

# MATJUNGO

NKHONDO  
YOLIMBANA NDI  
TIZILOMBO  
TOSAONEKA NDI  
MASO





University  
of Glasgow

Wellcome Centre  
for Integrative  
Parasitology



"MALUNGO: NKHONDO YOLIMBANA NDI TIZILOMBO TOSAONEKA NDI MASO" NDI BUKU LA NTHABWALA LOMWE LINASINDIKIZIDWA NDI A WELLCOME CENTRE FOR INTEGRATIVE PARASITOLOGY, A JAMIE HALL NDI A EDWARD ROSS MUCHAKA CHA 2018.

BUKULI LINALEMBEDWA NDI A JAMIE HALL NDI A EDWARD ROSS. LINATANTHAUZIRIDWA MUZINTHUNZI NDI A EDWARD ROSS. A TOM HUMBERSTONE ANAKONZA KASAKANIZIDWE KA MITUNDU NDIPO A LUKE PEARSON A NAKONZA KAONEKEDWE KA ZIKUTIRO ZA BUKULI. ULANGIZI WA SAYANSI UNAPEREKEDWA NDI A ANDY WATERS NDI MA MEMBALA A EVIMALAR.

ULAMULIRO WONSE WA BUKU LI NDI WA BUNGWE LA WCIP NDI A JAMIE HALL NDINSO A EDWARD ROSS. SIKOLOLEDWA KUTI GAWO LILILONSE LA BUKULI LITSINDIKIZIDWE KAPENA KUKOPEDWA MWANJIRA ILIYONSE POPANDA CHILOLEZO CHA BUNGWE LI NDI OLEMBA.

BUKULI LINASINDIKIZIDWA NDI A WELLCOME CENTRE FOR INTEGRATIVE PARASITOLOGY, SIR GRAEME DAVIES BUILDING, UNIVERSITY OF GLASGOW, 120 UNIVERSITY PLACE, GLASGOW, G12 8TA.

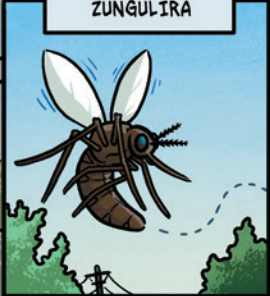
BUKULI LINA SINDIKIZIDWA PA MAPEPALA OBWEZEREDWANSO. ISBN: 978-0-9572103-0-1. ILI NDI TANTHAUZIRIDWE LA BUKULI MU CHICHEWA.

KULEMBA NDI KUSINDIKIZA BUKULI KUNATHEKA NDI CHITHANDIZO CHA NDALAMA CHOCHOKERA KU EUROPEAN COMMISSION FP7 NETWORK OF EXCELLENCE PROGRAMME.



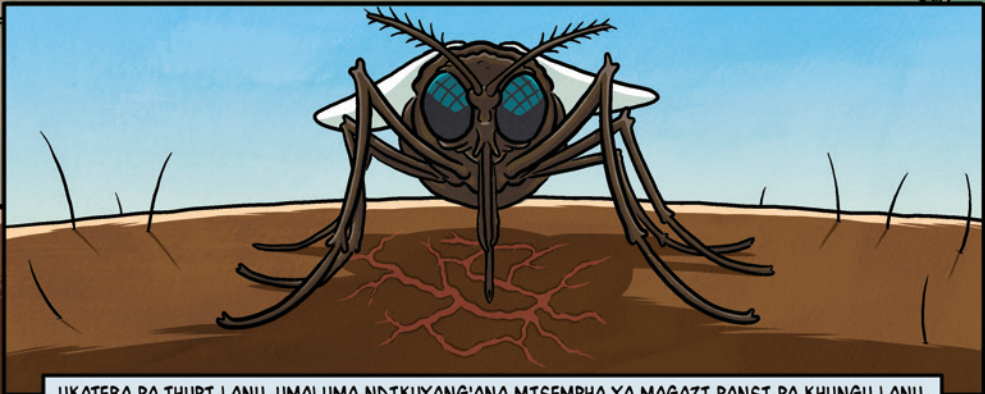
CHOMWE UDZUDZU UMAFUNA NDI DONTHO LA MAGAZI ANU

UMAZUNGULIRA  
ZUNGULIRA




NKUZANUKHIZIRA MPWEYA WANU MUKAMAPUMA


NDIKUTENTHA KWA THUPI LANU UKAMAFIKA



UKATERA PA THUPI LANU, UMALUMA NDIKUYANG'ANA MISEMPHA YA MAGAZI PANSI PA KHUNGU LANU.



VUTO NDILOTI UZUDZU WU  
UMAKHALA WA YAMBUKIRIDWA  
NDI TIZILOMBO TOYAMBISA  
MATENDA A MALUNGO

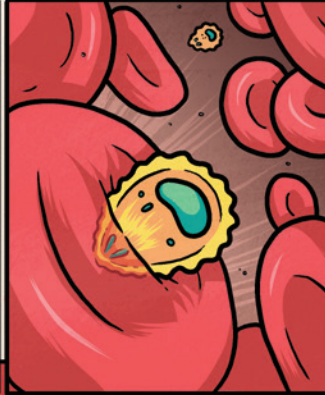


KULUMA KWA UZUDZU KU KUMAPATSA  
MWAYI TIZILOMBO TI KUTI TIFALIKIRE  
M'THUPI LA MUNTHU.


TIZILOMBO TI TIMATULUKA M'KAMWA MWA  
UZUDZU UKAMALUMA NGATI MADZI ALI PHUTE  
NDI KUFALIKIRA MU MAGAZI ATHU



TIKATERO TIMAKABISALA MU CHIWINDI M'MENE TIMACHULUKANA  
MWADUU. PAKAPITA NTHAWI, TIMAPHULIKA NKULOWA M'MAGAZI.



NGATI ASILIKARI A NKHONDO,  
TIZILOMBO TI MAPITILIZABE  
KUCHULUKANA M'THUPI MWATHU. APA  
MPAMENE MUMAYAMBA KUMVA  
ZIZINDIKIRO ZA MALUNGO.



TIKATERO, TIZILOMBO TI TIMAKHALA TATENGA ULAMULIRO WA THUPI LANU! TIMAKHALA TAKONZEKA  
KUTENGEDWANSO NDI UZUDZU UKAKULUMANI KUTI TIKAFALIKIRE KWA ANTHU ENA.

ANTHU AKHALA AKUDWALA NDI KUMWALIRA KAMBA KA MATENDA WA KUCHOKERA KU CHIYAMBI KWENI KWENI KWA NTHAWI.



KUTENTHA KWA THUPI NDI KUNJENJEMERA.

KUPWETEKWA M'MALO MOKUMANIRA MAFUPA NDI KUSANZA



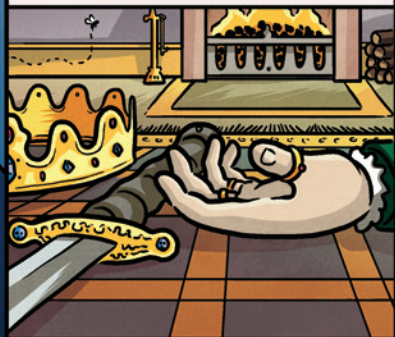
KUCHOKERA MU MA BUKU A MAKEDZANA, UMBONI WA MATENDAWA NGOSAYAMBA



CHIFUFU NDI IMFA



NDI MATENDA AMENE AKHALA AKUKHUDZA MBIRI YA DZIKO LA PANSI KUYAMBIRA KALE KALE. AKHALA AKUPHA MA FUMU NDI ADZITSOGOLERI ANKHANZA.



ANAPHA ANTHU OTCHUKA MONGA ALEXANDER THE GREAT, TUTANKHAMUN NDI GENGHIS KHAN.

MALUNGO AMAKHUDZA MIYANDAMIYANDA YA ANTHU; ANTHU OGWIRA NTCHITO MU MIGODI, ANA A SUKULU, OSEWERA MPIRA, ASILIKALI NDI ENA AMBIRI.



THEKA LA ANTHU ONSE A PA DZIKO LA PANSI LILI PA CHIOPSYEZO CHA MATENDA WA. AMAKHUDZA KWAMBIRI ANA A'ANG'ONO, OSAUKA NDI ANTHU OSATEZEZEDWA NGATI AMAYI OYEMBEKEZERA.



MWACHITSANZO, MLIMI AKADWALA MALUNGO KWA SABATA IMODZI, MBEWU ZAKE ZIMAONONGEKA ZIMENE ZIMADZETSA NJALA NDI MAVUTO ENA A ZA CHUMA PA BANJA LAKE.



IZI ZIKUCHITIKA MU MAANJA AMBIRIMBIRI PA DZIKO LA PANSI ZIMENE ZIMADZETSA ZIPHINJO ZOSIYANASTYANA KOMANNSO KUBWEZERETSA M'MBUYO NTCHITO ZA CHITUKUKO.



MALUNGO NDI AMODZI MWA MATENDA OOPSYA AMENE AMAKHUDZA ANTHU. KOMA CHIYEMBEKEZO CHILIPO...

KWA NTHAWI YAITALI, ANTHU AKHALA AKUFUFUZA ZA MATENDA WA NDI CHOLINGA CHOTI APEZE NJIRA ZOWAGONJETSERA.

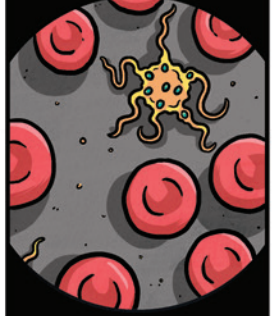


ALGERIA,  
1880.

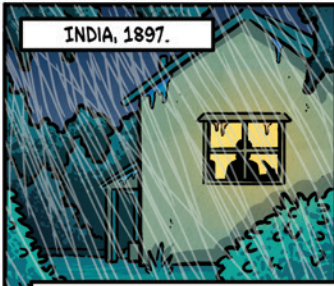


CHARLES LAVERAN ANAWONA TINTHU TODABWITSA M'MAGAZI A ANTHU PA MAKINA OTCHEDWA MICROSCOPE.

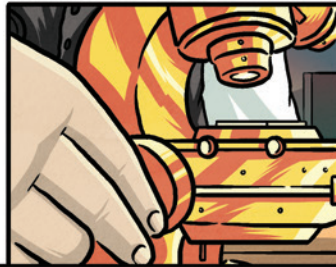
NGATI ALENDO OSADZIWIKA KOMWE ACHOKERA, TIZILOMBO TI TINALI YAKALI YAKALI... ZACHIDZIWKIRENI MUNTHU ANALI ATAKUMANA NDI MDANI AMENE ANAKHALA ALIPO KWA NTHAWI YAITALI.



KOMA, KODI TIZILOMBO TI TIMAFALITSIDWA BWANJI?



INDIA, 1897.



M'NTHAWI YOTENTHA NDI MUULA, RONALD ROSS ANAPANGA KAFUKUFUKU WA MALUNGO POSANDA UZUZUZI UMENE UNALI UTANGOMWA MAGADZI OKHALA NDI TIZILOMBO TOYAMBISA MALUNGO. INALI NTCHITO YOVUTA!



MKATI MWA UZUZUZI, ROSS ANAONA TIZILOMBO TOYAMBISA MALUNGO TIKUKULA NDI KUCHULUKANA. ZOTSATIRA ZA KAFUKUFUKUYI ZINALI ZA MNANU!

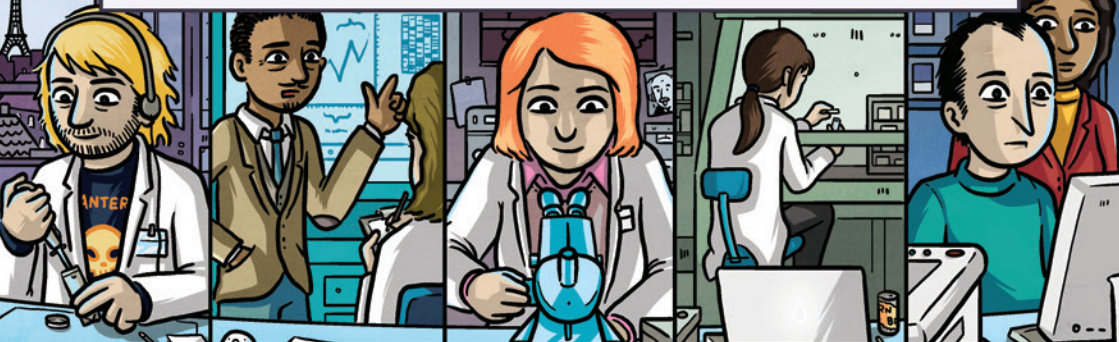
ZOTSATIRAZI ZINALI UMBONI WA M'MENE MALUNGO AMAFALITSIDWA, OSATI KUDZERA MU MPHEPO KAPENA FUMBI, KOMA KU LUMIDWA NDI UZUZUZI WAUKAZI.



CHINSINSI CHA TIZILOMBOTI CHINAYAMBA KUONEKERA POYENERA.



KAFUKUFUKU WA TIZILOMBO TI AKUPITILIRABE MPAKANA LERO. A KATSWIRI A ZA SAYANSI MU MAYIKO A KU ULAYA AKHALA ALI PA MGWIRIZANO WAMAIKO ONSE A PA DZIKO LA PANSI OLIMBANA NDI KUTHETSA MATENDA A MALUNGO. POFUNA KUKWANIRITSA IZI, NKUYENERA KUDZIWA ZOONA ZAKE ZENIZENI ZA TIZILOMBO TOYAMBISA MALUNGO.



KODI TIZILOMBO TI TIMASWANA NDI KUCHULUKANA BWANJI? NCHIFUKWA CHIYANI CHITETZO CHA M'THUPI MWATHU CHIMALEPHERA KUTIGONJETA? TINGACHITEPO CHANI KUTI TIGONJETSE MATENDA WA?



### THUPI LA MUNTHU



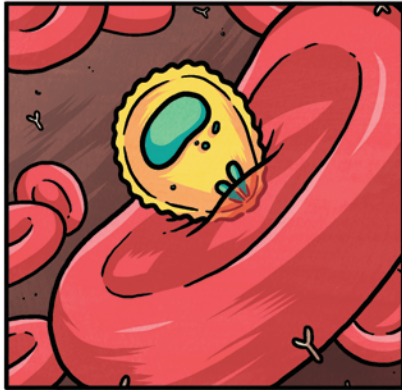
THUPI LA MUNTHU NDI LO TENTHA BWINO NDIPONSO LIRI NDI MADZI A MBIRI ZOMWE ZIMALIPANGA KUKHALA MALO A BWINO OCHULUKIRANA KU TIZILOMBO. KOMA KWA TIZILOMBO TOYAMBISA MALUNGO, THUPI LA MUNTHU NDI LOOPSYA KUKHALAMO.

MAGAZI ATHU NDIODZAZIDWA NDI CHITETZO CHA M'THUPI KOMANSO ZIPHE ZIMENE ZIMAPHA TIZILOMBO TOSIYANASIYANA.

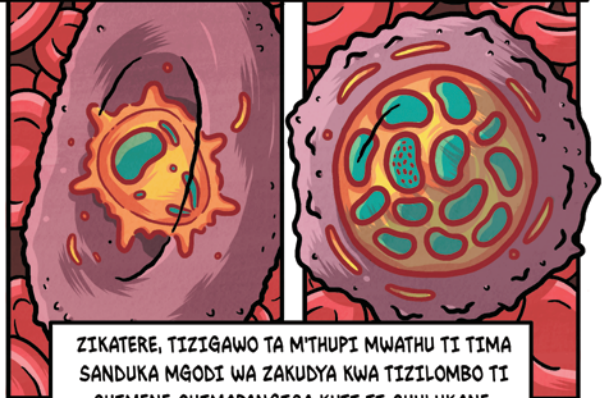


KUTI TIPULUMUKE, TIZILOMBO TOYAMBISA MALUNGOTI TIMAYENERA KULEWA MPHAMUVA YA CHITETZO CHA M'MATUPI ATHU

TIKALOWA M'THUPI, TIZILOMBO TOYAMBISA MALUNGO TIMALOWA MU TIMAGAWO TING'ONOTING'ONO KWAMBIRI TA M'THUPI MWATHU. KUYAMBIRA M'CHIWINDI KENAKO M'MAGAZI.



CHIBISALIRENI KU CHITETEZO CHATHU, TIZILOMBO TI TIMA CHULUKANA MKATI MWA TIMAGAWO TING'ONOTING'ONO TA M'THUPI TI ZIMENE ZIMAONONGA NDI KUSINTHA MAONEKEDWE ATIZIGAWO TI.



ZIKATERE, TIZIGAWO TA M'THUPI MWATHU TI TIMA SANDUKA MGODI WA ZAKUDYA KWA TIZILOMBO TI CHIMENE CHIMPANGISA KUTI TI CHULUKANE.

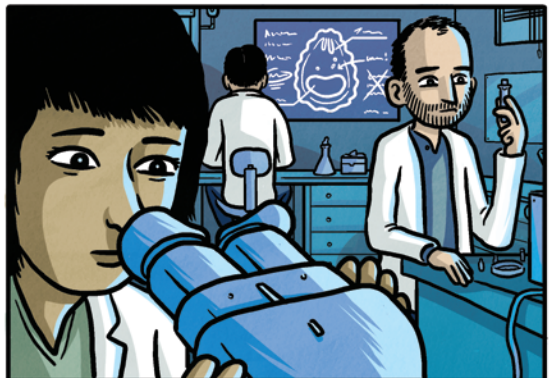


PAKAPITA NTHAWI, TIZIGAWO TA M'THUPI TI TIMATOPA NDIPO TI ANA TA TIZILOMBO TA MALUNGO TI MA PHULITSA TIZIGAWO TA M'THUPI TI NKULOWA MU TI ZIGAWO TATSOPANO.

MPUNGWEPUNGWE UMENEWO UMACHITIKA NTHAWI ILI YONSE MUNTHU AKAKHALA NDI MALUNGO. POMWE TIZILOMBO TI TIMACHULUKANA, ODWALA AMAFOOKA.



POCHITA KAFUKUFUKU WA M'MENE TIZILOMBO TOYAMBISA MALUNGO TI TIMACHULUKIRANA, TIMAFUNAFUNA NJIRA ZOMWE TINGA TIGONJETSERE.



PAMODZI, AKATSWIRI A ZA SAYANSI AKUFUFUZA ZA TIZILOMBO TI MWATSATANETSATANE.

NGAKHALE TILI TOSAONEKA, TIZILOMBO TOYAMBISA MALUNGO TILI NDI ZOFUNA NGATI ZA MOYO ZONSE



TIMAFUNA ZAKUDYA



NJIRA ZOONERA, KUMVA, KUNUNKHIZA KAPENA KULEWA ZO ZUNGULIRA



NJIRA ZOLEWERA ZOOPSYA



NJIRA ZOCHULUKIRANA NDI KUFALIKIRA

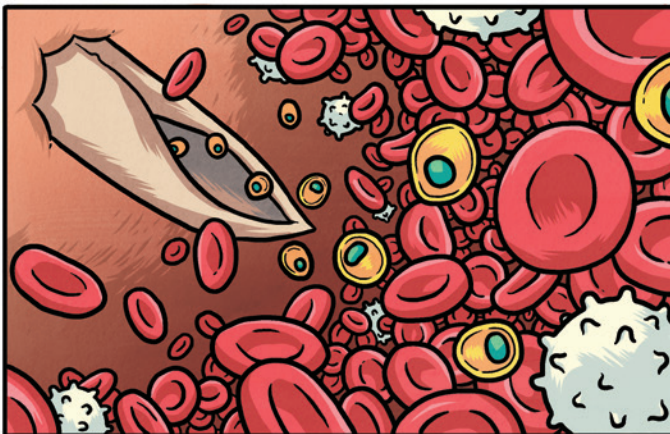
MAKINA A MPHAVU OONERA TINTHU TA TING'ONOTING'ONA OKHA SANGATONETSE M'MENE IZIZI ZIMATHEKERA MU TIZILOMBO TOYAMBISA MALUNGO



KUTI TIDZIWE MWATSATANETSATANE M'MENE TIZILOMBO TI TIMACHULUKIRANA, KUFALIKIRA NDI KULEWA ZOOPSYA; TIYENERA KUYANG'ANA MU ZOTENGERA KU MTUNDU ZOCHOKERA KWA MAKOLO KUPITA KWA ANA (MA JINI)



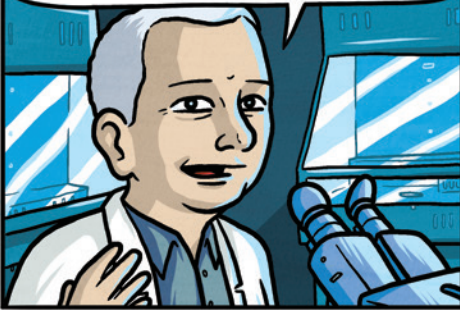
M'MALO OYESERA A ZA SAYANSI (LABU), TIMATHA KU CHOTSA MA JINI A TIZILOMBO TOYAMBISA MALUNGO TI. POCHOTSA JINI IMODZIIMODZI, TIMATHA KUTIPUSITSA TIZILOMBOTI KUTI TILI TOTEDZEDWA M'KATI MWA ZIWINDI ZATHU CHILIKO TIKUTIPELEKERA KU CHITETEZO CHATHU CHA M'THUPI.



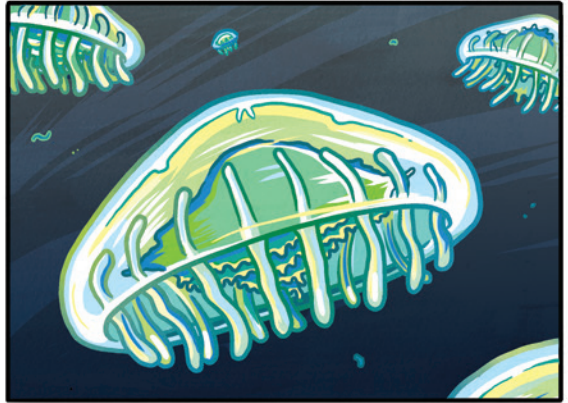
POCHOTSA MA JINI WA IMODZIIMODZI, TIMATHA KUDZIWA M'MENE AMAGWIRIRA NTCHITO PAOKHA KOMANSO ONSE PAMODZI.



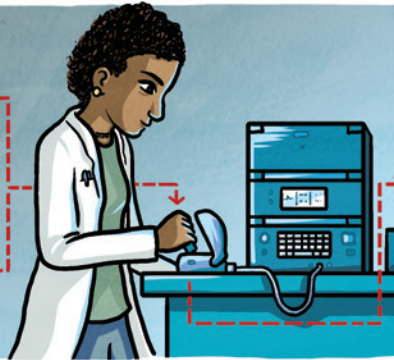
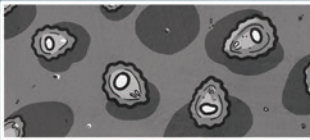
NDIKUYETSESA KUTI NDI DZIWE MMENE  
TIZILOMBO TOYAMBISA MALUNGO TIMALOWERA  
M'THUPI MWATHU, KOMA TIZILOMBO TI NDI  
TATING'ONO KWAMBIRI MOTI NDIKOVUTA  
KUTIONA NDI MASO.



NSOMBA ZA M'MADZI ZINA ZAKE ZIMA PANGA TI ZINTHU TINA  
TATING'ONOTING'ONO TOMWE TI MAWALA PANSI PA NYANJA YA MCHERE

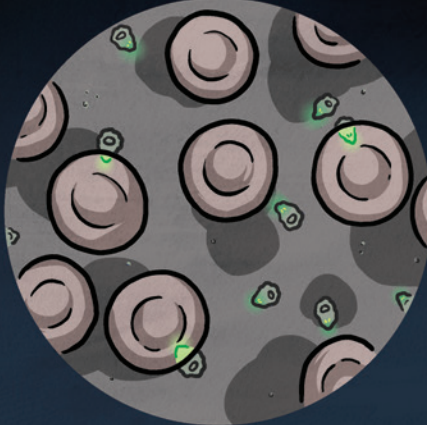


TIMATHA KUTENGA MA JINI A NSOMBA ZIMENEZI NDI KU WA LUMIKIZA KU MA JINI A TIZILOMBO TOYAMBISA MALUNGO



TIZILOMBO TOSINTHIDWATI TIMAWALA NKUONETSA TIDZIWALO TAWO TA MKATI.

TIMAWALA NGATI MAKOMBOLA, KOMA KWA IFE IZI, ZIMAKHALA  
NDI NTCHITO YAKE. TIMATHA KUONA ZIWALO ZONSE ZA TIZILOMBO  
TI, M'MENE ZIWALOZI ZIMAGWIRIRA NTCHITO KOMANSO M'MENE  
TIZILOMBO TI TIMALOWERA MU TIZIGAWO TA M'THUPI MWATHU.



NGATI TINGADZIWE MWATSATANETSATANE  
M'MENE TIZILOMBO TI TIMALOWERA  
M'THUPI MWATHU, TIKHOZA KUPEZA  
NJIRA YO TILETSESA.



TIZILOMBO TOLEPHERA KULOWA  
MU TIZIGAWO TA M'THUPI MWATHU  
TIMAPHEDWA MOSAVUTA NDI  
CHITETEZO CHA M'THUPI.

KUTI TIFUZE ZIGAWO ZONSE ZA TIZILOMBO TI, TIMATHA KUIKA MA JINNI AWO MU TIZILOMBO TINA TIMENE TIMACHULUKANA MWANSANGA.



NGATI MAFAKITALE, TIZILOMBO TOSINTHIDWATI TIMACHULUKANA KWAMBIRI MU NTHAWI YOCEHEPA. TIKAMACHULUKANA, TIMAKHALANSO TIKUPANGA TIZIHALO TA TIZILOMBO TOYAMBISA MALUNGO TIMENE TIKHOZA KUYERETSEDWA NDI KUFUFUZIDWA.



TIZIHALO TI TIKAYERETSEDWA KUCHOKERA KU TIZILOMBO TOYAMBISA MALUNGO KOMANSO KWA TINZAKE, TIKHOZA KU FUFUZIDWA MWATSATANETSATANE M'MENE TIMAGWIRIRIRA NTCHITO.



KUMAKHALA NGATI KUPHWASAULA WOTCHI KUTI TIDZIWE M'MENE CHIHALO CHILICHONSE CHIMAONEKERA KOMANSO M'MENE ZIHALOZI ZIMAGWIRIRA NTCHITO LIMODZI.

ZONSEZI ZIMATIPATSA ZI ZIDZIWITSO ZA MMENE TIZILOMBO TOYAMBISA MALUNGO TIMAKHALIRA NDI KUMENYA NKHONDO MU M'MATUPI ATHU. ZIMAPERKANSO NJIRA ZOMWE TINGAGWIRTISE NTCHITO POGONJETSERA TIZILOMBO TI POPANGA MANKHWALA NDI A KATEMERA AMAKONO.

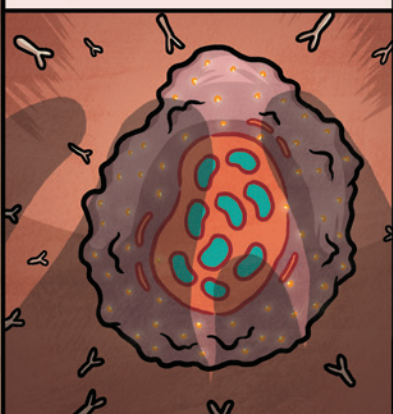
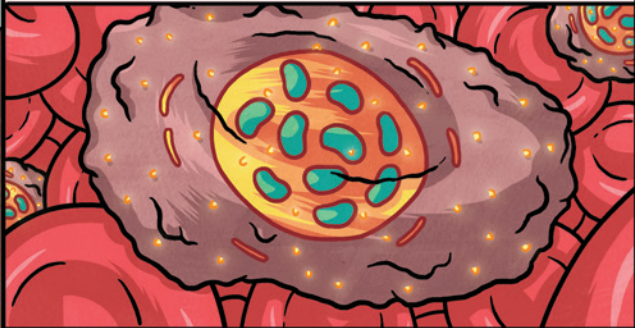




CHITETEZO CHATHU CHA M'THUPI CHINGAKHALE CHIDA CHA MPHAMVU CHOGONJETSERA TIZILOMBO TOYAMBISA MALUNGO.

KUTI TICHULUKANE, TIZILOMBO TOYAMBISA MALUNGO TIMA ONJEZERA TIZIDUSWA TATING'ONOTING'ONO PA MWAMBA PA TIZIHALO TATHU TA TING'ONO-TING'ONO TOFIIRA. TIZILOMBO TOYAMBISA MALUNGO TIMAGWIRTISA NTCHITO TIZIDUSWATU POTOLERA ZAKUDYA, KUNUNKHISA, KUONA NDI KULAWA ZOTIZUNGULIRA.

TIZIDUSWATU TIMAKHALA NGATI CHIZINDIKIRO KUTI TIDZIHALO TATHU TOFIIRA TAGWIRIDWA NDI TIZILOMBO TOYAMBISA MALUNGO. TIMA ZINDIKIRIDWA NDI CHITETEZO CHATHU CHIMENE CHI MAKHALANSO CHIKUSINTHA NTHAWI ZONSE.

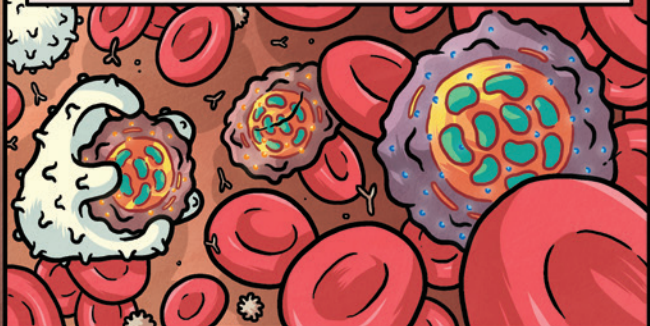


ZIKATERO, CHITETEZO CHATHU CHA M'THUPI CHI MAONA TIDZIDUSWATU. ZIGAWO ZOSIYANASIYANA ZA CHITETEZO CHATHU ZIMAONONGA TIDZIHALO TATHU TOFIIRA TOMWE TILI NDI TIZILOMBO KOMANSO TIZILOMBO TENI TAKE.

KOMA TIZILOMBO TOYAMBISA MALUNGO TILI NDI NJIRA ZOZEMBERA CHITETEZO CHATHU CHA M'THUPI. NGATI MMENE ZOKONDA ZIMASTYANIRANA PAKATI PA ANTHU, TIDZIDUSWATU TIMASIYANA MU TI ZILOMBO TOSIYANASIYANA.



PAMENE CHITETEZO CHATHU CHA M'THUPI CHIMAKHALA CHIKU SAKASAKA TIDZIDUSWA TA MTUNDU UMODZI, TIZILOMBO TINA TIMENE TIMAKHALA NDI TIZIDUTSWA TA MTUNDU WINA TIMAKHALA TABISALA CHIFUKWA SITIMAONEDWA NDI CHITETEZO CHI.



MALINGANA NDI KUSINTHASINTHA KWA TIDZIDUSWATU, CHITETEZO CHATHU CHA M'THUPI CHIMAKHALA SITEPI IMODZI KUMBUYO.

KATEMERA WA MALUNGO AMAPHUNZITSA CHITETEZO CHATHU CHA MTHUPI KUTI CHIDZIONA TIDZIDUSWA TA TIZILOMBO TOYAMBISA MALUNGO TI TIKANGOLOWA MTHUPI MWATHU.



UUTO LIMAKHALA LOPEZA TIZIHALO TOMWE TIMAKHALA TOSASINTHASINTHA PAKATI PA TIZILOMBO TOYAMBISA MALUNGO TOSTYANASIYANA: TIZIGAWO TOFOOKA MU TIZILOMBO TOMWE TIKHOZA KUONEDWA NDI KU PHEDWA MWAMNSANGA NDI CHITETEZO CHA MTHUPI MWATHU.



KATEMERAYU AMATHA KUPHA TIZILOMBO TOYAMBISA MALUNGO TI TIKANGOLOWA MTHUPI TISANAYAMBITSE MATENDA A MALUNGO

TIKUDZIWA KU TIZIHALO TOFOOKA TOMWE TINGAPHEDEWE MOSAVUTA NDI CHITETEZO CHATHU TILIPO MU TIZILOMBO TOYAMBISA MALUNGO TI. ANTHU OMWE AMAKHALA KU MALO KOMWE KULI MALUNGO AMBIRI AMAKHALA NDI CHITETEZO KU MATENDA A MALUNGO CHOMWE CHI MAKULA MPHAMVU ANTHUWA AKAMAKULA.

POFUFUZA MOMWE CHITETEZO CHATHU CHI MAPHERA TIZILOMBO TOYAMBISA MALUNGO TI, TIMATHA KUDZIWA MOMWE CHITETEZOCHI CHIMAYAMBIRA NDI KUKULA.



IDZI ZINGATITHANDIDZE KUPANGA KATEMERA WATSOPANO WABWINO NDIPONSO WAMPHAMVU.

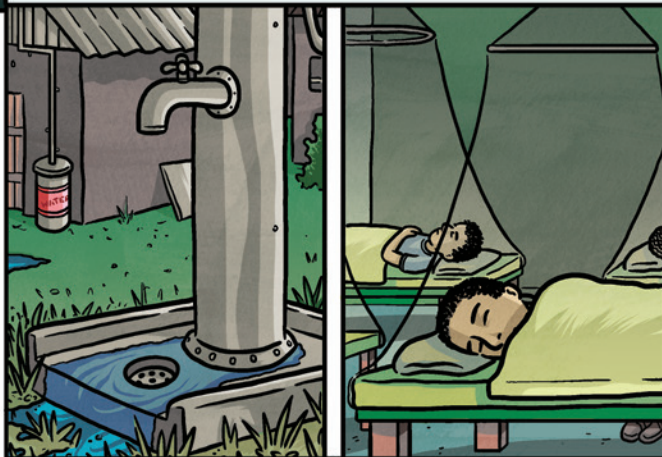
IKAKHALA NKHANI  
YOPEWERA TI ZILOMBO  
TOYAMBISA MALUNGO  
TI, NTHAWI ZAMBIRI  
NJIRA ZOSAVUTA  
ZIMAKHALA  
ZOGONJETA UZUDZU  
UMENE UMANYAMULA  
TIZILOMBO TI



UMUO WA TIZILOMBO  
TOYAMBISA MALUNGO  
TI UMADALIRA UZUDZU.

KUGONJETA UZUDZU  
KUMATANTHAUZANSO  
KUGONJETA MALUNGO.

KUKHETA MADZI ODIKA MU ZITHAPHWI, KUPHIMBA MADZI ODEKHERA  
MOMWE MU MACHULUKIRANA UZUDZU, KUGONA MU CHITETEZO NETI...



POFUFUZA M'MENE TIZILOMBO TI TIMAKHALIRA NDIKUCHULUKANA MKATI  
MWA UZUDZU, TIKHOZANSO KUPEZA NJIRA ZINA ZA TSOpano ZOMWE  
TINGAGWIRITSIRE NTCITO POGONJETSERA MALUNGO.

ZONSEZI ZIMALEPHERETA  
TIZILOMBO TOYAMBISA  
MALUNGO KUPEZA NJIRA  
YLOWERA M'THUPI MWATHU  
KUCHOKERA KU UZUDZU.



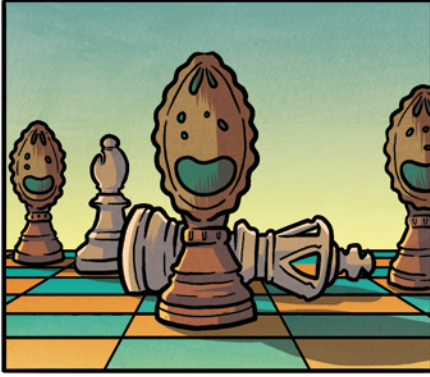
MU LABU, TIMATHA KUSINTHA UZUDZU KUTI  
UKHALE OSAQWIRIDWA NDI TI TIZILOMBO TOYAMBISA  
MALUNGO TI. UZUDZU WU UMATHA KULUMA KOMA  
SUMAFALITSA MALUNGO.



POTENGERA NKHONDOYI KWA UZUDZU,  
TIKHODZA KUGONJETA MALUNGO TIZILOMBO  
TI TISA NALOWE M'THUPI MWATHU.



KOMANO ANTHUFE SINDIFE TOKHA AMENE  
TIMAFUNA KUKHALA NDI MOYO



NTHAWI ZONSE TIKAMAGONJETA TI ZILOMBO  
TOYAMBISA MALUNGO TI, TIMAPEZA NJIRA  
ZOGONJETSERA ZIDA ZATHU.

TIYENERA KUDZIWA KUTI TIZILOMBO TI TAKHALA  
TIKUKHALA NDI ANTHUFE KWA NTHAWI YAYITALI

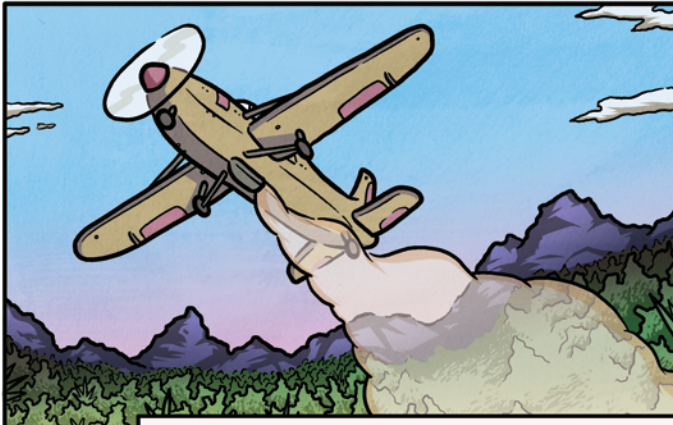


TINAZINDIKIRA MMENE  
THUPI LATHU NDI  
CHITETZO CHAKE  
ZIMAGWIRIRA NTCHITO  
KUPOSA IFE ENI AKE.



PANOPA TIMATHANSO KU SINTHA  
KUTI TISAMAPHEDWE NDI  
MANKHWALA OCHIRITSIRA  
MALUNGO.

MU ZAKA ZA MU MA 1950, KUGONJETA MALUNGO KUNKAONEKA NGATI NKOTHEKA.  
TINALI NDI ZIDA ZA MPHAMVU, MWAZINA MONGA MANKHWALA A MPHAMVU  
KWAMBIRI A CHLOROQUINE NDI MANKHWALA OPHERA UDZUZU OTCHEDWA DDT.



TINALI OKONZEKA  
KUGONJETA MATENDA A  
MALUNGO WA, MOTI MU  
MALO ENA IZI ZINALI  
ZITATHEKA KALE



MWATSOKA, MPHAMVU ZATHU PA TIZILOMBO TOYAMBISA MALUNGO TI SIZINAKHALITSE

VUTO LIMAKHALA LOTI MANKHWALA OCHILITSIRA MALUNGO AKHOZA KUKHALA A MPHAMVU TIKAMAWAGWIRITSA NTCHITO MU LABU. KOMA AKAPEREKEDWA KWA ANTHU WAMBA MU MAKOMO MWATHU, ZOVUTA ZIMATULUKIRA NTHAWI ZONSE.



TIZILOMBO TOYAMBISA MALUNGOTI TI MAKHALA NDI MWAYI WOKHALA NDI MOYO TIKANGOPATSIDWA MPATA WOSINTHA KUTI TISAMAPHEDWE NDI MANKHWALA, NGAKHALE MPATAWO UKHALE OCHEPA.

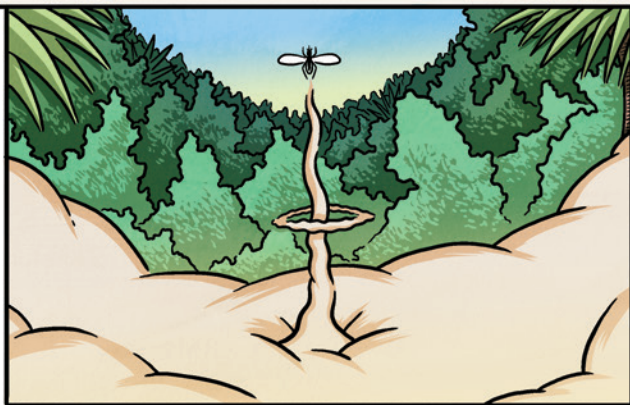


NDI NTHAWI, NKHONDO YA APULUMUKE NDANI IMAPANGITSA KUTI TIZILOMBO TOSINTHIDWATI TICHULUKANE.

TIKAKHALA OSASAMALA, MANKHWALA ONSE UMWE TIMAGWIRITSA NTCHITO POCHIRITSIRA MALUNGO AMASIYA KUGWIRA NTCHITO KAMBA KA TIZILOMBO TOSINTHIDWA TI.



TINAZINDIKIRA IZI MOWAWA. TIZILOMBO TOYAMBISA MALUNGO TI PANOPA SITIMAPHEDWA NDI NKOMWE NDI MANKHWALA A CHLOROQUINE. KOMANSO, UZUZU NAWONSO UNASIYA KUSA MUKAUPOPERA NDI MANKHWALA A DDT.



KUTI TIKHALE NDI MWAYI OGOJETA MALUNGO MTSOGOLO. TIYENERA TIDZIWE MMENE TIZILOMBO TOYAMBISA MALUNGO KOMANSO UZUZU ZIMASINTHIRA NDI KU FALITSIDWA KUTI ZISAMAPHEDWE NDI MANKHWALA.



POYANG'ANA MA JINI A TIZILOMBO TI, PANOPA TINAYAMBA KUZINDIKIRA MMENE TIMASINTHIRA. PANOPA NDIKOPHWEKA KUDZIWA ZAMBIRI ZA TIZILOMBO TI MOSAVUTA.



PA MAPHUNZIRO ANGA A UKACHENJEDE A PHD, NDINATHA CHAKA CHONSE KUFUFUZA MMENE JINI IMODZI YA TIZILOMBO TI IMAGWIRIRA NTCHITO.

LERO, TIMATHA KUFUFUZA MA JINI ONSE A TIZILOMBO TI SABATA IMODZI. NDIPO TIMATHA KUWAFUFUZA ZIKWI NDI ZIKWI PA KAMODZI.



ZOSATIRA ZAKAFUFUKU ZA MTUNDUWU ZI ZIMAKHALA ZAMBIRI. VUTO LIMADZAKHALA LO ZI TANTHAUZIRA.



APA NDI PAMENE AKATSWIRI A ZA MASAMU NDI MA KOMPYUTA AMABWERAPO. AMATHA KUPEZA MACHITIDWE NDI MATANTHAUZO A ZOSATIRAZI.

TIKUKHALA MU DZIKO NDI NYENGO ZOSINTHASINTHA, NDIPO NGATI CHILENGEDWE, MANKHWALA, ANTHUFE TIKUSINTHA, TISAMADABWE KWAMBIRI KUTI TIZILOMBO TOYAMBITSA MALUNGO NATONSO TIKUSINTHA.



TIKASANTHULA ZOSATIRA ZAKAFUFUKU NDI KUZINDIKIRA MMENE TIZILOMBO TI TIKUSINTHIRA, MWINA KAPENA TIZAKHALA TIKUMENYA NKHONDO NDI MBANI OMWE TIKUMUDZIWA.

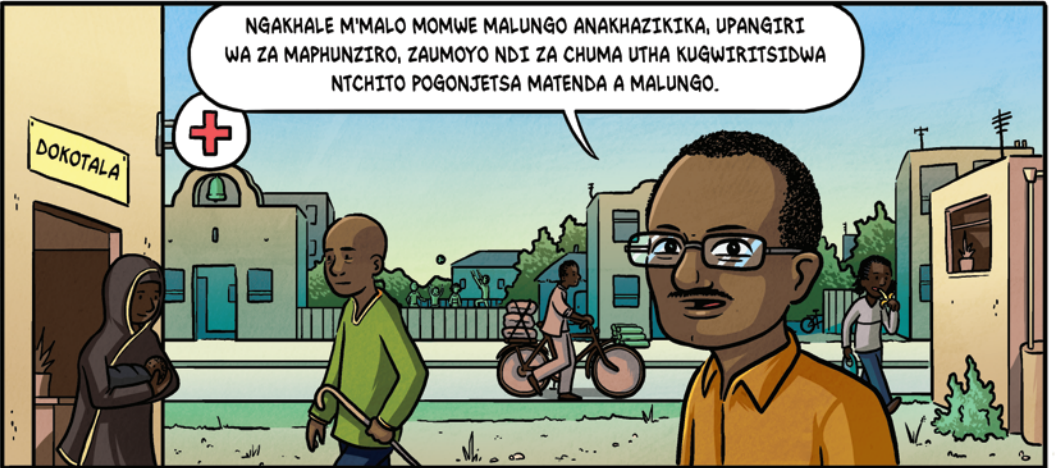


KU ULAYA, MALUNGO ANAGONJETSEDWA KOPANDA MANKHWALA KAPENA KATEMERA WATSOPANO. ZIMENE ZINATHANDIZA KWAMBIRI KUNALI KUTUKUKA KWA ZACHUMA



KUGONJETSJA MALUNGO SI UDINDO WA AKATSWIRI A ZA SAYANSI OKHA. A KATSWIRIRI A ZA NDALE, ZA CHUMA NDI ZA CHIKHALIDWE NAWONSO AMATENGAPO GAWO LALIKULU.

NGAKHALE M'MALO MOMWE MALUNGO ANAKHAZIKIKA, UPANGIRI WA ZA MAPHUNZIRO, ZAUMOYO NDI ZA CHUMA UTHA KUGWIRITSIDWA NTCHITO POGONJETSJA MATENDA A MALUNGO.



MALUNGO AMAPANGITSA ANTHU OMWE AMATUKULA MIDZI ANDI MADERA KUKHALA CHIGONERE CHIFUKWA CHA KUDWALADWALA



POGONJETSJA MALUNGO, TIKHOZA KUTHETSJA M'CHITIDWE WU.

TIZILOMBO TOYAMBISA MALUNGO NDI TOOPSYA. NDI TI ASILIKARI TOCHULUKA MIYANDA ZIKWI, TOMWE TIMA OPSYEZA PA DZIKO LONSE LAPANSI NDIPO TILI NDI KUTHEKERA KOSINTHA KUTI TIDZIGONJESA NJIRA ZOMWE TIMAGWIRITSIRA NTCHITO POTIPHERA.

NGATI TIKUFUNA KUTI TI TIGONJETSE KWA M'THERATU, TIKUYENERA KUPEZA CHITHANDIZO M'MALO ONSE OMWE TINGACHIZEZE. NDI CHIFUKWA CHAKE TIKUPANGA KAFUKUFUKU WA ZA TIZILOMBO TI M'NGODYA ZONSE.

ODWALA

TIZIGAWO  
TING'ONOTING'ONO  
KWAMBIRI TA  
M'THUPI MWATHU

UDZUZDU

CHITETEZO  
CHA M'THUPI

TIZILOMBO  
TENI TAKE



PAMENE TIKUPITILIZA KAFUKUFUKU WATHU WA ZOSADZIWIKA ZA MATENDA WA, NDIFE OKHULUPIIRA KUTI TIPEZA NJIRA ZA TSOPANO ZO WAPEWERA NDIKU WA CHIZA.

KUGONJESA MALUNGO NDI  
NTCHITO YAYIKULU



PALIBE MAYANKHO OPHWEKA KU  
MAVUTO OMWE TIMAKUMANA NAWO.



KOMA NGATI TINGATHE KUZIWA ZAMBIRI ZA TIZILOMBO  
TODABWITSA TI KUDZERA MU KAFUKUFUKU, MWAYI WO  
TIGONJETSERA UMACHULUKA.



**WELLCOME CENTER FOR INTEGRATIVE PARASITOLOGY** IMAPEZEKELA  
KU SUKULU YA UKACHENJEDWE YA GLASGOW. NTCHITO YATHU YA IKULU NDI  
KUFUFUZA ZA MMENE TIZILOMBO TOYAMBITSA MATENDA OSIYANASTIYANA  
TIMAGWILRA NTCHITO M'THUPI MWA MUNTHU KUTI TIPEZE MANKHWALA  
NDI NJIRA ZOTIGONJETSERA

**KUTI MUDZIWE ZAMBIRI ZA NTCHITO YATHU, ONANI TSAMBA LA INTANETI**  
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TIKUTHOKOZA ANTHU AMENE TINAGWIRA NAWO NTCHITO MU BUNGWE LA EVIMALAR, AKATSWIRI A ZA  
SAYANSI NDI ONSE OMWE ANAYANKHA NAWO MAFUNSO OMWE TINKAFUNSA POFUFUZA ZA UPANGIDWE WA  
BUKU LI. TIKUTHOKOZANSO A MATT BERRIMAN NDI A SARAH REECE CHIFUKWA CHA UPANGIRI WAWO.  
MWAPADERA, TIKHUTHOKOZA A ANDY WATERS, GILLIAN MURRY NDI HANSA PARTAB CHIFUKWA CHA  
CHITHANDIDZO CHIMENE ANAPERKA.

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Parasitology**

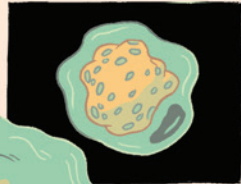
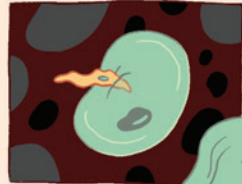




MKATI MWA UDZUZU MU TIZILOMBO TI TIMACHULUKANA MWA CHINSINISI MU CHIWINDI. KENAKO, TIZIHALO FATING'ONO TING'ONO TA MU CHIWINDI TI TIMAPHULIKA NNUUNDUMULA ZIKWI NDI TIZILOMBO.

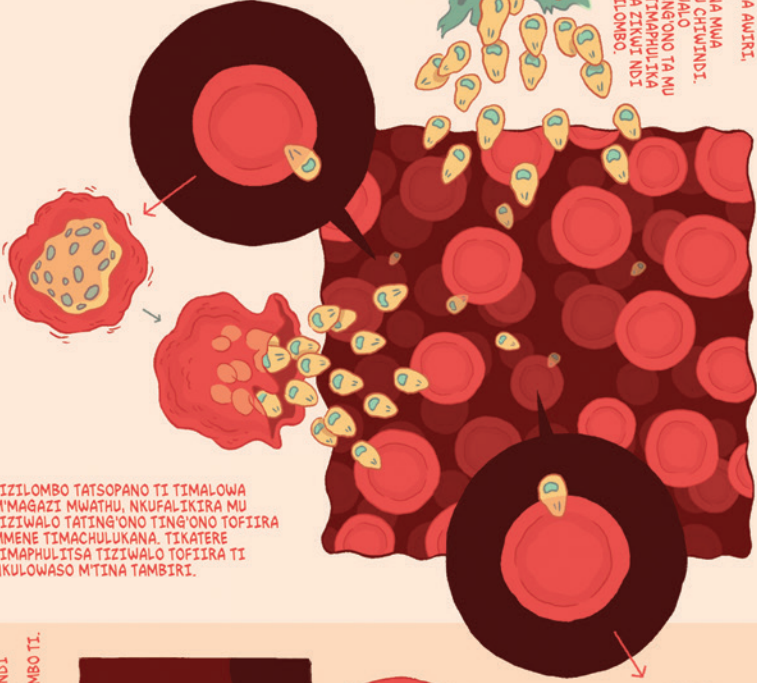


MKATI MWA UDZUZU TIZILOMBO TI TIMACHOKA MU MATUMBO NKULOWA MTHUPI KUTI TIKULE ZIKATERO UDZUZU NANISO UMACHALA KUTI WAGWIDWA NDI TIZILOMBO TI.



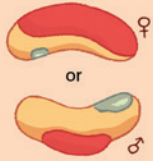
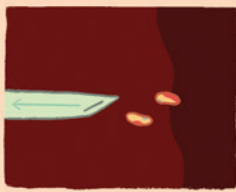
TIZILOMBO TOYAMBISA MATENDA A MALUNGO TIMALOWA MTHUPI MWATHU KUDZERA M'MALOVU A UDZUZU UKATILUMA. TIKATERE, TIZILOMBO TI TIMAPITA NAKHAZIKIKA MU TIZIHALO TATING'ONO TING'ONO TA MU CHIWINDI TILIKO TIKUBISARA KU CHITETEZO CHATHU CHA MTHUPI.

KWA MA SABATA AMIRI, TIZILOMBO TI TIMACHULUKANA MWA CHINSINISI MU CHIWINDI. KENAKO, TIZIHALO FATING'ONO TING'ONO TA MU CHIWINDI TI TIMAPHULIKA NNUUNDUMULA ZIKWI NDI TIZILOMBO.



TIZILOMBO TATSOPANO TI TIMALOWA M'MAGAZI MWATHU, NKUFALIKIRA MU TIZIHALO TATING'ONO TING'ONO TOFIIRA MMENE TIMACHULUKANA. TIKATERE TIMAPHULITSA TIZIHALO TOFIIRA TI NKULOWASO M'TINA TAMBIRI.

UDZUZU UKATILUMA TIKUDWALA MALUNGO NDI KUPOPA MAGAZI ATHU, UMATENGANSO TIZILOMBO TI.



MALUNGO NDI MATENDA OOPSYA OMWE AKHALA MDANI WA ANTHU KWA NTHAWI YAITALI. BUKU LA NTHABWALA LI LIKUUNIKA NKHONDO YOMWE TIKUMENYA POLIMBANA NDI TIZILOMBO TOYAMBISA MALUNGO TI. BUKU LI LIKUUNIKA NTCHITO IMENE IMAGWIRIDWA MU MA LABU A ZA SAYANSI NDI ZIPATALA MOMWE A KATSWIRI OSIYANASIYANA ALI PAKALIKILIKI NDI KAFUKUFUKU WOPEZERA NJIRA ZOQONJETSERA MATENDA WA.



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