Awely

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CAPS PROGRAMMES

Mogwirizana ndi:
In collaboration with:

South Luangwa Conservation Society

CONSERVATION

ZAMBIA

Momwe tingachepesele Kuononga kwa njobvu ?

How to reduce damage by elephants?

▶ **Nkhokwe zoteteza ku Njobu**

Elephant Safe Granary Stores

Awely

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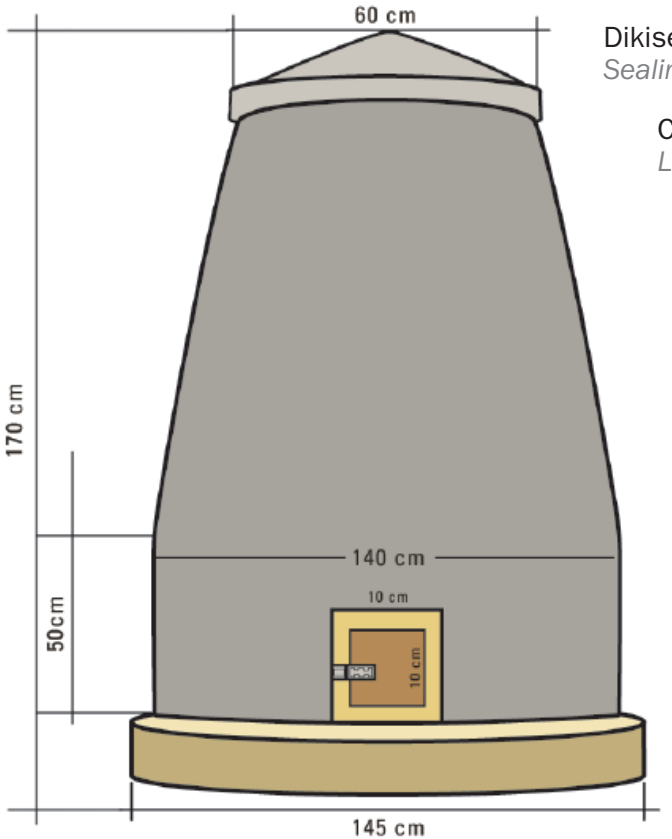
Mwalandilidwa!

Welcome!

NKHOKWE ZOTETEZA KU NJOBU
ELEPHANT SAFE GRANARY STORES



Dikiselo iyenela kumatidwa
Sealing of lid

Choika pamwamba (dikiselo) 60cm
Lid 60cm

Pulasitala inchi imodzi
Plaster 1 inch

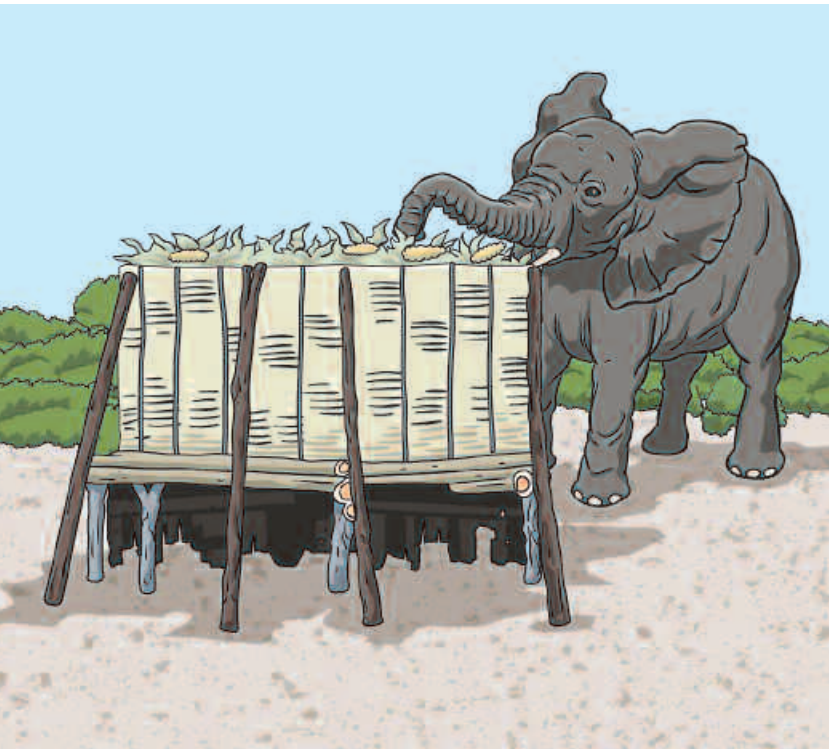
Mwapang'onopang'ono chepesani kukula kwa chipupa kufika pa 140cm
Gradually reducing diameter to height of 140cm

Chipupa chosabenda kufika pa 50 cm
Straight wall until height of 50 cm

Chiseko 10 cm x 10 cm
Door 10 x 10 cm

Madziko ake 30 cm
Foundation 30 cm

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES



Njobvu Mu mudzi mwanu

Ngati mukukhala kudela komwe kuli nyama zambiri zingakhale zotheka kuti munafikilidwapo ndi njobvu mu mudzi mwanu. Makamaka pomwe kuli kouma, maudzi ali ouma ndi mitengo ilibe masamba mumalo momwe mukhala njobvu, ndipo alimi achosa zokolola zawo muminda kukasunga kumidzi njobvu zingafike komwe mukhala. Njobvu zili ndi nzeru zakuya ndipo zimaphunzira mwamsanga komwe zingapeze zakudya zabwino. Kufika kwa njobvu ku midzi kungakhale koopsya, sizingadye chabe zakudya zambiri koma zingathenso kuononga manyumba ndikupha anthu, pofuna kuti zizititeteze.

Elephants in your village

If you are living in an area with a rich abundance of wildlife you might already have experienced some visits of elephants in your village. Especially in the dry season, when the grasses and trees get dry in the elephant habitat and when farmers transport their harvest to the villages for storage elephants can be lured into your habitations. Elephants are very intelligent and can learn quickly where to find nourishing food. A visit of elephant however can be very dangerous, they cannot only consume plenty of food, they also can break houses or hurt and even kill people, when they feel defensive.

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES

Kuchingiliza ngozi ku njobvu
Chinthu chofunikila kwambiri kuteteza njobvu ku kutionongela manyumba omwe tikhalamo ndi kuchotsa mutundu ulionse wa zakudya munyumba. Chomwe chili bwino ndi kusunga zakudya zilizonse muchinthu chomwe chili ndi chovinikila chabwino kuti njobvu zisanukhize zakudyazo. Mowa mukhoza kuuika muzenje ndi kufikila bwino. Chimanga,mpunga ndi muteza idzi mungasungile mu nkhokwe zotetezeka ku njobvu. Ngati njobvu sizingathe kunukhiza zakudya zomwe ziri mumidzi kubwela njobvu mumidzi kuzachepesedwa.

Kodi nkhokwe zotetezeka ku njobvu ndi chiyani
Nkhokwe zotetezeka ku njobvu ndi nkhokwe zopangidwa ndi simenti zomwe mungasungile-mo zokolola zanu. Nkhokwezi ndi zopangidwa ndi njelwa kapena mabuloko polumikizidwa ndi simenti, ili ndi dikiselo yomwe ingachosedwe poikamo zokolola. Kachiseko koikidwa cha munsi kamathandiza pochotsa zakudyazo. Nkhokwezi zinayambidwa ndikuyesedwa ndi French NGO Awely - nyama ndi anthu, nkhok-wezi ndizopambana pachitetezo.

Preventing elephant attacks
The most important thing to prevent elephants to break into our house for living is to remove any kind of food from it. The best is to store any food stuffs in sealed containers. Alcohol might even be burrowed in containers underground. Maize, rice and nuts can be stored in elephant safe granary stores. If the elephants cannot smell the food available in a village their visits will decrease.

What is an Elephant Safe Granary store
The elephant safe granary store is a concrete and sealed construction for storing the harvest. It consists of a corpus that is attached to a cement grounding and has a lid that can be removed for filling the crops. A small door positioned on the lower part allows regular access to grain. The elephant safe granary store has been developed and successfully tested by the French based NGO Awely – Wildlife and People.

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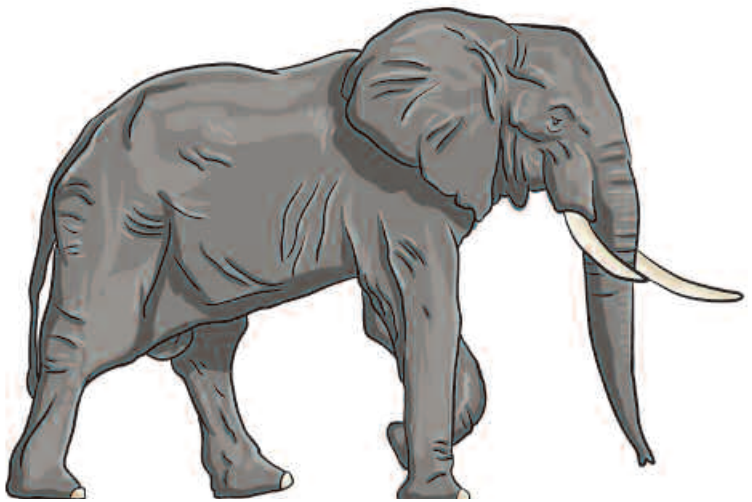


Momwe mungamangile nkhokwezi

Pali mitundu iwiri ya nkhokwezi: Yoyamba ndiyopangidwa ndi njelwa ina ndi yopangidwa ndi mabuloko a simenti. Ya njelwa imapangidwa ndi njelwa za kumidzi ndi kumangila simenti. Imamangidwa ndi ndalama zochepa motero nkhuni zimafunika kutenthera njelwazo ndipo ngati siinamangidwe bwino nkhokwe ingakhale ndi ming'alu. Yomangidwa ndi mabuloko a simenti imafuna ndalama zambiri chifukwa imafuna simenti yambiri. Motero mitengo siizagwirisidwa nchito ndipo nkhokwe imakhala yolimba.

Zomwe mungafune:

Ya njelwa:

Mathumba yatatu ya simenti (yomangila chipupa, dikiselo ndi yoikila pulasita).
300 njelwa kuchuluka kwake (muutali 22.5 cm, muufupi 12 cm, musinkhu 7 cm)
Bala imodzi ya miyala
Mabala 18 ya michenga.

Ya simenti:

Mathumba 6 (4 yopagila mabuloko, 3 kumangila, kupangila dikiselo ndi pulasita)
Kachikomboli kamathabwa (muutali 22.5 cm, muufupi 12 cm, musinkhu 7 cm)
Bala imodzi ya miyala
Mabala 30 ya michenga.

How to construct an Elephant safe granary store

There are two types of elephant safe granary stores: The brick store and the full cement store. The brick store is made out of locally produced bricks and cement. It is low cost and the bricks can be produced in your village. However, firewood is consumed for burning the bricks and if not made very accurately, the store might get cracks. The full cement store is made from cement blocks and cement. It is more costly as all materials need to be purchased. However, no fuelwood is consumed and the store is heavy duty.

Materials you need:

***Brick Store**:*

3 bags of cement (for construction, lid and plastering)
300 bricks size half timber (L 22.5 cm, W 12 cm, H 7 cm)
1 wheelbarrow of stones
18 wheelbarrows of river sand.

***Full cement store**:*

6 bags of cement (3 for blocks and 3 for construction, lid and plastering)
A wooden block model (L: 22,5 cm, W: 12 cm H: 7 cm)
1 wheelbarrow of stones
30 wheelbarrows of river sand.

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES

Ya njelwa kapena ya simenti: Choyamba njelwa 300 zotenthedwa bwino kapena mabuloko 300 oumbidwa.

***Bricks/blocks**: First of all 300 burned bricks (half-timber size) or cement blocks are produced*

Madziko: Pezani pamalo abwino pomwe mungakumbile madzikowa ya nkhokwe yotetezeka kunjobvu. Maziko ozungulira ofika pa 145 cm, kumbani pansi osapitilira 10 cm.

***Foundation**: Allocate a place where to dig the foundation for the elephant safe granary store. The foundation is round with a diameter of 145 cm, dig the circle with the depth of 10 cm.*

Madziko: Yalani matope a simenti mozungulira ndi kuyalika njelwa kapena mabuloko mumizera mosatizana itatu. Itawuma thirani dothi pakati kuithira madzi, ndi kuidinda kuti igwirane. Kuchinjiriza chiswe kulowa munkhokwe, wazani mankhwala a imidacloprid mumadziko. Chenjezo: Mankhwalawa aikidwe mosamala monga momwe malangizo akunenela chifukwa amapha.

***Foundation**: Lay mortar of cement into the ring and lay three layers of bricks. When dry, fill the centre with soil, hard rocks; water and compact. To prevent termites invading your store, sprinkle Imidacloprid into the foundation. Attention: This poison needs to be applied with great care, according to package instruction.*

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES

Chipupa: Maziko atauma, ikani plasitiki pamwamba utali wake 2 x 2 m
Chosatila yambani kumanga mwa kuyalika njelwa mozungulira posewenzetsa matope a simenti. Muzele umodzi ufunika njelwa 16. Kachiseko 10 x 10 cm kakufunika mwa kusiya malo munsi pomwe mumanga.

***Body**: Once the foundation is dry, lay the plastic sheet of 2 x 2 m on top.*
Then lay the bricks in a circle to construct the round wall, use cement as mortar. Use 16 bricks per layer. Leave out one brick per layer to create a small door opening with the size 10 x 10 cm.

Chipupa: Pomwe mwasiliza muzele wa chisanu, yambani kuchepesa kukula kwa chipupa polowa chamkati pang'ono-pag'ono (ikani pakati njelwa pa muzele).
Pomwe ifika pa utali wa 170 cm (muzele wanambala 16 wa njelwa) chipupacho chatha. Pangani kamukombero kamatope.

***Body**: When having finalized the fifth layer of bricks, start reducing the diameter by gradually reducing the number of bricks (half a brick per layer).*
When reaching the height of 170 cm (16 layers of bricks) the body is completed. Form an even rim with mortar.

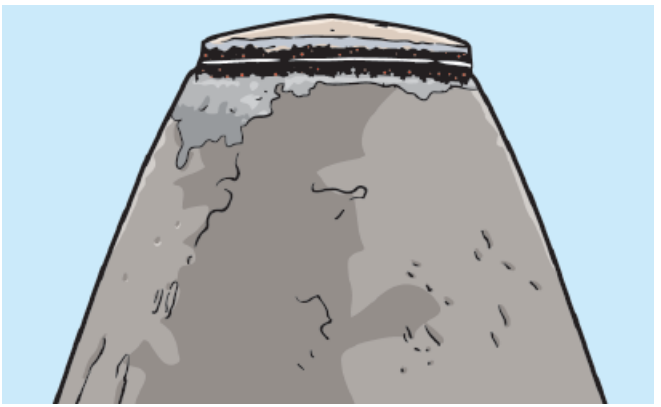
Pulasitala: Pomwe chipupacho chauma ikani pulasitala kunja kwake ndipo nkhokweyo izalimbisidwa kwambiri ndipo mipata yonse iza sekedwa.

***Plastering**: When the construction is dry, plaster the outside of the granary store evenly with cement to give it additional strength and seal it completely.*

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES

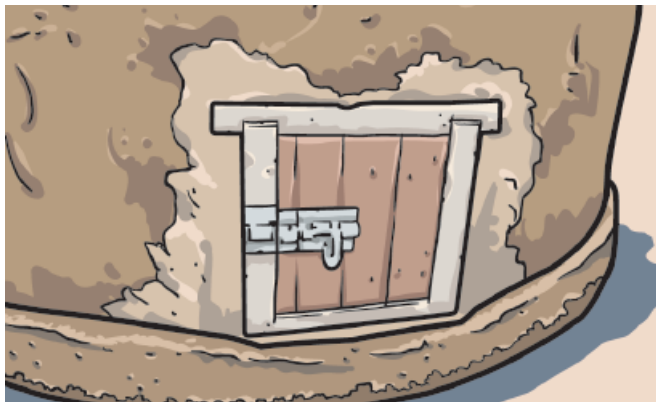
Dikiselo: Kumbani zenje yozungulila kulinganiza ndi kumathelo a nkhokwe yanu. Zenjelo likhale 5 cm ukulu wake. Ikani pulasitiki muzenjemo ndi kuikamo zosakaniza za simenti ndi miyala. Lekani izi ziume mwa masiku asanu ndi awiri, inu mupitilize ku thila madzi masiku onse. Itauma pomwepo mungathe kuigwirisa nchito.

***Lid**: Dig a round shape in the ground with the proportions of the final opening of the store. The hole should be 5 cm deep. Put a plastic sheet into the hole and add a mixture of cement and stones. Let this dry for a week and water it every day. Then pull out the plastic sheet and your lid is ready to be used.*



Kulumikiza dikiselo: Ikani chakudya chanu chouma bwino ku nkhokwe ndipo ikani dikiselo pamwamba yomwe ifunika kulumikizidwa bwino bwino ndi nkhokwe chifukwa njobvu zingachose posewenzetsa chitamba ngati sichinaikidwe bwino. Sekani mpata wosala pakati pa dikiselo ndi chipupa posewenzetsa matope ndipo ikani pulasitiki pamwamba pache. Ndiponso pakani wayelo wosakaniza ndi sabola pamwamba.

***Attaching the lid**: Fill the granary store with well dried crops. The lid needs to be properly attached to the store, as elephants are able to remove it with their trunk if it is just loosely placed on top. Seal the gap between lid and rim by plastering mud into it and attach a plastic sheet above. Further display an oil-chilli mixture on top.*



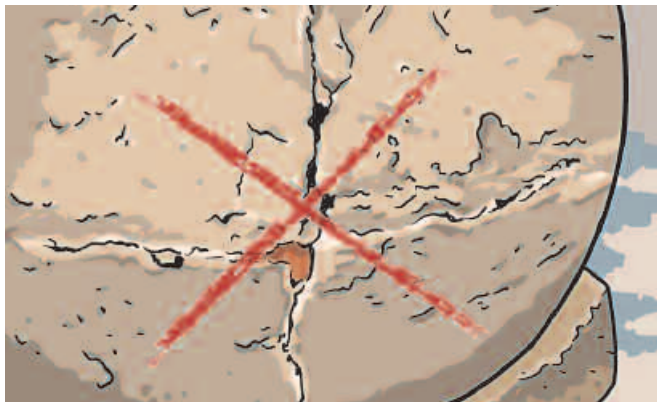
Chiseko: Pangani kachiseko kakang'ono ka mathabwa (muyeso 9 x 9 cm) iko ndi kosekela khomo losiidwa munsi mwa nkhokwe yanu yotetezeka ku njobvu. Ndikofunikira kuti kachisekoko kazisekedwa bwino kuopa tizilombo ting'onoting'ono kuti tingalowe ndi kuononga komanso njobvu zisamve kununkhila, pena kupasula kachisekoko.

***Door**: Construct a small wooden door (size 9 x 9 cm) to close the door opening at the bottom of the elephant safe granary store. It is very important that this door closes well so that no insects get attracted or elephants cannot smell or break the door.*

NKHOKWE ZOTETEZA KU NJOBU - ELEPHANT SAFE GRANARY STORES

Mutenje: Poteteza chakudya chanu ku mvula yaikulu ka mtenje kang'ono mwachisanzo kopangidwa ndi tumitengo ,maudzu ndi - kofunikila. Ngati simunachite izi chakudya chanu chingawonongeke ndi kukhala matope

***Roof**: For protection of the crops against heavy rains a small roof, e.g. of thatch grass is advisable. If this is not done your crops may get mouldy.*



Mankhwala yo tetezela tizilombo: Kuli tizilombo twina tomwe tumaononga zakudya zanu zosungidwa monga kamulomo ndi chiswe. Kuteteza izi nikofunikila kuti nkhokwe zanu zikhale zomata bwino ndipo zopanda mang'alu ndi poseguka. Mungasewenzesenso mankhwala monga diatomaceous posakaniza ndi nthaka mu mbeu zanu kapena imidaclopridon pomanga kuteteza mbeu zanu.

***Pest-control**: There are some storage pest insects that could infest your stored crops like weevils or termites. To prevent this it is highly important that the store is well sealed and has no cracks/openings. You further may use diatomaceous earths mixed into your grains or Imidacloprid on the construction to prevent infestations.*

Chiseko: Pangani kachiseko kakang'ono ka mathabwa (muyeso 9 x 9 cm) iko ndi kosekela khomo losiidwa munsi mwa nkhokwe yanu yotetezeka ku njobvu. Ndikofunikira kuti kachisekoko kazisekedwa bwino kuopa tizilombo ting'onoting'ono kuti tingalowe ndi kuononga komanso njobvu zisamve kununkhila, pena kupasula kachisekoko.

***Usage**: The grains are taken out of the store through the small door, just on demand. Do not store food inside your house over night. In the next season carefully remove the plastic sheet and mud from the lid. Take off the lid, clean your store thoroughly and let it dry up perfectly before filling it again.*

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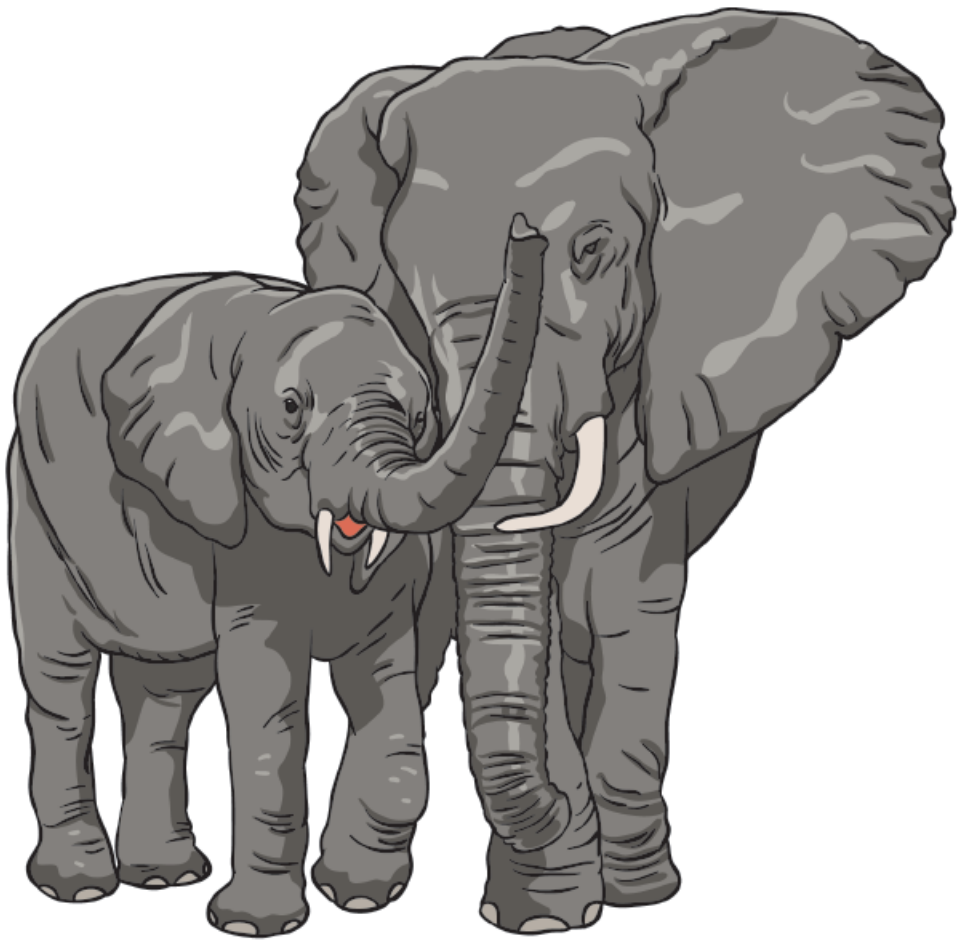

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