Fanoroan-takila

FANOROAN-TAKILA.....1

FIZARÀNA VOALOHANY

NY ANTONY TOKONY HANORENANA LAVAPIRINGA (KABONE) 2
Zava-misy eto Madagasikara ? 3
Voka-dratsy ateraky ny aretim-pivalanana eto Madagasikara ? 5

FIZARÀNA FAHAROA

TOROLALANA ANKAPOBENY AMIN'NY FANORENANA 6
Inona no antsoina hoe lavapiringa (kabone) ara-pahasalamana ? 7
Inona no lavaka azo atao amin'ny karazan-tany misy ? 8
Aiza no anorenana ny kabone ? 9
Fangadiana ny lavaka 10
Fametrahana ny « dalle » 11

FIZARÀNA FAHATELO

IREO KARAZANA KABONE AZO ISAFIDIANANA 12
Mahaiza mampiasa ny zava-misy 13
Ireo karazana lavaka azo atao 14
Ireo karazana dalle azo atao 20
Ireo karana vatan-trano azo atao 26

FIZARÀNA FAHEFATRA

FAMPIASANA SY FIKOJAKOJANA NY KABONE 30
Ny fitaovana fikojakojana ny kabone 31
Ampiasao tsara ny kabone 32
Ny ankizy sy ny kabone 33
Diovina isan'andro ny kabone 34
Kojakojaina isan'andro ny kabone 35
Diovina ny manodidina ny kabone 36

Ny antony tokony hanorenana lavapiringa (kabone)

Zava-misy eto Madagasikara

Maro ny faritra eto Madagasikara, na Ambanivohitra na Andrenivohitra, no mangery eny ankalamanjana ny mponina.

Mahatonga ny TAY hiparitaka manerana ny saha sy ny tany malalaka izany.

Mandoto ny renirano ary mitondra aretina maro amin'ny vatan'olombelona.

Izany no mahatonga ny fanatanterahana ny **F.T.T.F** na **Fanadiovana Tanteraka Tarihin'ny Fokonolona.**

Antontan'isa mampieritreritra :

– Amin'ny 46%-n'ny **TAY tsy anaty kabone** (Ambanivolo + Renivohitra) izay avy amin'ny olona miisa 7.088.830 eo ho eo dia mamoaka TAY milanja **1.417.766 Kilaograma** isan'andro eo ho eo,

izany hoe mamokatra TAY milanja **518 000 Taonina** isan-taona eo ho eo izany ireo olona ireo [1].

– Vokatr'ireo loto sy tay miparitaka eran'ny tanàna dia laharana fahatelo (3) amin'ny antony itondrana ny zaza eny amin'ny Tobimpahasalamana ny ARETIM-PIVALANANA

– Ary ny 8,4%-n'ny olona tsaboina ao amin'ny Tobim-pahasalamana dia noho ny aretim-pivalanana avokoa [2].

Koa hamafisina hatrany fa vahaolana iray afaka hanairana ny mpiray monina ny **Fanadiovana Tanteraka Tarihin'ny Fokonolona (F.T.T.F).**

Voka-dratsy ateraky ny aretim-pivalanana eto Madagasikara

Tsara ho fantatra fa:

– 6 tapitrisa isa-taona andro fiasàna very noho ny aretim-pivalanana azo avy amin'ny rano maloto sy ny loto
– 3,5 tapitrisa ny andro fianarana very noho ny aretina azo avy amin'ny rano maloto sy ny loto

Ilaina araka izany ny fampihenana ny tahan'ny aretim-pivalanana eto Madagasikara, satria:

– Zaza 82 000 isan-taona no maty alohan'ny ahatratrarany ny faha-5 taonany
– Zaza 14 000 isan-taona taona maty noho ny aretim-pivalanana[3]

[1,2,3] Tahirin-kevitra : DIORANO WASH-OMS-UNICEF-WaterAid, *Assainissement, le défi*, 2005

FIZARÀNA FAHAROA

Torolalana ankapobeny amin’ny fanorenana

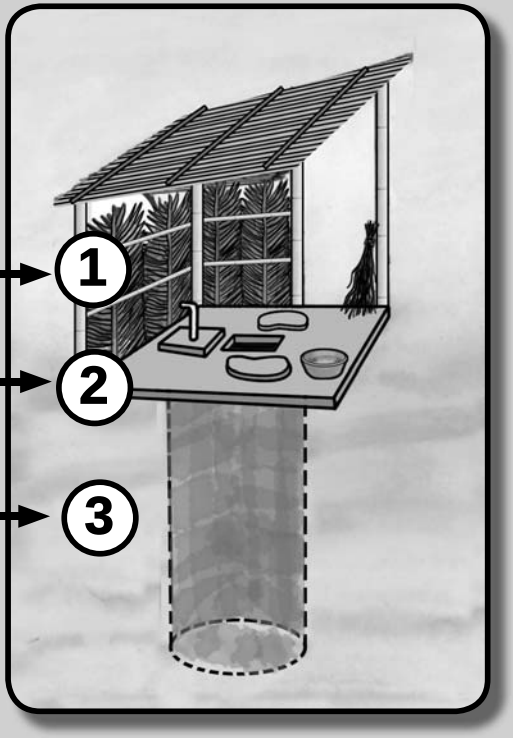
Inona no antsoina hoe lavapiringa (kabone) ara-pahasalamana ?

Ny kabone dia ahitana fizaràna telo :

1- ny vatany

2- ny « dalle »

3- ny lavaka



Ny kabone ara-pahasalamana dia kabone tsy mamoaka fofona ratsy, azo sasana (tsy misy tay na amany hita), misarona ny lavaka, na inona na inona fitaovana nanamboarana azy.

Inona no lavaka azo atao amin'ny karazan-tany misy ?

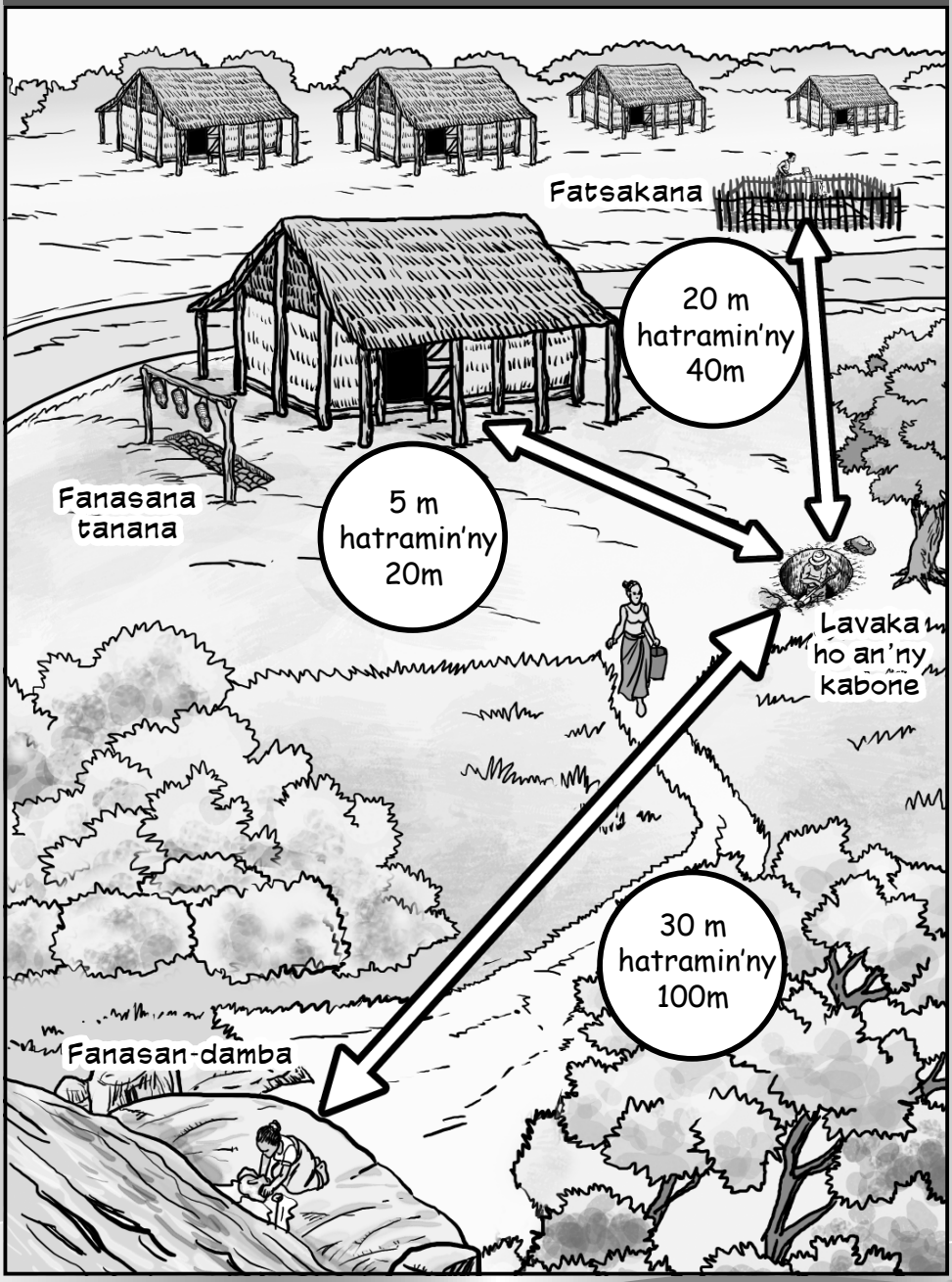
Tany mora mihotsaka :

Jereo pejy 11-12-13

Tany marivo nofo sy akaiky rano ambany tany :

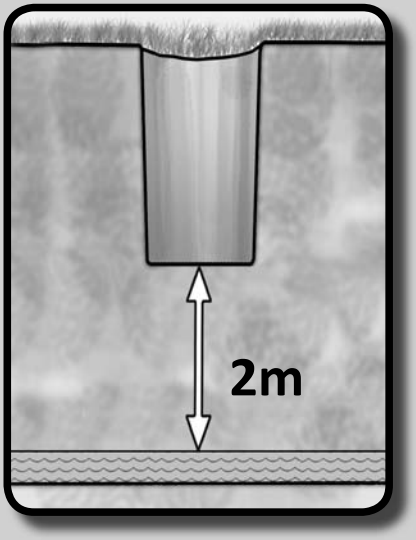
Jereo pejy 6-14-15

Aiza no anorenana ny kabone ?

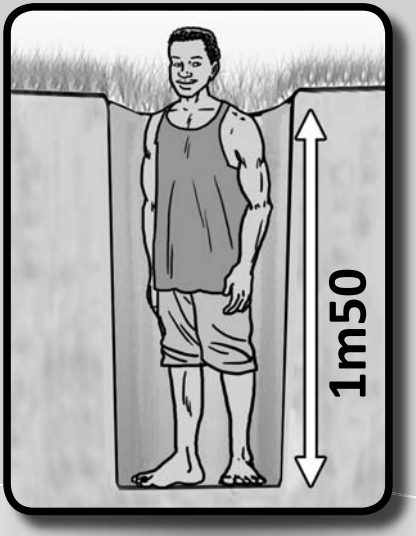


Fangadiana ny lavaka

Lavahana amin’ny angady



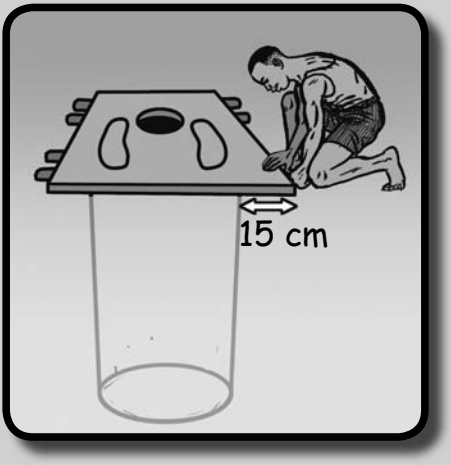
Tokony hiala 2 metatra fara-fahakeliny amin’ny rano ambany tany ny vodin’ny lavaka, vinavinaina arakaraka ny halalin’ny vovo misy eo akaikikaiky eo



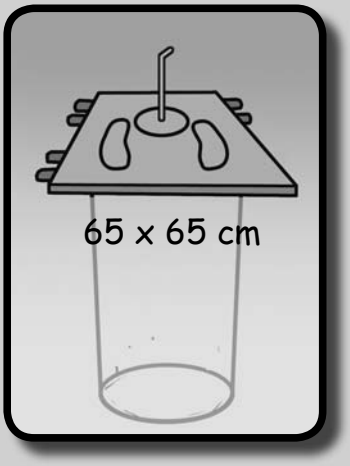
Ny halalin’ny lavaka dia atao 1m50 eo ho eo.

Fametrahana ny *dalle*

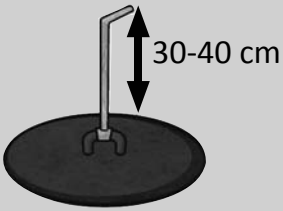
Ny sisin'ny *dalle* dia tokony hiala 15 cm amin'ny moron'ny lavaka.



Tokony hisy sarony ny *dalle*

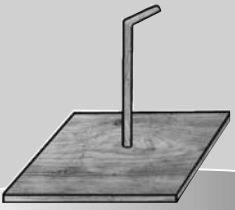


Ny sarony dia tokony hisy tahony andraisana azy ary atao izay tsy afahan'ny lalitra mandalo. Fidio izay mety aminao :

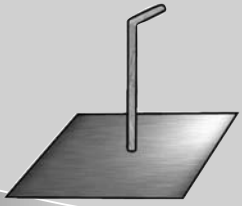


Sarona vy tsy niasa intsony

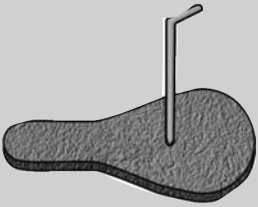
Pilasitika



Hazo



Fanitso fisaka



Simenitra

Ireo karazana kabone azo isafidianana

Mahaiza mampiasa ny zava-misy

Araka ny voalaza tany aloha dia mizara telo ny kabone :

- Ny vatany
- ny dalle ary
- ny lavaka

Ny pejy manaraka eto dia mampiseho santionany vitsivitsy. Tsy izay rehetra azo atao akory no eto.

Ny fizaràna voalohany dia manazava ny karazana lavaka azo atao arakaraka ny enti-manana fa indrindra koa, arakaraka ny toe-tany. Ny lavaka sasany dia mitaky tany mafy tsara, ny sasany kosa dia natao hampiasaina amina tany malemy na diso mafy loatra na ahitana rano anaty tany marivo loatra.

Ny fizaràna faharoa kosa dia manome safidy amin'ny karazana *dalle* azo amboarina arakaraka ny enti-manana sy ny zava-misy eo an-toerana ihany koa.

Ny fizaràna fahatelo dia manoro ireo karazana vatana azon'ny mpiara-belona atao. Ny safidy dia miankina amin'ny enti-manana, ny zava-misy eo an-toerana ary ny faniriana sy ny tian'ny mpampiasa ny kabone.

Mazava ho azy fa azo ampivadiana amina fomba hafa ireo singan'ny kabone atolotra eto.

Ireo karazana lavaka azo atao

Raha tany mafy, tsy mora mihotsaka

Lavaka boribory sy mahitsizoro

Zavatra ilaina :

* **Fitaovana fandavahana (angady, sobika, tady...)**

Lafitsara	Lafiratsy
* Tsy mandany vola * Tsy mila akora hafa	* mila fotoana ny fandavahana

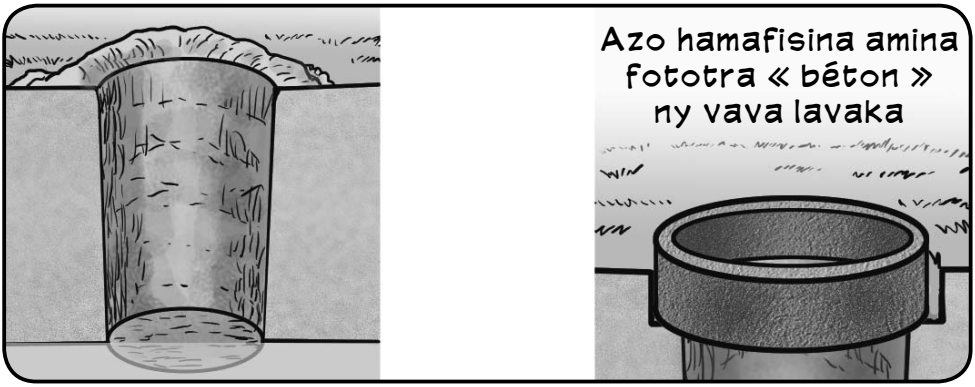
Raha tany malemy atahorana hihotsaka

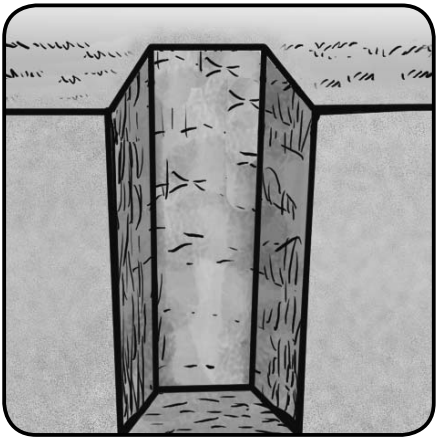
Lavaka boribory tohanana rantsan-kazo mirandrana

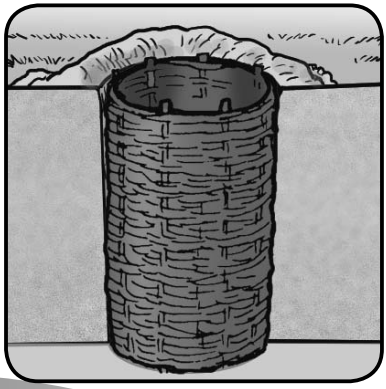
Zavatra ilaina :

* **Fitaovana fandavahana (angady, sobika, tady...)**
* **Rantsan-kazo malefaka**

Lafitsara	Lafiratsy
* Mampiasa ny akora eo an-toerana	* Mety manary raha tsy mirandrana tsara ny rantsan-kazo


Azo hamafisina amina fototra « béton » ny vava lavaka





Lavaka mahitsizoro tohanana rantsan-kazo sy tanimanga

Zavatra ilaina :

* Fitaovana fandavahana (angady, sobika, tady...)
* Rantsan-kazo
* Tanimanga

Lafitsara	Lafiratsy
* Mampiasa ny akora eo an-toerana * Mafy tsara	

Lavaka boribory milafika barika

Zavatra ilaina :

* Fitaovana fandavahana (angady, sobika, tady...)
* Barika 200 litatra nasiana lavadavaka ny vodiny

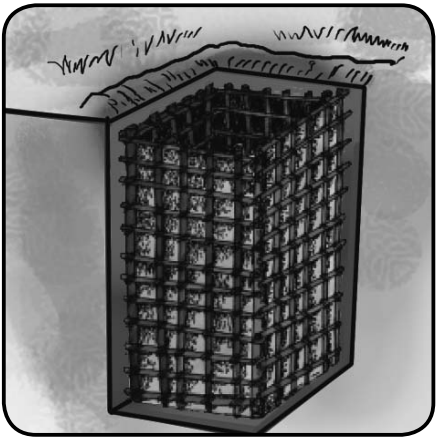
Lafitsara	Lafiratsy
* Mampiasa ny akora eo an-toerana * Azo averina ampiasaina rehefa vita *vidange*	* lafo

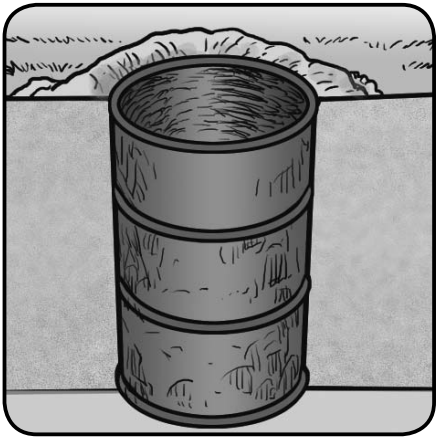
Lavaka boribory milafika bizo

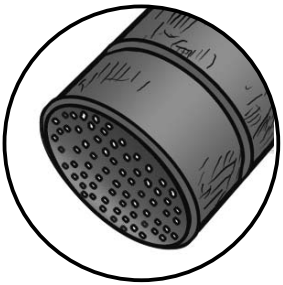
Zavatra ilaina :

* Fitaovana fandavahana (angady, sobika, tady...)
* Simenitra, fasika
* Bizo simenitra

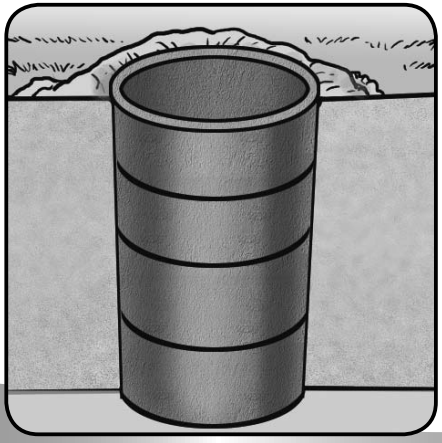
Lafitsara	Lafiratsy
* Azo averina ampiasaina rehefa vita « vidange »	* Somary lafo kokoa







Tandremo : tsy maintsy lavadavahana ny vodin'ny daba mba hikorianan'ny amany



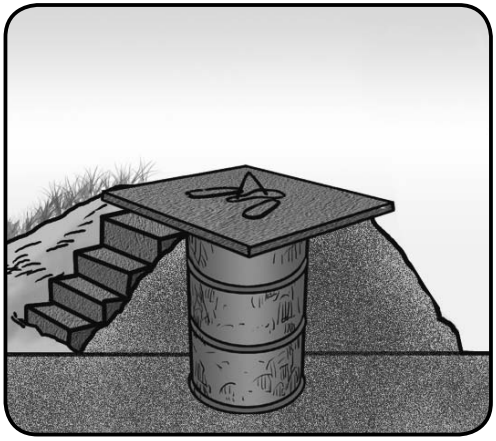
Raha tany mafy be (vato) na akaiky be ny rano ambany tany

Lavaka boribory mivohitra ambonin'ny tany

Zavatra ilaina :

* Barika 200 litatra
* Biriky masaka sy simenitra (tohatra)
* Tany atao tohana

Lafitsara	Lafiratsy
* Miaro ny rano ambany tany tsy ho voaloto * Azo averina ampiasaina rehefa vita *vidange*	* Mamofona be raha tsy sarahana ny lalan'ny amany * Sarotra ampiasain'ny olona sembana



Rehefa avy nahita karazana lavaka azo ampiasaina amin'ny kabone isika dia andeha hojerena indray ny karazana *dalle* azo atao.

Raha fintinina tsotsotra dia ahitana sokajy telo lehibe ny *dalle* :

1- ny *dalle* amboarina amin'ny tany nohamafisina;

2- ny *dalle* amboarina amin'ny hazo ary

3- ny *dalle sanplat* vita amin'ny simenitra

Ireo karazana “dalle” maro azo isafidianana

Dalle tany nohamafisina (tsotra na boribory) tohanana *rondins* na bararata

Zavatra ilaina :

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Vatan-kazo (*rondins*) mafy na bararata be
* Tany, mololo notapatapahina, simenitra

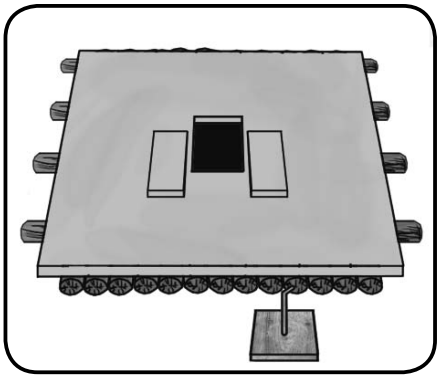
Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana	* Tsy azo averina ampiasaina * Mila mividy simenitra * Manimba ny ala ny manapaka hazo

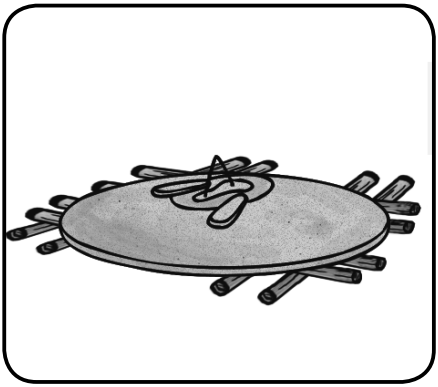
Dalle vita amin’ny *rondins*

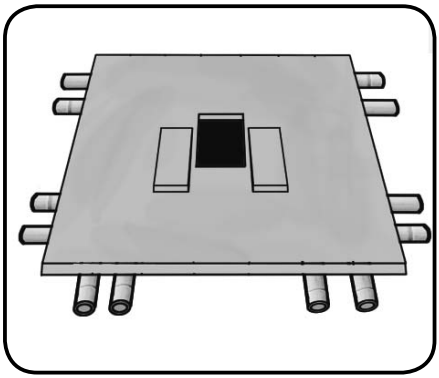
Zavatra ilaina :

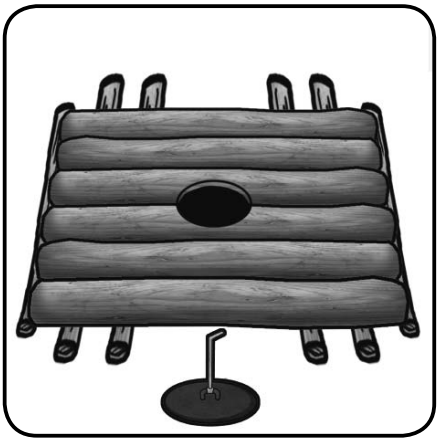
* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* *Rondins* be

Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana	* Tsy azo averina ampiasaina * Manimba ny ala ny manapaka hazo









Dalle vita hazo

Zavatra ilaina :

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* *Planches*
* *Rondins*
* Menaka *vidange* hosorana amin'ny *planches*

Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana	* Miankina amin'ny fisian'ny "planches" * Tsy azo averina ampiasaina

Dalle sanplat hodidinina amin'ny tany nohamafisina

Zavatra ilaina :

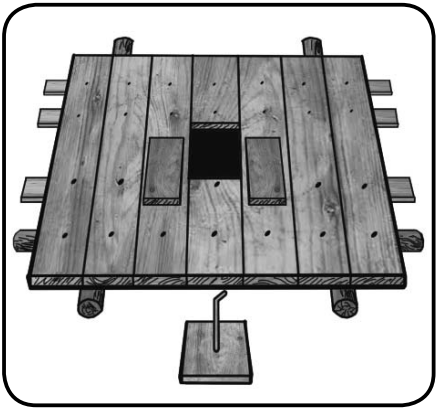
* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Simenitra, fasika, vatokely
* Lasitra *sanplat*
* Bara-vy
* *Rondins*
* Tany, mololo, simenitra

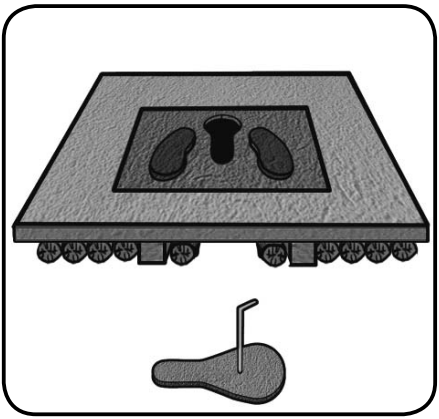
Dalle sanplat hodidinina « planches »

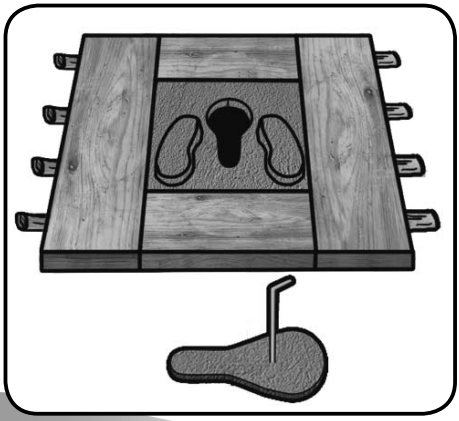
Zavatra ilaina :

* Simenitra, fasika, vatokely
* Bara-vy
* *Rondins*
* *Planches*
* Menaka *vidange* hosorana amin'ny *planches*

Lafitsara	Lafiratsy
* Azo averina ampiasaina ny *dalle sanplat*	* Somary lafo * Mila mividy simenitra, vy... * Miankina amin'ny fisian'ny simenitra sy ny lasitry ny *sanplat*







Dalle sanplat hodidinina *béton armé*

Zavatra ilaina :

* Simenitra, fasika, vatokely
* Bara-vy
* Lasitra *sanplat*

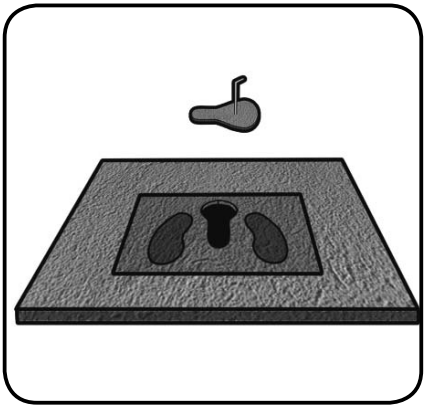
Lafitsara	Lafiratsy
* Azo averina ampiasaina ny *dalle* iray manontolo	* Lafo be * Mila mividy simenitra, vy... * Miankina amin'ny fisian'ny simenitra sy ny lasitry ny *sanplat*

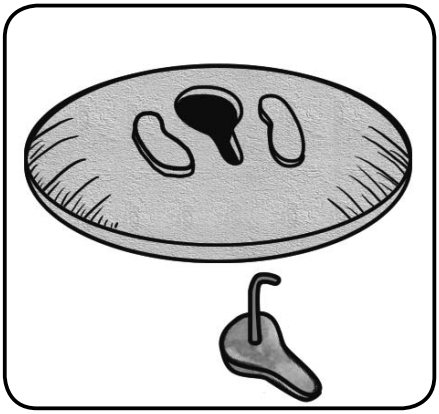
Dalle boribory vita *béton armé*

Zavatra ilaina :

* Lasitra boribory
* *Béton armé* (Simenitra, fasika, vatokely, rano)
* Bara-vy

Lafitsara	Lafiratsy
* Azo averina ampiasaina ny *dalle* iray manontolo	* Lafo be * Mila mividy simenitra, vy... * Miankina amin'ny fisian'ny simenitra sy ny lasitry ny *sanplat*





Ireo karazana vatan-tranon'ny kabone azo isafidianana

Vatany atao ravina satrana, na falafa, na mololo, na gony

Zavatra ilaina :

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Bararata na rantsan-kazo mahitsy
* Ravina satrana,
* na falafa,
* na mololo
* na gony
* Bozaka na satrana na falafa (tafo)

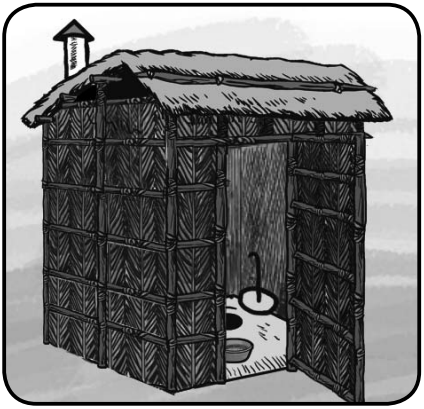
Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana * Voatsangana haingana (1 andro)	* Tsy dia mateza

Vatan-trano tany

Zavatra ilaina:

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Rantsan-kazo madinika sy bozaka
* Ampiantany (tanimanga misy mololo)
* Bozaka na satrana na falafa (tafo)

Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana	* Tsy mateza



Vatany vita hazo na fanitso

Zavatra ilaina :

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Rantsan-kazo mahitsy na bararata be
* *Planches* na fanitso
* Fanitso na bozaka na satrana na falafa (tafo)

Lafitsara	Lafiratsy
* Mampiasa ny akora hita eo an-toerana * Voatsangana haingana * Mateza	* Lafo * Mila mividy *planches* na fanitso

Vatany vita biriky manta na biriky masaka na parpaings

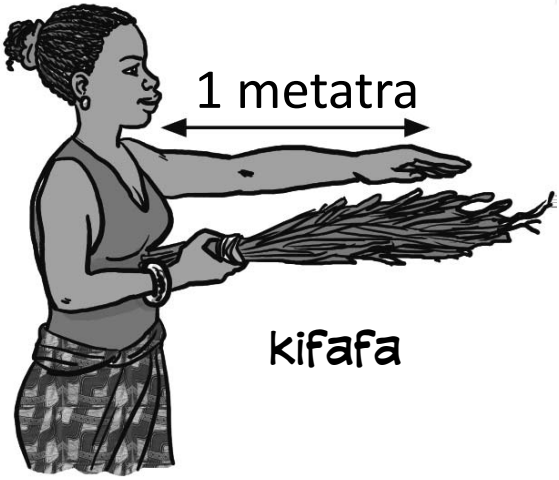
Zavatra ilaina :

* Fitaovana fandrafetana (tsofa, fantsika, maritoa...)
* Biriky manta na
* Biriky masaka sy rihitra na
* *parpaings*
* Fanitso na bozaka na satrana na falafa (tafo)

Lafitsara	Lafiratsy
* Mateza	* Lafo * Mila mividy na manamboatra birika na *parpaings*

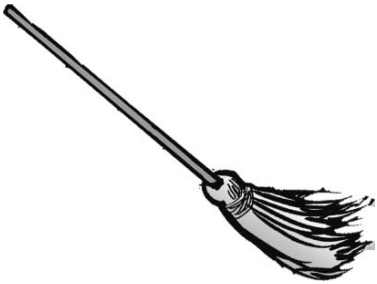
Fampiasana sy fikojakojana ny kabone

Ny fitaovana fikojakojana ny kabone



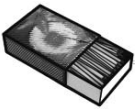
Fitoeran-davenona

Rantsan-kazo aman-draviny maina



Kifafa na famafa

Afokasoka



Fanariam-pako

Ampiasao tsara ny kabone

Ny ankizy sy ny kabone

Diovina isan'andro ny kabone

Tsy azo asiana rano na fanadiovana simika sao manamando ny tay ary mampiroborobo ny atodin-dalitra sy ny olitra.

Kojakojaina isan'andro ny kabone

Diovina fara-faharatsiny indray mandeha isam-bolana ny manodidina ny kabone