

Ganacsiga Xabkaha iyo Faleenka ee Somaliland

**Caqabadaha, Kaladoorashooyinka, iyo
Sii-jiritaanka**

**Waxyaabihii soo baxay iyo
Warbixin kooban**

March 25th, 2017

Qorayaasha:

**Anjanette DeCarlo, Ph.D.
Ahmed Derei Elmi, M.Sc.
Stephen Johnson, B.A.**

**Wixii macluumaad dheeraad ah, fadlan nagalasoo
xidhiidh conservethecalmadow@gmail.com**

Waa dabacaadii Anjanette DeCarlo, PhD, LLC

Kani waa warbixintii labaad ee laga diyaariyay xaaladda dhaqaalaha xabkaha iyo faleenka iyo Kaymaha Beeyada. Wuxuu koobayaa darsidii ay kusoo sameeyeen kooxda Badbaadinta Calmadow meelaha ay beeyadu ka baxdo itii lagu guda jiray bishii koobaad ee 2017. Warbixintii tan ka horaysay ee bishii tobnaad 2016 na waxa laga xeli karaa halkan:

http://www.conservecalmadow.org/wp-content/uploads/2016/12/Frankincense_Major_Findings_October_2016-1.pdf

Khariiradda muujinaysa dhulka ay ka baxdo beeyadu:

Halkan hoose waxaad ku arki doontaa khariirad muujinaysa dhulka ay ka baxdo beeyado oo wata calaamado muujinaya meelihii daraasadda lagu sameeyay. Goobahan waxay u dhigmaan qiyaastii 400 oo tan oo waxsoosaar ka xabkaha sanadkii. Waxsoosaarka Somaliland ee xabkahu qiyaas ahaan waa 800 oo tan, oo ay weheliyan 400 oo tan oo dheeraad ah kuwaas oo laga keeno Puntland taasoo ka dhigaysa waxsoosaar ka xabkaha ee somalida qiyaastii 1200 oo tan sanadkii. Sidaa daraadeed, waxaanu bookhannay goobo u dhigma qiyaastii 50% waxsoosaarka Somaliland ee dhinaca xabkaha (Waxa lagu saleeyay waraysiyadii laga yeeshay dhufiyayaasha, Warshadleyda, iyo iibsadayaasha caalamka).



Figure 1. Map of the growing region. Pins indicate locations we have visited.

Khariiradda meelaha xabagu ka baxdo ee lasahamiyay. Intii u dhaxaysay September 2016-January 2017 waxaanu daraasad ku samaynay gudaha iyo agagaarka meelaha calaamdaha guduudan leh. January 2017 dhexdeedii waxaanu bookhannay afar goobood oo cusub, halkaas oo saddex kamid ahi ay ahaayeen dhul bilaa wado ah oo aad u qarfo ah (ugu yaraan 20 km oo buurofansho ah ayay dhirtu jiraan). Waxa wehelinayay kooxda cilmibaadhista waday labo tegnishan oo ka socday Wasaaradda Deegaanka iyo Horumarinta Reer Miyiga kuwaas oo nala bookhday goobahan.

Waxaanu bookhanay goobo wadooyin leh iyo kuwo aan wadooyin lahayn, goobo deegaan joogto ah leh iyo kuwo aan lahayn; goobo u dhow dhulka ladagan yahay iyo goobo ilaa xad qarfo ah; goobo si xadhdaaf ah u qalalan iyo kuwo marka loogeego hela roob badan iyo/ama ceeryaamo; goobo ay cufnaanta dhirta beeyadu aad u sarayso iyo goobo ay hoosayso. Goobahyaa aanu soo aragnay waxay u dhigmaan in kabadan kala badh waxsoosaarka xabkaha moxorka ee Somaliland.

2. Goobo sida fiican loo maamulay

Intii lagu gudajiray daraasaddayadii labaad ee meelha ay dhirtu ka baxdo (January-February 2017), waxaanu ogaanany laba goobood kuwaas oo sifiican loo maamulay. Goobahan waa kuwo soojiidasho leh isla markaana ay kutaallo dhirta Moxorka oo xoogan caafimaadna qabta. Goobahan waxay awoodaan siina karaan suuqa caalamiga hanti ah faleen tayadiisu sarayso. Muhimadooda dhaqaale iyo deegaan ayaa ah mid tixgelin wayn u leh siisocoshada kaganacsiga beeyada. Jiritaanka goobahan sida fiican loo maamulay ayaa dhiirigelinaysa caafimaad qabka kanacsiga beeyada Somaliland.

Labada goobood way kala duwan yihin deegaan ahaan waxaanay isbarbardhig fiican u yihin maamulidda haboon ee meelaha deegaanada kala duwan dhaca. Goobata koobaad, waxay dhacdaa cidhifka galbeed ee buuralayda, eegaysana galbeed, halkaas oo intabada aad u qalalan dhirtuna ku yartahay. Cufnaanta dhirta beeyadu halkan waa mid hoosaysa, inkastoo ay ciiryaamo leedahay hadana waa mid xadidan. Goobta labaad, waa ku cagsi, oo waxay dhacdaa xagga hoose ee buuralayda waxayna eegaysaa waqooyi. Waxay heshaa roob badan iyo ceeryaamo joogto ah taasoo horseeday haddi sare oo hadhaaga dhirta iyo xoolaha ah iyo in cufnaanta dhirta beeyadu noqoto mid saraysa. Dhirtuna waxay leeyihin caleemo dhargay oo cagaariyahodu aad usareeyo oo cagsi ku ah badhaqanka caleemo daadinta dhirta roobku ku yaryahay.



Figure 2. Goobta koobaad. Goobtani waa mid qalalan joogeeduna hooseeyo.



Figure 3. Goobta labaad. Goobtan waa mid joogeedu sareeyo kana qoyaan badan goobta koobaad.

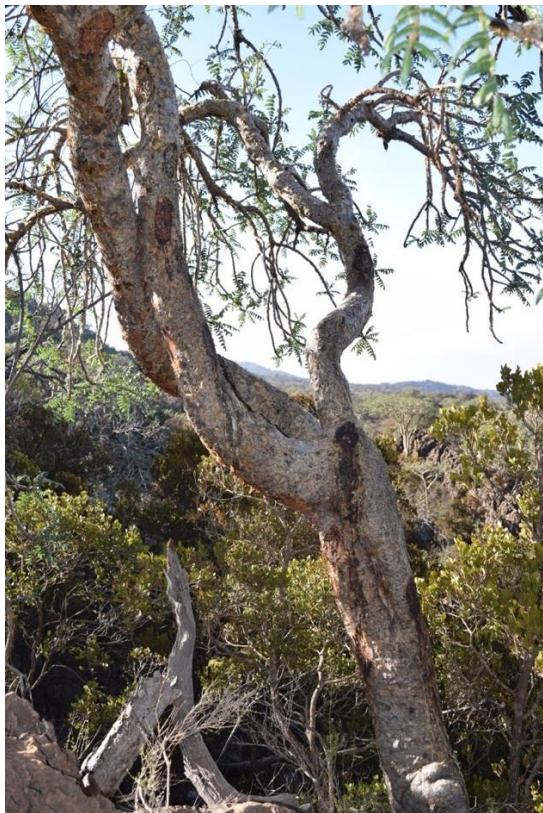


Figure 4. Geed si fiican loo maamulay oo kuyaal Goobta labaad.

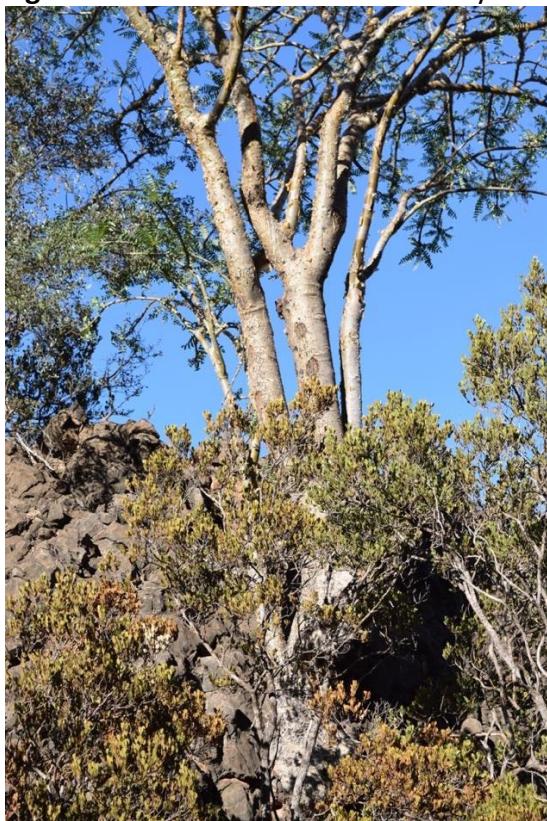


Figure 5. Geed si fiican loo maamulay oo kuyaal Goobta labaad.

"Si fiican loo maamulay" waxa looga jeedaa in beeyaystayaashu ay ula mucaamalayeen dhirta iyagoo u eegaya ama si kudhow heerka tayada aqoon dhaqameedka ee daryeelidda taas oo aan ku ogaanay literature review iyo waraysiyo waayeelka aqoonta uleh (Appendix 1).

Waxaynu odhan karnaa goob ayaa si fiican loo maamulay marka ay buuxiso heerarka tayada ee soosocda:

- 1). Xilli goosasho/mangaafin aan ka badnayn 6 bilood.
- 2). In sannadkiiba hal xilli uun la mangaafiyo.
- 3). In aan lagu samayn wax ka kabadan 12 nabar geedkii.
- 4). In dhirtu u nastaan si joogto ah.
- 5). In la mangaafiyo oo kaliya dhirta qaangaadhka ah maya kuwa yar yar.
- 6). In nabarro qoto kaaban lagu sameeyo jidhifta oo kaliya.

Waxa kale oo aanu qiimaynay caafimaadka hal goob iyadoo aanu adeegsanayno indha indhayn iyo waraysiyo aanu ka qaadnay beeyaystayaasha, iyo mulkiilayaasha dhulka iska leh ee goobata ka shaqeeya. Waraysiyda waxa lagu lafaguray goosashada iyo hababka daryeelidda geedka, sidoo kale arrimo la xidhiidha deegaanka, bulshada iyo dhaqaalaha ee ganacsigan. In kastoo aanay halbeeg u noqon Karin qiimaynta, waxa kale oo aanu ogaanay xidhiidh ka dhexeeya maamulidda fiican ee dhirta iyo aqoonta durugsan iyo hanwaynaanta dhinaca dhaqanka ee beeyaystayaasha.

Qiimaynta indha indhayntaa ayaanu u samaynay shakhsii ahaan iyo tignoologi ahaan labadaba. Wixaanu qiimaynay raadadka muujinaya mangaafinta (tirada nabarada cusub iyo kuwa gabobay, narada furan, iyo wixii la mida) iyo caaladda geedka labadaba. Dhirta caafimaadka qabta ee sida fiican loo maamulay waxay ku leeyihiin laan kasta saqaf caleemo qaro wayn oo kala fidsan. Dhirta markasta la mangaafiyo ama caafimaadkood liito waxay leeyihiin laamo aan caleen lahayn iyo caleemo yaryar oo duuduuban. Dhirta beeyadu waa geed abaareed waxaanay caafimaad qabi karaan 1 – 2 wareeg oo mangaafka laga badiyo hadiise weeye ay heliaan biyo badan. Habdab, muddo dheer oo mangaafka laga badiyo waxay sababaysaa in caleentu kadaadato geekuna dhinto (sida laga soo xigtay Al-Aamri 2014). Wixaanu aragnay in goobaha sida fiican loo maamulay ay leeyihiin cufnaan aad u saraysa oo dhirda' yar, taasoo ina tusaysa in dhirta aan cadaadis badan haysan ay tarmi karaan dibna u soo kaban karaan si ka fiican dhirta uu haysto cadaadis kaga imanaya mangaafka xadh-dhaafka ah (sida laga soo xigtay Rijkers et al. 2006).



Figure 6. Nabarka ugu horeeya oo si sax ah loogu sameeyay geed Moxor ah.

3. Aqoonta iyo Hababka ugu Fiican

Ganacsiga beeyada Somaliland waa mid qadiim ah, oo taxan ilaa 6,000 oo sano marka dib loo noqdo, oo ay qaadan jirtay Masartii Qadiimka ahayd. Taa natijadeeda, waxa jira aqoon dhaqameed soojireen ah oo ku saabsan sida saxda ah ee loo maamulo dhirta. Aqoontan waxa lagu dhigay nidaam dhaqameedka loo yaqaan Xeer. Xeerkanaan waxa uu ina siinayaan qawaaniin cadcad oo hagaya sida iyo xilliga dhirta la mangaafinayo, sida ay tahay in beeyeestayaasha iyo ganacsatadu ay u wada dhaqmaan, iyo sida loo xallinayo khilaafaadka. Xeerkanaan ayaa suurto galay sii jiritaanka beeyaysiga iyo ganacsiga fiican ee kumanaan sano. Goobaha sida fiican loo maamulay, beeyaystayaadhu wali waxay ku dheganyihiiin qawaaniintan. Wuxaan garowsannay in goobahan dadka lihi ama hogamiyaa ay yihiin dad waayeela ayna yihiin dadkii mangaafinta sameenayay. Meelah uu sareeyo mangaafka xad-dhaafka ah iyo jebinta habab dhaqameedkii soo jireenka ahaa, beeyaystayaashu waxay ahaayeen kuwo da' yar, khibrad gaaban, shaqdana ku cusub.

Dhiirigelinta hab maamul sii-jiritaanka macnaheedu waa dib u soo nooleyn ta hab dhaqameedyadii sii-jiritaanka iyadooloo adeegsanayo aqoonta sayniseed iyo farsamooyin si ay kur ugu qaadaan dedaadladan loogu jiro xaladda ay suuro gal tahay cimilo gedi. Taageero laga helo iibsadayaasha caalamiga ah ayaa aad muhiim ugu hubinta in suuqyada lasiiyo abaal marino si ay uga caawiso inay joogteeyaan hababkan. Nasiib wanaag, aqoon dhaqameedku waxay bixinaysaa dariiqooyin faahfaahsan oo ku saabsan farsamooyinka mangaafinta, taasoo sal u ah Hababka ugu Fiican ooy tahay in laraaco si loo helo wax soosaarka faleenka oo siijiri kara.

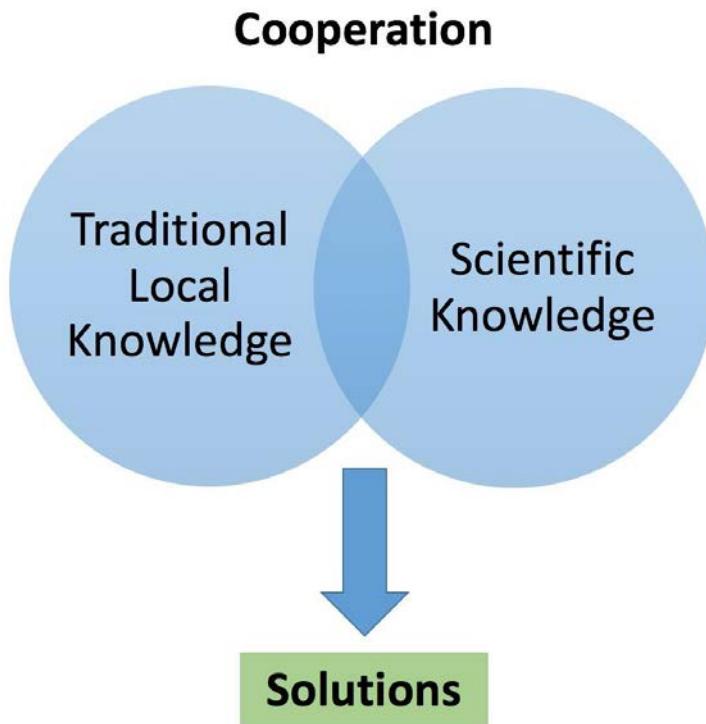


Figure 7. Wadashaqaynta ka dhaxaysa waayeelka oo haya aqoon dhaqameedka iyoo saynisyahanada ayaa loo baahanyahay si loo keeno xalal khuseeya hab maamulka sii jiritaanka dhirta.

Anagoo tix raacayna habaka la qoray, daraasadu laga sameeyay Cumaan iyo Itoobiya, iyo waraysiyo aan layeelannay waayeelka iyo beeyaystayaasha da' doodu wayntahay waxaanu go'aaminay hababkan muhiimka ee soo socda si loo raaco (Appendix 1 for references). Jaantuskani waa qayb yar oo ka mid ah warbixin dhamaystiran oo ku saabsan Hababka Haboon.

Hababka ugu Fiican ee Mangaafinta Faleenka

Moxor	Maydi
Da'da Mangaafinta ugu horaysa	Calaamadinta ugu horaysa waxa lagu sameynayaa 15 – 40 sano jir Wawaad calaamadisaa oo kali ah dhirta ka dheer 10cm DBH
Xilliga Mangaafinta	April-October (Xagaa) Mangaafinta ka baxsan xilligan waa mid waxyeelo sare ku keenaysa dhirta.
	September-June (Deyreed) Harvesting outside this season is highly damaging to the trees.

Nasinta Dhirta	Dhirta calaamadi 2 sano, dabadeed nasi 1 sano Dhirta oo dhami ma soo wada saarto faleen fiican Haddii aanay caanuhu si dhakhso ah uga soo bixin marka la calaamadiyo, geedkaa waa in la nasiyaa. Haddii faleenka midabkiisu cas yahay, geedkaa waa in la nasiyaa.	Dhirta calaamadi 2 sano, dabadeed nasi 1 sano Dhirta oo dhami ma soo wada saarto faleen fiican Haddii aanay caanuhu si dhakhso ah uga soo bixin marka la calaamadiyo, geedkaa waa in la nasiyaa. Haddii faleenka midabkiisu cas yahay, geedkaa waa in la nasiyaa.
Meertooyinka Calaamadinta	8-10 meerto calaamadin 3 – 5 ta meerto ee ugu horeeya waxay soo saaraan faleen yar. Meertooyinka 6 – 8 aad wax soo saarka faleenku wuu sareeyaa. Waa inay u dhaxaysaa 15 – 20 maalmood meertooyinka calaamadinta	8-12 meerto calaamadin Waxsoosaarka ugu fiican ee faleenku wuxuu dhacaa meertooyinka dambe Waa inay u dhaxaysaa 15-30 maalmood meertooyinka calaamadinta
Tirda Nabarada	Dhita waa in lagu sameeyo 3, 6, ama 9 calaamadooood iyadoo loo eegayo seeskiisa Dhirta yar yar waa inaan lagu samayn wax ka badan 3 calaamadooood Dhirta ugu balbalaadhan waa inaan lagu samayn wax ka badan 10 – 12 calaamadooood	Dhita waa in lagu sameeyo 3, 6, ama 9 calaamadooood iyadoo loo eegayo seeskiisa Dhirta yar yar waa inaan lagu samayn wax ka badan 3 calaamadooood Dhirta ugu balbalaadhan uguna da'da wayn, waa inaan lagu samayn wax ka badan 10 – 12 calaamadooood
Cabbirka Nabarada	Calaamadda ugu horeysaa waa inaanay ka waynaan 3cm x 4cm Meerto calaamadin kasta nabarkii way sii waynaynaysaa Calaamadda ugu dambaysa waa inaanay ka waynaan 6cm x 10 cm	Calaamadda ugu horeysaa waa inaanay ka waynaan 3cm x 4cm Meerto calaamadin kasta nabarkii way sii waynaynaysaa Calaamadda ugu dambaysa waa inaanay ka waynaan 6cm x 10 cm
Goobta la Calaamadinayo	Nabarada waa in lagu sameeyaa oogada dhinacyada sii kala jeeda ee jiridda oo kaliya Nabaraddu waa inay isu jiraan ugu yaraan 30cm meelaha jooga hoose Nabarada waa in lagu sameeyaa dhinacyada kasii jeeda dabaysha iyo cadceeda Meelaha joogoodu sareeyo nabarada waa in lagu sameeyaa dhinacyada dabaysha eegaya.	Nabarada waa in lagu sameeyaa oogada dhinacyada sii kala jeeda ee jiridda oo kaliya Nabaraddu waa inay isu jiraan ugu yaraan 30cm

Soo guridda Faleenka	<p>Faleenka waa in geedka laga soo fujiyaa inta u dhaxaysa 15 – 20 maalmo calaamadineed</p> <p>Faleenka waxa geedka laga soo fujin karaa oo kaliya marka aanu wax dhegdhega lahayn</p> <p>Faleenka waa in lasoo guraa inta u dhaxaysa labo xilli calaamadin kasta</p>	<p>Faleenka waa in geedka laga soo fujiyaa inta u dhaxaysa 15 – 30 maalmo calaamadineed</p> <p>Faleenka waxa geedka laga soo fujin karaa oo kaliya marka aanu wax dhegdhega lahayn</p> <p>Faleenka ku yaal nabarka waa in laguraa inta u dhaxaysa labo xilli calaamadin kasta, laakiin faleenka hoos u dareera ee ilmada oo kale ah waa in lagurtaa meertada ugu dambaysa</p>
---------------------------------------	---	---

4. Caqabadaha keenaya Mangaafinta Xad-dhaafka ah

Mangaafinta xad-dhaafka ah iyo si xun u maamulidda aanu soo aragnay waxa ugu wacan sababo badan, kuwo bulsho, dhaqaale iyo deegaan intaba. Kor u kaca qiimyaasha faleenka iyo tirada dadka oo marwalba sii siyaadaya ayaa keenaya dhalin badan oon ahayn beeyaystayaal sidaa u tababaran inay dhirtii u calaamadiyaan si daran iyagoo ka faa'idaysanaya qiimayaashaa. Si kastaba ha ahaatee, inkastoo laga yaabo dhalintan beeyaystayaasha ahi inaanay lahayn aqoon oo ay geedka si sax ah ugu daryeelaan, aqoon dhaqameedkaa waxa haya waayeelka deegaanka.

Inta badan meelaha daraasadda lagu sameeyay waxay wajahayeen mangaafin xad-dhaaf ah. Taana waxa keenaya sababo badan. Ugu horayn, taariikhyan qiimayaashu waxay ahaan jireen kuwo hooseeya, dhawaanna waxay kur ugu kaceen 600% iyadoon wax xakmeenaya sida dhirta loo la dhaqmayo aanu jirin. Tanina waxay dhiiri gelisay inay calaamadiyaan inta ugu badan ee suuro gal ah, si ay uga faa'idaystaan xaaladdan laga yaabo inay xadidantahay. Isla markaana, qoysasku way sii korayeen, waxaana soo baxay tiro badan oo dhalinyaro shaqo u baahan. Wuxuu jira fursado tiro yar oo kabaxsan beeyaysiga fooxa, sidaa daraadeed inbadan oo dhalinyaradaa ahi waxay noqdaan beeyaystayaal. In si dhakhso ah looga faa'idaysto kor u kaca qiimayaasha faleenku waxay keentay inay howlgalaan tiro badan oo beeyaystayaal dhalinyaro aan tababarnayni, taasoo iyana keentay inay lunto aqoon dhaqameedkii ay dhaxli lahaayeen jiilka yaryari. Waxa kale oon tan caawinin tirada badan ee qaadka ah, taasoo iyana kor u sii qaaday doonidda dhakhli degdega.

Beeyaystayaasha aan tababarnayni waxay u maleenayaan nabarro badan oo geedka lagu sameeyaa inay faleen farobadan soo saarayso, lakiin marka loo eego waayeelka iyo daraasadaha sayniseed labadaba, arintaasi maha run iska dhaafe waxay hoos u dhigaysaa caafimaad qabka geedka. Intaa waxa sii dheer, arintani waxay hor seeedaysaa inuu hoos u dhaco tayada iyo iskudhisca kiimiko ee faleenku, kana dhigaysa midaadn ku haboonay in saliid laga tuujiyo.

Beeyaystayaashu waxay ku dhigaan daraasiin – ku dhawaad boqol nabar dhirta, amaba xataa diirkaba way ka qaadaan si uu faleen badan u soo saaro. Waxay calaamdaa ugu sameeyaan si aan kalasooc lahayn oo isu dhow dhow amaba waxay calaamada ku dhigaan laamaha. Marar badan nabarradu waa kuwo aad u waawayn Aadna u qoto dheer – beeyaystayaashu waxa laga yaabaa in ay geedka u calaamadiyaan si qoto dheer iyagoo rumaysan inuu faleen badan soo saarayo (waa hab waxyeeladiisu sarayso oo deegaan ahaan looyaqaano jaqueyn). Sanadahan dambe, beeyaystayaashu waxay sameeyaan goosasho labaad oo xilliga jiilaalka ah, taasina waxay soo saartaa faleen tayodiisu hoosayso waxayna wax yeelaysaa awoodii geedku isku difaacayay. Dhamaan habakan aanu kusoo aragnay meelaha dhirtu ka baxdo waxay ku reeban yihiin aqoon dhaqameedka iyo xeerarka dhaqanka.



Figure 8. Dhir si xad-dhaaf ah loo mangaafiyay, nabaro tiro bandanna ka muuqdaan. Nasiib wanaag dhirtani waxay ku badbaadeen maxaa yeelay waa markii labaad ee si xad-dhaaf ah loo mangaafiyo iyo goobta ay ku yaalaanna oo ah mid aad u qoyan.

5. Farqiga u dhexeeyaa Moxorka iyo Maydiga

Marka laga tago in labadaba siguud loogu tibaaxo dhirta fooxa, Moxorka iyo Maydigu waa labo aad u kala duwan marka loo eego deegaan ahaan iyo dhaqaale ahaanba. Ilaa 6 sano ka hor, Maydigu wuxuu ahaa ka loogu gurasho badan yahay Somaliland iyo faleenka ugu dhoofka badan. Wakhti xaadirkan, suuqi wuu is badalay, imika Moxorka ayaa ah ka loogu gurasho badanyahay Somaliland iyo ka loogu dhoofinta badan yahay.



Figure 9. Geed Moxor ah.



Figure 10. Caleemaha Moxorka.

Moxorku waxa uu kabaxaa jog hoose oo ilaa 5 meter badda ka sareeya, lakiin guud ahaan waxa laga helaa in ta u dhaxaysa 500 iyo 1400 meter waxaanu door bidaa inuu raaco badhtanka jeex jeexyada eek u yaala silsiladda buuralayda Golis (waxa laga soo xigtay Thulin and Warfa 1987; pers. obs.). Dhirta Moxorku waxay ka dul baxdaa dhagxaan fulkaane madow, inkastoo mararka qaar ay ay xididadoodu u sii gudbaan carrado ku dhow, biyahana way ka jecelyihiin dhirta Maydiga. Dhirta Moxorku waxay door bidaan meelah roobka badan iyo ceeryaamada joogtada ah leh, faleenka ugu soo saari ogyihiin marka ay goobahaan ka baxaan. Markay cimilo fiican helaan dhirtu waxay bixisaa jirid qudha iyo caleemo fidsan oo aad cagaar u ah. Dhirtan waxa faleenka laga gurtaa inta u dhaxaysa labada xilli roobaad ee ugu waa wayn (Inta ugu badan May ilaa September) sida la yidhi cimiladaa kululi waxay wanaajisaa tayada faleenka. Dhirta Moxorku waxay soo saartaa faleen layidhaa beeyo, tasoo ka fudud, kana udgoon faleenka uu soo saaro Maydigu, inta badana waxa laga miiraa saliida laga sameeyo waxyaabaha laysku qurxiyo/kosmatiga iyo waxyaahab loo adeegsado duugitaanka. Suuqa Moxorku waxa uu marqudha kor u kacay 6 ilaa 7 dii sano ee inadhaafay, waxaana ka dhashay in loo gurto si kabadan sidii barihi hore lagu yaqaanay Somaliland.

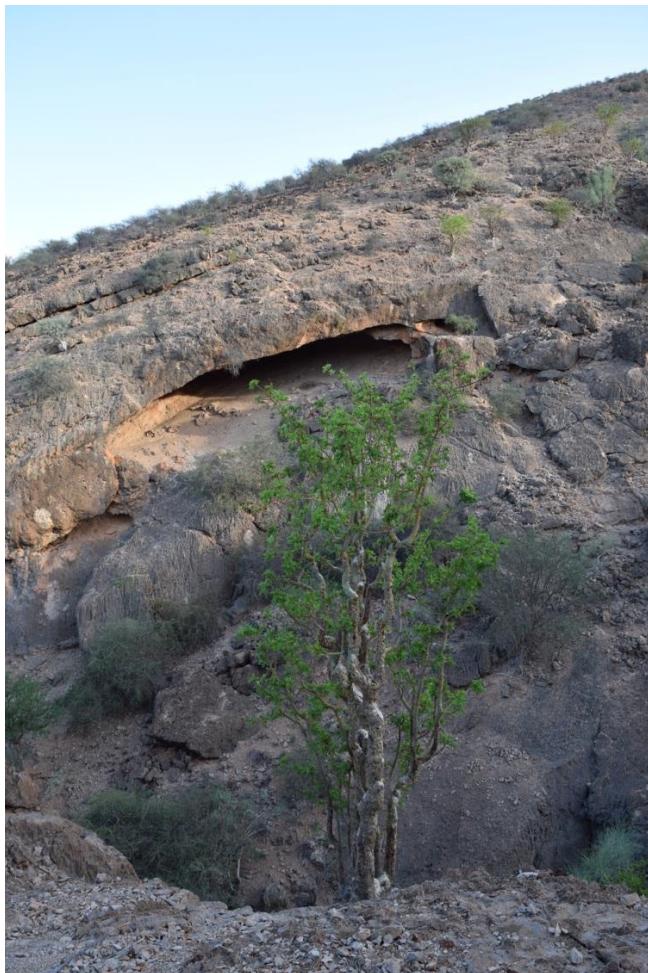


Figure 11. Geed Maydiya.



Figure 12. Caleemaya Maydiga.

Taa cagsigeeda, Dhirta Maydigu waxay ka baxdaa jog u dhaxeeya 5 – 750 meter, waxay se deer bidaa 5 – 500m oo dhaca cimolooyinka roobka yar ee kulul (waxa kaga sii xigtay Thulin and Warfa 1987). Waxay doorbidaan dhagax fulkaanaha guduudan guud ahaana way ka adagyihin dhirta Moxorka. Waxay bixiyaan jirido badan iyo caleemo tuura tuuro leh, cagaarkooduna khafiif yahay. Cagsiga Moxorka, faleenka Maydiga waxa la gurtaa xilli roobaadka labaad kadib, guud ahaan bisha October ilaa April. Dhirta Maydigu waxay soo saartaa faleen kaasoo leh ur ka xeel dheer faleenka Moxorka. In kastoo sidoo kale Maydigaba saliid laga tuujiyo, suuqa ugu wayn ee Maydigu waa faleenta laftiisa. Faleenka Maydigu wuxuu kaga duwan yahay ka Moxorka wuxuu soo saaraa dhecaan waawayn laga dhigto canjo ahaan Sucuudiga dhexdiisa. Sida taariikhda lagu hayo, faleenka waxa loo dhoofin jiray Yamen kadibna Sucuudiga. Daganaansho la'aanta iyo dagaalada is xig xiga ee ka dhacaya Yamen ayaa xidhay wadadaa ganacsi, wadooyin kale oo ganacsina markii la waayay suqii Maydigu xoog buu hoos ugu dhacay, taasina waxay keentay inuu yaraado faleenka laga gurto Maydigu halka cadaadis badani uu fuulay dhirtii Moxorka.

6. Xayiraado

Intii lagu guda jiray qiimayntii aanu ku sameenaynay beeraha ee bishii January 2017 waxaan ogaanay kutidhi kuteen iyo been la faafiyay oo ku saabsan in kooxda saynisyahanada ahi ay door bidayaan xayiroda/joojinta ganacsiga Fooxa ee Somaliland. Tani waa been abuur. Kooxduna mar qudha kamay shaqayn waxa keenaya xayiraad. Intaa waxa sii dheer, ma jiraan wax wadahadallo ah oo ka dhexeeya Qaramada Midoobay, dowladaha ajnabiga ah ama dowladda Soamliland oo ku saabsan xayiraad. Majiro wax dhaqdhaqaq ah oo lagu xayirayo fooxa Somaliland. Xaqiiqdii, xayiraado looga danlahaa sii jirtaanka, ayaa laysku dayay xaaladan oo kale waxaanay noqdeen kuwo aan guulaysan sababo badan awgood. Xariraadu waxay si fudud u abuuri kartaa cawaaqib taban sida dakhli xoogan oo dadban, inuu hoos u dhaco dakhliga ay dowladuu cadhuurtu ka hesho, inuu hoos u dhaco qiimaha ay kiiloogiiba ka helaan beeyaystayaashu, hurinta khilaafaad iyo musuqmaasuq iyo inuu uga sii daro xaaladda deegaanka iyo caafimaad geedka. Kumanaan dad ah ayaa nolol maalmeedkuudu ku tiirsan yahay dhirta. Sii jiritaan dheeli-tiran iyo in la barwaqaqoobo ayaa suuro gal ah hadii dadyowga midida daabkeeda haya ee kanacsigan ka dhexeeyo ay is kaashadaan (waxa laga soo xigtay Mamba 2015, Duffy et al. 2003, Portela 2011).

7. Fahmizza suuqyada cusub iyo awoodaynta mulkiilayaasha beeyada

In badan oo Somalida beeraha beeyada leh ayaa fahan darro ka haysata suuqa caalamiga ah. Baahida loo qabo Moxorka oo wakhti gaaban koroday ayaa isbedel ku keentay suuqii. Iibsadayaasha caalamiga ah, gaar ahaan warshadleyda kosmaatiga dabiicigaa iyo saliidaha muhiim ka ah waxay ubaahanyihiin faleenka ay uga baahaniin alaabaha ay soo saarayaan inuu ka yimaado dhir si fiican loo maamulay, tayo saraysa oo aan wasakhaysnayn. Tani se walaac badan kuma hayso shirkadaha saliidaha badhxa sida warshadaha cadarada macmalka ah.

Sida kasoo baxaysa xogta laga helayo warshadaha saliidda sifeeya iyo shaybaadho madax banaanba, ayaa sheegaysa in dhamaan faleenadu aanay isu wada mid ahayn. Qaar ka mida faleenada ayay ku jiraan xaddi sare oo kiimikooyin ah kuwaas oon ku haboonayn soo saarka saliida. Intaa waxa dheer, dhirta sida xad-dhaafka ah loo mangaafiyay badiyaa ma soo saaraan saamiyo faleen saxa oo saliid iyo xabko ah si ka tuujiinta saliidi u noqoto mid kharashka ku fadhida oo faa'ido leh. Waxa kale oo jira xaalado faleen aan ahayn Moxor iyo Maydi lagu soo dhex daray Moxorka. Tani way ku adagtahay dhoofiyayaashu inay ogaadaan lakin waxay cadaataa marka faleenada lagu baadho shaybaadhka; kiimikooyinka isku qasan ee soo baxa ayaa muujiya in waxyaabo kala gadisan isku jiraan rarkaana sidaas baa lagu diidaa. Xaqiqdii, qaar ka mida shaybaadhadu waxay sheegeen kiimikooniy faleen oo aanay waligood hore u arag hadda ka hor waxaanay noqon karaan kuwo koox cusub ama aan magacooda lagaranayn oo la qoys ah faleenka laakin waxa cad in ayna ahayn kuwo ka yimi moxor. Ugu dambayntii, warshadaha saliida miiraa waxay sheegayaan in si guud hoos u dhac ugu yimi tayada faleenka iyo saliida sanadihii ugu dambeeyay.

Gabagabadii, mulkiilayaasha dhulka beeyadu waxay u baahan yihiin in labaro waxyaabo ku saabsan suuqa iibsadayaashuna waxay u baahanyihiin:

1. Inay dhiirigeliyaan sii jirtaanka iyo caafimaadqabka geedka
2. Hubiyaan in ay helaan qiimo isku mid ah
3. Inay lahaadaan aqoon ku saabsan wuxuu yahay nooca faleenka ay dhirtoodu soo saarto
4. Garankaraan suuqyada ugu fiican wax soo saarkooda
5. Kafakaraan noocy wax soosaar oon ahyn faleeno saliid laga tuujiyo oo kaliya ama faleen ku kooban bariga dhexe uun.

8. Iibsadayaasha Caalamiga ah iyo dadaalada iskaashi

Waxa cad in shirkadaha dhoofiya iyo iibsadayaasha shisheeye ay kaalin muhiim ah ku leeyihiin in ganacsigani noqdo mid sii socda iyadoo laysku miisaamayo muddo dheer iyo sii jiritaanka. Tani waliba waxay gaar u siitahay xaaladda Somaliland halkaas oo ay xadidan yihiin kheyraadka ay dowladdu haysato oo ay awoodo in ay hagto. Lagama fili karo mulkiilayaasha dhulka beeyada iyo beeyaystayaasha oo qudha ku waas oo laga yaabo in faqri hadheeyay qaadidda masuuliyadda ilaalinta dhirta iyo kayamaha. Baahida caalamku waa inay la timaadaa masuuliyad ay dib ugu maalgelinayso bulshooyinka, maaha kaliya inay qiimo macquula inay wax kaga iibsadaan laakiin waa inay jiraan maalgelin bulsheed oo qorshaysan.

Intaa waxa dheer, dhoofiyayaasha iyo iibsadayaasha faleenku waa inay xisaabta ku darsadaan baahidoodu saamaynta ay ku yeelan karto caafimaadka dhirta iyo kaymaha guud ahaan. Shirkaduhu waxay awoodooda iib uga faa'idayasan karaan inay dalbadaan oo ay meel mariyaan in dhirta loo maamulo si ay u sii jiri karaan iyagoo sameenaya cilmi-baadhis joogto ah, wax barid, iyo wacyi gelin, in lacag ahaan lagu abaal mariyo sii jiritaanka, dhiirigelinta kaladuwanaanshaha dhaq dhaqaaq yada dhaqaale iyo iskaashiga dadka arimuhu ka go'aan oo ay ku jiraan kuwa mulkiilayaasha dhulka ah, bulshada, cuqaasha, dowladda, cilmi-baadhayaasha iyo shirkadaha kale.

9. Talaabooyinka Xiga

Anagoo taageero ka helayna iibsadayaasha shisheeye ee aqbalay masuuliyadda baahida ay abuureen waxaanu taageero u haynaa inaanu bilowno talaabooyinka.

- Shaacinta hababka ugu fiican
- Kor u qaadidda wacyiga iyo ku tababaridda hababka ugu fiican beeyaystayaasha
- Daraasaynta siyaaba ugu mudan ee maalgelinta horumarineede bulshada
- Hubinta hab lagu abaal marinayo lacag, beeyaystayaasha si sii jiritaan leh u maamula dhirtooda
- Sii wadidda cilmi-baadhisti kushaysa caafimaadka dhirta iyo sidii dhirta looga dhigi lahaa kuwo waxbadan soo saara.

Tixraacyo:

Duffy, R. (2003). Global Environmental Governance and Local Resistance: The Global Trade in ivory. In F. Cochrane, R. Duffy, & J. Selby (Eds.), *Global Governance, Conflict and Resistance* (pp. 155–173). Palgrave Macmillan UK. https://doi.org/10.1057/9781403943811_9

Eshete, A., Sterck, F. J., & Bongers, F. (2012). Frankincense production is determined by tree size and tapping frequency and intensity. *Forest Ecology and Management*, 274, 136–142. <https://doi.org/10.1016/j.foreco.2012.02.024>

Farah, A. Y. (1996). *Milk of the Boswellia Forests: Frankincense Production Among the Pastoral Somali*. (T. H. af Ornas, Ed.). Uppsala, Sweden: Environmental Policy and Society.

Lemenih, M., & Kassa, H. (2011). *Management guide for sustainable production of frankincense: A manual for extension workers and companies managing dry forests for resin production and marketing*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. Retrieved from <http://www.cifor.org/library/3477/management-guide-for-sustainable-production-of-frankincense-a-manual-for-extension-workers-and-companies-managing-dry-forests-for-resin-production-and-marketing/>

Mamba, C. (2015). Conflict diamonds continue to fund Central African Republic rebels : Central Africa - issue in focus. *Africa Conflict Monitor*, 2015(Nov 2015), 59–63.

Mohsin, A.-A. (2015). *Sustainable harvesting of Frankincense trees in Oman*. Saarbrücken: LAP Lambert Academic Publishing.

PDRC. (2003). *Somali Customary Law and Traditional Economy: Cross Sectional, Pastoral, Frankincense, and Marine Norms*. Puntland Development Research Centre. Retrieved from http://www.jccp.gr.jp/_src/sc2372/3_SomaliCustomaryLaw20andTraditionalEconomy.pdf

Portela, C. (2011). *Impact of Sanctions and Isolation Measurement with North Korea, Burma/Myanmar, Iran and Zimbabwe as Case Studies* (No. Paper 1685). Research Collection School of Social Sciences. Retrieved from http://ink.library.smu.edu.sg/soss_research/1685

Thulin, M. (2006). *Flora of Somalia Volume 3* (illustrated edition edition). Kew: Royal Botanic Gardens, Kew.

Thulin, M., & Warfa, A. M. (1987). The Frankincense Trees (*Boswellia* spp., Burseraceae) of Northern Somalia and Southern Arabia. *Kew Bulletin*, 42(3), 487–500.

<https://doi.org/10.2307/4110063>

Appendix 1

Summarized version of statements provided by interviewees on issues and traditional practices. Complete table available upon request.

Total Participants: 179			
Layka	Arrinta	Ka qaygalayaash	Marjica
1	High levels of overharvesting	49	12 (EFE/CF 10/9; GB 10/8; MMH 10/11; GBC 10/12; RQ 10/13; AJC 10/13; BWP 10/15; GE 10/10; BH 9/30, HSH 10/23; BOS 11/2; GBCH 10/12; NBC 10/20; AMW 10/12)
2	Adult trees are dying	38	8 (IJ 10/6; EFE/CF 10/7; GB 10/8; MMH 10/11; RQ 10/13; BWP 10/15; GBC 10/12; GE 10/10)
3	Lack of industry regulation/cooperation causing conflict	49	13 (BH 9/30; EFE/CF 10/9; GB 10/8; MMH 10/11; GBC 10/12; IJ 10/6; BWP 10/15; NBC 10/20; AJC 10/13; AD/A 10/5; HSH 10/23; AMW 10/14; BOS 11/2)
4	Distrust of the World Bank and other NGOs	86	5 (BAM 10/6; MMC 10/11; GBC 10/12; RQ 10/13; AJC 10/13)
5	Distrust of Central (Hargeisa) government	76	6 (BAM 10/6; GBC 10/12; RQ 10/13; MP 10/19; HSH 10/23; AJC 10/13)
6	Feel that companies have abandoned them	25	3 (MMC 10/11; RQ 10/13; AJC 10/13)
7	Communities need projects (Infrastructure, education, clinics, etc.)	52	3 (EFE/CF 10/9; GBC 10/12; RQC 10/13)
8	Dwindling resin output and quality	42	6 (MMC 10/11; MH 10/16; NBC 10/20; GBC 10/12; HSH 10/23; BOS 11/2)
9	Multi-level cooperation necessary to protect trees	26	5 (GBC 10/12; NBC 10/20; BH 10/20; HSH 10/23; AJC 10/13)
Total Participants: 23			
Traditional Practices		Participants	Sources
10	Age of first harvest is 40 years or ~ 10cm	3	3 (Al-Aamri 2014; GE 10/10; MSM 1/27)
11	Tapping cycle is May-Oct for carterii and Sept-May for frereana	9	4 (IJ 10/6; GB 10/8; HSH 10/23; GE 10/10) + Farah 1994; PDRC 2003
12	No more than 6 months of tapping; 3 months is ideal	6	MMS 1/16, MK 1/17, MSM 1/27

13	8-12 tapping cycles for <i>frereana</i> , 8-10 for <i>carterii</i> ; 15-30 day intervals	7	PDRC 2003; Farah 1994; MSM 1/27; MK 1/17; HSH 10/23; MK 1/20; Al-Aamri 2014
14	Last cycles yield best resin	3	PDRC 2003; Farah 1994; MSM 1/27
15	Trees must be rested after 2 years of tapping	5	PDRC 2003; Farah 1994; MSM 1/27; GE 10/10; Al-Aamri 2014
16	No more than 10-12 wounds/tree	11	EEFE/CF 10/9, GE 10/10, MSM 1/27, Al-Aamri 2014; Eshete et al. 2012
17	Wounds should be small and shallow	9	MMS 1/16, GE 10/10, MSM 1/27, Al-Aamri 2014, Eshete et al 2012, Farah 1994
18	Wounds in a channel on opposite sides of the tree	5	GE 10/10, CF 10/9, Al-Aamri 2014; Eshete et al. 2012, MSM 1/27
19	Gather resin at each cutting interval, when non-sticky	7	PDRC 2003; Farah 1994; MSM 1/27; MK 1/20; HSH 10/23; MK 1/17; Al-Aamri 2014