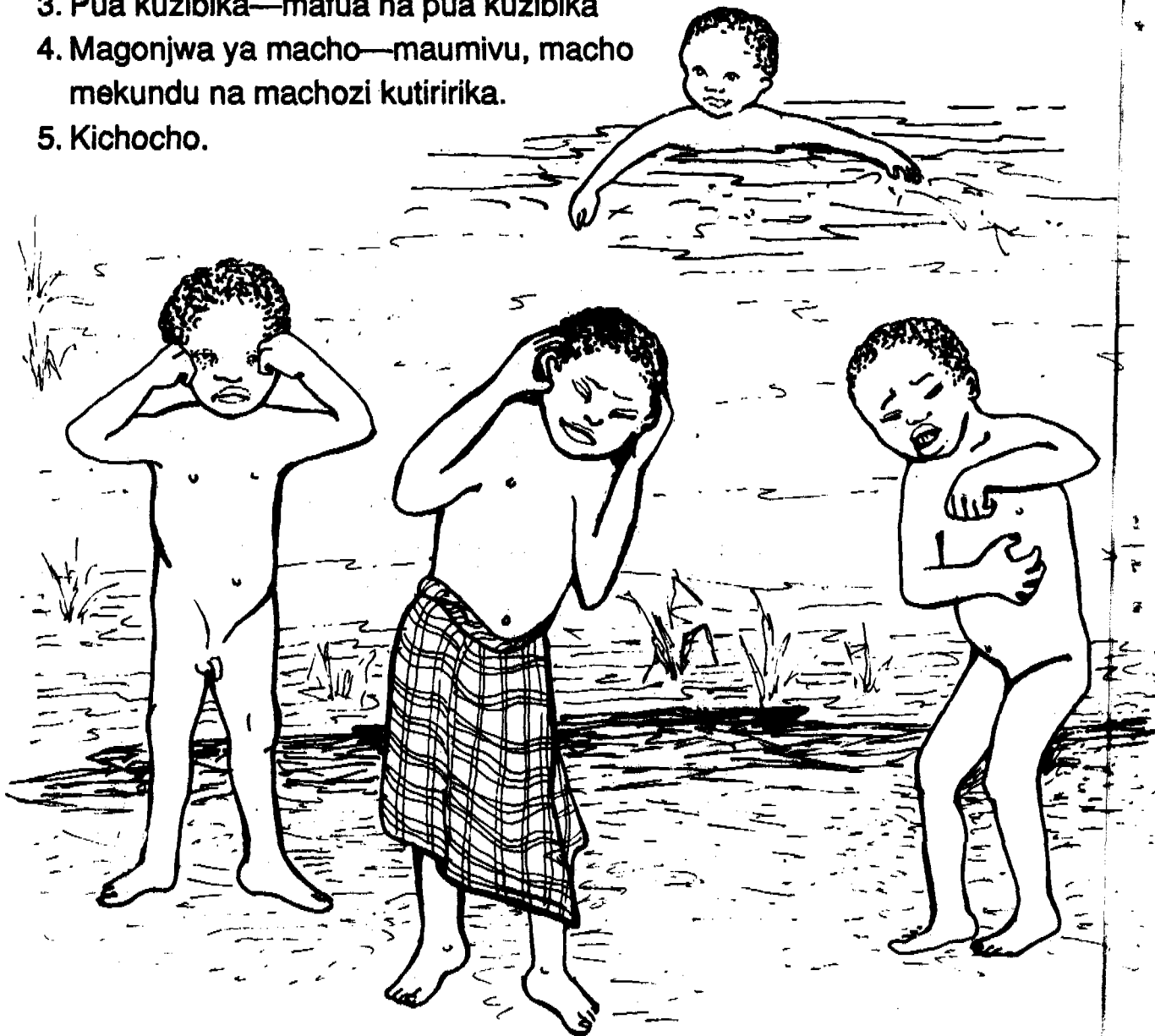
Wakati mwingine watoto wanakojoa ndani ya maji. Hawa wavulana wana kichocho. Wakati mwingine wanaona damu katika kinyesi chao na mkojo pia huwa na damu. Damu hii inatoka kwa michango inayokaa ndani yao. Hii michango inataga mayai na yanatoka pamoja na kinyesi au mkojo. Mayai yanapoingia ndani ya maji yanaanguliwa na yanakuwa michango.

# Magonjwa tunayopata tunapooga kwa maji machafu

Watu wengi wanapata matatizo wanapooga au kutembea ndani ya maji machafu. Haya maji yanachafuliwa na viini vya wanyama na wanadamu.

## Magonjwa gani mengine tunaweza kupata kwa kuoga kwa maji machafu?

1. Kujikuna—hakuna alama ila unajikuna mwili mzima
2. Kidonda masikioni—maumivu ya masikio na usa kutoka
3. Pua kuzibika—mafua na pua kuzibika
4. Magonjwa ya macho—maumivu, macho mekundu na machozi kutiririka.
5. Kichocho.



# Dalili za Kichocho na jinsi ya kuiponya

## Nini inaweza kufanyika kwa watu wanaotembea au kuogelea ndani ya mto?

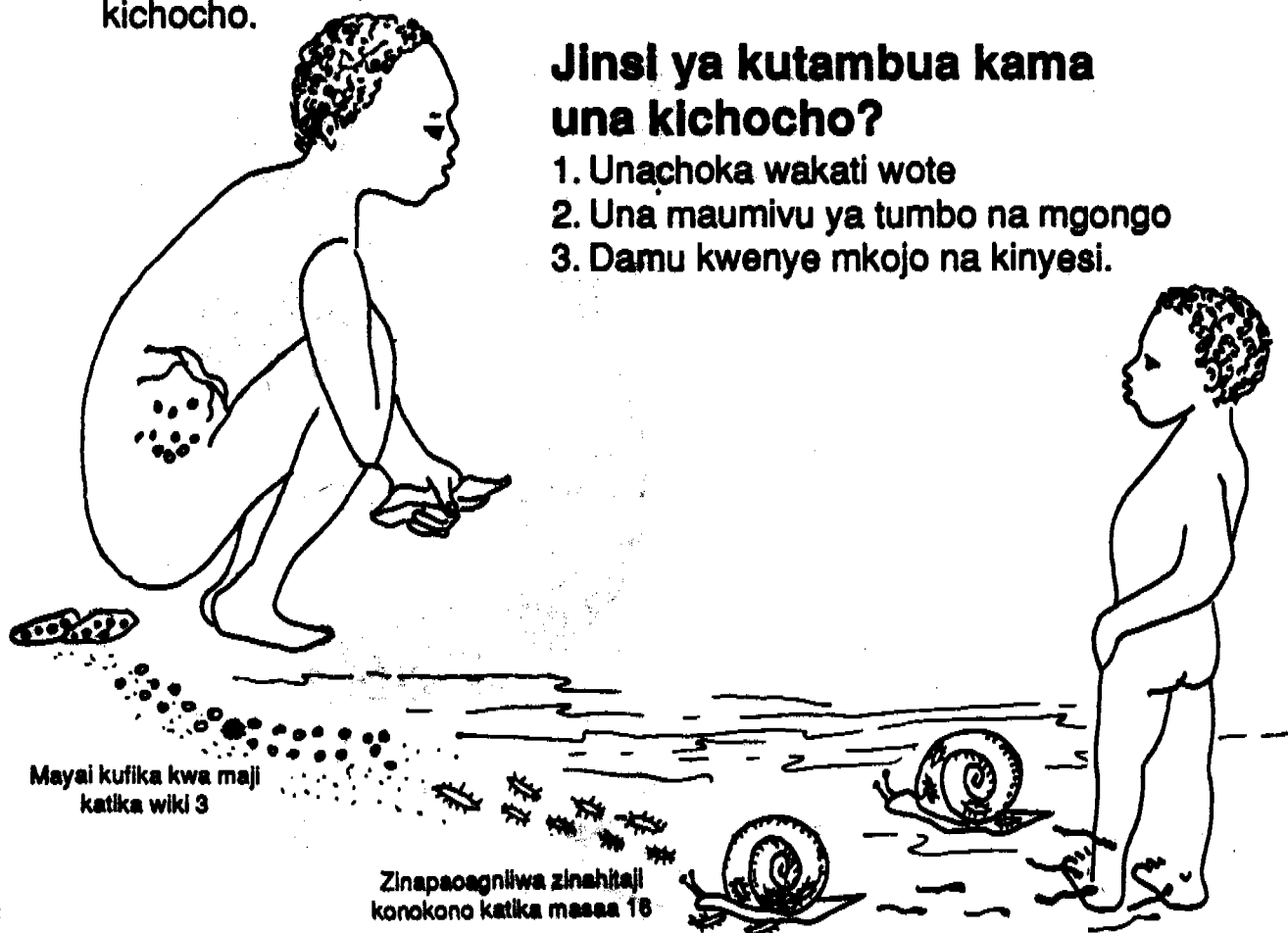
Mtu akiogelea au kutembea ndani ya mto au ndani ya matope kando ya mto, michango itatoboa ngozi yake na kuingia ndani. Punde michango ikiwa ndani itasafiri hadi kwenye tumbo. Hapa michango itakutana na baadaye kutaga mayai. Michango inapata chakula kutoka kwa huyu mtu, kwa hivyo, inamfanya kuwa mnyonge, ana maumivu ya tumbo na matokeo yake damu ndani ya mkojo na kinyesi.

## Je, kichocho kinaweza kutibiwa?

Watu wengi wanaoishi karibu na mto wana kichocho lakini hawajui kwa sababu wamezoea kuziona dalili hizi. Kichocho kinaweza kutibiwa katika zahanati (kliniki) iliyo karibu. Tatizo ni kuwa aliyetibiwa atapata kichocho tena pindi atakapoenda kwenye maji yaliyo na kichocho.

## Jinsi ya kutambua kama una kichocho?

1. Unachoka wakati wote
2. Una maumivu ya tumbo na mgongo
3. Damu kwenye mkojo na kinyesi.



Mayai kufika kwa maji katika wiki 3

Zinapaoagnliwa zinahitaji konokono katika masaa 18

Zinapotoka kwa konokono lazima zipati mtu kabla ya masaa 8

# Kuzuia Kichocho: No. 1

## Tunawezaje kuondoa kichocho?

Njia ya kuepuka kichocho ni kuharibu viini vyote vya kichocho majini. Hii itawezekana pindi watu wote watakaposhirikiana na kuhifadhi hali ya usafi. Hii ina maana kuwa watu wote watumie choo au wafunike kinyesi chao na wasijisaidie mtoni.

## Jukumu la umma ni nini?

1. Eneo la soko lazima liwe na vyoo vitakavyohifadhiwa na kamati ya kijiji. Wageni wasichafue mazingira kwa kujisaidia popote na matokeo yake ni kueneza kichocho kutoka sehemu zingine.
2. Kila mtu ahakikishe amefunika kinyesi chake akijisaidia mweituni.
3. Mashule yajenge vyoo na watoto wajifunze umuhimu wa kutumia vyoo kabla ya kuondoka shuleni kwenda nyumbani ili wasijisaidie njiani na kuchafua mazingira.





## **Usiwalishe chakula inzi. Kila mara chukua jembe**

Tabia nzuri sana Fatouma amefundisha jamaa yake ni kufukia kinyesi chao ama sivyo watakuwa wanalisha inzi na kueneza magonjwa katika jamii yote. Ye yote anayeenda kujisaidia mwituni lazima afukie kinyesi chake. Kwa njia hii wanasaidia kutekeleza wajibu wa afya bora. Kufunika kinyesi sio tu kunasaidia kupunguza kuhara lakini kunapunguza kuenea kwa kichocho.

Tabia za kizamani lazima ziachiliwe mbali kwani zinaenda kinyume cha bora afya.

# Kila mara nawa mikono baada ya kujisaidia mwituni

Hadija anajua umuhimu wa kunawa mikono baada ya kujisaidia kwa sababu anaweza kueneza magonjwa kama hatanawa mikono yake michafu.

Hana mtu wa kumsaidia anapotaka kunawa mikono yake lakini wametengeneza mahali ambapo anaweza kunawa bila msaada wowote.



## Mkebe unatoa maji.

Mkebe wowote unaweza kutumiwa. Toboa shimo dogo kwa upande wa chini wa mkebe na uutundike kwenye mti ullo karibu. Acha ndoo ya mayi hapa karibu ili iweze kujazwa kwa urahisi. Tengeneza kata ukitumia mkebe mwingine kwa kupigilia waya au kijiti ili uwe na mpini. Acha kipande cha sabuni hapa karibu ili mikono ioshwe vizuri. Jaza mkebe wenye shimo na maji na woshe mikono yako maji yanapotiririka kwa njia hii, maji mengi hataharibiwa.

# Kuzuia Kichocho No 2



**Lazima watu wote washirikiane ikiwa kichocho kinatakiwa kumalizika kabisa.**

1. Jenga bafu karibu na mtambo wa maji ya wanaume mbali, na ya wanawake na ya watoto kupunguza matumizi ya mto. Mijengo ya nyasi, na majani ya migomba ni rahisi kwa kununua pia ni rahisi kwa kujenga na kuhifadhi.
2. Sheria zinahitajika ambazo zitatenga sehemu za kuoga na kufua. Sehemu za kuchota maji na sehemu za mifugo kunywa maji.



# **Magonjwa tunayopata kwa kutooga vizuri**

Watu wengi wanapata magonjwa kwa vile hawaogi kila mara au hawatumi sabuni wanapooga ili kuondoa viini mwilini mwao.

## **Je, unajua magonjwa mengine ambayo hayajatajwa hapa?**

1. Impetigo—vidonda usoni hasa kuzunguka pua, masikio na kwenye matako.
2. Exema—vipele vyekundu mwilini hasa karibu na viungo.
3. Trachoma—ugonjwa ya macho unaolete upofu.
4. Vijidudu vinavyoishi juu ya mwili na vinaleta mwasho wakati wa usiku.
5. Chawa—vijidudu vinavyoishi ndani ya nywele kwa sababu ya uchafu.
6. Michango—michango huishi ndani ya miili yetu na hutumia nguvu yetu.
7. Majeraha na vidonda vinakuwa vibaya kama havitawekwa katika hali ya usafi.

**Kuzulia magonjwa haya oga kila siku kwa maji safi na sabuni. Ni muhimu sana kuziosha nyuso za watoto zikiwa chafu na hasa wanapokuwa na mafua. Kama sivyoy, basi uchafu utawavutia nzi ambao wataleta magonjwa kama vile ugonjwa wa macho na baadaye utaleta upofu.**

**Kuzulia kutawanyika kwa chawa na magonjwa ya ngozi, fua nguo zote na blanketi kila wiki.**

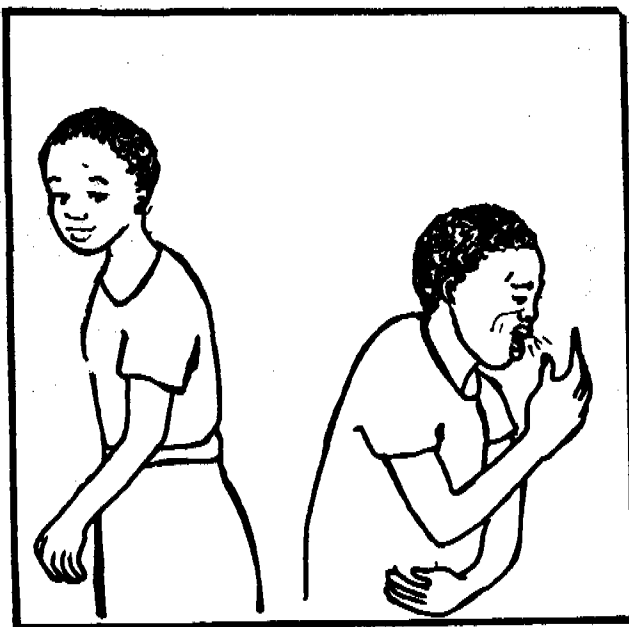


# **Kwa njia gani nyingine tunaweza kueneza viini kutoka mtu mmoja hadi mtu mwingine?**

1. Tukiwa na magonjwa kama mafua na flu na hali tunapumua kwenye watu, basi hawa watu wanapumua viini vya magonjwa.
2. Viini vinaenea wakati watu wawili wanapokutana kimwili k.m. Ukimwi.
3. Tukijikata viini vinaingia ndani ya damu zetu kutoka kwa chombo kilichotukata. (viini vya tetanus).

## **Tunawezaje kupunguza kutawanyika kwa viini kutoka mtu mmoja hadi mwingine.**

1. Tuhifadhi usafi ya mikono yetu kabla ya kugusa chakula.
2. Usipige chafya au kukohoa kwa kichwa cha mtu mwingine ukiwa na mafua. Usilale pamoja na watu wengine ukiwa mgonjwa.
3. Kutana kimwili na mtu mmoja tu ambaye unajua tabia zake. Tumia kibofu cha condom.
4. Safisha jeraha na vidonda na uviweke safi kwa kutumia vitamba safi.



# Magonjwa yanayohusika na maji

Magonjwa gani tunaweza kuyapata kwa kuishi  
karibu na maji?

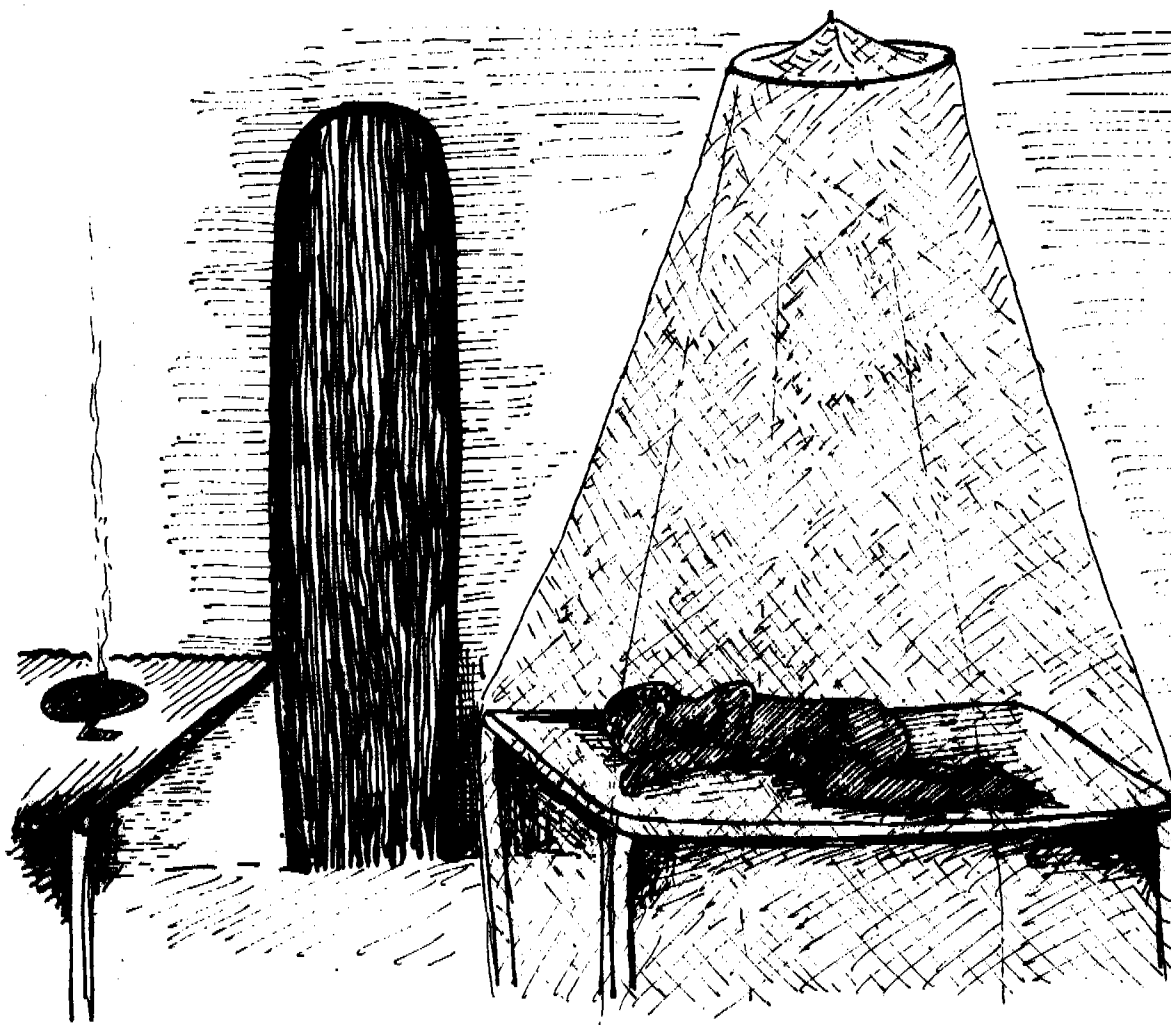
Malaria na Malale ni maarufu sana. Ni vigumu kuyaondoa. Watu  
wameyazoea.



**KILA MARA KUNYWA MAJI KWA WINGI**

# Tunawezaje kupunguza malaria?

1. Tunaweza kutumia dawa kila wiki au kila siku ili kuzuia malaria.
2. Tunaweza kutumia vyandatumia na pia tunaweza kuweka nyavu za sengienge dirishani kuzuia mbu wakati wa usiku. Kunyunyiza au kuchoma dawa ya mbu hupunguza idadi ya mbu.
3. Hakikisha hakuna maji yanayosimama karibu na nyumba zetu kwa vile mbuu wanaangua mayai hapo.



## Je, Malaria huonywa viipi?

Unaweza kupata dawa ya Malaria kutoka hospitalini na ugonjwa atapona kwa haraka kama atatumia hizo dawa. Hata hivyo, jambo la muhimu ni kuona kuwa mgonjwa hakosi maji mwilini kwa kutokunywa maji. Maji masafi au kinywaji cho chote ni lazima kwa mgonjwa wakati wote kwa vile anapoteza maji mengi kwa kutoa jasho jingi.

# **Kama unajali afya ya jamii chungu maji**

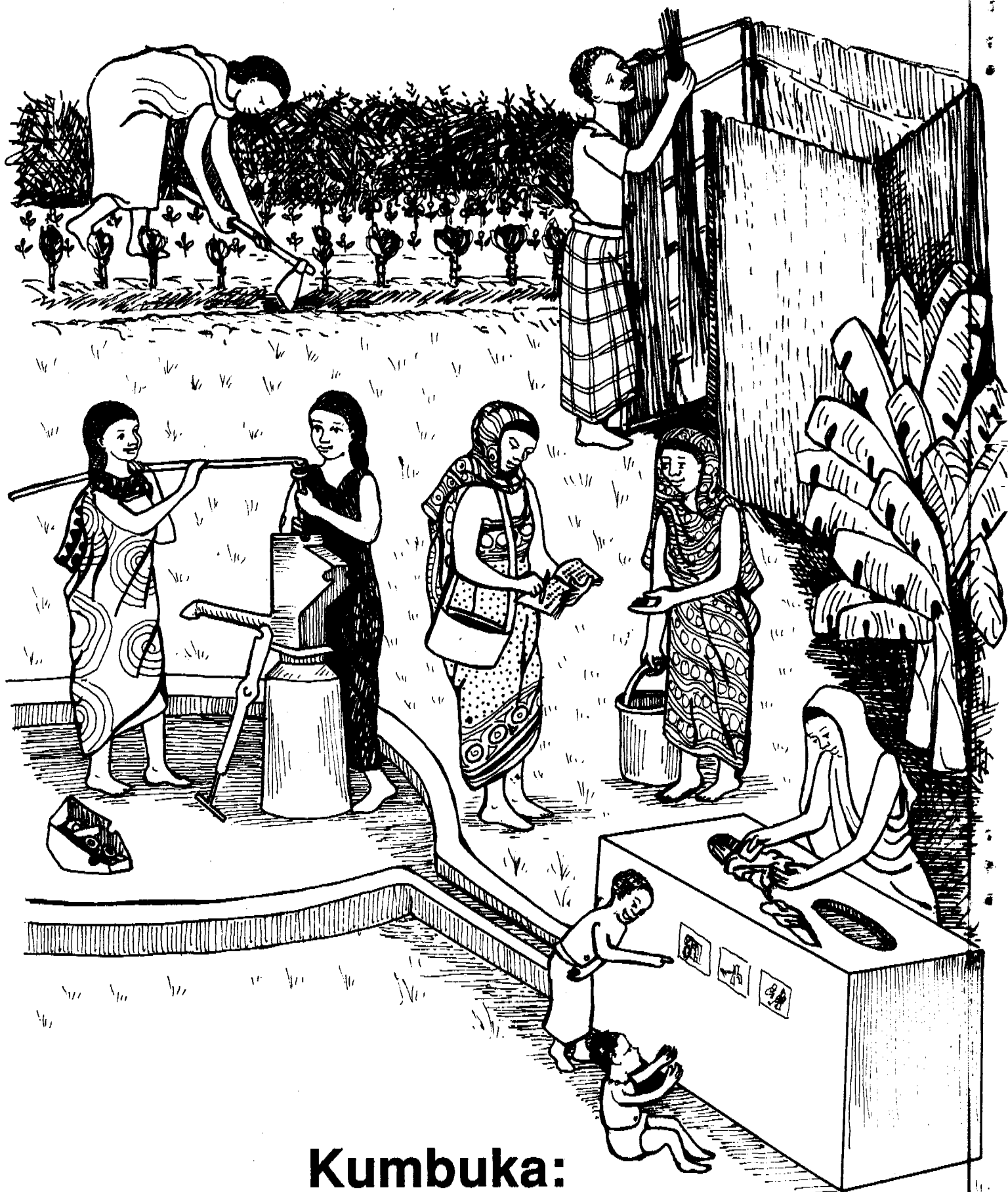
Mtambo wa mkono unaweza kukaa kwa muda mrefu kama ikitunzwa na hii ni kazi ya watu wote. Ili kazi hii kufaulu chagua kundi la watu ambao wanatambua hili ni jukumu lao.

## **Ni akina nani wanotakiwa kwa kamati hii ya maji?**

1. Watu watano wachaguliwe kutoka kwa manyumba au kijiji ambacho kinatumia huu mtambo wa mkono.
2. Lazima wawe wanaheshimiwa, waaminifu na wanafahamu jukumu lao na hakuna uwezekano ya mmoja wao kuhama.
3. Kamati liwe mchanganyiko ya wanaume na wanawake.
4. Wachaguliwe kila mwaka.

## **Kazi yao ni nini?**

1. Wahakikishe mazingira ya mtambo inawekwa kwa hali ya usafi.
2. Wachimbe mfereji ili maji yanayomwagika yananyunyiza shamba la mboga ya umma. Ikiwezekana wajenge boma.
3. Lazima wajenge bafu la wanaume, wanawake na watoto karibu na mtambo ili watu wahifadhi siri zao.
4. Ikiwa watu watachanga pesa za kuhifadhi mtambo na kununua vipuri ni jukumu la kamati kukata shauri ni kiasi gani cha pesa kinahitajika, jinsi ya kuzikusanya na vile watakavyohifadhi pesa hizo katika banki.
5. Ni kazi yao kuona kuwa mtambo unakuwa kwa hali nzuri. Hii ina maana kuwa kila mwaka mtambo uchunguzwe na lazima kamati wajifunze jinsi ya kufanya uchunguzi huo. Kadhalika ni kazi yao kumjulisha fundi ikiwa mtambo umeharibika na unahitaji marekebisho.



**Kumbuka:**  
**baada ya mtambo wa mkono**  
**kukabidhiwa jamii kazi ya**  
**kuuhifadhi ni jukumu la jamii**

**Page 3. PART 1: WHAT IS A GERM?**

**Do you know what a germ is?**

It is a tiny organism, so small that we cannot see it with our human eyes. But although we can't see them, they are everywhere. Some of these microscopic organisms are helpful to people. Bacteria can be used in medicines to cure people, e.g. penicillin is a tiny fungus that can kill other germs.

**How does milk turn sour? How does beer ferment?**  
There are tiny bacteria in all food which live on the food. This is why the food disintegrates and turns rotten. In the case of milk, or beer, we want it to be sour, or to ferment, so we let the bacteria do their work, because these bacteria are good for us. Although we cannot see them, the bacteria are there, working for us. You can only see them with a microscope.

However, all microscopic organisms are not as helpful. Many cause bad diseases and what we call infections, are really tiny germs destroying our blood, or skin.

**Page 4: What do we use the river for?**

**Page 6: Drinking river or pond water.**

**Is this water safe to drink?**

No, it is very dangerous because it has been contaminated by animal and human excreta.

**What may happen to you if you drink this water?**

1. Bilharzia.
2. Diarrhoea.
3. Vomiting.
4. Worms.

**Do you know how diarrhoea is caused?**

Fatouma did not know how diarrhoea was caused either. Here she is taking water from the lake to drink. The water looks completely clear to her and so she drinks it. She does not believe that there is anything wrong unless she can see it. But there are some things so small that we cannot see them with our eyes. There are many things which are not what they appear to be and we have to believe what the experts say.

**Page 7: Microscopic examination of water.**

**What is a germ? How can you see germs?**

When a doctor looks at the same glass of water that Fatouma was drinking, through a microscope, this is what he sees. The water is alive with tiny microscopic organisms that are swimming around and living in the water. These organisms can be useful to man, or harmful. Harmful organisms are called germs and can damage our bodies by feeding off us or by bringing disease into our bodies.

**Page 8: All lake water is like this unless you boil it.**

**Other methods of treating water.**

1. By filtering it before drinking.
2. By letting it stand and then draining off the clear water, (three pot method) Bilharzia in the water will be killed if the water is left standing for 48 hours.

3. By treating it with aluminium sulphate which coagulates the muddy particles which sink to the bottom and can be drained off.

4. Some people sterilize their water with Jik.

**Do these methods purify the water perfectly?**

All these methods are helpful and should not be discouraged, but none of them is completely safe as many germs can still remain to cause disease.

**Why is boiling water the only completely safe way to kill germs?**

Because boiling temperatures kill germs. To be absolutely sure that they are all dead, you must boil your water for at least 6 minutes after it has started bubbling.

**Page 9: Pure water — the handpump.**

**Where else can we get clean water from?**

1. From handpumps.
2. From protected springs.
3. From rain water collected from roofs.

**Do you have to purify this water?**

No, it is perfectly clean.

**Why do you think that this underground water is so clean?**

1. Because it cannot be contaminated by human or animal faeces underground.
2. The only way it can get contaminated is if there is a latrine less than 30 metres away. Then the human waste in the water can seep into the well and pollute it. However, if it is more than 30 metres away the water will be filtered by the sand and purified naturally.

**Page 10:**

**PART 2. HOW ARE GERMS SPREAD?**

**Our hands spread germs.**

Abdi has just been in the cattle boma, collecting dung to burn. Burning the dung every evening is a good practice. It keeps the compound clean and helps reduce the flies.

**What sort of things would make our hands dirty?**

1. Milking cows or touching any animals.
2. Collecting cattle dung with our hands.

**How does burning the dung help reduce flies?**

Because the flies are attracted to the dung and lay their eggs in it. The fire will destroy these eggs.

**What else can the fire be used for?**

It is a good plan to burn all the garbage, rotten food, bones, etc, from the day's cooking and cleaning. If this garbage is left near the home it will attract flies into the home. These flies will bring germs from the cattle manure and contaminate our food.

**Page 11: Flies also carry germs.**

Preparing food with dirty hands causes diarrhoea. Fatouma never bothers to wash her hands before preparing food, because they don't seem to be so dirty. But germs are invisible.



#### How do flies carry germs?

Flies are attracted to dirty things to feed and lay their eggs. They especially like animal and human faeces, any sort of decayed meat or vegetable, any sort of wound or sore on an animal or person, and to our food.

#### How do they spread germs?

Germs are so small we cannot see them. The fly walks on the dirty matter, and then flies off to our kitchens. When it walks on our food it already has dirty feet, and it leaves these germs on our food, just like a person entering a house with dirty feet, leaves dirt behind. We then eat these germs with our food.

#### Page 12/13: Contamination of food and water when badly stored.

Even though she brings home clean water from the handpump Fatouma is disappointed because her family still suffer badly from diarrhoea.

#### Can you spot from the picture what is the cause of the family's sickness?

1. Abdi has just been playing in the dirt outside. He is thirsty and comes in for a drink of water. His hands are filthy, but he takes the cup and puts his hand right inside the water to get his drink. All the germs on his hands float into the water and contaminate it. Now all the family will suffer from diarrhoea because of Abdi's dirty hands.
2. The goats and chickens are allowed into the house and none of the food is covered and the plates are on the floor. The goats lick the plates. They have just been eating the garbage outside and their mouths are full of germs.
3. The chickens come in and sit on the bucket containing drinking water. It is not covered so their droppings fall into the water and pollute it.
4. Nothing is protected from the flies. They have just come from eating faeces they found lying around near the compound. Now they carry these germs and walk all over the family's food. Diarrhoea can be prevented simply by covering food and water.

#### Do you know any other killer diseases caused by drinking dirty water?

1. Cholera—fever, chronic diarrhoea, dehydration, weakness, death.
2. Hepatitis — pain in abdomen, fevers, yellow eyes and weakness.
3. Typhoid — headaches and fever, abdominal pain, diarrhoea, confusion.
4. Dysentery — chronic diarrhoea, dehydration and fever.

Germs are everywhere, especially in animal or human faeces. The way germs get into our bodies is through any openings in our bodies: our mouths, nose, ears, sex organs and cuts in our skin.

#### How do germs get into our bodies through our mouths?

Our hands carry germs into our bodies. The main reason we put our hands in our mouths is when we are eating. Therefore food and drink are the easiest way for

germs to enter our body. It is like catching a ride on a bus. The germs get a ride into our bodies using our hands.

#### Page 14: Washing hands without soap does not remove all the Germs.

##### How they could improve this habit?

1. If they were to use soap they would have cleaner hands. Soap removes the sweat and grease from our hands. Without it the water just removes the dust. Many germs hide in our finger nails and this needs soap to remove them.
2. They are all using the same towel. If one of them has a skin infection this disease will spread to everyone who uses the towel. It is better to use no towel and let your hands dry in the air.
3. They should not all use the same water as disease can travel in water and infect another person. The best way is for each person to have someone pour him his own fresh water, so that germs cannot be spread.

#### Page 15: Eating Contaminated Food May cause Diarrhoea.

##### How has this food been contaminated?

1. The goats have been licking the plates.
2. The food was prepared with dirty hands.
3. The food does not seem hot and it may have started to go off.
4. There are flies walking all over it and spreading germs.
5. They are eating with their hands which were not properly washed.

##### What can be done to prevent this contamination?

1. Eat all the food when it is freshly cooked.
2. All the left-over food should be stored in covered containers.
3. Domestic animals should not be allowed into the house.
4. Proper washing of hands with soap and water before handling food.

#### CHAPTER 3: Page 16/17: WHAT CAN GERMS DO TO US?

##### Does this ever happen in your family?

#### Diarrhoea and vomiting are often caused by bad food or dirty water.

Mohammed is feeling very unwell. His stomach feels sensitive and swollen and he feels he wants to vomit. Abdi has started to vomit. Sometimes in an acute attack, people will want to vomit and have diarrhoea at the same time.

All has bad diarrhoea. He cannot control his bowels and his stomach is swollen. He needs to relieve himself very often and starts to feel weak.

##### What can you do to avoid diarrhoea and vomiting?

1. Keep your drinking water clean by covering it.
2. Wash your hands before touching food. Always use soap.
3. Wash your hands after relieving yourself or cleaning

babies after they have messed.

4. Do not eat food that has been lying around for sometime, as it may be rotten or be contaminated by flies.
5. Eat hot food.
6. Keep flies out of the kitchen.
7. Keep chickens and goats out of the kitchen.
8. Keep your compound clean by burning dung and rubbish.
9. Wash your plates straight after eating and store them on a rack, never on the floor.
10. Always wash fruit and raw food before eating it.

### **Page 18: Dehydration from diarrhoea can kill children.**

Ali is losing a lot of water because of his diarrhoea, and he gets very thirsty and dried out and feels very weak. He is just like a plant that has no water, he begins to wilt. This is called dehydration and it is this condition that can kill children if they are left too long without liquid.

### **Page 19: If a child does not improve in the first day take him to the clinic.**

Alli has had diarrhoea for three days now. Finally, in desperation, Fatouma realises Alli will not get better unless she takes him to the clinic. The nurse is very worried when she sees how bad Alli is and tells Fatouma that she should have brought him long before. She explains that there are two types of diarrhoea. One is mild and can be cured at home with continued liquids and good food. The other needs strong medicine to kill the germs and this can only be got from the clinic. If the diarrhoea does not cure easily, it is the dangerous kind. Alli nearly died.

### **Page 20:**

#### **What are the signs of dehydration?**

1. Dry cracked lips.
2. Dry sunken eyes.
3. No tears when crying.
4. Very little urine with a strong smell.
5. The skin is dry and if it is pinched, does not fall back quickly into place.
6. In small babies, the fontanelle, or soft spot at the top of the head, sinks down.

They are given Oral Rehydration Solution (ORS) which is a special liquid drink that can be bought in a packet and mixed with clean water. This drink replaces the salts and water lost by the body and makes the body strong again, just like a plant that is being watered after a drought.

Can you think of other times when the body becomes dehydrated?

1. When it is very hot and we sweat a lot, and have nothing to drink.
2. When we have a fever and the body becomes hot and sweats, so losing liquid.

Whenever the body looks dehydrated, the sick person must drink as much as they can. If they vomit up the water, they should be given little sips, or fed with a spoon every few minutes. This is the best and most inexpen-

sive way a mother can help her sick child with dehydration and diarrhoea.

### **Page 21: Always give plenty of liquids to a person with diarrhoea to prevent dehydration.**

What should you do if someone has diarrhoea or is dehydrated?

1. Continue to give drinks as often as they are wanted but especially after each bout of diarrhoea.
2. If the child cannot hold down the drinks, they should be fed the liquid slowly, a few sips at a time or with a spoon. A child should drink 5 cups each day and an adult needs 2 litres a day to prevent dehydration.

What kind of drinks are best for them?

ORS in packets, fruit juices and even sodas can be given to encourage drinking. Any kind of clean water in the form of tea, sugar or honey water; rice water is good too. Soups or stock which will help to nourish them are even better. This liquid is sometimes made at home with pinch of salt, a palmful of sugar in a cup of boiled water. However, this should only be done if the clinic staff advise it as sometimes it can do more harm than good if it is badly made.

### **Page 22: Starving a child with diarrhoea makes him worse.**

Mrs Fatouma is sure that giving Alli food, while he has diarrhoea only upsets his stomach more. So poor Alli gets nothing to eat and by the second day he is getting dangerously tired and weak.

How would you feel if you didn't eat for a day or two?

How much worse would this be for someone who is also having diarrhoea and vomiting? Sick people need to eat to keep their strength up so that their bodies can fight the germs. Although they may not feel like eating, small quantities of soft food should be given to them as often as they can eat. An undernourished child is at great risk of dying of diarrhoea because of starvation. A child who is strong can fight diarrhoea more easily than a weak, malnourished child. Mrs Oketch now knows that small amounts of well prepared soft food will help a child get better.

### **Page 23: Always give plenty of food to a person with diarrhoea to prevent dehydration.**

Should you give the child food even if it gets diarrhoea straight after eating each time?

Yes. It is very important to keep trying to give the child food. Even if it seems that it all goes straight through the child, a little bit will have remained to nourish it.

What kind of food is best for someone with diarrhoea?

Soft food such as rice, porridge, mashed potatoes, mashed beans, bread and fish, as well as fruit, such as ripe bananas, oranges, mangoes and pineapples. Oily or fatty foods are more difficult for the body to digest.

### **Page 24: Always keep breast feeding a baby who has diarrhoea.**

Mrs Fatouma was taught that the best food for a baby with diarrhoea is mother's milk. This is because it is easy to digest and often contains immunity from the mother to fight germs.

Babies should be fed as often as they demand it, even if it looks as if feeding results in more diarrhoea. The younger the baby the more easily they can die from dehydration or starvation resulting from bad practices by the mother when they get diarrhoea.

### **Page 25: PART 4: HOW TO PROTECT YOUR FAMILY FROM GERMS.**

#### **Store your drinking water in a covered container.**

Can you see how well the water is being stored?

The water being poured out here for drinking has been well protected because it is not possible for children to put their hands into the water container when they get their drink, so contaminating the water. Also, the traditional pot has a cover and the jerry can has a top screwed on, so that chickens and animals cannot contaminate the water.

What is the best kind of container to use?

The advantage of a jerrycan is that no one can get their hands in it but it is difficult to pour when full and also difficult to clean well.

The traditional pot is easier but must have a long-handled ladle to draw water, and children must be properly instructed not to put their hands in the water.

#### **Page 26: Wash your hands before preparing food.**

Can you see from the picture how Mrs Fatouma has changed her cooking habits?

1. Now Fatouma always washes her hands well with soap before touching food.
2. Her compound is so clean that there are very few flies around. She keeps the door covered so that no flies come into her kitchen. She prepares the food inside where there are no flies.
3. She keeps the animals out of the house, and stores the food hanging and covered so that it cannot be contaminated.
4. She gives her family a balanced diet because she knows this is the very best way to protect them from sickness.

#### **Page 27: Always wash your hands with soap.**

Can you see how well the family is washing now?

1. Mrs Fatouma knows that it is unhygienic for everyone to wash hands in the same water.
2. Her daughter, Hadija, pours clean water for the baby Benta to wash her hands in.
3. They all use soap.
4. They do not use a towel.

What are some of the ways Fatouma could have got germs on her hands?

### **Page 28: The safest food is hot food.**

Fatouma knows that if food is left standing around for some hours, it can collect germs and go rotten. If it is not covered, flies will walk on it and bring germs. The safest food is hot food because germs are killed by heat.

What should a balanced diet include?

1. Body building foods: fish, meat, beans, eggs and milk.
2. Protective foods: vegetables and fruit.
3. Energy giving foods: bread, *ugali*, beans, potatoes, rice, and sugar.

### **Page 29: Wash plates immediately after eating.**

Use a drying rack.

After the meal, Hadija takes the plates and washes them immediately with soap so that they are really clean. She knows that dirty plates attract flies and flies bring germs. Now the plates are put on the table to dry, so that they are away from dirt and animals on the floor that may contaminate them with germs.

### **Page 30: Part 5: BILHARZIA. What is happening in this picture?**

The boy has brought his herds down to the lake to drink. While they are drinking the boy needs to relieve himself. He doesn't go far from the lake. His faeces will easily get washed into the lake when it rains. After a heavy storm, rainwater can carry soil and particles of faeces a long way from where it was deposited.

### **Page 31:**

Sometimes children will urinate into the water. These boys have bilharzia. They sometimes see blood in their faeces or their urine may be pink with blood. This blood comes from worms inside them. These worms lay eggs which come out in the faeces or urine. When the eggs get to the water they hatch into little worms.

### **Page 33: Diseases we get from bathing in dirty water.**

Many people get problems from swimming or walking in dirty water. The water is made dirty by animal and human disease germs.

What diseases can we get from bathing in dirty water?

1. Swimmers Itch—no spots but itching all over body.
2. Sore Ears (Coral Ear)—pain and puss coming out.
3. Blocked nose—Colds and blocked sinus.
4. Eye infection (Conjunctivitis)—sore, red, watering eyes.
5. Bilharzia.

### Page 34:

#### Symptoms and cure of bilharzia.

What may happen to people who walk or swim in the lake?

If someone is swimming or walking in the water or the mud on the shore, the bilharzia worm will burrow through the skin of this person. Once inside, the worms travel to the intestines of the person. Here it mates with other worms and lays its eggs. While living in the person it drains the person's energy and causes pain in the stomach, resulting in blood in the urine and faeces.

How do you know if you have got bilharzia?

1. Feeling tired the whole time.
2. Stomach and back pains.
3. Blood in urine or faeces.

Can Bilharzia be cured?

Most people living around the lake will have bilharzia and may be used to these symptoms but bilharzia can easily be cured at the local clinic. The problem is that a person who is cured will get bilharzia again the moment he goes into contaminated water.

Diagram: Eggs must get to water within 3 weeks to hatch—the larvae must find a snail within 16 hours of hatching—after leaving the snail the worms must find a human host within 6 hours or they do not survive.

### Page 34: Prevention of bilharzia: No 1.

How can we get rid of bilharzia?

The only way to get rid of bilharzia is to clear the water of bilharzia. This can only be done if the whole community decides to co-operate and control sanitation. In practice this means that all faeces must be disposed of in a latrine or well buried and no urination in the lake must be allowed.

1. How can the community achieve this? Market areas should have public sanitation facilities which should be well maintained by a village committee. Visitors to the area should not be allowed to soil the environment and spread bilharzia.
2. Every person from each family should be sure to use a *jembe* (hoe) to cover their faeces when relieving themselves in the bush, or they should construct household latrines.
3. Schools should have sanitation facilities and sanitation training for pupils, who should be instructed to use the facilities before leaving for home so that the contamination of the environment is minimised.

### Page 35: Do not feed the flies: always take a *jembe*.

The most important habit that Fatouma has taught her family is that they must never leave their faeces exposed. If they do, they will be feeding the flies and so spreading disease to their whole community. When anyone goes in the bush to relieve himself he or she must take a *jembe* and dig a good hole where they can hide their faeces. When they are finished they must cover it well. In this way they are helping everyone towards good health. Covering faeces not only helps reduce the spread of diarrhoea but also the spread of bilharzia.

### Page 36: Always wash your hands after returning from a long call in the bush.

Hadija knows how important it is for her hands to be washed after relieving herself, because she may spread disease if her hands are dirty. There is no one around to help her wash but her family have a clever way to wash hands without help.

**The Leaky Tin:** Any tin will do. Make a small hole in the bottom of it and hang it in a nearby tree. Leave a bucket of water nearby so that it can be easily filled. Make a ladle with another tin by attaching some wire or a stick so that it has a handle. Leave some soap nearby so the hands will be well washed. Fill the leaky tin with water and wash your hands as it drips. Not much water will be wasted.

### Page 37: Prevention of bilharzia: No 2.

The whole community must co-operate if bilharzia is to be eradicated.

1. Wash rooms should be constructed near every handpump for men, women and children, so that use of the lake is minimised. Grass or banana leaf shelters are cheap and easy to build and maintain.
2. Local by-laws could be enacted by the administration to designate different areas for washing, collecting water, and watering animals.

### Page 38: Diseases we get from not enough washing.

Many people get diseases because they do not wash regularly enough or do not use soap to wash away the germs from their bodies.

Do you know any other diseases that have not been mentioned already?

1. Impetigo—wet sore spots on face around the nose and ears and buttocks.
2. Eczema—an itchy red, scaly rash on the body usually near joints.
3. Trachoma—soreness of the eyes which leads to blindness.
4. Scabies—a tiny mite living on our bodies, itching especially at night.
5. Lice—a tiny insect living in our hair due to lack of washing.
6. Worms—worms living inside our bodies draining our strength.
7. Infections—cuts and wounds become badly infected if not kept clean.

To prevent these diseases you must wash everyday in clean water and use soap. It is very important to wash children's faces whenever they get dirty or if their noses run. If not, they will attract flies which will bring diseases which can cause eye infections which can lead to blindness.

To prevent the spread of lice and skin diseases, all clothes and blankets should be washed every week.

### **Page 40: How else can we spread germs from one person to another?**

1. We can breathe germs out over other people from our mouth or nose, e.g. colds and flu.
2. Germs are passed from one person to another by sex, e.g. AIDS.
3. If we cut our skin germs pass into the blood from the dirty object which cut us, e.g. tetanus.

### **How can we minimise transmission of germs from one to another?**

1. Keep our hands clean, especially before handling food.
2. Do not cough or sneeze over others if we have a cold. Sleep apart from others if you are sick.
3. Restrict sexual activity to one person whose habits you know. Use a condom to protect yourself.
4. Wash any cuts or wounds immediately with clean water and keep them clean by protecting them with a clean bandage.

### **Page 41: Water related diseases**

#### **What diseases can we get because we live near water?**

Malaria and sleeping sickness are common diseases for those living near water. It is almost impossible to get rid of these diseases and many people have come to accept them as part of their lives.

**Always drink plenty of water.**

### **Page 42: How can we cut down on malaria?**

1. We can take weekly or daily pills to protect us from malaria.
2. We can use mosquito nets and protect our houses at night with mosquito gauze on the windows. Spraying and burning mosquito coils also cuts down the amount of mosquitoes around.
3. Make sure there are no standing pools of water left near the house where mosquito larvae can hatch.

#### **How do you treat malaria?**

Anti malaria pills can be obtained from the clinic, and the sick person will recover fast once these are being taken. However, the most important nursing at home is to make sure the patient does not become dehydrated from lack of drinking. Clean water or any liquid must be given as often as possible to make up for the water lost by sweating with a fever.

## **PART 7: WATER COMMITTEES**

### **Page 43:**

### **IF YOU CARE ABOUT YOUR COMMUNITY, LOOK AFTER YOUR WATER.**

Handpumps can last a long time if they are well maintained, and this is the work of the community itself. For this to happen, the best way is to elect a group who knows that this is their responsibility.

#### **Who should be in this Water Committee?**

1. Five people should be elected from households or villages using the handpump.
2. They should be well respected, trustworthy and responsible people who are not likely to move away from the area.
3. They should be men as well as women.
4. They should be re-elected every year to ensure their continued efficiency.

#### **What is their job?**

1. They must make sure that the area around the pump is kept clean and free from standing water.
2. They must organise effective drainage of spilt water into a communal vegetable garden, possibly with fencing.
3. They must organise the building of grass wash houses for everyone so that the people are able to wash at the handpump in private.
4. If contributions are to be collected for maintenance and spare parts, the committee should decide the amount and organise the collection and safe keeping of this fund.
5. They are responsible to see that the handpump is kept in working order. This means an annual maintenance routine for which they will receive training from project staff. It also means alerting the appropriate *fundi* (workman) if repairs needed are beyond the scope of their training.