

Savage, J. C., Randrianantenaina, S. M., Turner, A., Verkade, A., DeVries, A. B., Parker, Q. M. and Long, S. 2024. Assessing poverty and the relative importance of small-scale lobster fishing activity in coastal communities, southeast Madagascar. *Madagascar Conservation & Development* 19, 1. <https://doi.org/10.4314/mcd.v19i1.5>; <https://journalmcd.com/index.php/mcd/article/view/899>

## Supplementary Material

### Household survey

#### **Vakio amin'ny mpandray anjara ny taratasy fanekena**

Read consent information sheet to participant.

#### **1.1 Ianao ve ny loham-pianakaviana? Raha tsia, mpifaninona ianao sy ny loham-pianakaviana?**

Are you the head of the household? If not, what is your relation to the household head?

Head of Household <b>loham-pianakaviana</b>	Wife <b>Vady (vavy)</b>	Husband <b>Vady (lahy)</b>
Son <b>Zanaka lahy</b>	Daughter <b>Zanaka vavy</b>	Mother <b>Reny</b>
Father <b>Ray</b>	Brother <b>Rahalahy</b>	Sister <b>Rahavavy</b>
Aunt <b>Nenitoa</b>	Uncle <b>Dadatao</b>	Grandmother <b>Renibe</b>
Grandfather <b>Raibe</b>	Cousin <b>Zanakin'ny mpirahalaly na mpirahavavy</b>	Friend <b>Namana</b>
Joint head of household <b>Samy loham-pianakaviana</b>	No head of household <b>Tsy misy loham-pianakaviana</b>	(specify other) <b>Hafa (hazavao tsara)</b>
Don't know <b>Tsy hay</b>	Prefer not to say <b>Tsy tiana holazaina</b>	

#### **1.2 Iza ny anarana fiantsoana ny loham-pianakaviana?**

What is the surname of the household head?

**Ny anarana fiantsoana dia hampiasaina hamantarana ny tokantrano fotsiny fa tsy ilaina amin'ny fanaovana tatitra**

Surname will only be used to identify houses and will not be used in reporting.

#### **1.3 Efa misy firy taona niorenan'ny tokatranonareo eto amin'ity fokotany ity?**

How long has your household lived in this Fokontany?

**Azafady tanisao ny isan'ny taona nahalasa mponina azy.**

Please specify total number of years or year became resident.

#### **1.4 Firy taona ianao?**

What is your age?

**Raiso ny taona nahaterahany raha tsy tadidiny ny taonany**

If age unknown use year of birth.

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### 1.5 Lahy / vavy?

What is your gender?

Male	Female	Other	Prefer not to say
<b>Lahy</b>	<b>Vavy</b>	<b>Hafa</b>	<b>Tsy tiana holazaina</b>

### 1.6 Hatraiza ny fianarana vitanao?

What is the highest level of education you have completed?

T1		
T2		
T3		
T4		
T5		
T6/6eme		
T7/5eme		
T8/4eme		
T9/3eme		
T10/2nd		
T11/1ere		
T12/terminal/baccalaureate		
Bachelor's degree	Master's degree	
(specify other)	Don't know	No formal education
<b>Hafa (Inona)</b>	<b>Tsy fantatra</b>	<b>Tsy nianatra tany an-tsekoly</b>
Prefer not to say <b>Tsy tiana holazaina</b>		

### 1.7 Firy ny isan'ny vehivavy monina ao anatin'ny tokantrano raha miampy ny mpandray anjara?

What is the total number of females living in this household including participant?

**Ny dikan'ny teny hoe monina ao anaty tokantrano dia olona iray sakafo sy trano nandritra ny roa herinandro lasa teo. Tsy anatin'izany ny olona miasa na mianatra ivelany.**

Living in a household is defined as those people who ate and slept in the household in the previous two weeks. This does not include family members who are away studying, working etc..

### 1.8 Taonan'ny vehivavy voalohany

Age of female (including participant)

1, 2 ....

**Rehefa tsy fantatra ny taona dia ampiasaina ny taona nahaterahana.**

If age unknown use year of birth.

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**1.9 Firy ny isan'ny lehilahy ao anatin'ny tokantrano raha miampy ny mpandray anjara?**

What is the total number of males living in this household including participant?

**Tsy maintsy olona iray sakafo sy trano mandritra ny 2 herinandro lasa teo. Tsy anisan'izany ny olona miasa sy mianatra ivelany.**

Living in a household is defined as those people who ate and slept in the household in the previous two weeks. This does not include family members who are away studying, working etc.

**1.10 Taonan'ny lehilahy voalohany**

Age of male (including participant)

1, 2 ....

**Rehefa ny taona tsy fantatra, ampiasaina ny taona nahaterahanambara dia avelao malalaka.**

If age unknown use year of birth.

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## 2.1 Inona daholo ny asa mampidi-bola ao anaty tokantranonareo?

What activities provide your household with money?

**Aza vakina ny valiny etsy ambany ary tsy anatin'ny asa tsy mampidi-bola ao anatin'ny tokantrano fa sakafo fotsiny**

Do not read options, do not include activities that only bring food and not money into the household.

Lobster fishing <b>Mamovo na manjono oratsimba</b>
Fishing fish - handline, nylon net <b>Manjono trondro: vintana, harato</b>
Fishing - diving for sea cucumbers <b>Manjono: Mirika cocombre de mer</b>
Freshwater fishing - mosquito net or lamba or mahampy or woven material <b>Jono an-dranomamy: Lay (mostikera) na lamba na atsidina na fitaovana norarena</b>
Freshwater fishing – handline <b>Jono an-dranomamy: vintana</b>
Collector <b>collecteur</b>
Rabbateur
Selling raw fish - inside community or to nearby communities, not to collector <b>Varotra trondro manta: eto an-toerana na amin'ny toerana manodidina fa tsy amin'ny collecteur</b>
Selling cooked fish <b>Varotra trondro masaka</b>
Shop keeping / tea room <b>Botika / Gargotier</b>
Farming - crops (specify in next question) <b>Voly (anotanio tsar any zavatra amboleny)</b>
Farming- livestock (pigs, zebu, ducks, chickens, <b>specify in next question</b> ) <b>Fiompiana (kisoa, omby, gana, akoho) azavaho amin'ny fanontaniana manaraka</b>
Guardian of another persons zebu. <b>Mpiaraka ombin'olona</b>
Mahampy weaving: any product <b>Rary vita amin'ny mahampy: izay rary ataony</b>
Selling raw mahampy reeds <b>Varotra mahampy</b>
Logging /selling - timber <b>Fikapana hazo / varotra hazo trano</b>
Selling firewood and charcoal <b>Varotra kitay na arina (charbon)</b>
Laundry <b>Sasa</b>
Casual work (dobakandro): weeding <b>Asa antselika (dabokandro): ava</b>
Casual work (dobakandro): rice transplanting <b>Asa antselika (dabokandro): ketsa</b>
Carpenter <b>Mpandrafitra</b>
Construction/building (inside community) <b>Mandrafitra eto an-toerana</b>
Teacher <b>Mpampianatra</b>
Road building / for SARA <b>Miasa lalana amin'ny SARA</b>
Mining / QMM
SEED/ <b>ONG Azafady</b>
Manafiafy Lodge <b>Hotely Manafiafy</b>
Don't know <b>Tsy fantatra</b>
Other, please specify <b>Hafa (inona)</b>
Prefer not to say <b>Tsy tiana hambara</b>

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### 2.1.1 Inona ny fitaovana entinao mamovo na manjono oratsimba?

What gear is used to fish for lobster?

Pot <b>vovo</b>
Net <b>harato</b>
Trap <b>fandrika</b>
diving <b>mirika</b>
don't know <b>tsy fantatra</b>
prefer not to say <b>tsy tiana holazaina</b>
other (please specify) <b>zavatra hafa (inona?)</b>

### 2.1.1 Inona ny voly mampidi-bola ao anaty tokantranonareo?

What crops are farmed?

**Tsy ilaina ny voly tsy mampidi-bola na ny atao sakafo fotsiny**

Do not include crops only farmed for food. Do not read options.

Banana <b>Akondro</b>
Beans <b>Voamaina</b>
Cassava <b>Balahazo</b>
Coconut <b>Voanio (coco)</b>
Jackfruit <b>Apalibe</b>
Lychee <b>Ledisy</b>
Maize/corn <b>Katsaka (tsako)</b>
Mango <b>Manga</b>
Orange <b>Voahangy</b>
Peach <b>Paiso</b>
Pineapple <b>Mananasy</b>
Pink pepper <b>baie rose</b>
Pumpkin <b>Taboara</b>
Rice <b>vary</b>
Sweet potato <b>Bageda</b>
Tarot <b>Tsonjo</b>
Other, please specify <b>Hafa (inona)</b>
Don't know <b>Tsy fantatra</b>
Prefer not to say <b>Tsy tiana hambara</b>

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### 2.1.2 Inona ny biby ompiana ka mampidi-bola anaty tokantranonareo?

What livestock are farmed?

#### Tsy ilaina ny biby ompiana atao sakafo fotsiny

Do not include livestock only farmed for food. Do not read options

Chicken <b>Akoho</b>
Ducks <b>Kana</b>
Geese <b>Gisa</b>
Goat <b>Osy</b>
Pigs <b>Kisoa</b>
Zebu <b>Omby</b>
Other, please specify please specify <b>Hafa (inona)</b>
Don't know <b>Tsy fantatra</b>
Prefer not to say <b>Tsy tiana hambara</b>

### 2.2 Aiza amin'ireo asa ireo ny tena mampidi-bola ao anaty tokatranonareo?

Of these activities, can you tell me which provides your household with the most money?

#### 2.2.1 Raha tsy afaka manao an'io asa io ianao dia inona koa ny asa hafa ataonao tena mampidi-bola ao anaty tokatranonareo ankoatran'io?

If you cannot do this activity, what activity provides your household with the most money?

#### 2.2.2 Raha tsy afaka manao an'io asa io ianao dia inona koa ny asa hafa ataonao tena mampidi-bola ao anaty tokatranonareo ankoatran'io?

If you cannot do this activity, what activity provides your household with the most money?

#### 2.2.3 Raha tsy afaka manao an'io asa io ianao dia inona koa ny asa hafa ataonao tena mampidi-bola ao anaty tokatranonareo ankoatran'io?

If you cannot do this activity, what activity provides your household with the most money?

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**2.3.1 Mivarotra vombon'antsantsa ve ny ato an-tokatranonareo?**

Does your household sell shark fins for money?

Yes Eny	No Tsia	Don't know Tsy fantatra	Prefer not to say Tsy tiana hambara
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**2.3.2 Mivarotra vatany na nofon'antsantsa ve ny ato anaty tokantranonareo?**

Does your household sell shark meat for money?

**2.3.3 Mivarotra charbon ve ny ato anaty tokatranonareo?**

Does your household sell charcoal for money?

**2.3.4 Mivarotra kitay ve ny ao anaty tokatranonareo?**

Does your household sell firewood for money?

**2.3.5 Mivarotra hazotrano ve ny ao anaty tokatranonareo?**

Does your household sell timber (wood for construction) for money?

**2.3.6 Mivarotra vokatra azo amin'ny mostikera (lay misy ody moka), lamba, harato kely maso latsakin'ny 2 tondro ve ny ato anaty tokatranonareo?**

Does your household sell the products of fishing with mosquito nets, lambas, mahampy, nets with mesh size smaller than two fingers or something similar?

**2.3.7 Tamin'ny taona lasa,ny 2018, efa nisy fotoana nihinanan'ny vadinao laoky niazo avy any anaty ala: Lamboala, Variky,Fanihy ?**

In the past year, 2018, has your household eaten lemur, bats, wild pigs or other animals hunted and caught in the forest?

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#### 4.1 Asehoy tsirairay ilay karatra dia apetraho ity fanontaniana ity: “Manana na afaka mahazo an’ity ve ianao”?

Present cards one by one and ask “Does your household currently own or have access to this item?”

**langavio ilay olona anaovanao fanadihadiana mba hanokana ny karatra eny sy tsia**  
Get participant to place cards into piles of yes and no.

Yes Eny	No Tsia	Prefer not to say Tsy tiana hambara
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A. Plastic bucket : <b>sihoa</b>
B. Big cooking pot, size 60 for celebration: <b>vilany be60marikahanaovana fety, na fivoriam-pianakaviana.</b>
C. Big cooking pot for rice : <b>vilagny be fandrahoa vary</b>
D.Small metal spoon for eating : <b>sotro</b>
E. Mahampy mat : <b>tsihy mahampy</b>
F. Fleece blanket : <b>bodofotsy</b>
G. Metal lobster pot: <b>vovo langosta vita amin'ny vy</b>
H. Wooden lobster pot: <b>vovo langosta vita amin'ny hazo</b>
I. Life jacket : <b>sauvetage</b>
J. Cement floor in house : <b>tragny vita dallage</b>
K. Metal roof on house : <b>tragny vifotsy</b>
L. Radio : <b>radio</b>
M. Latrine : <b>fivoahana (toilet)</b>
N. Zebu : <b>agnomby</b>
O. Antanosy pirogue : <b>laka tanosy</b>
P. Vezo pirogue : <b>lakam-bezo</b>
Q. Fibreglass boat with motor: <b>kanoty</b>
R. Bicycle: <b>biskileta</b>
S. Shoes : <b>kiraro</b>
T. Glass cup : <b>vera</b>
U. Tin plate : <b>lasety</b>
V. Foam mattress: <b>kidory eponge</b>
W. Bed : <b>farafara</b>
X. Mobile : <b>telefony</b>
Y. Motor cycle: <b>moto</b>
Z. Television: <b>tele</b>
AA. Metal cooking tripod : <b>toko-vy</b>
BB. Solar panel : <b>panneaux solair</b>
CC. Generator : <b>group</b>
DD. Money to visit a doctor: <b>Vola ho an’ny fahasalamana</b>
EE. Money to send all school age kids to school: <b>Vola ikarakarana fianaran-jaza</b>
FF. Water from a well or tap in the community: <b>Ranom-bovo na rano pompy eo an-tanana</b>
GG. Enough money to be able to save money: <b>Mananan-bola ampy hahaja hitsinjovana vodiandro homerika</b>



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**4.2 Asehoy indray ilay karatra ary aza ovaina ny filaharany ka apetraho ity fanontaniana ity: "Ilain'ny isan-tokantrano amin'ny fiainany andavanandro ve io hany ka na iza na iza dia tsy maintsy manana azy?"**

Present cards again in same order and ask ""Is this item in your view a basic necessity that every family in the community should have and no family should have to do without?"

**langavio ny olona anaovanao fanadihadiana mba hanokana ny karatra eny sy ny tsia.**

Get participant to place cards into piles of yes and no.

Yes	No	Prefer not to say
Eny	Tsia	Tsy tiana hambara

**4.3 Hanotaniako anao ny laharan'ireo zavatra noresahinao teo aloha**

I am now going to ask you the numbers of the items that you previously said you own.

**5.1 Manjono oratsimba (mamovo) ve ianao?**

Are you yourself a lobster fisher?

Yes	No	Prefer not to say
Eny	Tsia	Tsy tiana hambara

**5.2 Firy ny olona manjono oratsimba (mamovo) ao anaty tokantranonareo tamin'ny 2018?**

How many people in your household have fished for lobster in 2018?

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Table S1. The 33 potential Basic Necessities Survey items used in household surveys (n=533). The percentage of households who identified each item as a basic necessity is shown for all communities aggregated and items are ordered by frequency of identification. Items shaded in grey were identified by less than 50.0% of participants and were excluded from subsequent analysis.

	ALL
Metal spoon	99.4
Cooking pot for rice	98.7
Tin plate	98.5
Metal cooking tripod	98.3
<i>Mahampy</i> mat, hand woven reed mat	97.8
Plastic bucket	97.2
Water from a well or tap in the community	93.1
Money to send all children to primary school	92.3
Money to visit a doctor	90.8
Enough money to be able to save money	90.1
Shoes	89.3
Lobster pot (wooden)	87.8
Fleece blanket	83.5
<i>Antanosy pirogue</i> , wooden dugout canoe	79.2
Zebu, dry adapted indicine cattle ( <i>Bos indicus</i> )	76.6
Glass cup	74.5
Bed	68.4
Lobster pot (metal)	63.9
Household latrine	63.5
Large cooking pot for celebrations	63.1
Life jacket	59.9
Radio	56.6
Mobile phone	49.4
Solar panel	42.7
Foam mattress	38.2
<i>Vezo pirogue</i> , wooden dugout canoe with sail	30.0
Bicycle	27.5
Metal roof	24.0
Motorboat	16.9
Cement floor	15.5
Television	14.2
Generator	12.9
Motorcycle	8.1

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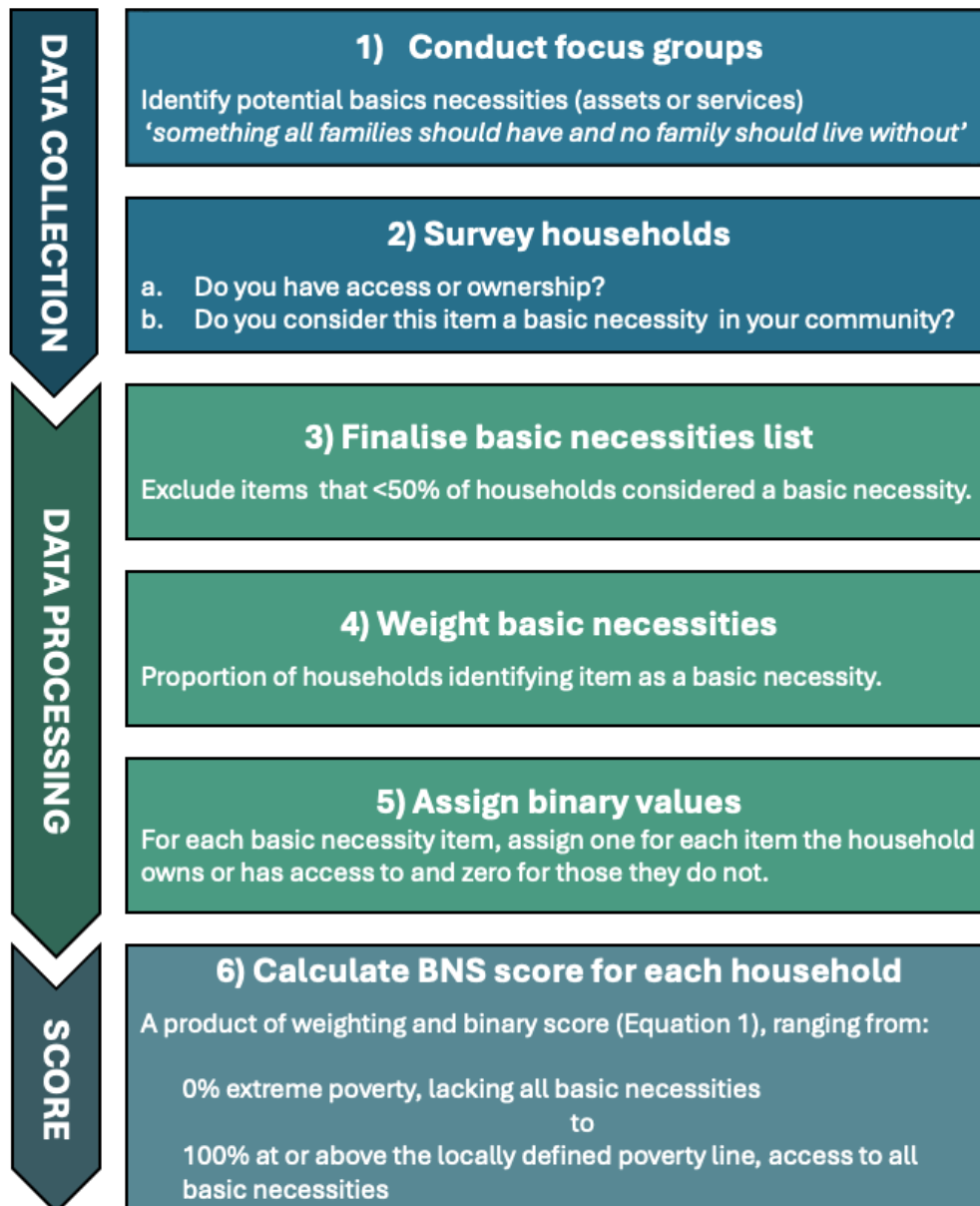


Figure S1. Diagrammatic overview of Basic Necessities Survey methodology.