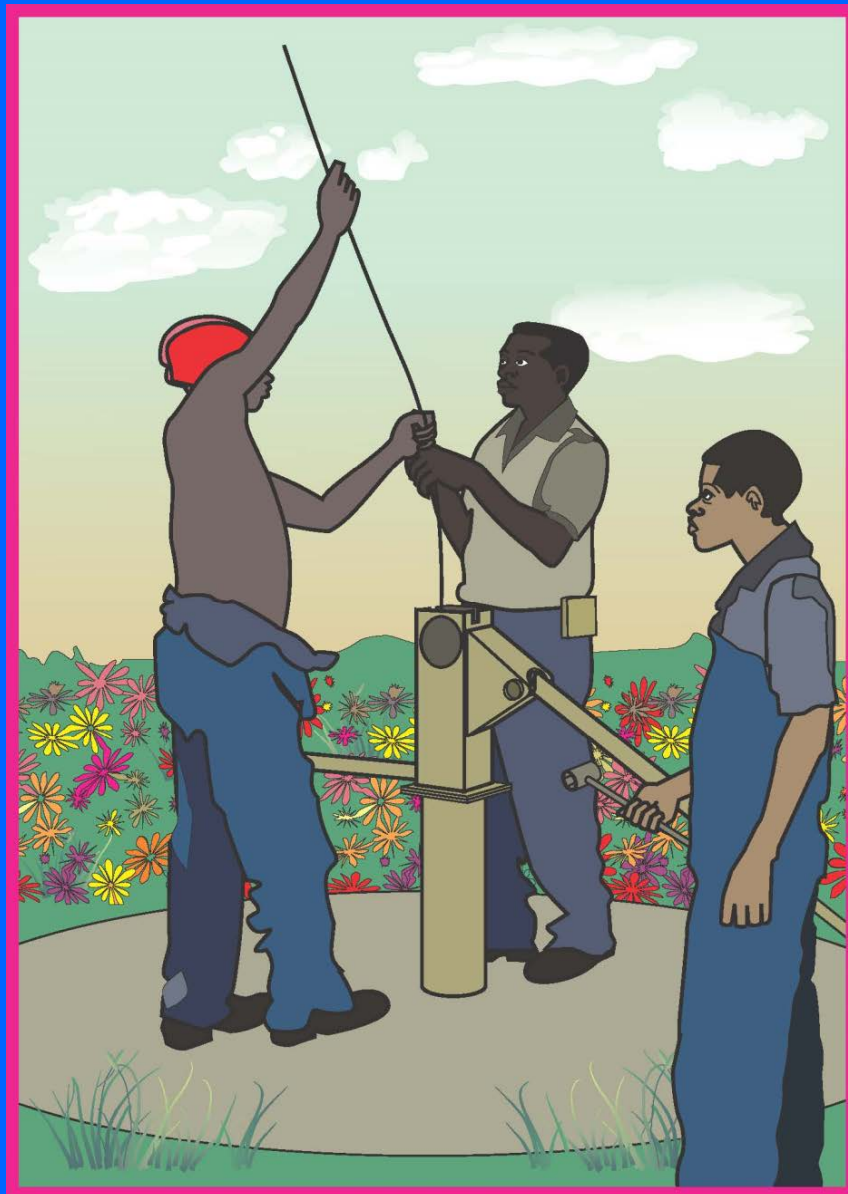




Boma La Malawi

Kupereka Madzi Kumudzi Kayendetsedwe ndi kakonzedwe ka Mijigo Buku 4

Buku La Maphunziro Amakaniki A Mjigo



Unduna Wa Ulimi, Ulimi Wothirira ndi Chitukuko Cha Madzi

March 2015



Kupereka Madzi Kumudzi Kayendetsedwe ndi kakonzedwe ka Mijigo Buku 4

Buku La Maphunziro Amakaniki A Mjigo

Unduna Wa Ulimi, Ulimi Wothirira ndi Chitukuko Cha Madzi

March 2015

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87 p

Kupereka Madzi Kumudzi Kayendetsedwe ndi kakonzedwe ka Mijigo Buku 4

Bukuli lasindikizidwa ndi Unduna wowona za Ulimi, Ulimi Wothirira ndi Chitukuko cha Madzi Ndi Thandizo Lochokera ku Boma la Japani Mndondomeko Yolimbikitsa Kuti Anthu Akumudzi Azitha Kuyendetsa ndi Kukonza Okha Mijigo mu Ntchito yopereka Madzi aukhondo kumadera a kumidzi

Bukuli lizigwira ntchito ndi chilamulo chochokera ku Unduna wa Ulimi, Ulimi Wothirira ndi Chitukuko cha Madzi ngati eni ake. Ndipo Undunawu ukuloleza wina aliyense kugwiritsa ntchito Bukuli pokhapokha ngati ntchitoyo ikupindulira anthu. Gawo kapena zithunzi chilichonse chikhonza kuchulukitsidwa pofuna kukwaniritsa zosowa za kumudzi popanda chilolezo kuchoka ku Unduna wa Ulimi, Ulimi Wothirira ndi Chitukuko Cha Madzi pokhapokha ngati zochulukitsidwazo:

- (a) Zigawidwa mwaulele komanso zipindulira anthu posamala mijigo
- (b) Ngati sizikugwiritsidwa ntchito ndi cholinga chopeza phindu
- (c) Ngati kungowerenga mcholinga chopeza chiziwitso.

Ngati mungapeze zina zofunika kusintha kapena kukonza Mbuku limeneli, kapenanso kugwiritsa ntchito Bukuli ndi cholinga chopeza phindu chonde pemphani chilolezo kuchokera kwa Mkulu Wowona Ntchito yopereka Madzi mu Unduna Woona za Ulimi, Ulimi Wothirira ndi Chitukuko cha Madzi pa Nambala ili pamwambapa kapena lembani kalata pa keyala ili pamwambapa

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CHIYAMBI

Kupereka madzi aukhondo kukadalibe ngodya imodzi yachitukuko imene boma la Malawi likuikapo chidwi, ndipo kukhazikitsa kwa amaklani okonza mijigo adera mijigo mdziko lonse ndi njira imodzi yokwaniritsira masomphenyawa. Ngakhale kuti makomiti oyangánira madzi kumudzi apatsidwa mphamvu yotengapo gawo losamalira mijigo yawo kuzera mmaphunziro ndikovuta kwaiwo kusamalira mijigo yawo ngati luso lozokonzera mavuto akuluakulu apa mjigo lachepa. Pakadali pano ofesi ya mlangizi wa mkulu wowona za madzi pa boma ilinawo luso limeneli, koma ilibe chuma ndi zipangizo zokwanira kuti akhonza kufikira ndi kukonza mjigo uliwonse panthawi yake komanso m'boma lonse. Kotelo kuti amakaniki a mijigo adera amene amaphunzitsidwa luso lokonza mavuto akuluakulu a mijigo akhonza kuthandiza kupititsa patsogolo ntchito yosamalira ndi kukonza mijigo pokonza mijigoyo ndikuwalipira kangachepe.

Choncho kuti agwire bwino ntchito yawo, amakaniki a mijigowa akuyenera kulandira maphunzir ndi upangiri. Sakungofunika kulandira upangiri wa ntchito zawo zokha koma akuyeneranso kuti apange ubale ndi anthu akumudzi kuti awakhulupiliren komanso akuyenera kupereka ma ripoti kwa mkulu wowona za madzi pa boma.

Bukuli likulongosola moveka bwino za maphunziro oyamba ngakhale maphunziro achibwereza a amakaniki a mijigo. Bukuli lalongosolanso zonse zofunika kuti amakaniki aphunzire komanso zomwe aphunzitsi angachite pophunzitsa.

Maphunziro kwa amakaniki a mijigo ndi gawo limodzi lofunika kwambiri pa ntchito yolimbikitsa kuti anthu akumudzi azitha kukonza ndi kuyendetsa okha mijigo ndipo bukuli lalongosola momveka bwino mmene ntchitoyi ingagwiridwire. Ngati muli ndi maganizo othandiza mmene tingalembere bwino bukuli, ali olandiridwa ndipo tumizani maganizo anu kwa Mlembe Wowona za Chitukuko cha Madzi.



Sandram C. Y. Maweru

SECRETARY FOR IRRIGATION AND WATER DEVELOPMENT

KUTHOKOZA

Bukuli lasindikizidwa ndi ndondomeko “Yolimbikitsa kuti anthu akumudzi azikonza ndi kuziyendetsera okha ntchito za madzi ndi thandizo lochokera ku Japanese International Cooperation Agency (JICA).

Misonkhano yambiri inachitika ndipo anthu ambiri komanso mabungwe osiyanasiyana aboma ngakhaleenso omwe siaboma anatengapo mbali popereka luso lao ndi upangiri pa nthawi yolembe bukuli. Choncho Unduna wowo za Ulimi, Ulimi wothirira ndi Chitukuko cha Madzi ukuthokoza mabungwe onse chifukwa cholola anthu awo kutenga nawo mbali polemba bukuli.

Undunawu ukuthokoza JICA chifukwa chothandiza pa ntchito yolembe bukuli ndi ena onse omwe sitinakwanitse kuwatchula apa koma anathandiza mnjira zosiyanasiyana.

KUONA M'MENE BUKULI LALEMBEDWERA

Buku limeneli linalembedwa pofuna kuthandiza kutsogolera maphunziro a amakaniki amijigo akumudzi. Maphunziro amenewa atha kukhala oyamba kwa amakaniki oyamba kumenene ntchitoyi komanso achibwereza kwa amakaniki akale.

Bukuli lasindikizidwa kuchokera ku mabungwe osiyanasiyana amene amakhuzidwa ndi ntchito ya kayendetsedwe ndi kasamalidwe ka mijigo monga: InterAide, UNICEF ndi GITEC.

Bukuli lalembedwa ndi mitu yokwana isanu ndi iwiri yomwe ingaphunzitsidwe mmasiku asanu (5): Mitu yake ili motere:

- Gawo 1: Chiyambi cha maphunziro okhudzana ndi Amakaniki okonza mijigo
- Gawo 2: Kufunikira kwa maphunziro omwe amakaniki ayenera kudziwa
- Gawo 3: Zipangizo za pa mjigo ndi ntchito zake
- Gawo 4: Kumasula ndi kubwezeretsa mjigo wathu
- Gawo 5: Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka
- Gawo 6: Kukonza mapaipi (rayizing'i meni)
- Gawo 7: Zomwe mungakonze pafupi pafupi kuti mjigo usafe

Maphunzirowa agawidwa m'magawo awiri akuluakulu

Buku 1: Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene.

Mutu 1: Chiyambi cha maphunziro kwa amakaniki a mijigo

Mutu 2: Zoyenera kuti makaniki wadera adziwe asanayambe kukonza mjigo

Mutu 3: Dzina la chipangizo cha mjigo ndi ntchito yake

Mutu 4: Kumasula ndi kubwezeretsa mjigo

Mutu 5: Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka

Mutu 6: Kukonza mapaipi (raizing'i meni)

Mutu 7: Kukonza mapaipi (rayizing'i meni)

Mutu 8: Zipangizo zomwe zimawonongeka pafupi pafupi pa mjigo

Mutu 9: Mafunso ndi mayankho okhuzana ndi mitu ya maphunziro a makaniki ndi ma shopu ogulitsa zipangizo za mijigo.

Buku 2: Maphunziro achibwereza kwa amakaniki a mijigo akale.

Mutu 1: Kudziwana ndi m'mene tingakhalire pa maphunziro athu

Mutu 2: M'mene tingafikire m'mudzi

Mutu 3: Chiyambi cha zipangizo za mjigo wa Afridev kapena zina.

Mutu 4: Kukonzanso pampu ya mjigo wa Afridev

Bukuli lizigwira ntchito pamodzi ndi mabuku amene alebwedwa m'musiwa:

- Section 4 Afridev Hand pump Maintenance, Community Handbook on Water and Sanitation Afridev Version, Community Based Management Unit, Malawi Government, 1999

Phunziro I: Zoyenera Kuphunzira

Gawo 1: Chiyambi cha maphunziro okhudzana ndi Amakaniki okonza mijigo

1.1 Cholinga cha maphunziro a amakaniki adera

- Kukonza zomwe akomiti sangathe komanso kulangiza a komiti kuti mijigo usafe.
- Kudziwitsa akomiti kuti iwo siaboma koma akugwira ntchitoyi kuti azipeza kangachepe kuchokera kwa akomitiwo.

1.2 Chiyambi cha mabungwe owona za mijigo kumudzi (CBM)

Maphunziro achibwereza amakumbutsa amakaniki okonza mijigo apakomiti za kufunika kwa kayendetsedwe ndi kasamalidwe ka mijigo.

a. Kodi CBM ndi chiyani?

- Kulimbikitsa umwini kuti anthu akumudzi azitengapo mbali.
- Kutenga mbali pachitukuko chochitika komanso kukhala chawo.
- Anthu amasamala pa mijigo kuti paziwoneka paukhondo komanso pokonza ukawonongeka
- Kuunika ndi kuonanso mavuto apamjigo

b. M'mene tingaphunzitsire makomiti oyang'anira mijigo kumudzi (CBM)

- Funsani mafunso kwa akomiti kuti ayankhe okha powunika mavuto amene amakumana nawo pamjigo ndikupeza njira zothetsera.
- Aloleni anthu kuwunika mavuto awo ndi momwe angathetsere kuti angathetse bwanji, popanga mfundo, komanso kupangitsa misonkhano.
- Pewani kulankhula ngati mukudziwa chilichonse, komanso osawawudza anthu zoti achite.

- Khalani woti mutha kuyankha funso lililonse
- Awuzeni kuti ali ndi luso popanga zinthu kuyambira kale.
- Gwirani ntchito ndi anthu m'mene akufunira pokwaniritsa cholinga cha mapunziro.
- Khalani ndi luntha loti mutha kutsendera zomwe mwakambirana.

c. CBM imakhala ngati tikuphunzira zakale zomwe tinakumana nazo

- Ndindani amene anayambitsa ndondomekoyi (pulojekiti)?
- Chifukwa chiyani zinatheka kapena kukanika?
- Kodi ndondomekoyi (pulojekitiyi) mumayendetsa bwanji kumudzi kuno?
- Mumatani mjigo ukawonongeka?
- Kodi ndalama zimayenda bwanji?
- Kodi mikangano munakumanapo nayo? Nanga mumathetsa bwanji?

d. Mavuto omwe amakhalapo ndi mabungwe am'midzi

- Mamembala amasankhidwa mokondera mwachitsanzo nzawo wa amfumu kapena wachibale.
- Amayi ndi anthu ena amene sangalankhule samasankhidwa mukomiti komanso mfundo zawo sizimveka.
- Nthawi zina wapampando ndi a mlembi amapezeka kuti akumangolankhula okha pomanga mfundo.
- Samagwira ntchito yawo amadikira kuti anthu awawuze zoti achite.
- Samakonda kukumana ngati komiti – amakumana pokhapokha mjigo ukawonongeka kapena ngati kwabwera ndondomeko (pulojekiti) yatsopano.
- Ndalama sizimayendetsedwa bwino komanso kusawerengera bwino – nthawi zina samalongosola m'mene ndalama zagwirira ntchito.
- Kusawerengera momwe ndalama zagwirira ntchito yake ndizimene zimapangitsa kuti anthu asamawakhulupirire.
- Ntchito zawo akomiti samazitsatira
- Wochoka mgulu/mkomiti samabwezeretsapo wina.

- Mjigo umatha kumagwira ntchito popanda komiti

e. Zomwe zingapangitse kuti CBM ikhale yabwino

- Kuwonetsetsa kuti mjigo ndiwawo mwachitsanzo posalola kuti anthu ena awononge.
- Membala wakomiti ayenela kusankhidwa mwamtendere ndi anthu pamene pafunika kutelo.
- Amayi ayenera kusankhidwa komanso ndi amene amatenga nawo gawo lalikulu poyendetsa mjigo.
- Misonkhano iyenela kumachitika pafupi pafupi ya pakati pa akomiti komanso ndi anthu a m'mudzi.
- Mfundo zikuluzikulu ziyenera kumangidwa ndi komiti yonse osati anthu owerengeka.
- Ndondomeko ya ntchito, ntchito zigawidwe kwa mamembala onse ndiponso kuunika m'mene yagwiridwira.
- Ndalama zikutolerredwa, kusungidwa komanso kuwerengerredwa bwino ndipo zikugwira ntchito zomwe ndizoyenera.
- Kuwonetsetsa kuti anthu atha kuwerengera ndikupanga zinthu pa mbalambanda – kupereka m'ripoti kwa anthu am'mudzi m'mene ndalama zagwirira ntchito. Kukhala ndi ndondomeko ya bwino ya kakonzedwe ka mjigo – pemene mjigo wawonongeka.
- Anthu onse osati amene amakonza am'mudzi akuwonetsa chidwi pokonza mjigo.
- Anthu onse am'mudzi akutenga mbali pa ntchito imene ikugwiridwa m'mudzi. Mwachitsanzo kuwonetsa kuti malo ozungulira mjigo ndi aukhondo.
- Pali mgwirizano wa bwino pakati pa a mfumu, VDC ndi mabungwe ena.
- Komiti ipange mgwirizano ndi makaniki okonza mijigo

1.3 Kusiyanana kwa okonza mijigo apakomiti yakumudzi ndi Amakaniki

Okonza mijigo apakomiti amakonza zing'onozing'ono za pa mjigo monga kusitha zipangizo zomwe sizimachedwa kuwonongeka pamene amakaniki amakonza zikuluzikulu zowonongeka pa mjigo monga kuphwanyika kwa mapaipe ndi kumata.

1.4 Ntchito zomwe makaniki amagwira

Amakaniki amayenera kugwira ntchito zopangira upangiri pamene akomiti akusonkha ndalama zoyendetsera mijigo.

- Kuthandiza akomiti pokonza mijigo.
- Kulangiza akomiti m'mene angagwiritsire ntchito mijigo
- Kulangiza akomiti kuti azisamala malo ozungulira mijigo kuti azikhala aukhondo nthawi zonse.
- Kudziwitsa akomiti komwe angakagule zipangizo za mijigo kumashopu ovomerezeka.
- Kupereka maripoti kwa mkulu wowona zamadzi kapena kwa alangizi azamadzi omwe amayendera mijigo.
- Kulemba maripoti mwezi ndi mwezi akudera lake.
- Kusunga bwino kaundula yense wokhudza mijigo ndi m'mene akuperekera ndalama
- Kulemba mitengo yomwe akomiti angakagulire zipangizo ku shopu.
- Kuthandiza akomiti m'mene angasonkhere ndalama zoyendetsera mijigo
- Makaniki wayenera kuzitsatsa ku midzi imene akugwirako ntchito
- Kukhala nawo pa misonkhano ya ADC ngati kuli kofunikira
- Makaniki ayenera kusamala zipangizo zomwe anapatsidwa zogwirira ntchito.

Gawo 2: Kufunikira kwa maphunziro omwe amakaniki ayenera

Makaniki ayenera kukhala ndi luntha lapadera logwirira ntchito yokonza mijigo.

2.1 Kukhala wokhulupirika kwa anthu akumudzi

a. M'mene angamangire ubale ndi anthu akumudzi

- Amakaniki ayenera kuzitsatsa eni wake osati kuyembekezera kuti anthu akumudzi aziwasaka iwo.
- Amakaniki ayenera kuphunzira momwe anthu am'madera amalankhulirana ndikutsata chikhalidwe chawo ndi magulu awo.
- Ayenera kugawana nawo akomiti zomwe akudziwa.
- Nthawi zonse azikhala omasuka komanso okhulupirika kwa anthu akumudzi, ngati sakudziwa yankho ndi bwino kuwawuza anthu mwachilungamo!
- Ayenera kumapezeka nthawi zonse komanso kumakumana ndi akomiti pafupi pafupi.
- Ayenera kudziwa kuti chikhalidwe chimasiyana potengera dera

b. Kodi akomiti angadziwe bwanji kuti mavuto omwe akukumana nawo athetsedwa

- Kunena zomwe zikuyenera kukonzedwa
- Kupanga ndondomeko yomwe akomiti singamavutikitse kukupezani.
- Kupanga ubale wabwino ndi anthu akumudzi kapena akomiti

2.2 Kathetsedwe ka mikangano

a. Kuthetsa mkhalidwe woyipa

a.1 Makhalidwe woyipa atha kuthetsedwa pogwiritsa ntchito njira zotsatirazi:

- Pogwiritsa ntchito mawu abwino osati kukalipa kapena kumutenga kupita naye kukamwa zakumwa zoziziritsa kukhosi'

- Pogwiritsa ntchito mawu omwe alembedwa kale kapena kufunsa kuti anene vuto lomwe lilipo olo kuthandizana kuti vutoli tingalithetse bwanji?’
- Kupewa kunyoza anthu omwe sanalakwe koma kusonyeza kuti mwakhudzidwa ndi vutolo.
- Kuwonetsa chidwi pankhaniyo, komanso osakhala mbali imodzi.
- Simuyenera kukangana kapena kupezeka kuti mukutsutsa zomwe akunena chifukwa atha kusintha malankhulidwe.
- Pewani kugamula mlandu musanamve mbali zonse.

a.2 Zomwe zingapangitse kuti nkhani iyipe kwambiri:

- Kunyoza m’malankhulidwe kapena kunena kuti ndi zitsiru
- Kunena kuti ndiwolakwa
- Kulimbikira kuti ndiwolakwa pamene chilungamo chikudziwika
- Kusafunsa bwino mutu wa nkhani
- Kukhala opanda mfundo zoyenera

a.3 Zina zowonjezera zomwe zingathandizire kuthetsa mavuto:

- Munthu wokwiya amayenera kukhala payekha kuti mkwiyo uja uthe
- Malankhulidwe ayenera kumafanana ndi thupi zomwe likupanga. Komanso munthu ngati akumvetsera zimawonetsa m’mene akupangira.
- Kuwonana maso ndi maso zimawonetsa kuti uli ndi chidwi komanso kuwonetsa kuti ukufunitsitsa kumvetsa nkhaniyo

b. Kuthetsa mikangano

b.1 Mikangano ili ndi kuyipa kwake ndipo zina mwa izo ndi monga izi:

- Anthu amava kuwawa
- Anthu akhoza kumenyana
- Anthu amatha kukwiya
- Anthu atha kubalalika
- Anthu amawopa

- Anthu amawopa kupanga zinthu

b.2 Ndibwino kupewa mikangano komabe nthawi zina mkangano utha kubweretsa zabwino monga izi:

- Kutha kubweretsa kusintha.
- Zimabweretsa mwayi wophunzirapo.
- Zimalimbikitsa munthu kuchita bwino.
- Umathandiza anthu kuwona komanso kudziwa zomwe zinayambitsa.
- Umathandiza anthu kukhala omasuka
- Umachotsa kusakhulupilirana komanso anthu moyo wao umapita patsogolo

b.3 Zinthu zomwe zingathandize kuti mkangano uthe ndi monga izi:

- Kulemekeza anthu
- Kumvera kaye zomwe akuyankhula ndikumva maganizo awo
- Kunena maganizo ako mwachidule
- Kunena momwe mungathetsere gwero lavutolo

c. Kuthetsa mavuto

c.1 Ngati mukuthetsa vuto zinthu monga izi ziyenera kutsatidwa:

- Kodi vuto ndichiyani: Kuyamba ndi zomwe mukufuna. Kufunsanso zomwe mbali ina ikufuna? Kodi vutolo ndilalikulu, ndipo ndibwino kugawa mavuto pawokha pawokha kuti muthetse limodzi limodzi.
- Kusinkhasinkha mathetsedwe ake avutolo: Kubwera ndi mayankho ambirimбири a m'mene mungathetsere vutolo popanda kutsutsa kapena kukondera mayankhowo.
- Wunikirani bwino mayankhowo: Onani mayankho onse molondola powona yankho lililonse ndi zomwe zingapangitse kapena kubwera pogwiritsa ntchito yankholo. Lembani ngati zili zothandiza.
- Sankhani yankho: Onani ngati yankho limodzi liri labwino kuposa ena onse kapena phatikizani mayankhowo nkupanga limodzi

2.3 Kayendetsedwe ka bizinesi

a. Kodi bizinesi ndi chiyani?

Bizinesi ndi ntchito yomwe munthu amagwira ndi cholinga choti apeze phindu. Munthu amene amapanga bizinesi amatchedwa kuti munthu wa bizinesi kapena wageni. Amapereka thandizo kwa anthu am'midzi ndipo pambuyo pake amalandira kangachepe malingana ndi ntchito yomwe wagwira.

b. Zomwe zingapangitse kuti makaniki akhale wabwino

Makaniki kuti athe kupanga bizinesi yake bwino ayenera kupanga zinthu monga izi:

- Kukhala ndi luso loti anthu akomiti atha kupanga naye mgwirizano
- Ayenera kukhala ndizolinga zeni zeni zopangira bizinesi` (kuthandiza anthu akumudzi kukhala ndi madzi abwino aukhondo)
- Akhale wodziwa kukonza mijigo ndi mavuto omwe angabwere pa mijigo
- Kukhala okonzeka kuti atha kuthetsa mavuto omwe angakumane nawo pa mijigo komanso atha kukonza vuto lililonse
- Kudekha ndi kufatsa kumafunika munthu akamagwira ntchito ya umakaniki okonza mijigo.
- Kupanga ubale ndi makomiti amijigo komanso ogulitsa zipangizo za mijigo.
- Kukhala ndi luso lolankhulira
- Kupanga zomwe anthu akumudzi akufuna
- Kukhala wodziwa kulemba kaundula ndi kupanga mapulani

c. Mitundu ya kaundula/(marekodi) omwe angasungidwe

Mitundu ya marekodi omwe amakaniki amayenera kusunga iri motere:

- Kontilakiti/Mgwirizano ya makomiti a madzi
- Mauthenga, ndondomeko ya mitengo ya zipangizo ndi malisiti

Malisiti amayenera kukhalapo atatu, la makaniki, la komiti ndi lina la kuofesi yowona zamadzi pa boma.

2.4 Kumvetsa zomwe zimayenera kukhala mukontilakiti/ Mgwirizano

a. Kodi kontilakiti/ mgwirizano ndi chiyani?

Ntchito za amakaniki nzofunika kwambiri pothandiza kayendetsedwe ndi kasamalidwe ka mijigo m'midzi. Ntchito zawo zimagwiridwa ngati alipiridwa kuchokera kwa akomiti amijigo. Kontilakiti ndi malamulo omwe amakhazikitsidwa pakati pa anthu awiri ndikugwirizana pozapereka uphungu.

b. Zomwe zingapezeke mukontilakiti/ Mgwirizano

Mukontilakiti simuyenera kulephera kukhala zinthu ngati izi:

- Tsiku losayinilana kontilakiti
- Keyala ndi dzina la makaniki
- Mfundo zamukontilakiti

Mgwirizano ukuyenera kukhala ndi mfundo ngati zili m'musimu:

- Mtundu wa kontilakiti/mgwirizano
- Izatenga nthawi yayitali bwanji kontilakiti
- Zomwe zizagwiridwe kapena kukonzedwa
- M'mene malipiro ayendere
- Kusayinilana kuchokera mbali zonse

c. Mitundu ya Mgwirizano/ Pangano/Kontilakiti

Pali mitundu iwiri ya Mgwirizano; wapachaka ndi wa pamene mjigo waonongeka.

Mukontilakiti mwayenera kupezeka zinthu ngati izi:

Kontilakiti /Mgwirizano wa pachaka

Mtundu umenewu wa mgwirizano umakhala wa pachaka ndipo makaniki amayenera kuyendera mjigo pakatha miyezi itatu iliyonse kukawona ngati mjigowo uli ndi vuto.

Mtengo wake wa kontilakiti imeneyi ndi MK4, 500 (Mu chaka 2014)

Koma mitengo imasinthasintho malingana ndi m'mene ndalama ya dziko ikuyendera.

Kuti muwone zambiri zomwe zalembedwa mukontilakiti wonani chitsanzo kumapeto kwa bukuli. Makaniki akamayendera Mjigo amayenera kuona zinthu zomwe zili m'musimu pa Khadi la kalondolondo.

Chitsanzo cha zinthu zomwe makaniki ayenera kuchita kalondolondo poyendera Mjigo (Onani Tsamba Lowonjezera 2)

Nambala ya Mjigo:	No.1					
Dzina la Mudzi :	Nzangawo					
Mfumu Yaikulu:	Zulu					
Boma:	Mchinji					
Zomwe taunika	1/1/2015					
Pampu ikugwira Ntchito	Bwino	✓	Eya		Moyipa	
Thunthu la Mjigo	Losagwe dera	✓	Likugwe dera			
Mwajiga kangati kudzadzitsa ndowa ya malita 20 (Pakati pa 40 ndi 50)		Mwajiga kokwana 41				
Dzimбири ku Pampu ndi Mutu wa Mjigo	Palibe	✓	Pangono		Kwambiri	
Dzimбири ku Handulo	Palibe	✓	Pangono		Kwambiri	
Mmene iliri Pulanja	Bwino	✓	Mwacho ncho		Silibwino	
Mmene iliri Futu Vavu	Bwino	✓	mwacho ncho		Silibwino	
Mmene wathera	Bobini	✓	O-ring'i		U-silo	✓
Mmene athera Marodi	Alibwino		Pangono	✓	Atheratu	
Mmene aliri ma rodi centeleza	Bwino		Apereseka	✓	Atheratu	
Mmene aliri mabering'i	Bwino		Apereseka	✓	Atheratu	
Mmene iliri Silinda	Bwino	✓	Yapereseka		Yatheratu	
Mchifukwa chiyani sukugwira bwino ntchito/ sukugwira	Palibe Zipangizo		Palibe Ndalama	✓	Palibe angathe kukonza	
Dzina la Makaniki	Mr. Pili					
Tsiku	1/1/2015					
Saini	Pili					

Woyimira Komiti ya Mjigo.	Mr. Zimba
Saini	Zimba
Tsiku	1/1/2015

Kuchokera ku: Adopted from SKAT-RWSN 2007: Installation and Maintenance Manual for Afridev Hand pump

Kontilakiti/ Mgwirizano wa pamene mijigo wawonongeka

Mtundu umenewu wa kontilakiti umachitika ngati mijigo wasiya kugwira ntchito komanso ngati sanachite mgwirizano wa pachaka.

Mtengo wake umatengera ntchito yomwe amakaniki agwira pa mjigopo.

2.5 Ntchito zomwe makaniki angapange pozitsatsa

Ntchito yotsatsa amakaniki adera yayenera kugwiridwa ndi aku boma. Kutsatsa kwa makaniki woyamba kumene ntchito kutha kumachitika ku ma ADC, kapena kudzera muzisudzo.

Kudziwitsa anthu za amakaniki okonza mijigo kumadera kuyenera kuchitidwa ndi anthu awa:

- Kudziwitsa anthu, akomiti yowona za madzi kapena mabungwe ena am'mudzi (Komiti ya za chitetezo chakumudzi) kuti kudera kwao kuli mkonzi wokonza mijigo ndi ntchito zake.
- Kufalitsa kudzera mu ntchito zina zomwe mkulu wowona zamadzi amagwira kapena kudzera ku chipatala ndi masukulu
- Kuyitana amakaniki ku misokhano ya alangizi aza umoyo kapena kumaphunziro ama komiti owona za madzi
- Zina mwazipangizo zomwe zingathandize kufalitsa ntchito za amakaniki ngati ndalama zilipo ndi monga izi;
 - Khadi la bizinesi onani chitsanzo chachiwiri
 - Chikwangwani
 - Matisheti kapena unifolomu
 - Mutimanyuzipepa
 - Mutimapepala ting'otin'gono
 - Pawailesi yakumudzi
 - Muzisudzo
 - Mapu okhala ndi zithunzi za amakaniki osiyanasiyana

2.6 Ukhondo wa pamalo otungapo madzi

Amakaniki amijigo ndi amene amayendera malo ozungulira mjigo chifukwa ndi amene amakakonzana pafupi pafupi. Nthawi imeneyi amakaniki amatengapo mbali yayikulu akapeza kuti malo ozungulira mjigo siaukhondo ndipo amalangiza akomiti kuti akonze malowo kuti akhale aukhondo. Zinthu ziwiri zomwe zingapangitse kuti pamjigo pakhale paukhondo ndi mpanda komanso dzenje lotaikira madzi. Mpanda umathandiza kuti ziweto zisamalowe ndikuwononga malowo pamene dzenje limathandiza kuti madzi asamatayikire komanso udzudzu usamaswanilepo

2.6.1 Mpanda

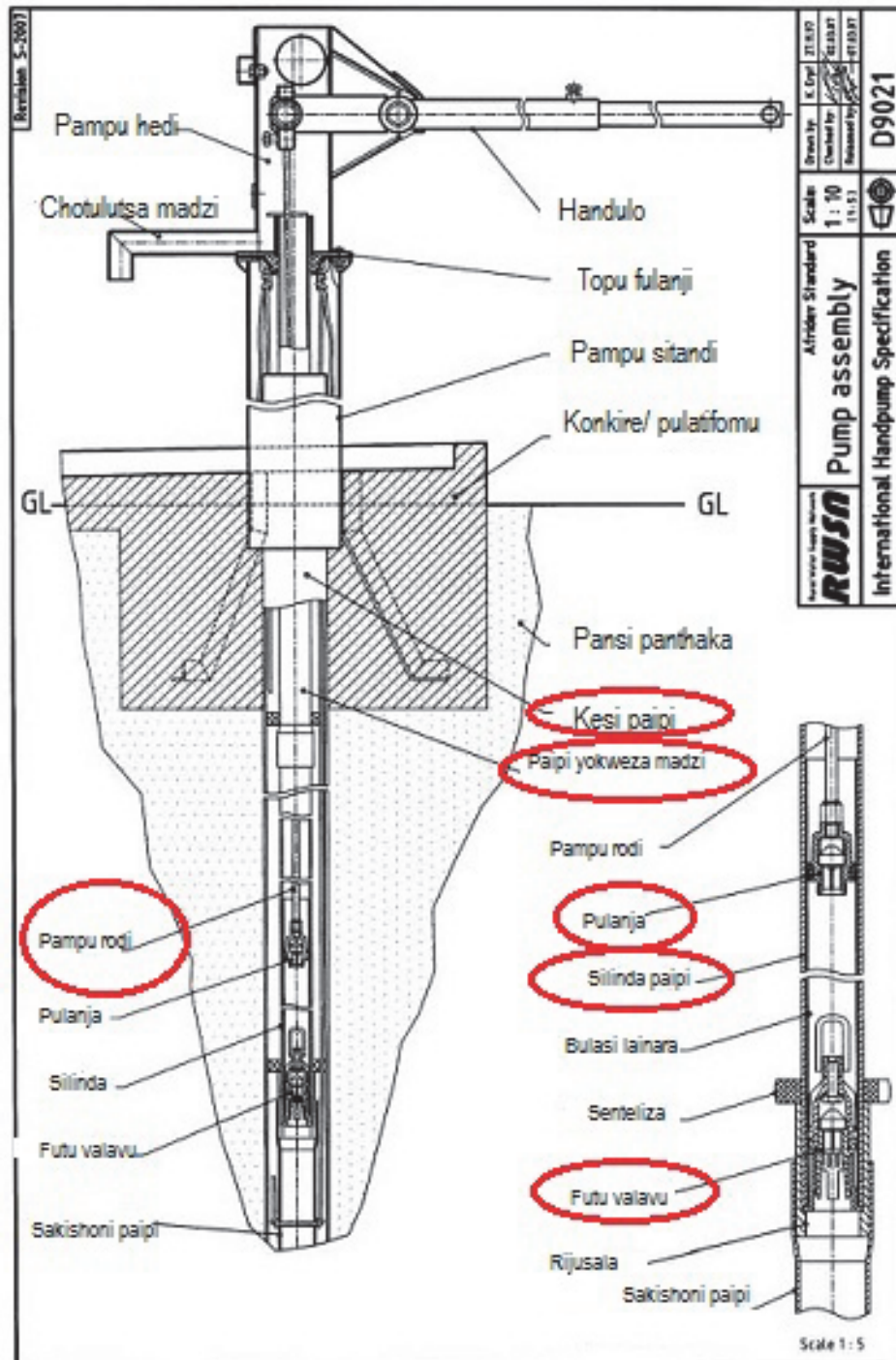
- Ndibwino kumanga mpanda wa bwino pa malo ozungulira mjigo. Kumanga mpanda kutha kuyambidwa pamene amaliza kumanga chitsime ndipo kumathandiza kusiya malo ambiri ogwiritsa ntchito. Ubwino womanga mpanda pa mjigo ndi wakuti malo amakhala otetezedwa ziweto sizimalowa komanso ndowe za ziweto sizimakhuzana ndi madzi.
- Pali mitundu yosiyanasiyana ya mipanda. Anthu akumudzi atha kusankha mtundu uliwonse umene akufuna malingana ndi mthumba mwawo komanso kuti kukonzakwake ndi mawonekedwe ake. Mitundu ya mipanda ilipo yokwana isanu ndi umodzi monga: wa udzu, wamatabwa, wansungwi, wamaluwa, wanjerwa ndi wanjerwa komanso wa pulasitala

2.6.2 Dzenje

- Ili ndi dzenje lomwe limakhala lotaikiramo madzi kudzera mu ngalande: Ngalande za ulimi wa mthirira, momwera madzi ziweto nthawi zina mumizere (momwe madzi amatha kugwiritsidwa ntchito ndi mbeu.
- Ntchito za maenje ndikuthandiza kuti malo ozungulira azikhala aukhondo osati oyipa, kuteteza kuti madzi asakhudzane ndizoyipa komanso kuti udzudzu usamaswanilepo
- Kusalika kwake ndi mawonekedwe ake a dzenje kumatengera mtundu wa dzenje.

Gawo 3: Zipangizo za pa mjigo ndi ntchito zake

Zipangizo za mjigo wa Afridev zimawoneka chonchi muchithunzi ichi:



Chinthuzi 1: Mjigo wa Afridevu ¹

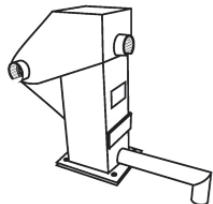
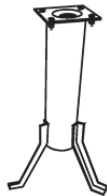
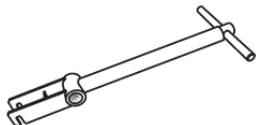
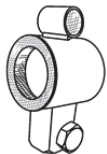
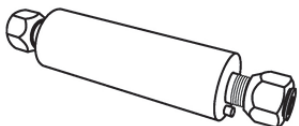
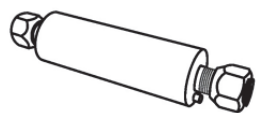
¹This figure is modified based on the drawing No. D9021 of Installation and Maintenance Manual for the Afridev Hand pump Revision 2- 2007, SKAT-RWSN

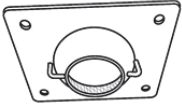
Mjigo wa Afridevu uli ndi zigawo ziwiri “Chigawo cha pamwamba” ndi “Chigawo cha pansi”

Mayina ndi ntchito yake ya zipangizo ali m’musimu mu tebulo:

a. Zipangizo za pamwamba

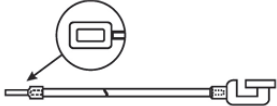
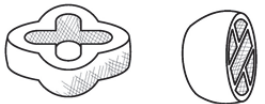
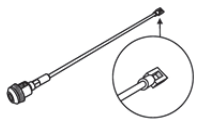
Tebulo 1: Maina a zipangizo za pamwamba

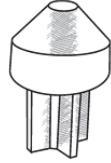
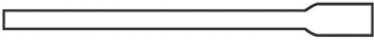
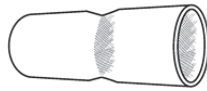
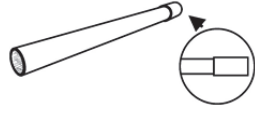
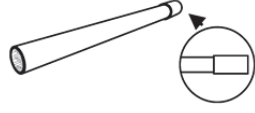
No.	MBALI	NTCHITO YAKE	CHITHUNZI
	English / Chichewa		
1	Head pump and cover / Hedipampu chi vindikilo	Imatsekera zipangizo zonse zapamwamba kuteteza ku fumbi, zinyatsi kuti zisalowe mu pampu, komanso hang’a asembule ndiponso kugwira handulo.	
2	Pump pedestal / Pampupedesitilo	Thunthu la mjigo lomwe limasunga zipangizo za pamwamba komanso zapansi	
3	T/bar / handulo	Imathandiza kujiga madzi. Itha kusinthidwa malingana ndi kutalika kwa mjigo	
4	Hanger Assembly / Hang'aAsembule	Kugwira ma rodi kapena kunyamula ma rodi kuti asagwe	
5	Fulcrum pin / Fakulamupini	Kulumikiza handulo ku hedi pampu imagwira komanso imathandizira kupopa madzi	
6	Hanger pin / Hang'apini	Amalumikiza kumapeto kwake kwa handulo komanso kuthandiza kuti kujiga kutheke	
7	Bush bearing / BushiBelingi	Kulola kuti fakalamu pini ndi hang’a pini aziyenda bwino zitsulo osadyewa. Amayenera kukhala anayi mumjigo awiri ku fakalamu pini ndi awiri ku hang’ala pini	
8	Rubber flapper / LabalaFulapa	Amakhala pamwamba pa marodi kuti zinyalala zisalowe mu mjigo komanso kuti madzi asamataike	

No.	MBALI	NTCHITO YAKE	CHITHUNZI
	English / Chichewa		
9	Rubber Cone / Labalakoni	Amakhala pakati pa hedi pampu ndi pedesitilo koma amagwira ntchito yoteteza kuti madzi asataikire mu hedi ndi pedesitilo	
10	Steel cone plate / KoniPuleti	Mbale ya chitsulo yomwe imagwira ma paipi kuti asagwe	
11	Top sleeve(collar) / Topusilivi	Imathandiza akuti mapaipi asagwere kuchoka mu labala koni	

b. Zipangizo zokhala pansi

Tebulo 2: Maina azipangizo za pansi

No.	MBALI	NTCHITO YAKE	CHITHUNZI
	English / Chichewa		
12	Pump rod / Pampurodi	Kulumikiza pulanja kuti izitha kupopa madzi pamwamba	
13	Rod Centralizer / RodiSentelelaiza	Imakhala polumikiza ma rodi kuti azikhala pakati komanso asamakhulane ndi mapaipi	
14	Plunger / Pulanja	Imalumikizidwa ku ma rodi pothandiza kutunga madzi mothandizana ndi handulo pojiga	
15	Foot-Valve / FutuValavu	Imathandiza kuti madzi asamabwerere akajigidwa	
16	U-Seal / U-Silo	Imayikidwa ku pulanja ya pulasitiki, madzi amakhala m'mwamba mwa pulanja potunga madzi kupititsa m'mwamba.	
17	Cup-seal / Kapu-Silo	Imayikidwa ku pulanja wa chitsulo; Kusunga madzi m'mwamba mwa pulanja komanso kupititsa madzi mwamba	

No.	MBALI	NTCHITO YAKE	CHITHUNZI
	English / Chichewa		
18	O-ring / O-ring'i	Amayikidwa ku futu valavu kuteteza kuti madzi asabwerere mu mjigo koma azisungika	
19	Bobbin / Bobini	Amayikidwa mkati mwa pulanja ndi futu valavu; amagwira ntchito yotsegula ndi kutseka madzi ndipo amalola madzi kulowa kokha ndi kutseka madzi kuti asamabwere pansi	
20	Rising main / Mapaipi	Mapaipi omwe mumadutsa madzi kuchokera mu silinda mpaka ku sipawuti	
21	Double end socket / Dabulosoketi	Kulumikiza pulanja kuti izitha kupopa madzi pamwamba	
22	Solvent cement / Soventisementi	Kulumikiza pulanja kuti izitha kupopa madzi pamwamba	
23	Rising main centraliser / Sentelelaiza wa ma paipi	Amayikidwa pamtunda wa mamita atatu aliwonse, masenteleza awa amathandiza kuti mapaipi asagwedele m' mapaipi akuluakulu amumjigo	
24	Cylinder assembly / SilindaAsembule	Chida chofunika kwambiri mu mjigo, silinda imatunga madzi mu mjigo komanso kutumiza kumwamba kwa mjigo	
25	Suction pipe / Sakishonipaipi	Imayikidwa pansi pa silinda kuti izitunga madzi kupititsa mu silinda, komanso kuteteza mchenga kuti usamalowe musilinda	
26	Rope(nylon rope 6mm) / Chingwe	Kulumikizidwa ku sakishoni paipi ndipo chimadutsa mu paipi senteleza mpaka pa koni puleti kuteteza kuti mapaipi ngati atalekana asagwere mu mjigo	

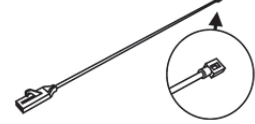
Gawo 4: Kumasula ndi kubwezeretsa mjigo wathu

4.1 Zida zomwe tingagwiritse ntchito yomasulira ndi kubwezeretsa mjigo

Zida zofunikira pomasula ndi kubwezeretsa mjigo ndi izi zili m'musimu:

- Sipanala ya bowo
- Sipanala ya fulati
- Mbedza yowedzera Marodi

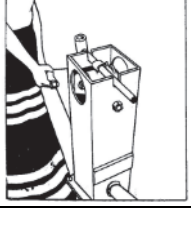
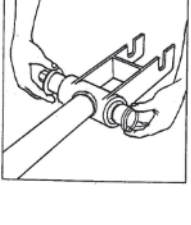
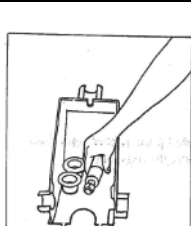
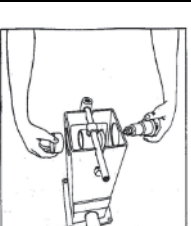
Tebulo 3: Maina azida zomasulira ndi kubwezeretsa pampu

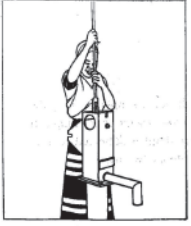
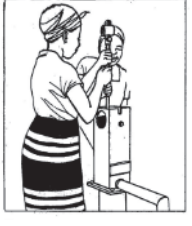
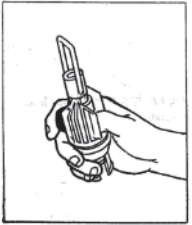
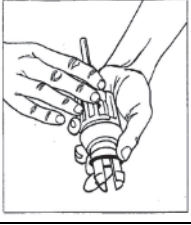
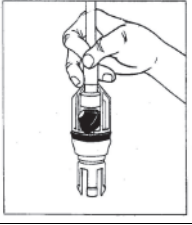
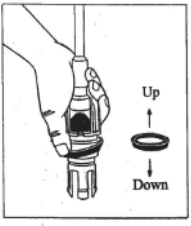
No.	MBALI	NTCHITO YAKE	CHITHUNZI
	English / Chichewa		
1	Socket spanner 24 / Spanarayabowo	Kumasulira hedi kavala komanso kugwirira hang'ala asembule nthawi imene mukuchotsa ma rodi	
2	Flat spanner 17/19 / Spanarayafulati	Kumasulira ma bauti pakati pa hedi ndi pedesitilo	
3	Fishing tool / Mbedza	Kuwedza futu valavu ndi ma rodi	

4.2 Kumasula

Njira zofunika kutsata pomasula zili m'musimu:

Tebulo 4: Njira zoyenera kutsata pomasula Mjigo

No.	Njira	Kuonetsa	No.	Njira	Kuonetsa
1	Musanayambe kumasula sambani m'manja komanso tungani madzi mundowa otsukira zipangizo pobwezeretsa		2	Masulani bauti ya pa hedi kavala koma musamalizitse	
3	Chotsani kavala		4	Masulani manati onse a hang'ala pini	
5	Masulani manati onse a fakalamu pini		6	Lowetsani chogwilira cha sipanala yabowo pa diso la hang'ala Asembule	
7	Kwezani ndi kuchotsa handulo. Samalani! Pamane mukuchotsa handulo onetsetsani kuti ma bushi bering'i ndi pini asagwe pansi chifukwa zimatha kusweka pasimenti.		8	Chotsani fakalamu pini ndi bushi bering'i.	
9	Ikani zipangizo zonse mu kavala kuwopa kuti zingasowe.		10	Chotsani hang'a pini ndi bushi bering'i.	
11	Kokani hang'ala pamodzi ndi rodi yoyamba.		12	Kwezani m'mwamba laba senteleza polumikizana ma rodi.	

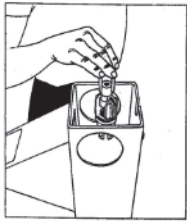
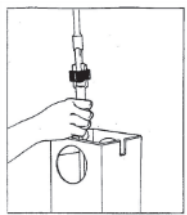
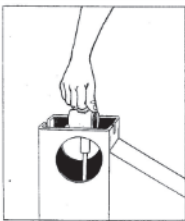
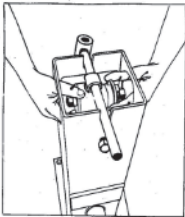
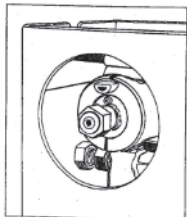
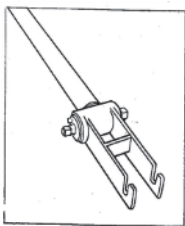
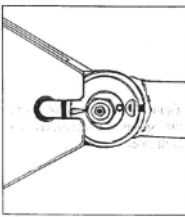
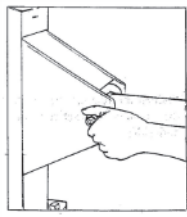
No.	Njira	Kuonetsa	No.	Njira	Kuonetsa
13	Lekanitsani ndi kuchotsa ma rodi. Kumbukirani kuyika ma rodi mundondomeko yake m'mene mwachotsera. Rodi yomaliza kutulutsa ikhale yoyamba kubwezeretsa.		14	Chotsani pulanja.	
15	Lowetsani mbedza ndi kulumikiza ku ma rodi.		16	Pang'onopang'ono lowetsani rodi yomaliza pamodzi ndi hangála kufikira mutamva kuti mwakola futu valavu.	
17	Chotsani ma rodi onse, mbedza ndi futu valavu.		18	Kankhani bobini kuti mutulutse mu futu valavu pogwiritsa ntchito chikhato chanu. Ngati bobini wapezeka kuti watha sinthani ndi kuyika wina watsopano.	
19	Chotsani O-ring'i ku futu valavu. Ngati O-ring'i watha sinthani ndikuyika watsopano.		20	Kakhani bobini mu pulanja ndi chikhato chanu. Ngati bobini watha sinthani ndikuyika watsopano.	
21	Mosamala chotsani U-silo. Ngati U-silo watha sinthani ndi kuyika watsopano. Onetsetsani kuti mphako zayang'ana m'mwamba.				

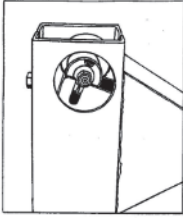
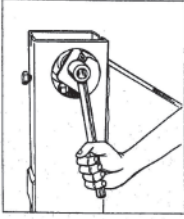
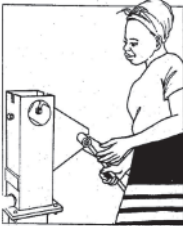
Njira zomasulira ndi kubwezeretsa zachokera mu gawo la chinayi la Kukonzanso mjigo wa AFRIDEV, Buku la anthu amudzi lokhudza za madzi ndi ukhondo BUKHU LA ANTHU A M'MUDZI LOKHUDZA ZA MADZI NDI UKHONDO.

4.3 Kubwezeretsa

Njira zofunika kutsata pobwezeretsa zili m'musimu:

Tebulo 5: Njira zoyenera kutsata pobwezeretsa

No.	Njira	Kuonetsa	No.	Njira	Kuonetsa
1	Tsukani futu valavu, pulanja ndi ma rodi. Gwiritsani ntchito madzi oyera potsuka.		2	Kuti mubwezeretse mjigo m'malo mwake choyamba ponyani futu valavu mumjigo. Onetsetsani kuti ngowe yayang'ana m'mwamba.	
3	Ikani pulanja ndi ma rodi pamodzi ndi kulowetsa mu mjigo.		4	Onetsetsani kuti marodi senteleza akhala bwino m'malo mwake molumikiza ma rodi pomutsetsetsera m'musi.	
5	Lumikizani ma rodi onse mpakana mutalumikiza hang'a rodi.		6	Onetsetsani kuti futu valavu wakhala m'malo mwake pokankha ma rodi pansu mu mjigo.	
7	Lowetsani sipanala ya bowo pa diso la hang'ala kuti igwire ma rodi kenaka ikani hang'a pini ndi mabushi bering'i. Ngati ma bushi bering'i atha kapena kusweka sinthani ndikuyika atsopano.		8	Zunguzani hang'a pini ndi bushi bering'i kuti zikhale mofanana poyika.	
9	Bwezeretsani fakalamu pini ndi bushi bering'i ku handulo. Ngati ma bushi bering'i atha kapena kusweka sinthani ndikubwezeretsa ndi atsopano.		10	Bwezeretsani handulo m'malo mwake.	
11	Onetsetsani kuti mitu ya ma pini ndi bushi bering'i yakhala bwino m'mutu wa mjigo. Komanso onetsetsani kuti pini wasuntha chakumanja komwe		12	Mangitsani fakalamu pini ndi manja.	

No.	Njira	Kuonetsa	No.	Njira	Kuonetsa
	kuli kadzenje.				
13	Kankhani handulo pansi kuti ma pini akhale m'malo mwake. Onetsetsani kuti hang'ala pini wakhala m'malo mwake moyenera. Chotsani sipanala.		14	Mangitsani manati a hang'ala ndi sipanala mbali zonse.	
15	Mangitsani ma nati a fakalamu pini ndi sipanala mbali zonse.		16	Bwezeretsani kavala.	
17	Mangitsani nati ya kavala.		18	Jigani madzi mpaka atuluke oyera musanamwe.	

Njira zomasulira ndi kubwezeretsa zachokera mu gawo la chinayi la Kukonzanso mjigo wa AFRIDEV, Buku la anthu amudzi lokhudza za madzi ndi ukhondo BUKHU LA ANTHU A M'MUDZI LOKHUDZA ZA MADZI NDI UKHONDO.

Gawo 5: Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka

5.1 Kuzindikira mavuto

Kufufuza ndi kuzindikira mavuto omwe amapezeka pa mjigo.

1. Madzi sakutuluka
2. Madzi akuchedwa kutuluka
3. Madzi akutuluka pangónopangón
4. Madzi akutuluka akuda kapena ali ndi matope
5. Madzi akukoma mchere kapena ali ndi fungo
6. Pakumveka phokoso lachilendo pojiga
7. Handulo ikugwadera

Mavuto ndi njira zake zothetsera zalembedwa m'musimu.

Tebulo 6: Mavuto ndi M'mene Mungathetsere

Vuto	Choyambitsa vuto	Momwe mungakonzere	Kukula kwa vuto
Madzi sakutuluka	1) Mapaipi okweza madzi amasuka/alekana	1) Tulutsani mapaipi ndipo akonzeni kapena chotsani owonongeka nkuika abwino	B
	2) Ma rodi amasuka/alekana	2) Tulutsani ma rodi nkusinthana ma rodi owonongeka komanso adzimbi	A
	3) U-Silo/ Kapu-silo yaonongeka Mjigo watsekeka ndi matope kapena mchenga	3) Sinthani kapusilo/U-silo nkuika yatsopano	A
	4) Madzi atsika mopitilira silinda)	4) Onjezerani mapaipi komanso ma rodi	C
	5) Mjigo watsekera ndi matope	5) Konzanimso mjigo mwatsopano	B
Madzi akuchedwa kutuluka	6) Bobini yaku vavu ikutaya madzi	6) Fufuzani vutolo nkuyika bobini watsopano (ku pulanja ndi ku futu valavu)	A
	7) Oring'i yaku futu valavu ikutaya madzi	7) Chotsani oring'i yakutha ndi kusuntha ndi yatsopano	A

Vuto	Choyambitsa vuto	Momwe mungakonzere	Kukula kwa vuto
	8) M'mene mapaipi alumikizana akutaya madzi kapena asweka	8) Tulutsani mapaipi nkukonza, kapena nkuika atsopano	B
Madzi akutuluka pangónopangón	9) Kapu-silo ikuthina	9) Ikani kapu-silo yokwana bwino	A
	10) Sefa ya mjigo yatsekeka ndi matope	10) Konzani mjigo wonse popopela ndi mpweya wamphamvu kapena chitsani madzi	C
	11) Kujiga sikukufika m'malo mwake	11) Yang'anani ndipo dulani mlingo woyenera wa rodi yapamwamba	B
	12) Kapu-silo yaonongeka	12) Sinthani kapu-silo ndikuyika yatsopano	A
	13) Bobini yaku valavu ikuchucha	13) Yang'anani ndipo ikani bobini watsopano (Ku pulanja ndi futu valavu)	A
	14) Silinda ikuchucha (Kapena yasweka)	14) Tulutsani mapaipi onse ndipo konzani/bwezeretsani silinda (matani ndi soloventi simenti)	B
Madzi akutuluka akuda kapena ali ndi matope	15) Sefa kapena mapaipi oteteza ang'ambika	15) Konzaninso mjigo onse (Uzilani ndi mphweya wamphamvu kapena chotsani madzi)	C
	16) Nyansi za chimbudzi zalowa kudzera m'ming'alu ya chopondapo cha mjigo	16) Konzaninso chopondapo(epuloni) ya mjigo. Tsirani mankhwala ngati Wotagadi kapena Kulolini.	C
Madzi akukoma mchere kapena ali ndi fungo	17) Madzi awonongeka ndi njira zoyendamo madzi za pansi	17) Konzaninso mjigo wonse(Ikaninso bwino mapaipi oteteza sefa ngati nkotheke)	C
	18) Madzi awonongeka ndi nyasi zochokera mchimbudzi	18) Wonani kuti chimbudzi nchotalikirana bwanji ndi mjigo. Siyani kugwiritsa ntchito ngati chili pamtunda wochepera milingo makumi asanu 50 kuchokera pa mjigo	A
Pakumveka phokoso lachilendo pojiga	19) Mabering'i atha nsonga ya handulo ikugunda m'mbali	19) Yang'anani ndi kuyika ma bering'i atsopano anayi onse	A
	20) Ma rodi akugunda mapaipi	20) Ongolani kapena chotsani ma rodi okhota nkuika oongoka	A
	21) Ma rodi akukhulana ndi mapaipi	21) Yang'anani ndipo chotsani ma rodi senteleza akutha nkuika atsopano	A
	22) Ma rodi senteleza atha	22) Yang'anani ndi kuongola ma rodi okhota.	A
Handulo ikugwadera	23) Konkiriti ya chopondapo cha pa mjigo ili ndi ming'alu	23) Konzaninso konkiritiyachopondapo (pulatifomu) cha mjigo	C
	24) Manati ndiwosamangitsa	24) Mangani kwambiri ma bauti ndi manati a handulo ndi hedi	A
	25) Mabering'i atha	25) Yang'anani ndikusi nthu mabering'i onse anayi	A
	26) Fakalamu pini ndi womasuka	26) Yang'anani fakalamu pini (komanso maseti onse anayi) ndipo mangani kwambiri manati onse	A

Vuto	Choyambitsa vuto	Momwe mungakonzere	Kukula kwa vuto
		awiri	
	27) Hang'a pini ndi womasuka	27) Hang'a pini ndi womasuka	A

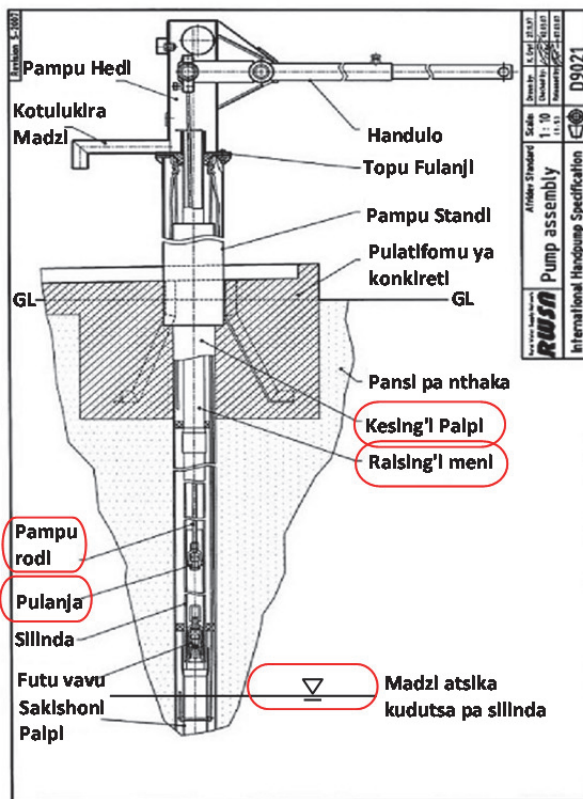
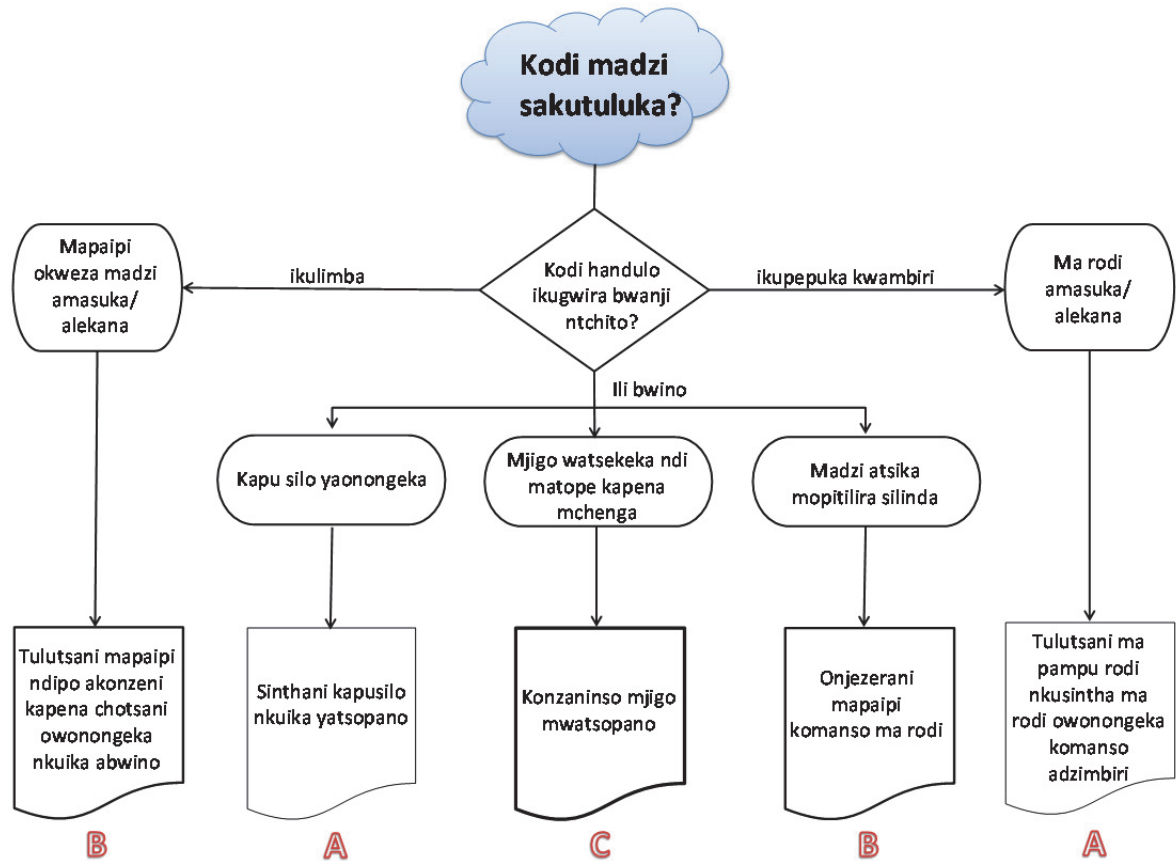
*1 Kukula kwa Vuto;

A: Akomiti okonza mjigo atha kukonza vutoli

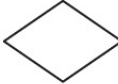
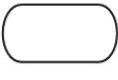
B: Nkofunika kuyitana makaniko waderalo kuti azakonze

C: Nkofunika kuitan mlangizi wa za madzi kuti azakonze

Tebulo 7: M'ndandanda wa Kuzindikira Mavuto pa Mjigo 1 (Madzi Sakutuluka)



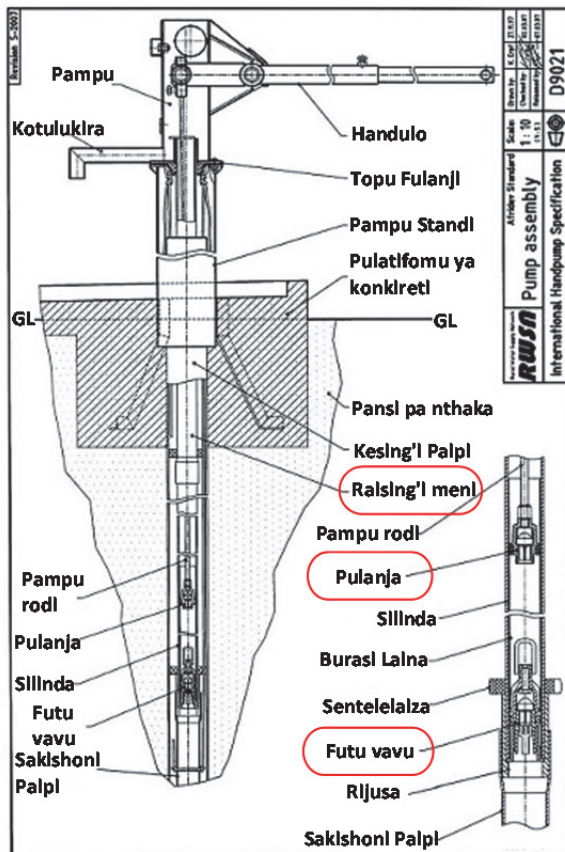
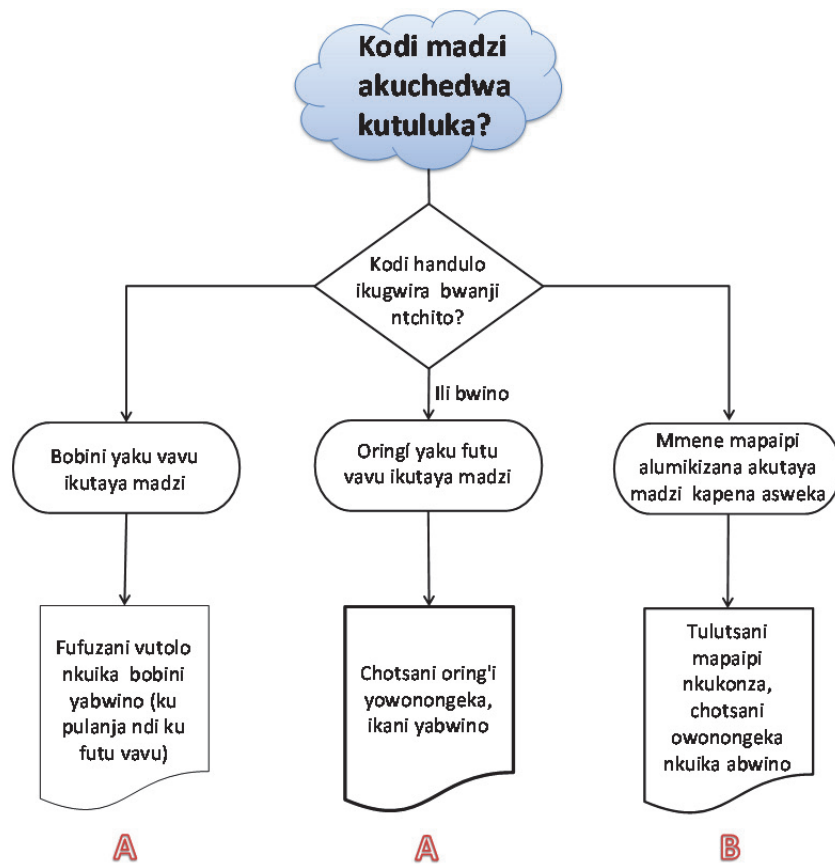
Matanthauzo azizindikiro

-  : Chofunika kuyang'ana
-  : Choyambitsa vuto
-  : Momwe mungakonzere

Kukula kwa Vuto

- A:** Akomiti okonza mjigo atha kukonza vutoli.
- B:** Nkofunika kuitana mekaniko waderalo kuti azakonzere.
- C:** Nkofunika kuitana mlangizi wa za madzi kuti azakonzere.

Tebulo 8: M'ndandanda wa Kuzindikira Mavuto apa Mjigo 2 (Madzi akuchedwa kutuluka)



Matanthauzo azizindikiro



: Chofunika kuyang'ana



: Choyambitsa vuto



: Momwe mungakonzere

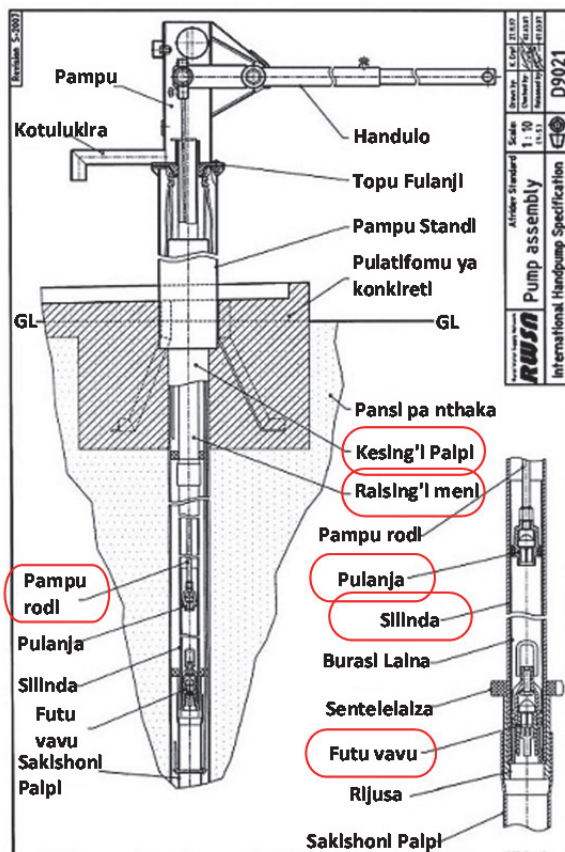
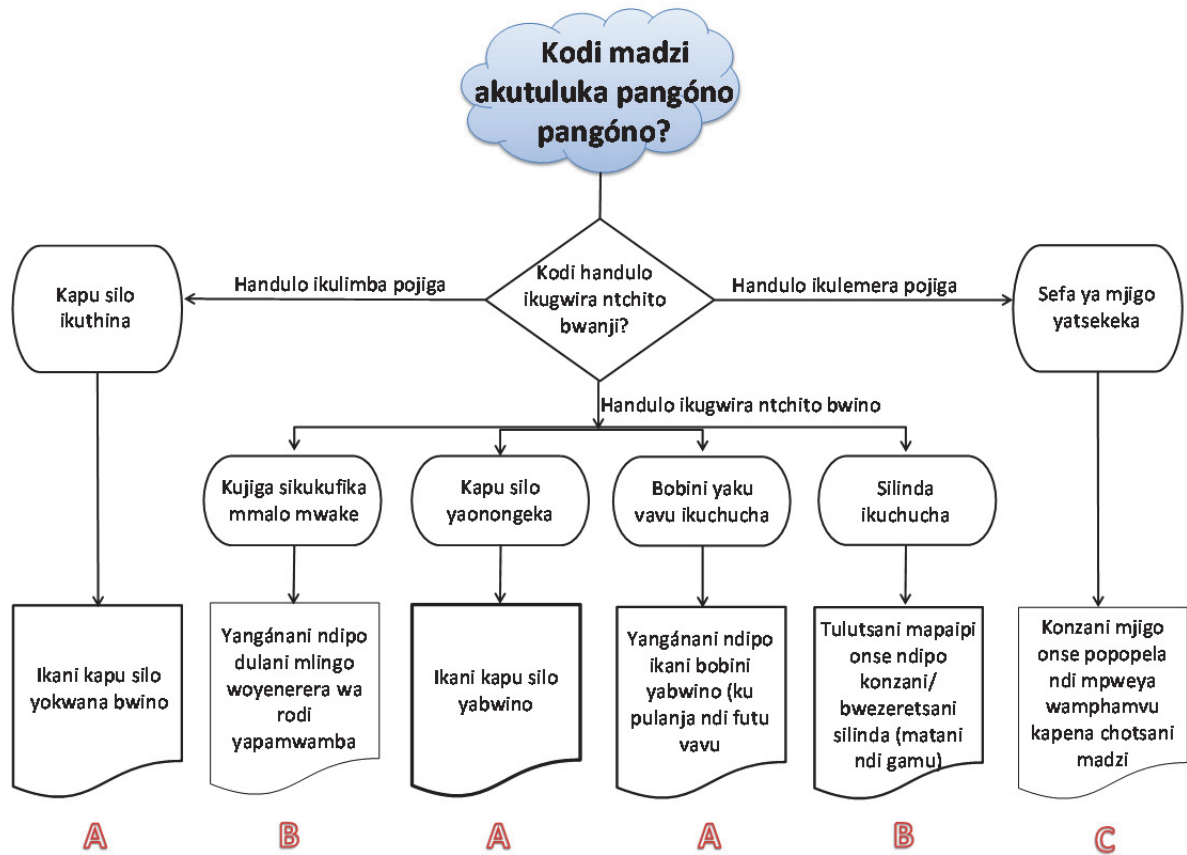
Kukula kwa Vuto

A: Akomiti okonza mjigo atha kukonza vutoli.

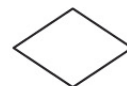
B: Nkofunika kuitana mekaniko waderalo kuti azakonze.

C: Nkofunika kuitana mlangizi wa za madzi kuti azakonze.

Tebulo 9: Mndandanda wa Kuzindikira Mavuto apa Mjigo3 (Madzi kutuluka Pangónopangóno)



Matanthauzo azizindikiro



: Chofunika kuyang'ana



: Choyambitsa vuto



: Momwe mungakonzere

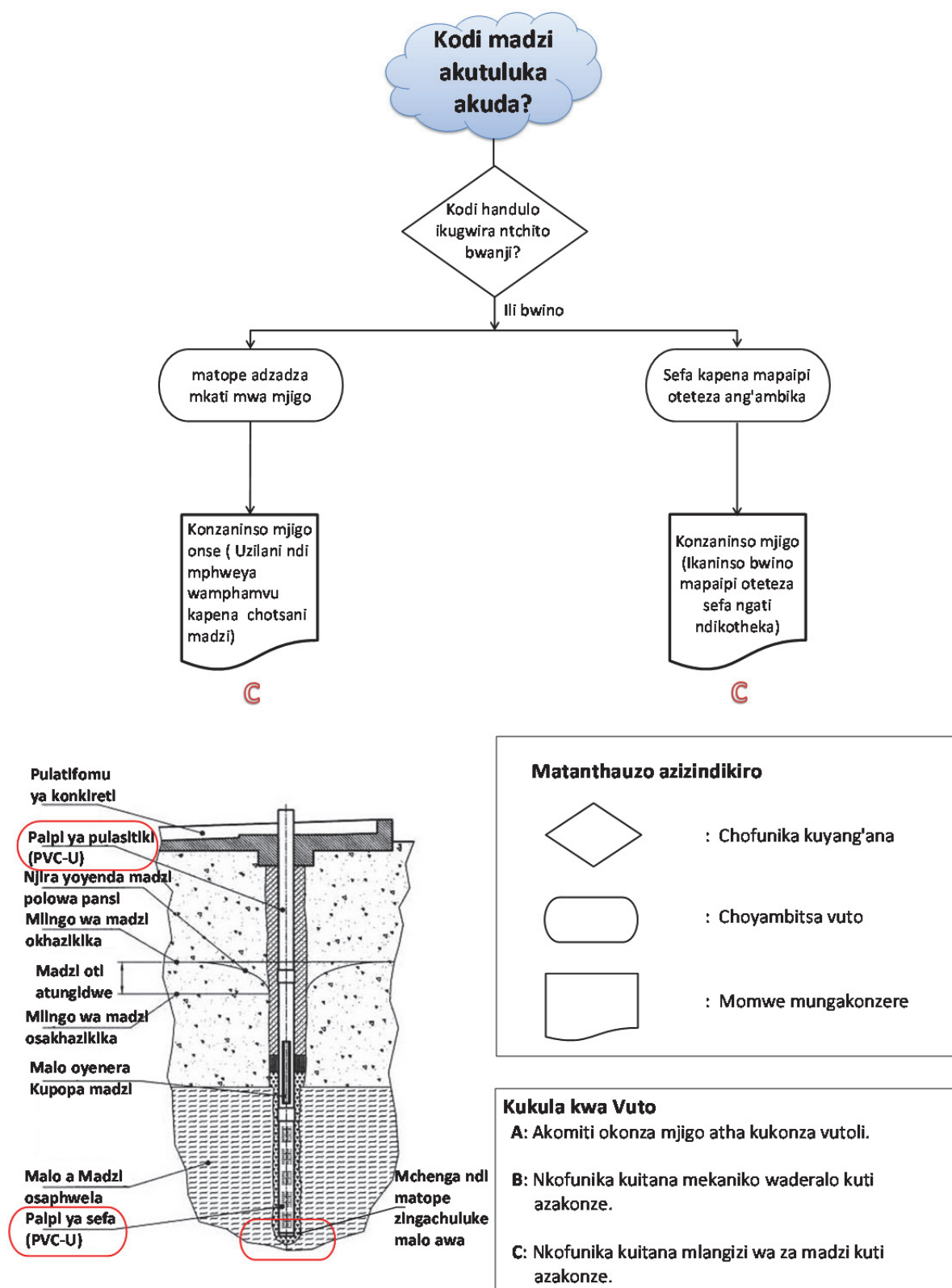
Kukula kwa Vuto

A: Akomiti okonza mjigo atha kukonza vutoli.

B: Nkofunika kuitana mekaniko waderalo kuti azakonzere.

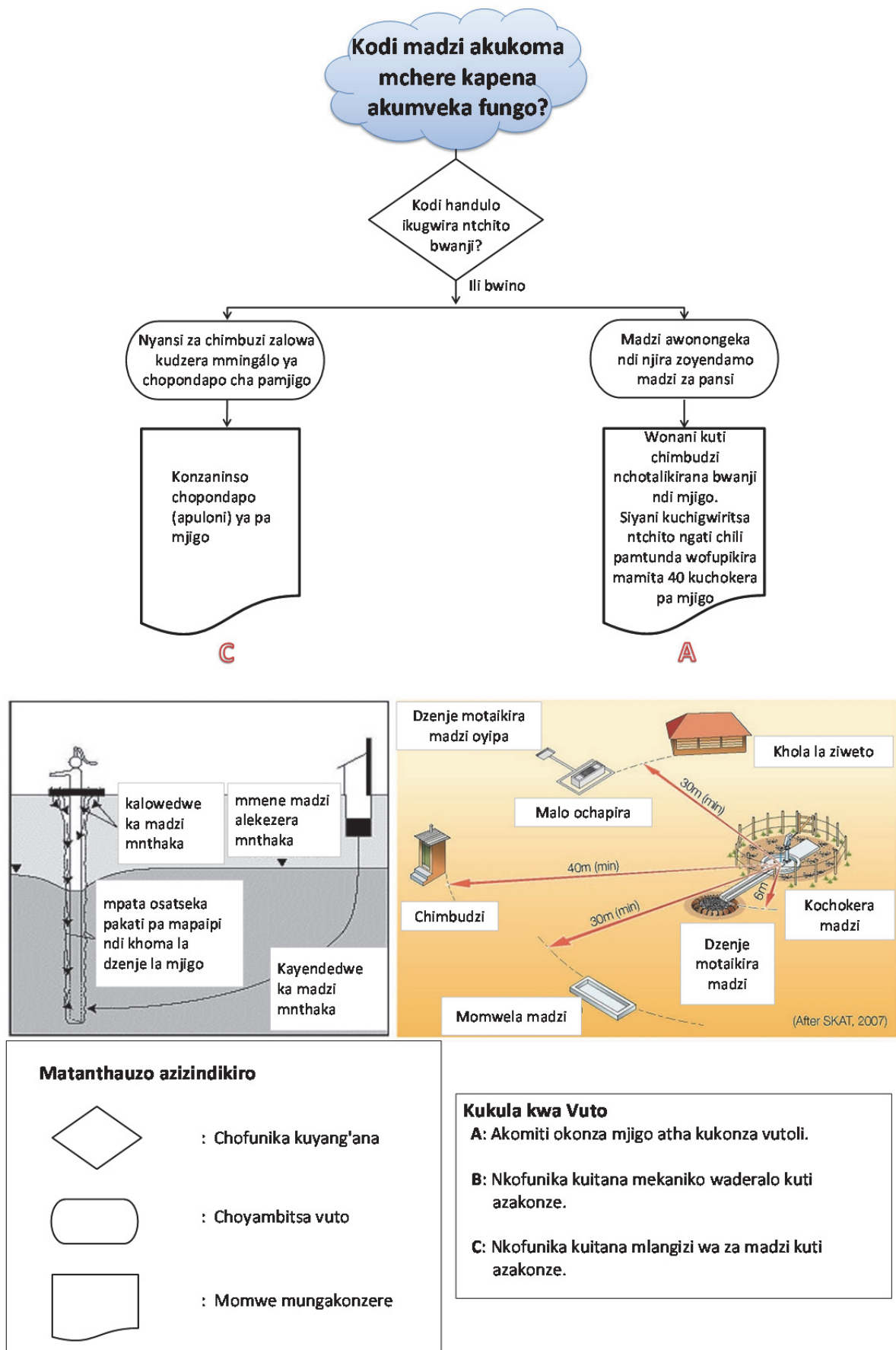
C: Nkofunika kuitana mlangizi wa za madzi kuti azakonzere.

Tebulo 10: Mndandanda wa Kuzindikira Mavuto apa Mjigo 4 (Madzi kutuluka Akuda)

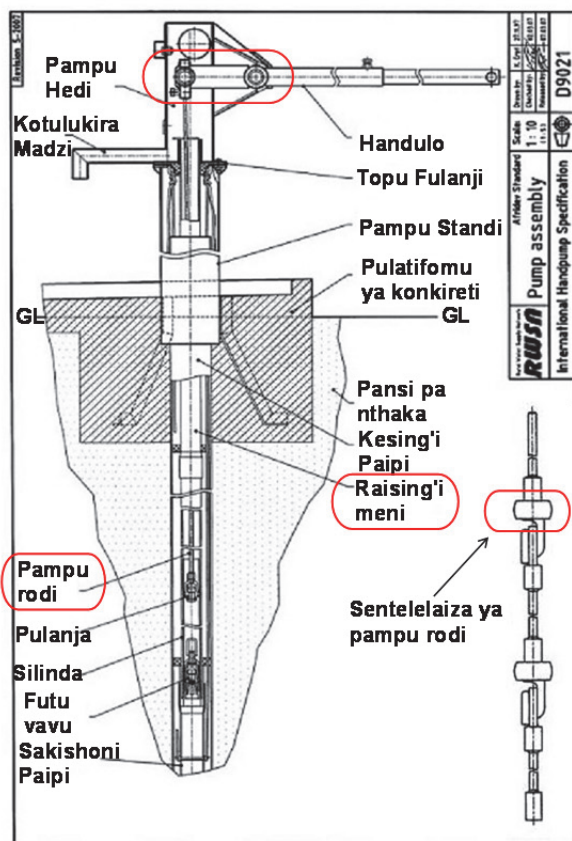
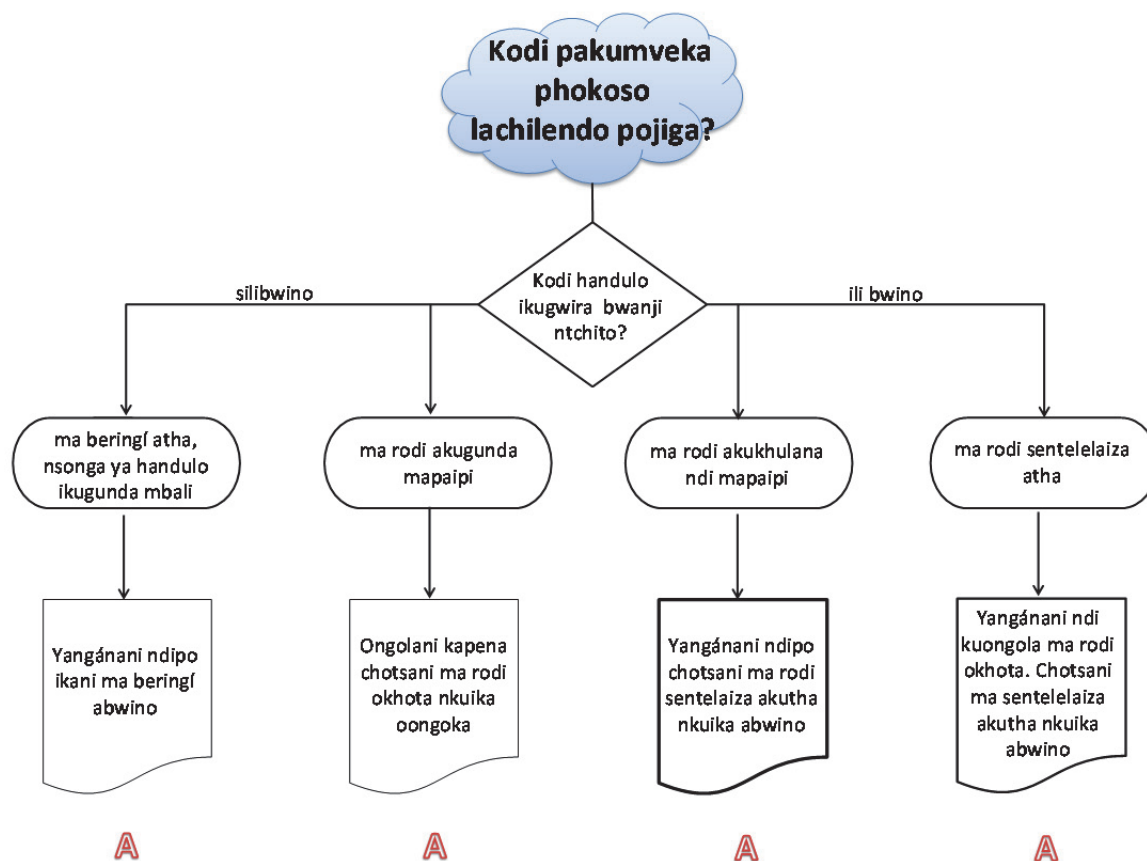


(Extracted from "Installation and Maintenance Manual for Afridev Handpump, Rev. 2-2007, SKAT-RWSN")

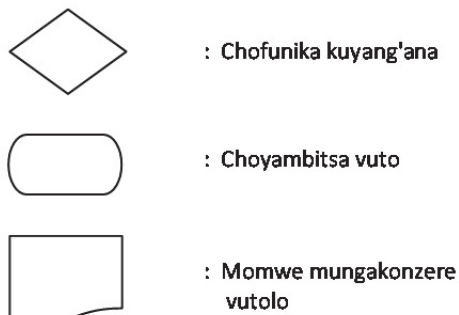
Tebulo 11: Mndandanda wa Kuzindikira Mavuto apa Mjigo 5 (Madzi akukoma Mchere)



Tebulo 12: Mndandanda wa Kuzindikira Mavuto apa Mjigo 6 (Kumveka phokoso pojiga)



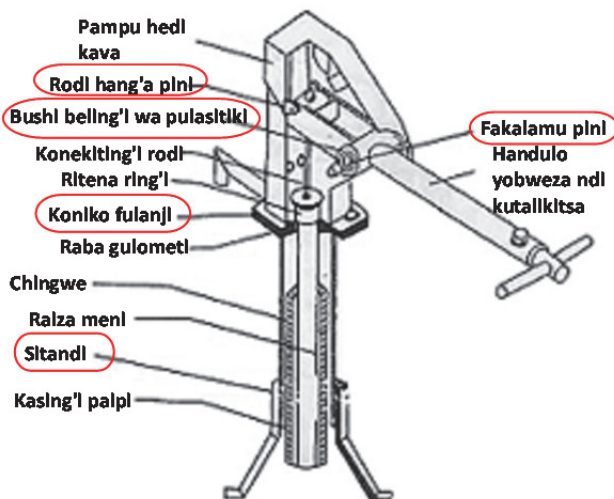
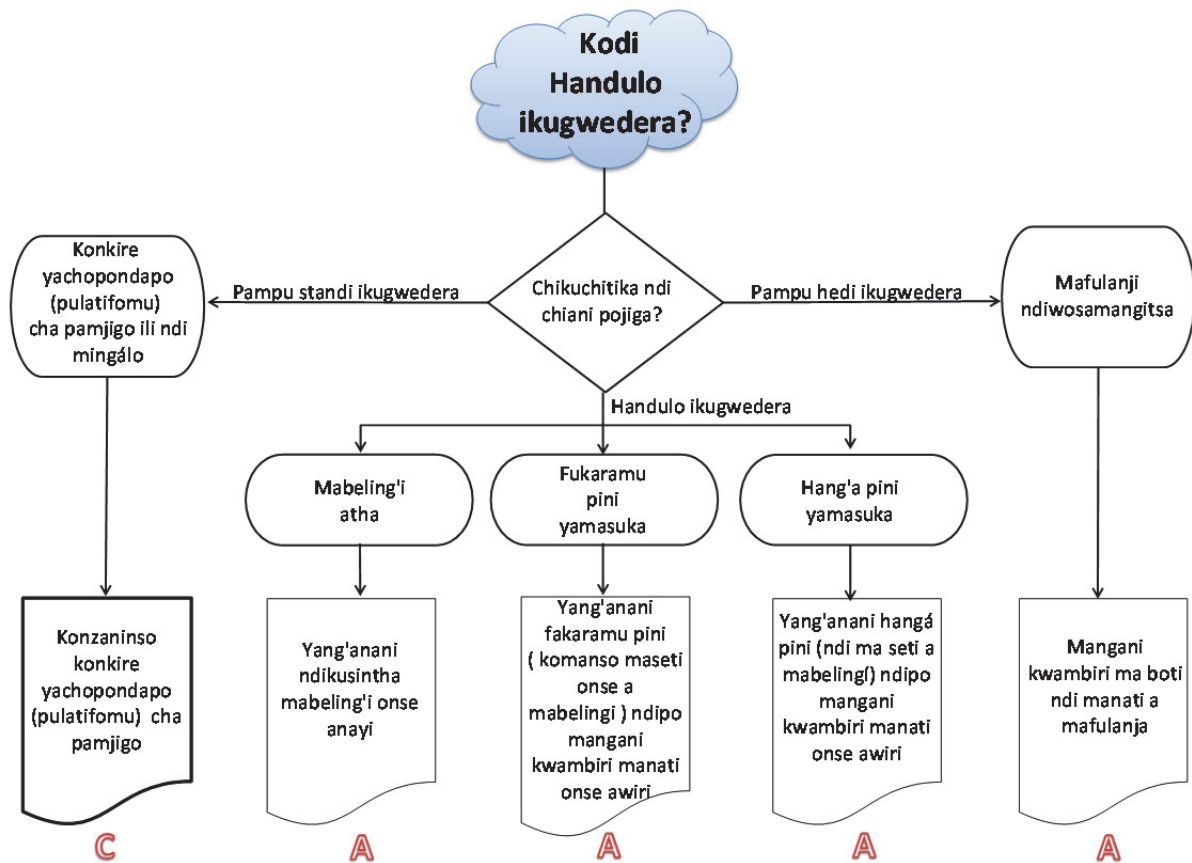
Matanthauzo azizindikiro



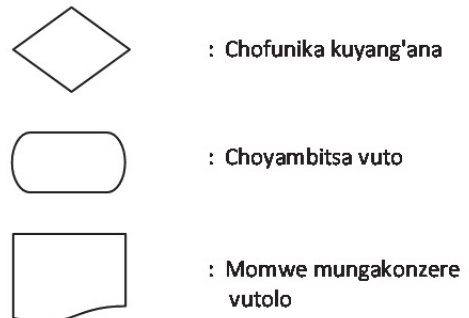
Kukula kwa Vuto

- A:** Akomiti okonza mjigo atha kukonza vutoli.
- B:** Nkofunika kuitana mekaniko waderalo kuti azakonzere.
- C:** Nkofunika kuitana mlangizi wa za madzi kuti azakonzere.

Tebulo 13: Mndandanda wa Kuzindikira Mavuto apa Mjigo 7 (Handulo ikugwedera)



Matanthauzo azizindikiro



Kukula kwa Vuto

- A:** Akomiti okonza mjigo atha kukonza vutoli.
- B:** Nkofunika kuitana mekaniko waderalo kuti azakonze.
- C:** Nkofunika kuitana mlangizi wa za madzi kuti azakonze.

5.2 Kuzindikira zipangizo zomwe sizichedwa kutha pa mjigo ndi kufunika kwake pa nthawi yomwe mjigo ukugwira ntchito

Ndi udindo wa makaniki kulangiza anthu akumudzi kuti ndikotsika mtengo kusingha zipangizo zomwe sizimachedwa kutha koposa kuwononga zida zomwe ndizokwera mtengo.

Zpangizo zomwe sizichedwa kutha;

- Bushi bering'i
- U-silo
- O-ring'i
- Bobini
- Kapu-silo
- Rodi senteleza

5.3 Kuzindikira mavuto omwe angapezeke ku mapaipe (raizing'l meni)

Ena mwa mavuto omwe angapezeke ku mapaipe ndi awa:

- Kuchucha kwa molumikiza mapaipe chifukwa chotsalumikiza bwino
- Zibowo zomwe zimabwera chifukwa cha kudyeka kwa mapaipe ndi rodi chifukwa cha kutha kwa marodi senteleza.
- Kusweka kwa mapaipe

Gawo 6: Kukonza mapaipe (rayizing'i meni)

Mutu umenewu walembedwanso kuchokera ku phatikizo loyamba la Bukhu logwiritsa ntchito a Makaniki (Improved CBM2 by GITEC) lokhazikitsira amakaniki lobwerezedwa, November 29, 2006, Unduna wowona za ulimi wothirira ndi chitukuko cha madzi.

Kukonza ndi kubwezeretsa kwa zipangizo za pampu yammanja ikugwira ntchito ndi SKAT/HTN bukhu la anthu akumudzi pa za madzi ndi ukhondo pa pampu ya Afridev. Zina mwazomwe zingakonzedwe zingakhudze kuchotsa mapaipe.

Mapaipe amachotsedwa ngati:

- Madzi akuchucha kwambiri koma sizikukhudza futu valavu, bobini ndi o-ring'i.
- Zithu zaponyedwa kapena zikukanika kuchotsedwa komanso sizingatheke kuwedza.
- Silinda mwina ikufunika kusintha.
- Mapaipe amasuka kapena kulekana.

Mwamwambo ngati mwachotsa mapaipe ndi kudula milingo yabwino ngati malipande awiri (2m) kapena malipande asanu ndi imodzi (6m), mukamabwezeretsa mumayenera kulumikiza pafupi pafupi. Ngati mwina madabulo endi soketi palibe pobwezeretsa ndipo mwawotcha ndi moto mapaipe, yetsetsani kuti mugwiritse ntchito zomatira zolimba ngati soloventi simenti kuti mapaipe akhalitse.

Kuti muchepetse malo omwe mungalumikize mapaipe mumayenera kuchotsa mapaipe onse nthawi imodzi osadulako olo malo amodzi. Vuto limadziwika ndi kukonzedwa musanayambe kubwedzeretsa mapaipe mumjigo pogwiritsa ntchito paipi imodzi yomwe sinadulidwe.

Panthawi yochotsa mapaipe amavuta kutulutsa komanso amafuna mphamvu. Ntchito imeneyi itha kugwiridwa ngati mukudziwa kuti mapaipe apulasitiki analumikizidwa mulingo wa “6.3.2 polumikiza” nthawi yoyika. Mwina m'malo omwe mapaipe analumikidwa atha kuduka ndipo atha kuvulaza anthu.

Kuwonjezera zipangizo zomwe zimafunika pokonzanso mijigo, potulutsa mapaipe amjigo ndi:

- Pakhale anthu osachepera asanu ndi atatu, kuwonjezera akomiti omwe amakonza mijigo.
- Amalimbikitsa kuti anthu ambiri azikhalapo nthawi yotulutsa mapaipe.
- Mitengo yokhala ndi mphanda. Nambala ya mitengo ya mphanda izifanan ndi mapaipe omwe ali mu mijigo. Isanu ikhale yotalika malipande atatu ndi theka (3.5m) mulitali, ina yonse ikhale yotalika malipande anayi (4m).

- Chingwe chowongolera mamita khumi.

Malo ozunglulira pamjigo pakhale popanda mitengo yoti ingasokoneze potulutsa mapaipi komanso osachedwetsa.

6.1 Kuchotsa ndi kubwezeretsa mapaipi (raizing'l meni.)

Machitidwe ake ali motere:

Tebulo 14: Njira ya m'mene tingachotsere mapaipi ndi kubwezeretsa

Njira	Ntchito	Kuonetsa/ Chithunzi
1	Chotsani futu valavu.	Chenjezo: Kuchotsa futu valavu kumavuta ngati mkati mwa mapaipi muli zinthu zomwe zimapangitsa kukanika. Ndi zotheka kuchotsa mapaipi onse nthawi imodzi osadula koma pamafunika kusamala chifukwa mapaipi amalemela chifukwa cha madzi omwe amakhala ali mkati ndi zipangizo zomwe zimakhala mkati zimapangitsa kumavuta potulutsa.
2	Chotsani mutu wa mjigo	-
3	Mangani chingwe ku koni puleti.	-
4	Yambani kusolola mapaipi pokoka mbali zonze za chingwe pamodzi ndi mapaipi. Chingwe chimathandiza kugwira mapaipi mu mjigo komanso kuti muthe kutulusa mapaipi onse mpaka yomaliza	Chenjezo: Chingwe chomwe chikugwira mapaipi chikhale choti chamangidwa mfundo musanayambe kutulutsa mapaipi. MFundo zimenezi zimathandiza kudziwa ngati mapaipi anadulidwapo nthawi yokonzanso.
5	Pamene mukutulutsa mapaipi mu mjigo yambani kukhotetsa mapaipi posankha mbali yomwe azipita. Nthawi imene mukutulutsa mapaipi gwiritsani ntchito mitengo yamphanda kuti musathyole mapaipi komanso potengera kulemera kwake	
6	Pamene mukutulutsa mapaipi mitengo yamphanda zazitali imagwira ntchito yoti mapaipi asapwanyike mpakana pamene mumalize. Ngati mukukanika kutulutsa futu valavu pendekeza mapaipi kuti mutulutse madzi kuti muchepetse kulemera kwake. Mitengo ifupi ifupi yofanan kutalika iyenera kuyimikidwa pansi munzere kuti isamavute kusuntha. Mitengo itali itali yapakati imayikidwa pansi kuti muchepetse kulemera kwake komanso kuti igwilire mapaipi.	Chenjezo: Onetsetsani kuti paipi iliyonse yatchinjirizidwa ndi mitengo yosachepera isanu ndi umodzi. Potulutsa mapaipi amenenwa onetsetsani kuti pokhotetsa mapaipi pakukwana milingo ya mapaipi atatu poopesa kuti mapaipi angathyoke .Chigawo chimenechi chili pa chinthunzi m'musimu kuwonetsa kuchotsa mapaipi atatu. Kuthandiza kugwira mapaipi kumafunikira pa malo omwe mwakhotetsa. Malo omwe mapaipi aKuchucha kapena kusweka muyikepo chizindikiro pamene mukuchotsa mapaipi.

Njira	Ntchito	Kuonetsa/ Chithunzi
		
7	Ngati pamene munalumikiza sipakulimba (mwachitsanzo ngati munalumikiza ndi moto) mapaipe ayenera kuchotsedwa mosamala ndi kudula pamene mukuganizirapo kuti pali vuto. Musayesere kupinda paipi pomwe pali poyipa.	-
8	Ngati silinda ndi paipi yotungira madzi mwazipeza tulutsani mosamala kuti musadule paipi. Pamene mwatulutsa mapaipe onse mutha kuyala pansu.	<i>Sankhani malo abwino omwe mungayike mapaipe ndikuona mavuto pamene paphwanyika kapena pakuchucha.</i>
9	Ngati mwamaliza kukonza bwezeretsani kutalika konse kwa mapaipe koma muyambe mwatsuka kaye. Musanabwezeretse mapaipe yambani mwathira mankhwala a Kuloloni pa mulingo wa 250 grams (Ku mijigo yovomerezedwa ndi boma la Malawi) of high test hypochlorite (HTH). Ngati pali nthawi tulutsani mapaipe onse ndikutsuka.	-
10	Mapaipe amabwezeretsedwa m'mene anatulukira. Mavuto omwe mungakumane nawo pabwezeretsa silinda ndi paipi yotungamadzi, ndiakuti pamafunika mphamvu kuti mabwezeretse mu mijigo.	-

6.2 Kukonzanso mapaipe onse

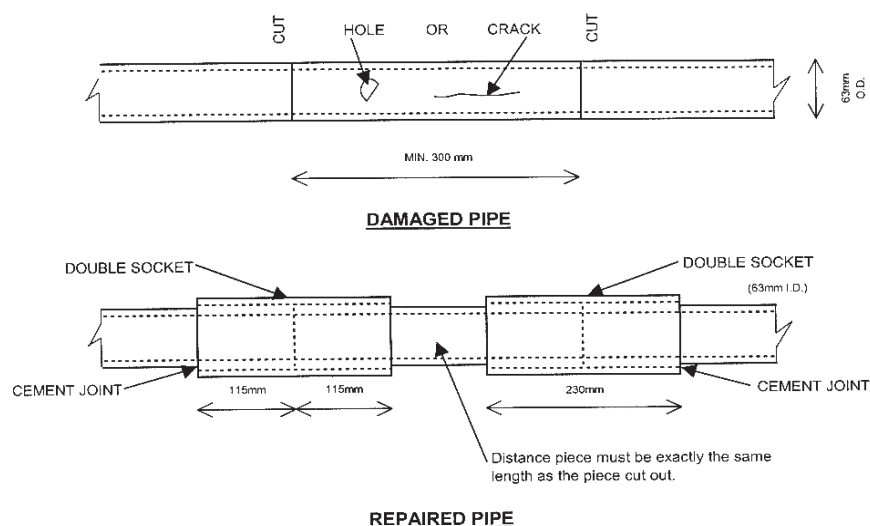
Mutha kuchotsa zinyansi m’mapaipe potulutsa mapaipe onse kapena kuchotsa kudzera molumikiza koma njira ina ndikudula mapaipe.

Chisankho chakuti tidule pati paipi zimatengera ndi ntchito yomwe mukufuna kugwira. Ngati muli bowo m’mbali mwa paipi lomwe labwera chifukwa chamarodi senteleza akutha paipi imafunika kudula pawiri mbali zosiyana. Ngati vuto lili lokhudza mkati mwa silinda kapena mkati mwa mapaipe kuti muchotse zinthu, ngati zili chocho dulani kamodzi kokha mapaipe onse. Kuchuluka kwa malo odula paipi amatengera vuto lomwe mwalipeza kuti lithetsedwe.

Kutalika kwa mapaipe onse kumene munakupeza potulutsa kusasithidwe pobwezeretsa. Ndizofunika kuti pamene munatcherera pampu yanu kuti itulutse madzi zisasithe mwachisanzo kutalika kwa mapaipe, ndi ma rodi zikhale momwe zinalili.

Molumikiza monse mugwiritse ntchito dabulo endi soketi “(Double Socket)”. Dabulo endi soketi ndi paipi yotalika ma milimita 230 mulitali yomwe imalumikiza mapaipe kunja. Kothera kwa paipi iliyonse ikhale 115 mm kuti dabulo endi soketi ilowe polumikiza mapaipe satani ndondomeko yake ya “**6.3.2 polumikiza**”.

Ngati paipi ikudulidwa mwachitsanzo ili ndi mphako ikani paipi ina yamulingo womwewo ndima dabulo end soketi awiri. Kufupika kwa kukonza paipi kuzikhala 300 mm komanso kuwonetsetsa kuti mwagwiritsa ntchito soventi simenti. Musayerekeze kugwiritsa ntchito ka paipi kakang’ono ndi kupaka soveti simenti chifukwa simalimba paipi komanso ma rodi seneteleza amatha msanga mkati mwa paipi ngati simunalumikize bwino.



Chinthuzi 2: M’mene tingalumikizire Mapaipe

6.3 Kumata mapaipi ngati mwadula

6.3.1 Zida ndi zipangizo

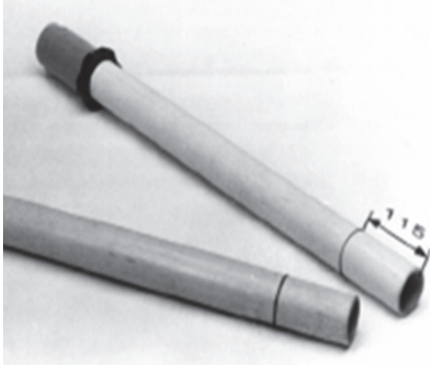
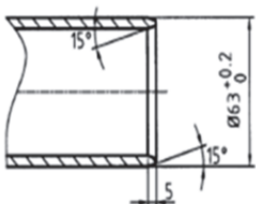
Musanayambe kulumikza mapaipi zida ndi zipangizo zomwe mungagwiritse ntchito ndi izi:

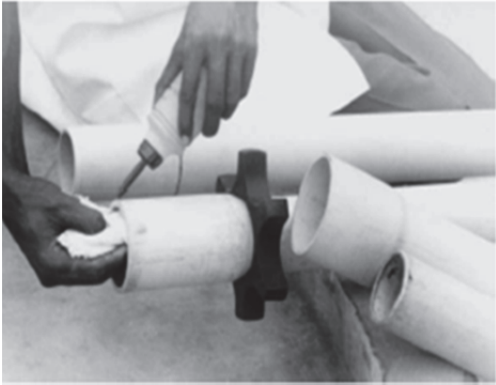
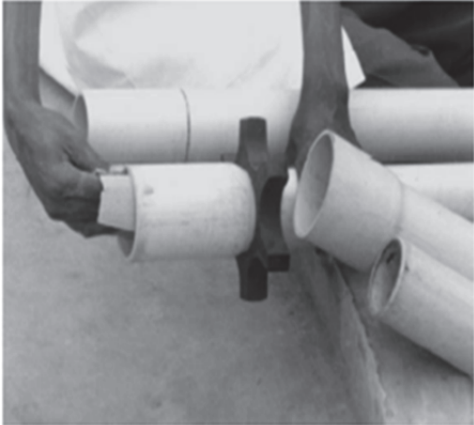
- a) Hakisowo ndi mipeni ya sipeyala
- b) Tepi ndi zolemba za mtundu wa maka
- c) Soventi simenti
- d) Mankhwala otsukira
- e) Fayilo
- f) Sandi pepala
- g) Nsalu

6.3.2 Kupanga molumikiza mapaipi

Tsatirani njira zili m'musimu:

Tabulo 15: Njira yakalumikizidwe ka Mapaipi

Njira	Ntchito	Kuonetsa / Chithunzi
1	Lembani momwe muzalekeze dabulo endi soketi (115 mm) pa paipi yosalembedwa. Ngati momwe munalebwedwa mwafufutika panthawi ya kukonzanso mutha kugwiritsa ntchito paipi senteleza ngati mulingo wa momwe munalembamo.	
2	Palani milomo ya paipi pa mulingo uwu 15° to 20° (ngati sanapangiretu ku fakitale).	chamfered 5 x 15° (inside and outside) all sharp edges rounded  

Njira	Ntchito	Kuonetsa / Chithunzi
3	Ngati paipi ikudulidwa pa mjigo pomwepo palaninso milomo ya mkati mothera paipi kuti muchotse zonse zimene zingapangitse pulanja ndi futu valavu zimavuta kuti mutulutse kapena kulowetsa. Komanso ngati pulanja ili ndi kapu silo zimavutanso kuti mutulutse ngati simupala milomo ya m'mkati mwa paipi.	-
4	Pukutani fumbi kapena mchenga komanso kuwumitsa milomo ya paipi (bell end inside and plain end up to 115 mm) ndi kansalu kapena mankhwala (Carbon tetra chloride).	
5	Kwechani malo olumikiza paipi pogwiritsa ntchito sandi pepala kuti polumikiza zigwirane bwino.	
6	Pukutaninso ndi kansalu pogwiritsa ntchito mankhwala.	-
7	Pakani soloventi simenti mkati mwa soketi ndi kunja kwa paipi ndi burashi. Tsekerani mabotolo amakhwala omwe mumagwiritsa ntchito chimodzimodzinso soloventi simenti.	<i>Chenjezo: Gwiritsani ntchito mosamala soloventi simenti posathira wa mbiri chifukwa zitha kupangitsa kuti paipi isagwire bwino. Komanso mukathira soloventi simenti wambiri zowumirira zimatha kuwononga pulanja ndi rodi senteleza.</i>
8	Lowetsani dabulo endi soketi kupaipi mwachangu soloventi simenti asanawume. Musazunguze kapena kutembenuza paipi pamene mukulowetsa paipi. Kankhani kwambiri soketi kuti ilowe ndipo ifike m'malo momwe munalembedwa (kapena moyesa ndi paipi senteleza).	-
9	Pukutani soloventi simenti amene wotaikira ndi kansalu.	-
10	Dikirani kwa mphindi zisanu. Nthawi	-

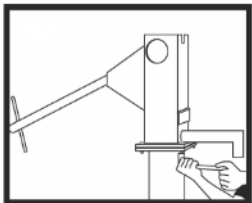
Njira	Ntchito	Kuonetsa / Chithunzi
	imeneyi chingwe chikhale kuti mwayikanso mukudikira mphindi zisanu.	
11	Onani momwe munalemba kuti muwone ngati soketi yalowadi mokwanira.	-
12	Lowetsani mapaipi mu mjigo pogwiritsa ntchito chingwe.	-
13	Lolani kuti pamjigo pasachitike kaye chilichonse kwa maola 24 (kapena kuti tsiku limodzi), komanso osajiga pa mjigo.	-

Gawo 7: Zomwe mungakonze pa mjigo pafupi pafupi

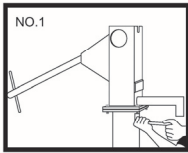
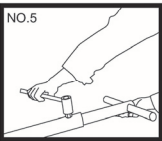
7.1 Kuzindikira mavuto omwe angabwere pamjigo wa Afridev

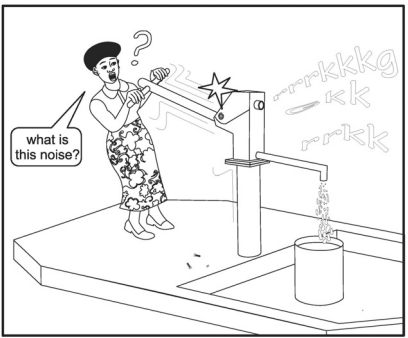
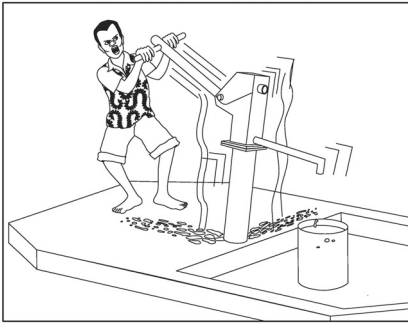
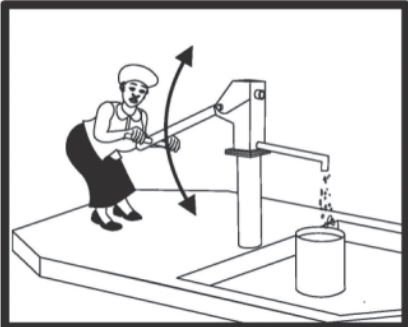
Mavuto amatha kuzindikiridwa pa nthawi yomwe mukukonza mjigo ndipo ndibwino kupeza kaye choyambitsa vuto komanso zotsatira zake. Kuti muthandizidwe pamavutowo gwiritsani ntchito zomwe zalembedwa pakathetsedwe ka mavuto apamjigo kumapeto kwa bukuli mutu wa chinayi (Tsamba Lowonjezera 4).

a. Zowona pa sabata:

No.	Zochita	Kuonetsera/Chithunzi
1	Onani ngati ma bauti ndi manati ali omangika bwino.	
2	Onani ngati manati a fakalamu pini ndi hang'a pini ali omangika bwino.	

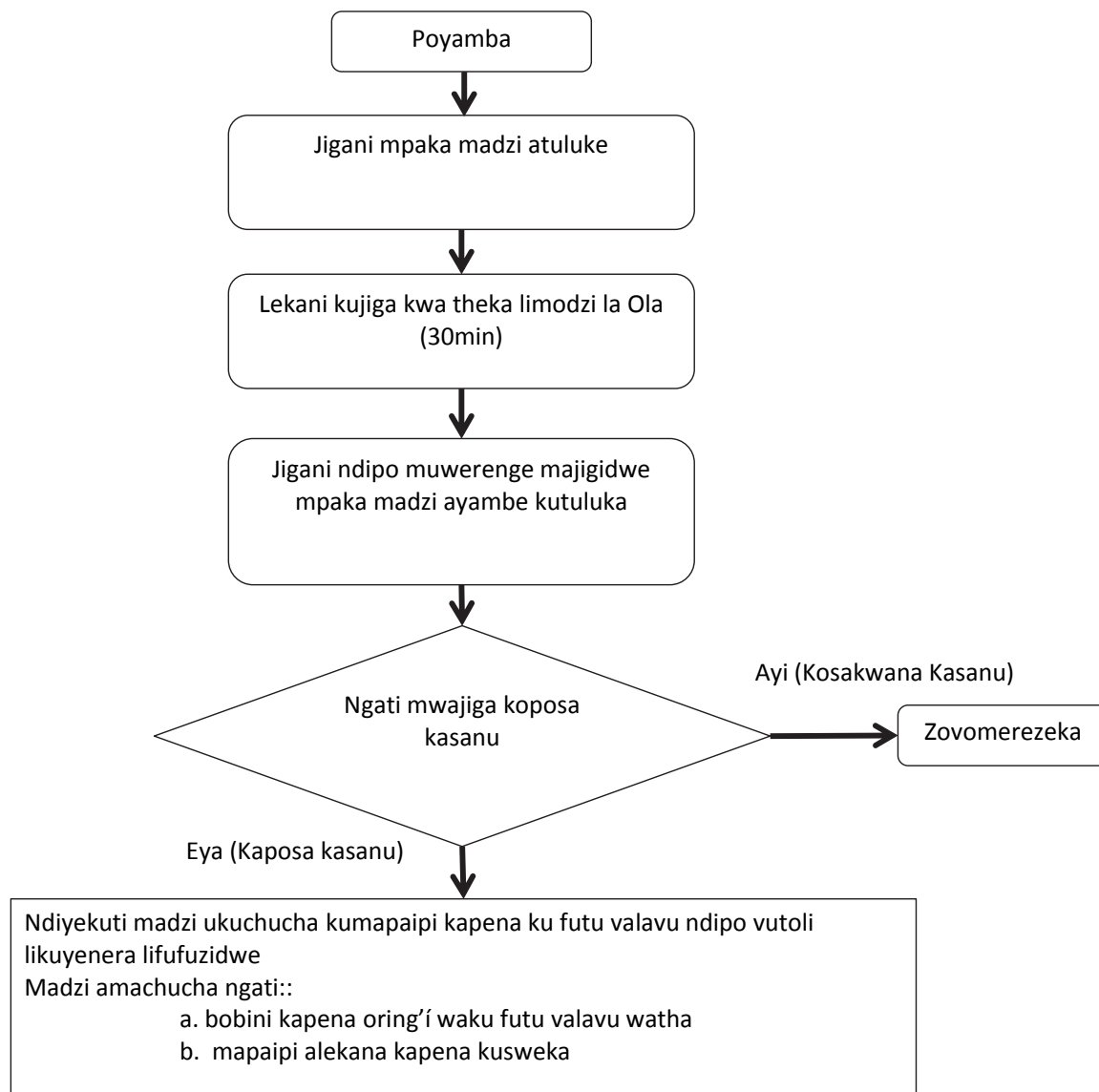
b. Zowona pa mwezi:

No.	Zochita	Kuonetsa/ Chithunzi
1	Onani momwe handulo ikugwirira ntchito m'mutu wa pampu. Ngati handulo ikugunda mutu wa pampu m'mbali mwake, mabushi bering'i asinthidwe.	    

No.	Zochita	Kuonetsa/ Chithunzi
2	Fufuzani phokoso lachilendo pa mjigo nthawi yojiga.	
3	Onani kuti thunthu silikugwadera pa epuloni (konkiriti). Onani kuti manati ndi mabauti ali omangitsa.	
4	Yesani ngati madzi sakuchucha ngati monwe zalembedwera mmusimu.	
5	Yesani kujiga madzi ngati m'mene zalembedwera m'musimu.	

7.2 Kuyesa kuchucha kwa madzi

Tsatirani njira izi motere:

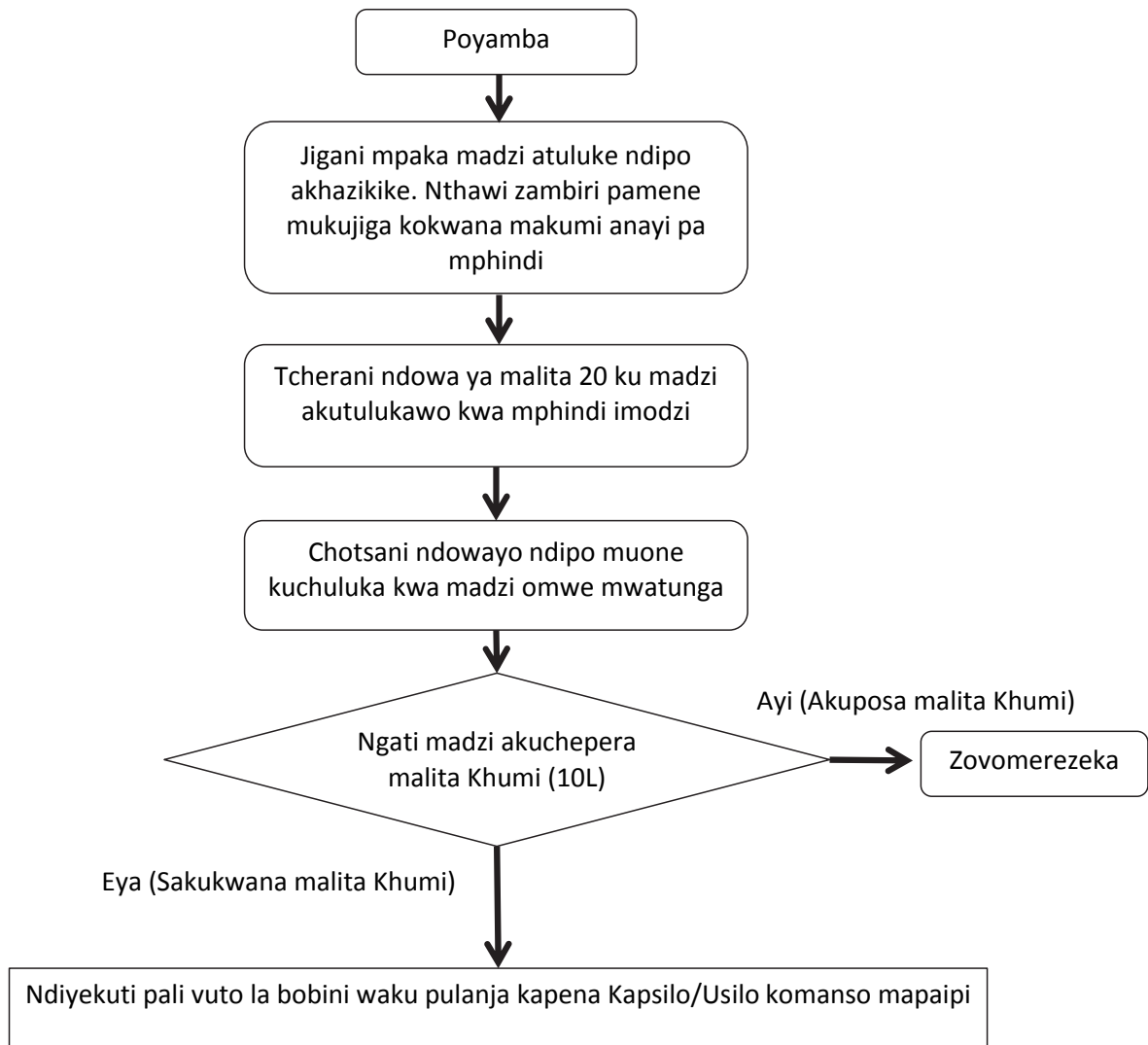


Kuchokera: Installation and Maintenance manual for Afridev Hand pumps Revision2-2007 SKAT-RWSN

Chati 3: Kuyesa Kuchucha kwa Madzi

7.3 Kuyesa kutuluka kwa madzi

Tsatirani njira izi motere:



Kuchokera: Installation and Maintenance manual for Afridev Hand pumps Revision2-2007 SKAT-RWSN

Chati 4: Kuyesa kutuluka kwa madzi

7.4 Kalembera/ Kaundula

Chilichonse chomwe cha konzedwa pa mjigo chiyenera kulembedwa m'buku la komiti. Zimene zingalembedwe ndimonga izi:

- Tsiku limene anakonza mjigo
- Mavuto omwe mwakonza pamjigo
- Zipangizo zimene zasinthidwa

- Mtengo wa zipangizo zomwe zasinthidwa
- Ndalama zomwe alipira wogwira ntchito
- Ndani amene wagwira ntchito?

7.5 Kuwedza

Pali nthawi zina zomwe zinthu zitha kugwera m’mapaipi kapena kukhala m’mapaipi zitha kupangitsa kuti pampu isamagwire ntchito. Ndipo ndibwino kuwedza mapaipi. Nthawi zina zinthu zomwe zagwera m’mapaipi zingachotsedwe potulutsa ndi kudula mapaipi onse kuti muthe kutulutsa.

Nthawi zina ntchito zina zitha kugwiridwa ndi amakaniki kutengera ndi vuto lomwe lilipo.

Mwachitsanzo:

Vuto	Njira Yothetsera vutolo
U-silo yomwe amakhala ku pulanja wasalira musilinda kapena m’mapaipi	Angachotsedwe pogwiritsa ntchito mbedza kapena waya wokhala ndi mbedza.
Ngati ali U-silo amene wasalira m’mapaipi	Ndibwino kuweza futu vavu. Ngati izi sizikutheka mchifukwa chakuti U-silo amapangitsa kuti futu vavu ikane kutuluka m’mapaipi choncho ndibwino kutulutsa mapaipi ndi ma rodi ali mkati. Ntchito zina zimafunika kuti makaniki agwire ndiye malingana ndi vuto lomwe lilipo

Luso lapadera limafunika kwa Makaniki kuti athe kuthana ndi vuto lililonse angakumane nalo.

Phunziro II: Maphunziro a Bukuli

Buku 1: Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene

Nambala ya buku		1
Dzina la buku		Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Ophunzira		Amakaniki oyamba kumene
Cholinga		• Kuthandiza amakaniki kuti azipanga bizinesi powona kakonzedwe ndi kayendetsedwe ka madzi m’midzi • Kuphunzira njira zofikira anthu akumudzi • Kuziwa m’mene angapangire mgwirizano ndi akomiti yowona zamadzi. • Kukumbutsa maina azipangizo ndi ntchito zake pa mjigo wa Afridev • Kukumbutsa kumasula ndi kubwezeretsa mjigo wa Afridev • Kuzindikira mavuto ndi kathetsedwe • Kumvetsa kakonzedwe ka mapai • Kumvetsa kukonza koteteza mavuto akulu apa mjigo.
Amene angaphunzitse		Alangizi (Alangizi azamadzi,Alangizi azaumoyo ndi alangizi aza chitukuko)
Kutalika kwa Nthawi ya maphunziro		Masiku asanu(5)
Mabuku omwe angagwiritse ntchito		• Buku lophunzira a Amakaniki • COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION (SECTION 4 AFRIDEV HANDPUMP MAINTENANCE) • Trouble Shooting and Diagnosis of Afridev Hand pumps and Boreholes • CBM Refresher Training Manual (tentative)
Zinthu ndi zida zomwe zingagwiritsidwe ntchito		Mapepala,zolemba, chithunzi chowonetsa,tsamba lowonetsa zipangizo ndi ntchito yake, zipangizo za mjigo wa Afridev,fulati sipanala, Sipanala ya bowo, Mbedza, Hakisow,Tepi yoyezera,soloventi simenti, mankhwala opukutira(HTH), Fayilo, Sandipepala,nsalu,dabulo endi soketi, Paipi ya pulasitiki,mitengo yaphanda, mafomu ndi mndandanda
No.	Mutu	Ntchito
1	Chiyambi cha maphunziro kwa amakaniki a mijigo	Kukambirana ndi kukambirana m’magulu
2	Zoyenera kuti makaniki wadera adziwe asanayambe kukonza mjigo	Kukambirana ndi kukambirana magulu

3	Dzina la chipangizo cha mjigo ndi ntchito yake	Kuphunzitsa pogwiritsa ntchito zinthunzi ndi kukambirana m'magulu
4	Kumasula ndi kubwezeretsa mjigo	Kuyesa kumasula ndi kumanganso kukambirana pamene muli pa malo otungapo madzi
5	Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka	Kukambirana Kuphunzitsa pogwiritsa ntchito zinthunzi ndi kukambirana magulu
6	Kukonza mapaipe (raizing'i meni)	Kuphunzitsa pogwiritsa ntchito zinthunzi ndi chionetsero cha pamene pali madzi
7	Kukonza mapaipe (rayizing'i meni)	Kuyeselera kumasula ndi kumanganso kukambirana pamene muli pa malo otungapo madzi
8	Zipangizo zomwe zimawonongeka pafupi pafupi pa mjigo	Kukambirana kukambirana m'magulu komanso kukambirana pamene muli pa malo otungapo madzi
9	Mafunso ndi mayankho okhuzana ndi mitu ya maphunziro a makaniki ndi ma shopu ogulitsa zipangizo za mijigo	Kukambirana, kukambirana m'magulu

Mutu 1 (M1-S1)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 1	Chiyambi cha maphunziro kwa amakaniki a mijigo
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	- Kuwapatsa mpata ophunzira kuti adziwane wina ndi mnzake, kukhazikika ndi kukhala omasuka - Kudziwitsa ophunzira cholinga chamaphunziro ndi udindo wawo kumudzi
Zoyembekezera	- Ophunzira kudziwa cholinga cha maphunziro - Ophunzira kudziwa ntchito za makaniki kudera kwao
Nthawi/ kutalika kwake	Maola awiri tsiku loyamba
Malo ovomerezeka	Holo yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kukambirana ndi kuphunzitsana m'magulu
Zipangizo zofunika	Fulipi chati pepala ndi fulipi chati bolodi, ndizolemba za mtundu wa maka
Zolandira	Buku lophunzitsira amakaniki
Njira	
Njira yoyamba: Kudziwitsa ndi kukonza malo	<i>Mphunzitsi afunse m'modzi mwa ophunizra kuti adzichule dzina lake ndi udindo wake.</i> 1. Mphunzitsi ayenera kufunsa izi kwa ophunzira: 1) Kudziwana 2) Kusankha atsogoleri 3) Kukambirana za ndondomeko ya maphunziro. 2. Audze ophunzira kuti akhale m'magulu ndi kuchita izi: 1) Akalembe zomwe akuyembekezera 2) Akalembe nkawa zawo 3) Chifukwa chiyani akufuna kuti aphunzire kakonzedwe ka mijigo <i>Mokambirana anene zomwe magulu alemba. Mphunzitsi akambirane ndi ophunzira zomwe alemba ndi kuyankha nkawa zawo.</i>
Njira yachiwiri: Chiyambi cha mabungwe ang'ono ang'ono akumudzi	<i>Mphunzitsi akumbutse ophunzira pa zomwe anaphunizra pa za mabungwe ang'ono ang'ono akumudzi oyendetsa madzi.</i>

Njira ya chitatu: Kudziwa cholinga cha maphunziro ndi undido wa amakaniki kumudzi	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu kuti akakambirane mafunso ali m'musiwa kenaka azasiyanitse pokambirana.</i> - Cholinga cha maphunziro - Kusiyana kwa okonza mijigo wapagulu la akomiti ndi amakaniki? - Ntchito za amakaniki
Zolembe za aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 2 (M1-S2)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 2	Zoyenera kuti makaniki wadera adziwe asanayambe kukonza mijigo
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	• Kuwonetsa ophunzira m'mene anthu akumudzi angawakhulupilire • Kuphunzitsa ophunzira kuti akhale odziwa kupanga bizinesi. • Kudziwa za mgwirizano omwe ungakhalepo pakati pa amakaniki ndi anthu akumudzi
Zoyembekezera	• Chidziwitso cha kupanga bizinesi
Nthawi/ kutsalika kwake	Maola awiri tsiku loyamba
Malo ovomerezeka	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kukambirana pamodzi ndi kukambirana m'magulu
Zipangizo zofunika	Fulipi chati pepala ndi fulipi chati bolodi, ndizolembera za mtundu wa maka
Zolandira	Buku lophunzitsira amakaniki
Njira	
Njira yoyamba: Kupanga ubale ndi anthu akumudzi	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu kuti akakambirane mafunso ali musika kenaka azasiyanitse pokambirana mayankho awo ndi amphunzitsi.</i> - Angalimbikitse bwanji kukambirana ndi anthu akumudzi? - Angadziwe bwanji kuti anthu akumudzi omwe mumawamvera komanso atha kupereka nkawa zawo?
Njira yachiwiri: Kayang'aniridwe ndi kathetsedwe ka mavuto	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu kuti akakambirane mafunso ali m'musika kenaka azasiyanitse pokambirana ndi mayankho aphunzitsi awo.</i> - Kodi mungathetse bwanji mchitidwe woyipa? - Kodi ndi khalidwe lanji lomwe lingapangitse kuti zinthu ziyipe?
Njira ya chitatu: Kuyang'anira bizinesi	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu kuti akakambirane mafunso ali m'musika kenaka azasiyanitse mayankho awo ndi aphunzitsi pokambirana ndi amakanikwo.</i> - Kodi bizinesi ndi chiyani? - Chikhalidwe chabwino chimene amakaniki ayenera kukhala nacho ngati wa bizinesi - Mitundu ya zomwe zingasungidwe ngati marekodi

Njira ya chinayi: Kumvetsa zomwe zingakhale muchipangano/ mgwirizano	<i>Mphunzitsi afotokozere zapangano/mgwirizano paki pa amakaniki ndi anthu akumudzi.</i> 1) Kodi pangano/mgwirizano ndi chiyani? 2) Zomwe zimakhala m'pangano/mgwirizano 3) Mitundu ya pangano/ mgwirizano <i>Kenako aphunzitsi afotokozere m'mene angalembere pangano kapena mgwirizano.</i> <i>Kenako ophunzira ayenera kugawidwa m'magulu kuti akalembe zomwe zili mpangano/mgwirizano</i> <i>Mokambirana, gulu lililonse lizafotokonzera zomwe akambirana komanso kukonza zolakwika.</i>
Njira yachisanu: Ntchito zotsatsa	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu kuti akakambirane mafunso awa.</i> 1) Kodi ndi ntchito ziti zotsatsa? <i>Kenaka aphunzitsi afotokozere momwe angachitire ntchito zotsatsa.</i>
Njira ya chisanu ndi chimodzi: Ukhondo wa pamjigo	<i>Aphunzitsi azafunsa ophunzira kuti akhale m'magulu ndi kukambirana mafunso awa.</i> 1) Kodi ndi zinthu ziti zimene zimapangitsa kuti ukhondo wa pamjigo usowe? <i>Kenaka aphunzitsi afotokozere zomwe zingathetse umve pa mjigo makamaka kukhala ndi mpanda komanso kukumba dzenje</i>
Zolemba aphunzitsi:	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 3 (M1-S3)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 3	Dzina la chipangizo cha mjigo ndi ntchito yake
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	• Kukambirana ndi ophunzira kuti mjigo ndi chiyani • Kudziwa momwe mjigo umagwirira ntchito
Zoyembekezera	• Kudziwa maina azipangizo za pa mjigo ndi ntchito zake
Nthawi/ kutsalika kwake	Maola awiri tsiku loyamba
Malo ovomerezedwa	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona m'nzake
Njira yophunizitsira	Kuphunzitsa pogwiritsa ntchito zithunzi komanso kukhala m'magulu, chionetsero.
Zipangizo zofunika	Chithunzi chowonetsa mjigo, tsamaba lowonetsa zipangizo ndi ntchito zake, zipangizo za pa mjigo, chithunzi cha futu vavu ndi pulanja, silinda, sakishoni paipi, ndowa ya madzi.
Zolandira	Buku la amakaniki
Njira	
Njira yoyamba: Maina azipangizo za pamjigo	<i>Mphunzitsi awuze ophunzira kuti akhale m'magulu kuti akatchule zipangizo zomwe zikuwoneka pachithunzi.</i> c. Ikani chinthuzi chowonetsa mjigo ndikuwafunsa ophunzira kuti anene chomwe akuwona d. Perekani chithunzi ndi kufunsa ophunzira kuti alembe zipangizo zomwe akuziwona
Njira ya chiwiri: Kudziwa ntchito ya zipangizo	<i>Aphunzitsi afunse ophunzira kuti atchule ntchito ya chipangizo chilichonse.</i> 1) Mokambirana m'magulu gulu lililonse lifotokoze potchula chipangizo ndi ntchito yake 2) Mokambirana ophunzira akonze zolakwika za m'magulu. <i>Aphunzitsi afotokozere kuti mjigo unagawidwa muzigawo ziwiri zipangizo zapamwamba ndi zipangizo zapansi ndikufotokoza ntchito ya chipangizo chilichonse. (Onetsani chitsanzo cha chipangizo chilichonse)</i>

Njira ya chitatu: Kudziwa m'mene zimakhalira za kupopa madzi	<i>Aphunzitsi owonetse chionetsero cham'mene zimakhalira popopa madzi pa mijigo</i> 1) Perekani zipangizo zonse zimene zimapangitsa kuti mukhale ndi silinda yonse 2) Gwiritsani ntchito silinda yomwe ili ndi chilichonse imene apanga ophunzira ndi ndowa ya madzi pangani chionetsero cha m'mene kupopa madzi kumachitikira. 3) Yesani njira zosiyanasiyana pogwiritsa ntchito zipangizo zakutha monga bobini, futu valavu, U-silo kapena O-ringi. <i>Mphunzitsi afotokozere ophunzira majigidwe omwe amapangitsa zipangizo kuwonongeka.</i>
Zolemba aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 4 (M1-S4)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 4	Kumasula ndi kubwezeretsa mijigo
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kupeza ophunzira omwe angakagwire ntchito yokonza mijigo kumudzi
Zoyembekezera	Kupanga chibwereza cha maphunziro okonza mijigo ngati iwo akumudzi
Nthawi/ kotalika kwake	Maola anayi pa tsiku lachiwiri
Malo ovomerezedwa	Mjigo omwe uli pafupi ndi nyumba ya maphunziro
Njira yophunzitsira	Kumasula ndi kubwezeretsa mijigo
Zipangizo zofunika	Sipanala ya fulati, sipanala ya bowo, mbedza ndi chingwe
Zolandira	- Buku lophunzitsira Amakaniki, - COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION, SECTION 4 AFRIDEV HANDPUMP MAINTENANCE
Njira	
Njira yoyamba: Kubwereza za tsiku loyamba	<i>Mphunzitsi ayenera kuyamba kufunsa zomwe ophunzira anaphunzira tsiku loyamba makamaka mutu wachiwiri ndi wachitatu</i>
Njira ya chiwiri: Kumasula pampu	<i>Mphunzitsi agawe ophunzira m'magulu awiri kumasula ndi kubwezeretsa Mjigo. Ntchito imeneyi igwiridwa kopanda kutsogolera aphunzitsi.</i> <i>Mphunzitsi aziwonetsetsa kuti njira zonse zikutsatidwa mmene zinalembedwera mbuku lophunzitsira Amakaniki, akupanga zimenezi alembe pomwe akupanga bwino komanso asakupanga bwino gulu lililonse.</i>
Njira ya chitatu: Kubwezeretsa pampu	<i>Ngati mijigo mwabwezeretsa koma madzi sakutuluka, mphunzitsi afunse ophunzira kuti akambirane ndi kupeza mayankho kuti izi zikulephereka chifukwa chiyani.</i>
Zolembe Mphunzitsi:	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 5 (M1-S5)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 5	Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	- Kudziwitsa ophunzira kuti athe kufufuza mavuto apa mjigo ndi kukonza kwake - Kudziwitsa ophunzira kapezedwe kazomwe zawonongeka pa mjigo ndi kulangiza akomiti kuti akonze mjigo mwachangu - Kulola ophunzira kuti afufuze mavuto omwe angapezeke m'mapaipi.
Zoyembekezera	Kudziwa kufufuza mavuto ndi kukonza mjigo.
Nthawi/ kotalika kwake	Maola atatu patsiku la chiwiri
Malo ovomerezekwa	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kuphunzitsa pogwiritsa ntchito zithunzi komanso kukhala m'magulu.
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, zolemba za mtundu wa maka, U-silo wakale komanso wakutha, Bushi beringi, O-ringi, Kapu-silo, rodi senteleza
Zolandira	Buku lophunzitsira amakaniki, Kufufuza mavuto ndi kukonza mjigo wa Afridev ukawonongeka(trouble shooting)
Njira	
Njira yoyamba: Kufufunza mavuto	<i>Aphunzitsi auze ophunzira kuti akhale m'magulu ndi kukambirana mafunso awa:</i> 1) Anene zomwe zikuyambitsa mavutowo 2) Angathetse bwanji mavutowo? <i>Mokambirana mphunzitsi aonjezere mavuto ena omwe angabwere ndi kathetsedwe kake mmene zalembedwera mbuku la amakaniki</i>
Njira yachiwiri: Kuwona zipangizo zomwe zimawonongeka msanga ndi zotsatira zake pa mjigo	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu kuti ayankhe mafunso awa</i> 1) Lembani zomwe zimawonetsa kuti zipangizo zatha 2) Lembani zomwe zingawoneke ngati zipangizo zatha pojiga madzi pa mjigo <i>Mokambirana ophunzira asiyanitse ndi kukambirana pazomwe apezza</i>

Njira yachitatu: Kupeza mavuto amumapaipi	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu kuti aka kambirane mafunso ndi kuzasiyanaitsa ndi mayankho aphunzitsi.</i> 1) Nenani zotheke mavuto omwe amakhala m'mapaipi 2) Zizindikiro za mavuto am'mapaipi <i>Potsendera mphunzitsi afotokozere kuti asanatsimikize kuti vuto lili mu mapaipe ayambe kaye kuwona U-silo, O-ringi, Kapu-silo ndi bobini.</i> <i>Ophunzira anene ubwino woyika rodi senteleza kuma rodi onse.</i>
Zolembe aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba :Lowonjezera 2:

Mutu 6 (M1-S6)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 6	Kukonza mapaiipi (raizing'í meni)
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kulola kuti ophunzira akhale ndi nzeru zakakonzedwe ka mapaiipi
Zoyembekezera	Luso lokonzera mapaiipi
Nthawi/ kutalika kwake	Maola asanu ndi limodzi patsiku la chitatu
Malo ovomerezeka	Mijigo umene ukutulutsa madzi pang'opang'o
Njira yophunzitsira	Kuphunzitsa pogwiritsa ntchito zinthu ndi chionetsero
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, sipanala ya fulati, sipanala ya bowo, mbedza dabulo endi soketi mapaiipi (chitsanzo cha mapaiipi osweka), ndowa, chingwe, mitengo ya phanda, hakisowo ndi mpeni wina wosungira, tepu, soliventi simenti, mankhwala osukira, sandi pepala, nsalu
Zolandira	Buku lophunzitsira Amakaniki
Njira	
Njira yoyamba: Kubwereza za tsiku loyamba	<i>Kupanga chionetsero cha zikuluzikulu zomwe zingakonzedwe mugawoli</i> <i>Mphunzitsi ayambe ndi kukumbutsa zomwe anaphunzira tsiku lachiwiri makamaka pa mitu ya chinayi ndi chisanu.</i> <i>Kukambanso kwambiri pa mutu wa chisanu omwe zizagwirizane ndi mutu wa chisanu ndi chimodzi tsiku la chitatu;</i>
Njira ya chiwiri: Malangizo awo phunzitsa	<i>Mphunzitsi azafotokozera njira zabwino zomwe zingatsatidwe zolembedwa mbuku lophunzitsira amakaniki.</i> <i>Mphunzitsi afotokenzera kuti kuchotsa ma paipi ndi ntchito yaikulu komanso kuzikhala ganizo lomaliza. Kuwona kachiwiri zipangizo zapansi kuzikhala komaliza kuti musanachotse mapaiipi</i>
Njira ya chitatu: Kodi mungachotse bwanji mapaiipi	<i>Mphunzitsi aonetse m'mene angachotsere ndi kubwezeretsa mapaiipi m'mene analemba mbuku lophunzitsira amakaniki.</i> <u>Zolemba zofunikira:</u> 1) Onetsetsani kuti chilichonse chili chokonzeka kuti musachedwe kupaka soventi simenti 2) Sankhani malo abwino oyika mapaiipi ndipo onani chomwe chawonongeka kumapaiipi ndi momwe mukuchucha. 3) Paipi yomwe yaonongeka malo opitilira 300 mm iyenera kulumikizidwa ndi dabulo endi soketi. 4) Kutha kukhala malo ambiri amene aonongeka ngati

	paipi kapena rodi senteleza akusowa kapena kuphwanyika 5) Ikani ma paipi senteleza pa paipi iliyonse komanso onetsetsani kuti mwatsuka komanso fotokozerani mukapanga zimenezi. 6) M'malo molowetsa mapaipe onse sizimavuta mukamalowetsa moduladula pa pedesitilo(onetsani chitsanzo kwa ophunzira kuti awone) 7) Pomaliza fotokozerani momwe angawonere kutalika kwa mapaipe onse pogwiritsa ntchito chingwe (Kutalika kopitilira 30mm pa mwamba pa mapaipe adulidwe ndi kuika kolala) 8) Gwiritsani ntchito anthu ambiri kuti agwire mapaipe pothandizira chingwe ku ma paipi
Njira yachinayi: Kulumikiza ma paipi	<i>Aphunzitsi aoneste chitsanzo cha m'mene angalumikizire mapaipe m'mene alembera mbuku lophunzitsira Amakaniki.</i> <i>Ngati paipi yayikidwa '40' mm kapena kuchepera simalimba. Ngati zili choncho dulani pamene panalumikizitsa ma soketi, ndi kudula soketi mmene paipi ilowe ndi kupanga'nso malo olumikizira. (Kavomerezedwe ka kulumika mapaipe ndi 75 mm – 115 mm)</i> <i>Mphunzitsi atsogolere zokambirana pa mavuto omwe amakaniki amakumana nawo nthawi yakukonza ndi kumasula mjigo.</i>
Zolembe za aphunzitsi	
Masamba Owonjezera	Tsamba Lowojnezero 1:
	Tsamba Lowonjezero 2:

Mutu 7 (M1-S7)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 7	Kukonza mapaipe (rayizing'i meni)
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kuwona ngati ophunzira angathe kukonza mapaipe odutsa madzi atawonongeka
Zoyembekezera	Kutha kukonza payenkha makaniki aliyense mapaipe amijigo
Nthawi/ kusalika kwake	Maola asanu and awiri pa tsiku la chinayi lama maphunziro
Malo ovomerezeka	Mjigo omwe ukutulutsa madzi pang'ono pang'ono
Njira yophunzitsira	Kuphunzitsa pogwiritsa ntchito zinthu ndi chionetsero
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, sipanala fulati, sipanala ya bowo, mbedza dabulo endi soketi mapaipe (chitsanzo cha mapaipe osweka), ndowa, chigwe, mitengo ya phanda, hakisowo ndi mpeni wina wosungira, tepu soliventi simenti, mankhwala otsukira, sandi pepala, nsalu
Zolandira	Buku lophunzitsira Amakaniki
Njira zophunzitsira	
Njira yoyamba: Kuwonanso mutu wa chisanu ndi chimodzi	<i>Mphunzitsi aunikire njira zabwino zokonzera mapaipe pokumbutsa ophunzira</i>
Njira ya chiwiri: Kukonza mapaipe ndi ophunzira	<i>Ophunzira azafunsidwa kuti aonetse momwe angakonzere mapaipe akawonongeka pamene mphunzitsi azingoona zomwe zikuchitika pa njira zokonzera powona zomwe walembe kale (Malikisi okwana khumi)</i> Njira yoyamba: Lembani pa paipi mtunda wotalika 115 mm (Kuya kwa soketi) pa paipi yosalemba onani m'mene yalowera ku dabulo endi soketi pamene mwalumikiza koyamba Njira yachiwiri: Lembani pa paipi mtunda wotalika 10 mm kumapeto kwa paipi ndi kupala mothera paipi (ngati sanapangiretu ku fakitole) – Pangani chionetsero cham'mene angapalire paipi pogwiritsa ntchito haki sowo ndi failo. Njira ya chitatu: Pukutani kuja kwa paipi, mpaka pamene palembedwa 115mm ndi mkati mwa dabulo endi soketi pogwiritsa ntchito mankhwala Njira ya chinayi: palani kuti mukhale mokhakhala ndi sandi pepala Njira ya chisanu: gwiritsani ntchito bulashi popaka soventi

	simenti kapena nthenga Njira ya chisanu ndi chimodzi : pakani soventi sementi mwachangu komanso malo onse Njira ya chisanu ndi chiwiri: pakani soventi simenti kenaka pakani kulekeza mpaka mu 115 mm mwalembedwa Njira ya chisanu ndi chitatu: mosachedwa lowetsani paipi ku soketi mpaka momwe mwalembedwa 115 mm mulayini lolani mphindi <u>ZISANU</u> kuti pawume bwino ndi kugwirana bwino Njira ya chisanu ndi chinayi: pukutani soventi simenti wotaikira ndi ka nsalu Njira ya chikhumi: onani momwe munalemba ndi kuona ngati paipi yalowa bwino mu dabulo endi soketi
Njira ya chitatu: Kuchotsa ndi kuikanso mapaipi ndi ophunzira	<i>Njira imenyi izapangidwa ndi ophunzira pochotsa ndi kuikanso mapaipi. Mphunzitsi azingowona malingana ndi njira zofunika kwambiri pa gawo lililonse (popereka malikisi asanu)</i> 1. Chotsani zipangizo zonse zapansi pochotsa madzi ndi kuchitira kuti mapaipi asalemere. 2. Sankhani malo abwino omwe mungayike mapaipi ndi kuwona momwe mwawonongeka ndi kuwonetsa kuchucha. 3. Lembani momwe mukuchucha ndi mosweka pamene mukuchotsa mapaipi. 4. Kuwona ngati kotalika kwa mapaipi kunasinthidwa nthawi yokonza. 5. Ikani paipi senteleza ku paipi iliyonse komanso onetsetsani kuti mwasuka mapaipi onse musanabwezeretse ndipo fotokozerani chifukwa chochitira zimenezi.
Njira ya chinayi: Kukambirana pazamavuto omwe amakaniki amakumana nawo pathawi yomasula ndi kubwezeretsa	<i>Mphunzitsi azatsogolera zokambirana zokhudza amakaniki pa mavuto omwe amakumana nawo pakumasula ndi kubwezeretsa mjigo ndipo pamodzi ndi ophunzira awone momwe angathetsere mavutowo.</i>
Zolembe za aphunzitsi:	
Masamba Owonjezera	Tsamba Lowonjezera1:
	Tsamba lowonjezera2:

Mutu 8 (M1-S8)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 8	Zipangizo zomwe zimawonongeka pafupi pafupi pa mijigo
Mbiri ya mphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kulola ophunzira kuti akhale ndi nzeru zokonza pa mijigo usanawonongeke
Zoyembekezera	Kukhala ndi nzeru zokonza mijigo usanawonongeke powuwona kaye
Nthawi/ kotalika kwake	Maola anayi patsiku lachisanu
Malo ovomerezeka	Mijigo umene uli pafupi ndi malo ochitira maphunziro
Njira yophunzitsira	Kukambirana, kukambirana m'magulu ndi kupanga chionetsero cha pa mijigo
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, Sipanala ya fulati, Sipanala ya bowo, mbedza dabulo endi soketi mapaipi ndi ndowa
Zolandira	Buku lophunzitsira a Amakaniki
Njira Zophunzitsira	
Njira yoyamba: Kuona mavuto omwe amapezeka pa mijigo wa Afridev	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu kuti akakambirane mafunso awa ndi kuzasiyanisa mayankho awo ndi omwe alemba aphunzitsi.</i> 1) Kodi mumawona chiyani pa sabata? 2) Kodi mumawona chiyani pa mwezi?
Njira ya chiwiri: Kuwona kuchucha	<i>Mphunzitsi azafotokozera za kuchucha kwa mapaipi ndi kupanga chionetsero ndi momwe zalembedwera mbuku la amakaniki.</i> <i>Mphunzitsi azafunsa ophunzira kuti akhale m'magulu ndi kukambirana funso ili kenaka kuzasiyanitsa mayankho awo ndi a mphunzitsi.</i> 1) Ndi chipangizo chiti chomwe mungagwiritse ntchito kuti muone za kuchucha kwa madzi?
Njira ya chitatu Kuyesa kutuluka kwa madzi	<i>Mphunzitsi azafotokozere za kayesedwe kakutuluka kwa madzi malinga ndi momwe zalembedwera mbuku la Amakaniki.</i> <i>Mphunzitsi azafunsa ophunzira kuti akhale m'magulu ndi kukambirana funso ili kenaka kuzasiyanitsa mayankho awo ndi aphunzitsi.</i> 1) Kodi chimene chikupangitsa kuti madzi akhale oyipa ndi chani?

Njira ya chinayi Zosunga	<i>Mphunzitsi azafunsa ophunzira kuti akhale m'magulu ndi kukambirana funso ili kenaka kuzasiyanitsa mayankho awo ndi aphunzitsi</i> 1) Kodi ndizinthu ziti zomwe amasunga akomiti akakonza mjigo m'mabuku awo?
Njira yachisanu Kuwedza	<i>Mphunzitsi azafotokozera ophunzira pazakuwedza ndi mavuto omwe amakumana nawo kumapaipi.</i>
Zolemba za aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 9 (M1-S9)

Nambala ya buku. / Dzina	1/ Maphunziro oyamba a amakaniki adera a mijigo oyamba kumene
Mutu 9	Mafunso ndi mayankho okhuzana ndi mitu ya maphunziro a makaniki ndi ma shopu ogulitsa zipangizo za mijigo
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kudziwitsa ophunzira zipangizo kapena zida zomwe Amakaniki amagwiritsa ntchito.
Zoyembekezera	Kakhazikitsidwe ka Amakaniki
Nthawi/ kusalika kwake	Maola atatu pa tsiku lachisanu
Malo ovomerezeka	Nyumba yaying'ono, yokhala ndi mawindo komanso mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kukambirana, kukhala m'magulu
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi zolemba, fomu ya mgwirizano, fomu ya mitengo ya ntchito, fomu ya kauniuni wa pamjigo pa miyezi itatu iliyonse, dera logwiramo ntchito ndi mijigo yake, mayina amakampani onse, maina amashopu onse, ndi maina azipangizo ndi mitengo yake
Zolandira	Buku lophunzitsira a Amakaniki
Njira zophunzitsira	
Njira yoyamba: Mafunso ndi Mayankho okhuzana zovuta za pa mjigo kumbali ya maphunziro	<i>Mphunzitsi afunse ophunzira ngati ali ndi mafunso pankhani yazovuta za pa mjigo kumbali ya maphunziro, ndi kuyankha mafunsowo</i>
Njira ya chiwiri: Zipangizo/Zida zokhuzana ndi Amakaniki	<i>Mphunzitsi afunse ophunzira kuti alembe zolandira izi:</i> 1. Fomu ya mgwirizano 2. Fomu ya mitengo ya ntchito 3. Fomu ya repoti ya pamwezi 4. Fomu ya repoti ya pa miyezi itatu <i>Onani njira zonse m'mene mungalembere mu mafomu onse.</i> <i>Kenaka ophunzira apite m'magulu ndi kukalemba zofunika zonse.</i> <i>Mokambirana, gulu lilionse, lizanena zomwe alembe ndi kukonza molakwika.</i>

Njira ya chitatu: Kugula zipangizo	<i>Mphunzitsi anene maina amashopu ogulitsa zipangizo ndi malo omwe amapezeka m'bomalo kuphatikizapo omwe amapanga bizinesi paokha.</i> <i>Cholinga ndi cholimbikitsa Amakaniki kuti azilangiza anthu akumudzi kumene angapeze zipangizo zapa mijigo.</i> <i>Amakaniki amalangizidwa kuti asamatengepo mbali pokagula zipangizo ndi cholinga choti akomiti aziwakhulupilira.</i> <i>Ntchito yawo izikhala kulangiza zipangizo zomwe angakagule pogwiritsa ntchito buku la momwe mwalebedwa mitengo ya zipangizo ndi ntchito.</i>
Njira ya chinayi Kupereka zida ndi zipangizo	<i>Mphunzitsi apereke zipangizo ndi zida kwa ophunzira izi:</i> 1) Sipanala ya bowo ndi ya fulati 2) Mbedza 3) Fomu ya mtundu umodzi ya momwe amalembamo mitengo ndi ntchito zina 4) Fomu ya mtundu umodzi ya mgwirizano 5) Mayina Amakaniki 6) Mayina amashopu onse 7) Mitengo ya zipangizo zones 8) Fomu ya repoti ya mwezi 9) Fomu ya repoti ya pa miyezi inayi yonse
Njira ya Chisanu Kugawa ma ID	<i>Mphunzitsi azagawa ma ID kwa aliyense ndi dera lake aliyense.</i>
Zolembe za aphunzitsi	
Masamba Owonjezera	Tsamba Loyamba 1:
	Tsamba Loyamba 2:

Buku 2: Maphunziro achibwerezwa kwa amakaniki a mijigo akale

Nambala ya buku.		2;
Dzina la Buku		Maphunziro achibwerezwa kwa amakaniki a mijigo akale
Ophunzira		Amakaniki omwe akugwira ntchito kale
Cholinga		• Kuwakumbutsa ophunzira momwe angapangire mgwirizano wabwino ndi anthu akumudzi • Kuthetsa mavuto omwe amakumana nawo anthu akumudzi • Kupeza njira zatsopano zokonzera Mjigo wa Afridev komanso kukonza mapampu ena • Kuwakumbutsa Amakaniki za njira zina zakakonzedwe ndi kaunikidwe ndi kafufuzidwe ka mavuto apa mjigo
Ophunzitsa		Mkulu wowona za madzi kapena alangizi aza madzi
Kutalika kwa Nthawi ya maphunziro		Masiku atatu
Mabuku ogwiritsa ntchito		• Buku lophunzitsira a Amakaniki COMMUNITY • HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION (SECTION 4 AFRIDEV HANDPUMP MAINTENANCE) • CBM Refresher Training Manual
Zida komanso zipangizo zomwe zingagwiritsidwire ntchito		Fulipi chati ndi fulipi chati bolodi, zolembera za mtundu wa maka, sipanala ya fulati, Sipanala ya bowo, Mbedza dabulo endi Soketi, Silinda, U-silo, Soventi Simenti, Chingwe ndi zina.
No.	Gawo	Ntchito
1	Kudziwana ndi m'mene tingakhalire pa maphunzrio athu	Kukambirana
2	M'mene tingafikire m'mudzi	Kukambirana m'magulu ndi kupanga chitsanzo pakumasula ndi kubwezeretsa, ndi kukambirana
3	Chiyambi cha zipangizo za mjigo wa Afridev kapena zina	Kukambirana pogwiritsa ntchito zithunzi ndi m'magulu komanso chionetsero
4	Kukonzanso pampu ya mjigo wa Afridev	Kukambirana, chionetsero, kumasula ndi kubwezeretsa mjigo

Mutu 1 (M2-S1)

Nambala ya Buku. / Dzina	2/ Maphunziro achibwereza kwa amakaniki a mijigo akale
Mutu 1	Kudziwana ndi m'mene tingakhalire pa maphunzrio athu
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kuwapatsa mpata ophunzira kuti adziwane wina ndi mnzake, kukhazikika ndi kukhala omasuka
Zoyembekezera	Ophunzira kudziwa m'mene maphunziro ayendere
Nthawi/ kusalika kwake	Maola awiri pa tsiku loyamaba;
Malo ovomerezedwa	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kukambirana, kukambirana m'magulu
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, zolemba za mtundu wa maka
Zolandira	Buku lophunzitsira a Amakaniki
Njira	
Njira yoyamba: Chiyambi ndi kukonza malo	<i>Mphunzitsi azayamba ndi kupanga izi:</i> 1) Kuzichula dzina 2) Kusankha otsogolera 3) Kukambirana ndondomeko ya maphunziro ndi kuyivomereza
Njira yachiwiri: Kupanga magulu ophunzira ndi kukambirana	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu ndi kukambirana izi:</i> a. Zoyembekezera ndi nkhwawo b. Chifukwa chiyani akufuna chibwereza cha maphunziro Kupereka zomwe akambirana m'magulu. <i>Mphunzitsi atsogolere zokambirana zomwe ophunzira akambirana m'magulu.</i>
Zolembe aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1: Tsamba Lowonjezera 2:

Mutu 2 (M2-S2)

Nambala ya Buku. / Dzina	2/ Maphunziro achibwereza kwa amakaniki a mijigo akale
Mutu 2	Kubwereza kakopedwe ka anthu kumudzi
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	- Kukumbutsa ophunzira m'mene angapangire chipangano ndi anthu akumudzi - Kuthetsa mavuto omwe anthu akumudzi amakumana nawo
Zoyembekezera	- Kubwereza kakopedwe ka anthu akumudzi - Kathetsedwe ka mavuto omwe amakumana nawo
Nthawi/ kutalika kwake	Maola anayi ndi theka patsiku loyamba
Malo ovomereka	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake
Njira yophunzitsira	Kukambirana m'magulu ndi kucheza, kumasula ndi kubwezeretsa
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, zolemba za mtundu wa maka
Zolandira	Buku lophunzitsira a Amakaniki
Njira	
Njira yoyamba: Mafunso kwa ophunzira	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu ndi kukakambirana izi:</i> - Kodi m'mudzi amafika bwanji? - Kodi mgwirizano amapanga ndi ndani? - Kodi ndi mau ati omwe amagwiritsa ntchito kuti amvane ndi anthu am'mudzi?
Njira yachiwiri: Kupereka zomwe alemba	<i>Aloleni ophunzira anene zomwe akambirana m'magulu pokambirananso gulu lililonse mothandizana ndi mphunzitsi.</i> Motheidizana ndi aphunzitsi - Kumudzi watsopano, mumakumana ndi ndani? Ndi anthu angati omwe mumakumana nawo? - Mumadziziwitsa bwanji kwa anthu akumudzi? - Kodi mumakambirana zotani ndi anthu akumudzi? - Ndi mafunso ati omwe anthu akumudzi amafunsa? - Kodi cholinga chanu chimakhala chani pamane mumakayendera anthu akumudzi? - Kodi ndi mavuto ati amene mumakumana nawo pemene mumadziziwitsa nokha kwa anthu akumudzi? - Kodi anthu akumudzi mumawaudza zotani pantchito yanu? - Chifukwa chiyani anthu akumudzi samasunga zomwe munagwirizana mumgwirizano?

	<i>Mphunzitsi kenaka azapereka mayankho awa.</i> ✓ Tikumane ndi akuluakulu amudzi mwachitsanzo amfumu, akomiti ndi a VDC ✓ Tumuzani kaye uthenga kuti muzabwera ndi kukhala ansangala mukafika ✓ Yesetsani kuzichepetsa kuti mufanane ndi anthu akumudzi pamene mukukambirana nawo. ✓ Fotokozani bwino za ntchito yanu ndi m'mene mumagwirira posalandila malipilo kuchokera ku boma ✓ Fotokozani tsatanetsatane wa ntchito yomwe mumagwira ▪ Kukonza mjigo ▪ Kulangiza anthu akumudzi pakagwiritsidwe ntchito bwino ka Mjigo. ▪ Kupereka ndondomeko ya zipangizo zomwe angagule pokonza mjigo. ▪ Kupereka maripoti ku ofesi yowona za madzi ▪ Kulemba ma ripoti mwezi uliwonse ndi zina. ✓ Musanayambe kugwira ntchito ina iliyonse pamjigo muyambe mwafunsa akomiti ngati kuthumba kuli ndalama za ntchito izi: ▪ Kugula zipangizo za pa mjigo ▪ Kukulipirani pa ntchito yomwe mugwire
Nira ya chitatu Phunzitsani mutu umene anthu akumudzi amakumana nawo(Katetezedwe ka pampu ku anthu akumba)	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu ndikuwapatsa ntchito yoti apeze njira zothetsera mavuto okhudzana ndi kukonza mjigo.</i>
Njira ya chinayi Kubwereza kakopedwe ka anthu aku mudzi kuyeselera	<i>Pitani pa mudzi omwe mwausankha woyandikana ndi malo amaphunziro.</i> <i>Unikani mavuto onse kuti Amakaniki athetse</i>
Njira ya chisanu Mafunso ochokera kwa ophunzira	<i>Mphunzitsi afunse ophunzira ngati ali ndi mafunso aliwonse mu gawo lachiwiri ndi kuyankha mafunso.</i>
Zolembe aphunzitsi	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 3 (M2-S3)

Nambala ya Buku. / Dzina	2/ Maphunziro achibwereza kwa amakaniki a mijigo akale
Mutu 3	<i>Kubweretsa njira ina ya Mjigo ya Afridev ndi kuphunzitsa kukonza mitundu ina ya mijigo(ngati malda)</i>
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	Kubweretsa njira ina ya pampu ya Afridev ndi kuphunzitsa kukonza mitundi ina ya pampu.
Zoyembekezera	Kuwonjezera nzeru zina za mapampu
Nthawi/ kotalika kwake	Maola asanu ndi limodzi
Malo ovomerezeka	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliyense adzitha kuwona mnzake. Malo omwe ali ofupikira mijigo
Njira yophunizitsira	Kukambirana m'magulu ndi kucheza, chionetsero
Zipangizo zofunika	Fulipi chati ndi fulipi chati bolodi, zolemba za mtundu wa Maka, zitsanzo zazipangizo za pamjigo
Zolandira	Uthenga wolembe onena zatsopano mapampu atsopano
Njira	
Njira yoyamba: Kukambirana	<i>Mphunzitsi auze ophunzira kuti akhale m'magulu ndi kubweretsa njira zatsopano zokonzera pampu ya Afridev ndimitundu ina ya mapampu.</i> (Kufotoka za zipangizo za pampu ya Malda ndi ntchito zake, kakonzedwe, ndi zipangizo zatsopano)
Njira ya chiwiri: Chionetsero	<i>Pitani pamalo pamene pali pampu ya Malda.</i> <i>Mphunzitsi ayenera kupanga chionetsero kuti ophunzira adziwe nzeru zina zatsopano za ma pampu amanja.</i> (i.e. Kumasula ndi kubwezeretsa pampu ya Malda)
Zolembe za aphunzitsi:	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Mutu 4 (M2-S4)

Nambala ya Buku. / Dzina	2/ Maphunziro achibwereza kwa amakaniki a mijigo akale
Mutu 4	Kubwereza ntchito zina za mjigo wa Afridev
Mbiri ya aphunzitsi	Katswiri wa maphunziro, akhale ndi nzeru ndi luso lodziwa ntchito yakagwiridwe kakumudzi, kayendetsedwe ndi kasamalidwe ka madzi am'midzi ndi zina
Cholinga	- Kukumbutsa ophunzira mwapadera kukonza kauniuni wa pa mjigo - Kulola ophunzira kuyesera zomwe aphunzira pa kubwereza ntchito za mjigo wa Afridev
Zoyembekezera	Kukumbusidwa mwapadera kukonza ndi kauniuni wa pamjigo
Nthawi/ kusalika kwake	Maola asanu ndi limodzi pa tsiku lachitatu
Malo ovomerezeka	Nyumba yaying'ono bwino. Yokhala ndi mazenera ndi mipando yoti itha kusunthidwa. Kukhala mozungulira ngati bwalo kuti aliynse adzitha kuwona mnzake. Malo ozungulira mjigo
Njira yophunzitsira	Kukambirana, chionetsero, kuyesezera zomwe taphunzira pa Mjigo
Zipangizo zofunika	Sipanala ya fulati, Sipanala ya bowo, Mbedza, Silinda, U-silo, dabulo endi soketi, Mapaipi, soventi simenti mbedza ya mapaipi, chingwe ndi zina
Zolandira	- Buku lophunzitsira Amakaniki - COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION, SECTION 4 AFRIDEV HANDPUMP MAINTENANCE
Njira	
Njira yoyamba: Kubwereza zomwe zimavuta pa mjigo wa Afridev	<i>Mphunzitsi atsogolere gawo limeneli pa kunena mavuto omwe ophunzira amakumanawo nthawi yokonzan mjigo</i> - Kuyeselera mu silinda chionetsero - Mmene tingapezere mavuto mmapaipi - Kuchotsa zomwe zatsalira(usilo kapena kapu silo) - Kumapaipi- Kuwedza, kulumikiza mapaipi - Marodi - kubwezeretsa m'mene analili - Kuyeza kuchuluka kwa madzi
Njira ya chiwiri: Kuwedza ma paipi otsalira ndi kubwezeretsa	<i>Pitani malo omwe asankhidwa pafunpi ndi mjigo.</i> <i>Nthawi imene ophunzira ali pa mjigo ayenera kukhala m'magulu kuti apange izi:</i> - Kuwedza mapaipi - Kuzindikira mavuto ndi kathetsedwe kake - Kubwezeretsa Mjigo

Njira ya chitatu: Mafunso ndi mayankho akubwereza zomwe zimavuta pa mjigo wa Afridev	<i>Mphunzitsi afunse ophunzira mafunso okhudza zomwe zimavuta pa mjigo ndi kupereka mayankho ake</i>
Njira ya chinayi: Kugawa ma ID(Zitupa)	<i>Mphunzitsi agawe zitupa kwa onse ophunzira (ID)</i>
Zolembe za aphunzitsi:	
Masamba Owonjezera	Tsamba Lowonjezera 1:
	Tsamba Lowonjezera 2:

Phunziro III: Ndondomeko ya maphunziro

DONGOSOLO LA MAPHUNZIRO A AMAKANIKI (CHITSANZO)

NTHAWI	NTCHITO	NJIRA YOPHUNZI TSIRA	WOPHUNZI TSA
TSIKU LOYAMBA			
7:30- 8:00am	▪ Kujambula zithunzi za zitupa za Ophunzira	Kamera yojambulira	
8:00- 10:00am	▪ Mawu otsegulira ▪ Chiyambi ndi kukhazikika ❖ Kudzitchula dzina ndi kusankha atsogoleri ❖ Kukambirana za ndondomeko ya maphunziro ❖ Zoyembekezera ophunzira ndi nkhowa zawo ▪ Chiyambi cha mabungwe akumudzi ▪ Kudziwa cholinga cha maphunziro ndi undido wa Amakaniki kumudzi	Kukambirana Kukhala m'magulu	
10:00-10:15am KUPUMA			
10:15-12:15pm	▪ Kupanga ubale ndi anthu akumudzi ▪ Kuthetsa Mikangano ▪ Kayendetsedwe ka bizinesi ▪ Kumvetsa zofunika mu Mgwirizano ▪ Ntchito za kuzitsatsa ▪ Ukhondo wa pa mjigo	Kukambirana Kukhala m'magulu	
12:15 – 1:00pm NKHOMALIRO			
1:00 - 3:00pm	▪ Maina azipangizo za mjigo ▪ Kupeza ntchito ya zipangizo ▪ Kudziwa kagwiridwe ntchito ka mjigo	Kukambirana Kukhala m'magulu Chionetsero	
3:00- 3:15pm KUPUMA			
3:15 – 4:00pm	▪ Nthawi ya mafunso		
TSIKU LACHIWIRI			
8:00 – 10:00am	▪ Kukumbutsa za tsiku loyamba ▪ Kumasula mjigo	Kukambirana Kuyeselera	
10:00-10:15am KUPUMA			
10:15-12:15pm	▪ Kubwezeretsa	Kuyeselera	
12:15 – 1:00pm NKHOMALIRO			
1:00- 3:00pm	▪ Kuunika ndi kufufunza mavuto apamjigo ▪ Kuwona zipangizo zosachedwa kutha ndi ntchito zake pojiga	Kukambirana Kukhala m'magulu	
3:00-3:15pm KUPUMA			
3:15- 4:15pm	▪ Kuwona mavuto am'mapaipi	Kukambirana Kukhala	

NTHAWI	NTCHITO	NJIRA YOPHUNZI TSIRA	WOPHUNZI TSA
		m'magulu	
TSIKU LACHITATU			
8:00- 10:00am	- Kukumbutsa za tsiku lachiwiri - Zoyenera kuchita aphunzitsi ❖ Njira zoyenera	Kukambirana Kukambirana	
10:00-10:15am	KUPUMA		
10:15- 12:15pm	Kuchotsa mapaiipi ndi kubwezeretsa	Chionetsero	
12:15 -1:00pm	NKHOMALIRO		
1:00- 3:00pm	Kulumikiza mapaiipi	Chionetsero	
3:00 -3:15pm	NKHOMALIRO		
3:15- 4:00pm	Nthawi ya mafunso	Kukambirana	
TSIKU LACHINAYI			
8:00- 10:00am	- Kukumbutsa za tsiku lachitatu - Kukonza mapaiipi ndi ophunzira	Kukambirana Kuyeselera	
10:00-10:15am	KUPUMA		
10:15- 12:15am	Kukonza mapaiipi ndi ophunzira	Kuyeselera	
12:15 -1:00pm	LUNCH		
1:00- 3:00pm	Kuchotsa ndi kubwezeretsa mapaiipi ndi ophunzira	Kuyeselera	
3:00 -3:15pm	KUPUMA		
3:15- 4:15pm	Kukambirana mavuto omwe Amakaniki amakumana nawo nthawi yakuyeselera	Kukambirana	
TSIKU LA CHISANU			
8:00- 9:00am	Kuona mavuto omwe amapezeka pa mjigo ya Afridev	Kukambirana Kukhala m'magulu	
9:00- 10:00am	Kuyesa kuchucha kwa madzi	Kukhala m'magulu Chionetsero	
10:00-10:15am	KUPUMA		
10:15- 12:15am	- Kuyesa kuchuluka kwa madzi omwe akutuluka. - Kulemba zomwe Mwakonza - Kuwedza Mapaiipi	Kukhala m'magulu Chionetsero Kukambirana	
12:15 -13:00pm	NKHOMALIRO		
13:00-15:00pm	- Mafunso ndi mayankho pankhani yokhudza zovuta zapa mjigo nthawi ya maphunziro - Zipangizo/Zida zogwiritsa ntchito Amakaniki - Kugula zipangizo za mjigo	Kukambirana Kukambirana m'magulu	
3:00 -3:15pm	KUPUMA		
3:15- 4:15pm	- Kupereka zida ndi zipangizo - Kugawa ma ID - Mau otsekera maphunziro	Kukambirana Zoyankhula	

NDONDOMEKO YA MAPHUNZIRO ACHIBWEREZA KWA AMAKANIKI (CHITSANZO)

NTHAWI	NTCHITO	NJIRA YOPHUNZI TSIRA	WOPHUNZI TSA
TSIKU LOYAMBA			
7:30- 8:00am	▪ Kujambulitsa zithunzi za Zitupa (ID)	Kamera	
8:00- 10:00am	▪ Mau otsegulira ▪ Chiyambi ❖ Kudziwana ndi kusankha otsogolera ❖ Kukambirana ndondomeko ya maphunziro ▪ Kugawa ophunzira m'magulu kuti akambirane ❖ Zoyembekezera ndi nkawa zawo ❖ Chifukwa chiyani akufuna maphunziro achibwereza	Zoyankhula Kukambirana Kukambirana m'magulu	
10:00-10:15am KUPUMA			
10:15-12:15pm	▪ Mafunso kwa ophunzira ▪ Kunena zomwe akambirana m'magulu ophunzira ▪ Kuphunzitsa mutu umene ndiwokhudza mavuto omwe akukumanawo anthu akumudzi	Kukambirana	
12:15 – 1:00pm NKHOMALIRO			
1:00 - 3:00pm	▪ Kuyeserera kafikidwe ka m'mudzi	Kuyeselera	
3:00- 3:15pm KUPUMA			
3:15 – 3:45pm	▪ Nthawi ya mafunso		
TSIKU LACHIWI			
8:00 – 10:00am	▪ Kukumbutsana dzadzulo ▪ Kuphunzira luso lina la mjigo wa Afridev	Kukambirana m'magulu	
10:00-10:15am KUPUMA			
10:15-12:15pm	▪ Kuphunzira luso lina la pa mjigo wa Afridev	Kukambirana m'magulu	
12:15 – 1:00pm NKHOMALIRO			
1:00- 3:00pm	▪ Chionetsero cha m'mene mjigo wa Afridev umagwirira ntchito	Chionetsero	
3:00-3:15pm KUPUMA			
3:15- 3:45pm	▪ Nthawi ya mafunso	Kukambirana	
TSIKU LA CHITATU			
8:00- 10:00am	▪ Kukumbutsana zophunzira tsiku lachiwiri ▪ Chiyambi cha mjigo wa Afridev ▪ Kukonza mavuto akuluakulu (mwachitsanzo kupukuta silinda mwachionetsero)	Chionetsero	
10:00-10:15am KUPUMA			
10:15- 12:00pm	▪ Kuchotsa zipangizo zogwera mkati (U-silo kapena Kapu-silo)	Chionetsero	

NTHAWI	NTCHITO	NJIRA YOPHUNZI TSIRA	WOPHUNZI TSA
	▪ Mapaipi – Kuwedza ndi kulumikiza mapaipi ▪ Rodi ndi kuyeza madzi		
12:15 -1:00pm	NKHOMALIRO		
1:00- 3:00pm	▪ Kuyeselera kumasula ndi kubwezeretsa (sankhani malo amene pali mjigo)	Kuyeselera	
3:00 -3:15pm	NKHOMALIRO YACHANGU		
3:15- 4:30pm	▪ Nthawi ya mafunso ▪ Kugawa ma ID ▪ Mau otsekera Maphunziro	Kukambirana Zoyankhula	

MASAMBA OWONJEZERA

Tsamba Lapadera 1: Chitsanzo cha Mgwirizano ²

MGWILIZANO

pakati pa

Numbering

Tsiku: _____

Mudzi / Mfumu yayikulu: _____

Mukonzi wa Dela : _____

Zoneyera kuchita (chongani mu kabokosi) : Mgwirizano Mgwirizano

wapamwezi

wapachaka

Zina

9

9

4

Mtundu wa ntchito : _____

[illegible]

Malipiro a wokonza wa Dela :

K

Zipangizokomwezagulidwa :

Zipangizozomwezaikidwa	Mtengo wa zinthu	Zonse
	K	K
	K	K
	K	K
	K	K
	K	K
Zonse pa modzi		K

Wokonza wa Dela

Dzina:

Saini:

OimiraMudzi

Dzina:

Saini:

²Note: This example was provided by InterAide.

Tsamba Lowonjezera 2: Fomu ya kalondolondo wa Mjigo ya Mekaniki wa ³

Nambala ya Mjigo:						
Zina la Mudzi :						
Mfumu yayikulu:						
Boma:						
Zounikidwa pakuyendera kulikonse						
Pampu ikugwira ntchito	Bwino		eya		Moyipa	
Thunthu la mjigo m'mene liliri	Lolimba		Likugwe dera			
Mumajiga kangati kuti ndowa ya malita 20 idzaze (Mumajiga pafupifupi 40 mpaka 50 ngati mjigo ulibwino)			Kuchuluka kwa majigidwe			
Dzimбири ku thunthu komanso mutu wa mjigo	palibe		Pangóno		kwambiri	
Dzimбири ku chojigira	palibe		Pangóno		kwambiri	
Mmene iliri pulanja	Bwino		eya		Silibwino	
Mmene iliri futu vavu	Bwino		eya		Silibwino	
Zotseka madzi zapereseke	Bobini		O-ringí		U-silo	
Marodi akutha	palibe		Pangóno		kwambiri	
Marodi senteleza opereseke	palibe		Pangóno		kwambiri	
Mabering'í opereseke	palibe		Pangóno		kwambiri	
Silinda yakula mkamwa	Ayi		Pangóno		kwambiri	
Mchifukwa chiyani mjigo sukugwira ntchito/ bwino	Zipangizo palibe		Ndalam a Palibe		Palibe akutha kukonza	
Dzina la Mekaniki						
Tsiku						
Saini						
Woyimira Komiti						
Saini						
Tsiku						

³SKAT-RWSN 2007: Installation and Maintenance Manual for Afridev Hand pump



Mabuku a Kayendetsedwe ndi kakonzedwe ka Mijigo mu ntchito yopereka Madzi Kumudzi analembedwa pofuna kuthandiza ochita mapulani, oyangánira ndi onse okhudzidwa ndi ntchito yopereka madzi kudzera ku pampu ya Afridevu m'Malawi.