

Using SMS surveys to understand songbird ownership and shark consumption in Indonesia

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SUPPLEMENTARY TABLE 1 List of bird/songbird species or species group found in the survey. The abbreviation of IUCN Red List Status used in this table: CR (Critically Endangered); EN (Endangered); LC (Least Concern); and NT (Near Threatened). ‘Vary’ means the species was identified with minimum information (only genus/group/family were known) and therefore, it belonged to more than one IUCN Red List category as this status was based on species level.

Local name	English Name	Species name	IUCN Red List Status	Protection Status under Indonesia’s Conservation Law (Ministerial Regulation No. 106 Year 2018)
Songbird				
<i>Anis</i>	Thrushes	<i>Geokichla sp.</i>	Vary	Unprotected
<i>Anis merah</i>	Orange-headed thrush	<i>Geokichla citrina</i>	LC	Unprotected
<i>Bentet</i>	Shrikes	<i>Lanius sp.</i>	Vary	Unprotected
<i>Burung gereja Erasia</i>	Eurasian tree sparrow	<i>Passer montanus</i>	LC	Unprotected
<i>Burung madu</i>	Sunbirds	<i>Nectariniidae</i>	Vary	N/A; Some of the species are protected
<i>Burung madu sriganti</i>	Olive-backed sunbird	<i>Cinnyris jugularis</i>	LC	Unprotected
<i>Cendrawasih</i>	Bird-of-paradises	<i>Paradisaea sp.</i>	Vary	Protected
<i>Bondol</i>	Sparrows/Munias	<i>Lonchura sp.</i>	Vary	N/A; Some of the species are protected (gray-banded munia and Javan munia)
<i>Cica-Daun</i>	Leafbirds	<i>Chloropsis sp.</i>	Vary	N/A; Some of the species are protected

<i>Cinenen</i>	Tailorbirds	<i>Orthotomus sp.</i>	Vary	Unprotected
<i>Cucak</i>	Bulbuls	<i>Pycnonotus sp.</i>	Vary	Unprotected
<i>Cucak kutilang</i>	Sooty-headed bulbul	<i>Pycnonotus aurigaster</i>	LC	Unprotected
<i>Decu belang</i>	Pied bushchat	<i>Saxicola caprata</i>	LC	Unprotected
<i>Empuloh janggut</i>	Brown-cheeked bulbul	<i>Alophoixus bres</i>	EN	Unprotected
<i>Gagak</i>	Crows	<i>Corvus sp.</i>	Vary	N/A; Some of the species are protected
<i>Jagal hitam</i>	Black butcherbird	<i>Cracticus quoyi</i>	LC	Unprotected
<i>Jagal Papua</i>	Hooded butcherbird	<i>Cracticus cassicus</i>	LC	Unprotected
<i>Jalak</i>	Starlings	<i>Sturnidae</i>	Vary	N/A; Some of the species are protected
<i>Jalak Bali</i>	Bali myna	<i>Leucopsar rothschildi</i>	CR	Protected
<i>Jalak suren</i>	Asian pied starling	<i>Gracupica contra</i>	LC	Unprotected
<i>Kacamata</i>	White-eyes	<i>Zosteropidae</i>	Vary	N/A; Some of the species are protected
<i>Kacamata Makassar</i>	Black-ringed white-eye	<i>Zosterops anomalus</i>	LC	Unprotected
<i>Kacembang gadung</i>	Asian fairy-bluebird	<i>Irena puella</i>	LC	Unprotected
<i>Kepodang kuduk-hitam</i>	Black-naped oriole	<i>Oriolus chinensis</i>	LC	Unprotected
<i>Kucica ekor-kuning</i>	Rufous-tailed shama	<i>Trichixos pyrropygus</i>	NT	Unprotected
<i>Kucica hutan</i>	White-rumped shama	<i>Kittacincla malabarica</i>	LC	Unprotected
<i>Kucica kampung</i>	Oriental magpie-robin	<i>Copsychus saularis</i>	LC	Unprotected
<i>Merak</i>	Peafowls	<i>Phasianidae</i>	Vary	N/A; Only a species is protected (green peafowl)
<i>Merbah cerukcuk</i>	Yellow-vented bulbul	<i>Pycnonotus goiavier</i>	LC	Unprotected
<i>Merbah/Empuloh</i>	Bulbuls	<i>Pycnonotidae</i>	Vary	N/A; Only a species is protected (hook-billed bulbul)
<i>Perenjak</i>	Prinias	<i>Prinia sp.</i>	Vary	Unprotected
<i>Pipit/Bondol</i>	Sparrows/Munias	<i>Lonchura sp.</i>	Vary	N/A; Some of the species are

				protected (gray-banded munia and Javan munia)
<i>Poksai</i>	Laughingthrushes	<i>Leiothrichidae</i>	Vary	N/A; Some of the species are protected
<i>Tangkar ongklet</i>	Crested shrikejay	<i>Platylophus galericulatus</i>	NT	Protected
<i>Tepus/Pelanduk</i>	Babblers	<i>Malacocincla sp./Stachyris sp.</i>	Vary	N/A; Some of the species are protected
<i>Tiong emas</i>	Common hill myna	<i>Gracula religiosa</i>	LC	Protected
Other birds				
<i>Ayam</i>	Junglefowls	<i>Gallus sp.</i>	Vary	Unprotected
<i>Betet biasa</i>	Red-breasted parakeet	<i>Psittacula alexandri</i>	NT	Protected
<i>Bubut</i>	Coucals	<i>Centropus sp.</i>	Vary	N/A; Some of the species are protected
<i>Burung hantu</i>	Owls	<i>Tytonidae/Strigidae</i>	Vary	N/A; Some of the species are protected
<i>Dederuk Jawa</i>	Sunda collared-dove	<i>Streptopelia bitorquata</i>	LC	Unprotected
<i>Gosong</i>	Scrubfowls	<i>Megapodiidae</i>	Vary	N/A; Some of the species are protected
<i>Kakatua</i>	Cockatoos	<i>Cacatuidae</i>	Vary	N/A; Some of the species are protected
<i>Kakatua jambul kuning</i>	Yellow-crested cockatoo	<i>Cacatua sulphurea</i>	CR	Protected
<i>Kasturi</i>	Lories	<i>Lorius sp.</i>	Vary	N/A; Some of the species are protected
<i>Kasuari</i>	Cassowaries	<i>Casuarius sp.</i>	Vary	N/A; Some of the species are protected
<i>Kenari</i>	Island canary	<i>Serinus canaria</i>	LC	Non-native species/Unprotected
<i>Lovebird</i>	Lovebirds	<i>Agapornis sp.</i>	Vary	Non-native

				species/Unprotected
<i>Maleo senkawor</i>	Maleo	<i>Macrocephalon maleo</i>	CR	Protected
<i>Merpati batu</i>	Rock dove	<i>Columba livia</i>	LC	Unprotected
<i>Nuri</i>	Eclectuses	<i>Loriidae</i>	Vary	N/A; Some of the species are protected
<i>Nuri bayan</i>	Eclectus parrot/Moluccan eclectus	<i>Eclectus roratus</i>	LC	Protected
<i>Parkit</i>	Budgerigars	<i>Melopsittacus sp.</i>	Vary	Non-native species/Unprotected
<i>Pelatuk</i>	Woodpeckers	<i>Picidae</i>	Vary	N/A; Some of the species are protected
<i>Pergam laut</i>	Pied imperial-pigeon	<i>Ducula bicolor</i>	LC	Unprotected
<i>Perkici</i>	Lorikeets	<i>Loriidae</i>	Vary	N/A; Some of the species are protected
<i>Perkutut</i>	Doves	<i>Geopelia sp.</i>	Vary	Unprotected
<i>Punai</i>	Green-pigeons	<i>Treron sp.</i>	Vary	N/A; Some of the species are protected
<i>Puyuh</i>	Quails	<i>Phasianidae</i>	Vary	N/A; Some of the species are protected
<i>Raptor</i>	Raptors	<i>Falconiformes/Accipitriformes</i>	Vary	N/A; Some of the species are protected
<i>Serindit</i>	Hanging-parrots	<i>Loriculus sp.</i>	Vary	N/A; Some of the species are protected
<i>Tekukur</i>	Doves	<i>Spilopelia sp.</i>	Vary	Unprotected
<i>Tekukur biasa</i>	Eastern spotted dove	<i>Spilopelia chinensis</i>	LC	Unprotected
<i>Tekukur/Dederuk</i>	Doves	<i>Spilopelia sp./Streptopelia sp.</i>	Vary	Unprotected
<i>Uncal</i>	Cuckoo-doves	<i>Macropygia sp.</i>	Vary	Unprotected

Walet

Swallows

Apodidae

Vary

N/A;
Some of the
species are
protected

SUPPLEMENTARY TABLE 2 The responses recorded from the pilot survey.

	Post survey airtime	Post survey internet data	Pre survey airtime	Pre survey internet data	No reward data
Number of SMS sent	16,600	16,600	100	100	16,600
Number of completed responses	78	114	0	2	27
Response rate (%)	0.47	0.69	0	2	0.16

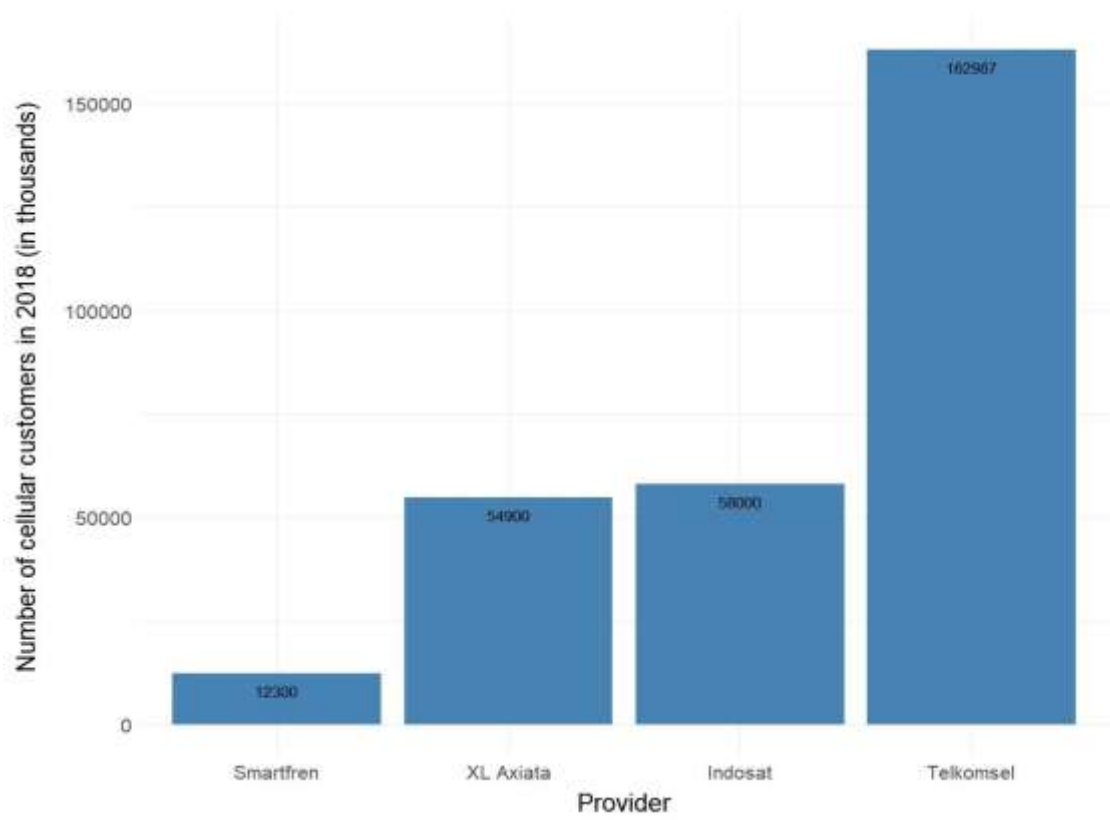
SUPPLEMENTARY TABLE 3 Summary of samples needed for each province to fulfil the 95% CI, 50/50 split, and 10% confidence level and how much is the proportion of required respondents were fulfilled.

Province	Real population*	Samples needed**	Total respondents		% sample numbers realized**	
			Songbird	Shark	Songbird	Shark
Bali	2,798,605	96.04	83	67	86.42	69.76
Banten	7,369,208	96.04	94	104	97.88	108.29
Bengkulu	1,167,976	96.03	174	202	181.19	210.35
DI Yogyakarta	2,573,114	96.04	84	85	87.46	88.50
Jakarta	7,236,131	96.04	59	68	61.43	70.80
Gorontalo	697,025	96.03	220	287	229.10	298.86
Jambi	2,114,113	96.04	190	238	197.83	247.81
West Java	29,849,143	96.04	115	103	119.74	107.25
Central Java	23,098,003	96.04	86	100	89.55	104.12
East Java	27,391,818	96.04	101	117	105.16	121.82
West Kalimantan	2,953,251	96.04	154	136	160.35	141.61
South Kalimantan	2,533,676	96.04	132	121	137.44	125.99
Central Kalimantan	1,508,468	96.03	154	150	160.37	156.20
East Kalimantan	2,031,824	96.04	155	149	161.39	155.14
North Kalimantan	411,650	96.02	144	180	149.97	187.46
Bangka Belitung Islands	848,320	96.03	121	102	126.00	106.22
Riau Islands	1,178,043	96.03	141	134	146.83	139.54
Lampung	5,241,896	96.04	162	156	168.68	162.43
Maluku	958,090	96.03	151	195	157.24	203.06
North Maluku	659,894	96.03	169	192	175.99	199.94
Aceh	3,004,689	96.04	171	205	178.05	213.45
West Nusa Tenggara	3,035,854	96.04	134	134	139.53	139.53
East Nusa Tenggara	2,861,157	96.04	161	177	167.64	184.30
Papua	1,833,532	96.04	147	144	153.06	149.94
West Papua	497,963	96.02	145	141	151.01	146.84
Riau	3,662,510	96.04	121	175	125.99	182.22
West Sulawesi	725,412	96.03	147	224	153.08	233.26
South Sulawesi	5,405,839	96.04	147	149	153.06	155.14
Central Sulawesi	1,731,246	96.03	137	226	142.66	235.34
Southeast Sulawesi	1,422,428	96.03	140	193	145.79	200.98
North Sulawesi	1,594,388	96.03	160	132	166.61	137.46
West Sumatra	3,202,240	96.04	140	179	145.77	186.38
South Sumatra	5,101,458	96.04	116	116	120.78	120.78
North Sumatra	8,504,510	96.04	125	176	130.15	183.26
Total		3,265.17	4,680.00	5,257.00		

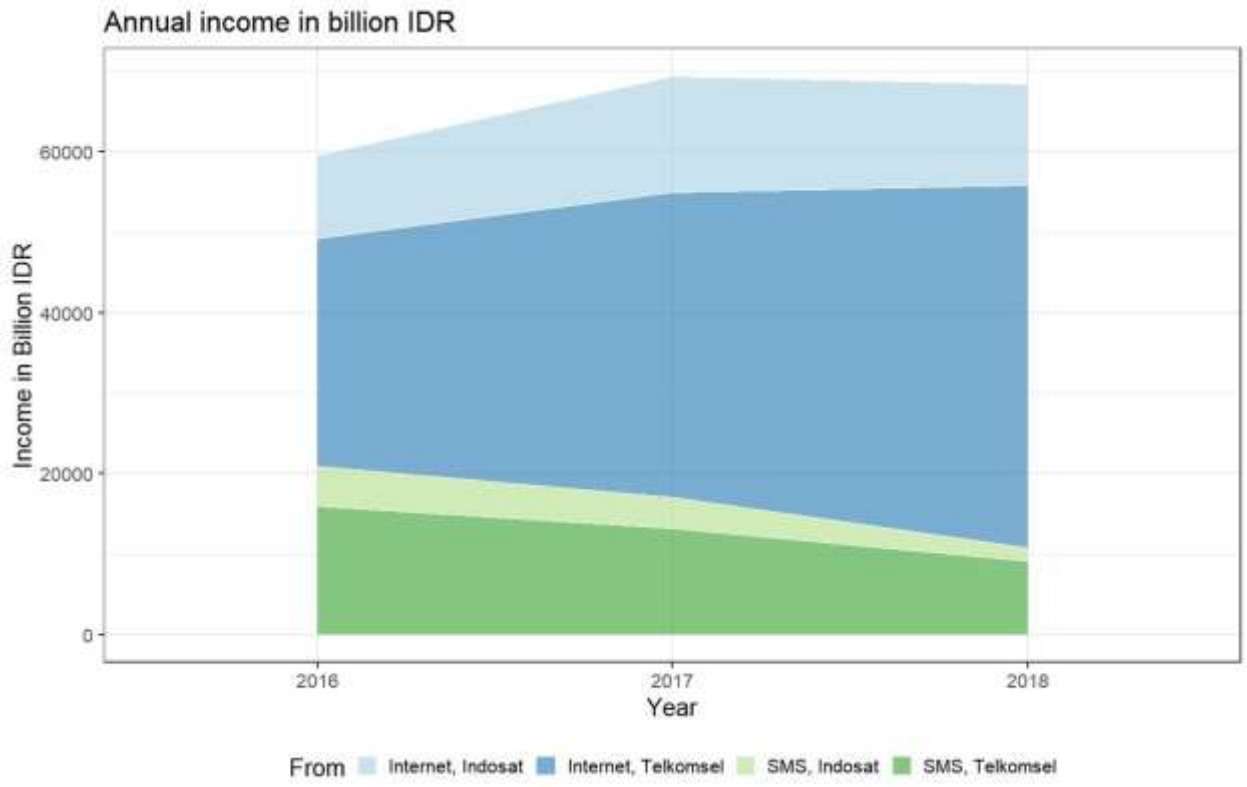
* = real population-based on 2010 survey, for the age range

** = for 95% CI, 50/50 split, 10% confidence level

 = sample numbers is less than required



SUPPLEMENTARY FIG. 1 Number of cellular customers in 2018 for each provider (Indosat Ooredoo 2018; Telkomsel 2018; Smartfren 2018; XL Axiata 2018).



SUPPLEMENTARY FIG. 2 Annual income in billion IDR from either SMS or internet usage in Telkomsel and Indosat Ooredoo (2016-2018) (Indosat Ooredoo 2018; Telkomsel 2018).

SUPPLEMENTARY MATERIAL 1 The selection of participants for the SMS survey.

As we decided to contact specific numbers of respondents in targeted areas, we used Telkomsel's cellular data customers list as the references to select the participants. We only decided the number of respondents that we targeted per provinces (in particular on sub-district level), whilst Telkomsel conducted the technical work of the survey, including dividing equally between male and female respondents, randomizing the numbers, and listing the selected number as the participants. White list was applied for the number owned by the organizer of the survey (i.e. WCS IP team) as well as participants located at the near distance. By doing so, we ensured that the WCS IP team did not receive any SMS containing the survey questionnaires. Also, this prevents respondents to share the survey to their immediate colleagues and relatives as the numbers were decided through the white list at the commencement of the survey. We then applied this mechanism to the national SMS survey.

According to the Indonesian law, all mobile numbers should be registered (Surat Edaran Badan Regulasi Telekomunikasi Indonesia (BRTI) No. 01/2018 and Surat Keputusan BRTI No. 3/2008), and the citizen would be required to use their Personal Identification Card (Kartu Tanda Penduduk), obtained by the adult age of 17 (Law No. 24 Year 2013 on the Amendment of Law No. 23 Year 2006 on Citizenship Administration), to allow them to do so. This would reduce the possibility that children age <17 could respond the survey, and we found in total 21 respondents within the age of 13-16 year old, which we omitted subsequently.

SUPPLEMENTARY MATERIAL 2 SMS Text and Survey Questionnaires.

SMS Text - Songbird Keeping



Translation: *Get a free IDR 20K (420mb) internet data for 3400 people by participating in a survey on songbird. Free of charge! Call *200*4# terms&condition bit.ly/usaidsbijak*

SMS Text - Shark Consumption



Translation: *Get a free IDR 20K (420mb) internet data for 3400 people by participating in a survey on shark products. Free of charge! Call *200*6# terms&condition bit.ly/usaidsbijak*

A. Songbird Keeping Survey Questionnaire

*Nomor Identitas Responden/Nama Kabupaten atau Kota dan Provinsi/Umur/Jenis Kelamin
Encrypted Phone number (Respondent ID)/Name of regency and province/Age/Gender*

_____ / _____ / ____ / ____

1. *Gratis paket internet 20rb utk 3400 org dengan mengisi survei singkat tentang burung kicau,tanpa kena pulsa! hubungi *200*4# info&ketentuan bit.ly/usaidsbijak.*

Get a free IDR 20K internet data for the first 3400 people by participating in a survey on songbird keeping. Free of charge! Call *200*4#. Terms & condition bit.ly/usaidsbijak

[] 1. Ya/Yes [] 2. Tidak/No

2. *Apakah Anda sedang/pernah memelihara burung kicau?*

Do you keep/have had any songbird?

1. Ya/Yes 2. Tidak/No

3. *(If the response of question no. 2 is 1, it will continue to this question. If the response is 2, it will be directed to Thank You message)*

Jenis burung kicau apakah yang Anda pelihara? Boleh tuliskan lebih dari 1 loh! (cth: kacer 3, murai 7, beo 2)

What type of songbird that you have? You can mention more than one (e.g. kacer, murai, beo)

4. *Berapa banyak total burung kicau yang Anda pelihara? (cth: 1, 4, 50)*

How many birds in total?

5. *Seberapa sering Anda membeli burung kicau dalam 1 tahun?*

How often do you buy songbirds in a year?

1. 1-3 kali/1-3 times 2. 4-6 kali/4-6 times 3. >6 kali/> 6 times

6. *Dari mana Anda paling sering mendapatkan burung tsb?*

Which source that often you used to get songbird?

1. Pasar/Market 2. Toko burung/Bird shop 3. Online/Online 4. Teman/keluarga/Friends/Family
 5. Lomba/Competition 6. Tidak tahu/Don't know

7. *(If the response of question no. 6 is 3, it will continue to this additional question)*

Media online yg biasanya Anda gunakan untuk membeli burung?

What online platform or social media that you used to buy the bird?

1. Facebook/Facebook 2. Tokopedia, OLX, dsb/ Online shop platform (e.g. Tokopedia, OLX, Buka Lapak, etc) 3. Omkicau, BNR/Websites (e.g. Omkicau, BNR) 4. Tidak tahu/Don't know

8. *(To all respondents)*

Apakah Anda bergabung dalam kelompok pecinta burung kicau di sekitar rumah Anda?

Are you a part of the songbird hobbyist club?

1. Ya/Yes 2. Tidak/No

9. *Apa alasan terkuat Anda memelihara burung kicau?*

Why do you mostly keep the songbird as a pet?

1. *Budaya*/Part of the ethnic tradition

2. *Ikut teman*/Suggested by friends

3. *Hiburan*/Entertainment purposes

4. *Bisnis*/Business purposes

5. *Lomba*/Competition

6. *Lain2*/Others

(Thank you message)

Terima kasih! Paket internet 20rb berhak menjadi milik Anda!

Thank you for your participation! 20k internet data is entitled to be yours!

B. Shark Consumption Survey Questionnaire

Nomor Identitas Responden/Nama Kabupaten atau Kota dan Provinsi/Umur/Jenis Kelamin
Encrypted Phone number (Respondent ID)/Name of regency and province/Age/Gender

_____/_____/____/____/____

1. *Dapatkan paket internet 20rb utk 3400 org dengan mengisi survei singkat tentang konsumsi hiu,tanpa kena pulsa! hubungi *200*6# info&ketentuan bit.ly/usaidbijak*

Get a free IDR 20K internet data for 3400 people by participating in a survey on sharks consumption. Free of charge! Call *200*6#. Terms & condition bit.ly/usaidbijak.

1. Ya/Yes 2. Tidak/No

2. *Apakah Anda biasa/pernah mengkonsumsi hiu?*

Do you consume/have you ever consumed shark?

1. Ya/Yes 2. Tidak/No 3. Tidak tahu/ Don't know

3. *(If the responses of question no. 2 is 1 & 3. If the response is 2, it will be directed to Thank You message)*

Produk hiu apa yang paling sering Anda konsumsi?

What type of shark product that you consume most?

- 1. *Sirip (sup)*/Fin (e.g. shark fin soup, etc)
- 2. *Daging*/Meat (e.g. meat ball, siomay, salted fish, fillet, satay, shredded meat, etc)
- 3. *Lainnya (minyak, tulang, kulit)*/Others (e.g. oil, cartilage/bone, skin, etc)

(If the response of question no. 3 is 1 (fin))

4. A. *Produk hiu apa yang paling sering Anda konsumsi?*

What type of shark fin product that you consume most?

- 1. *Sup sirip*/Shark fin soup
- 2. *Sup bibir ikan*/Fish lip soup
- 3. *Daging sirip kering*/Dried fin
- 4. *Tidak tahu*/Don't know

5. A. *Dari mana Anda sering mendapatkan produk tsb?*

Which source that often you used to get that shark fin product?

- 1. *Pasar*/Traditional market
- 2. *Restoran*/Restaurant
- 3. *Media sosial*/Online social media (e.g. Facebook)
- 4. *Online (cth Tokopedia)*/Online platform (e.g. Tokopedia)
- 5. *Tidak tahu*/Don't know

6. A. *Seberapa sering Anda mengkonsumsi produk tsb dalam 1 bln?*

How often do you consume that shark fin product in a month?

- 1. *< 1 kali*/Less than once/month
- 2. *1-3 kali*/1-3 times
- 3. *4-6 kali*/4-6 times
- 4. *>6 kali*/> 6 times
- 5. *Tidak tahu*/Don't know

(If the response of question no. 3 is 2 (meat))

4. B. *Produk daging hiu apa yg paling sering Anda konsumsi?*

What type of shark meat product that you consume most?

- 1. *Bakso*/Meat ball
- 2. *Somay*/Siomay
- 3. *Daging asin*/Salted fish
- 4. *Sate*/Satay
- 5. *Abon*/Shredded meat

6. *Tidak tahu/Don't know*

5. B. *Dari mana Anda sering mendapatkan produk tsb?*

Which source that often you used to get that shark meat product?

1. *Pasar/Traditional market* 2. *Restoran/Restaurant* 3. *Media sosial/Online social media (e.g. Facebook)* 4. *Online (cth Tokopedia)/Online platform (e.g. Tokopedia)* 5. *Tidak tahu/Don't know*

6. B. *Seberapa sering Anda mengkonsumsi produk tsb dalam 1 bln?*

How often do you consume that shark meat product in a month?

1. *< 1 kali/Less than once/month* 2. *1-3 kali/1-3 times* 3. *4-6 kali/4-6 times* 4. *>6 kali/> 6 times*
 5. *Tidak tahu/Don't know*

(If the response of question no. 3 is 3 (others))

4. C. *Produk hiu apa yg plg sering Anda konsumsi?*

What type of other shark products that you consume most?

1. *Minyak(kapsul/sirup)/Oil (e.g. capsule or syrup)*
 2. *Tulang(kapsul/bubuk)/Bone/cartilage (e.g. capsule or powder)*
 3. *Kulit(kerupuk)/Skin (e.g. chips)*
 4. *Tidak tahu/Don't know*

5. C. *Dari mana Anda sering mendapatkan produk tsb?*

Which source that often you used to get that shark product?

1. *Pasar/Traditional market* 2. *Toko/Apotek/Shop/Drugstore* 3. *Media sosial/Online social media (e.g. Facebook)* 4. *Online (cth Tokopedia)/Online platform (e.g. Tokopedia)* 5. *Tidak tahu/Don't know*

6. C. *Seberapa sering Anda mengkonsumsi produk tsb dalam 1 bln?*

How often do you consume that shark product in a month?

1. *< 1 kali/Less than once/month* 2. *1-3 kali/1-3 times* 3. *4-6 kali/4-6 times* 4. *>6 kali/> 6 times*
 5. *Tidak tahu/Don't know*

(To all respondents)

7. *Apa alasan terkuat Anda mengkonsumsi hiu?*

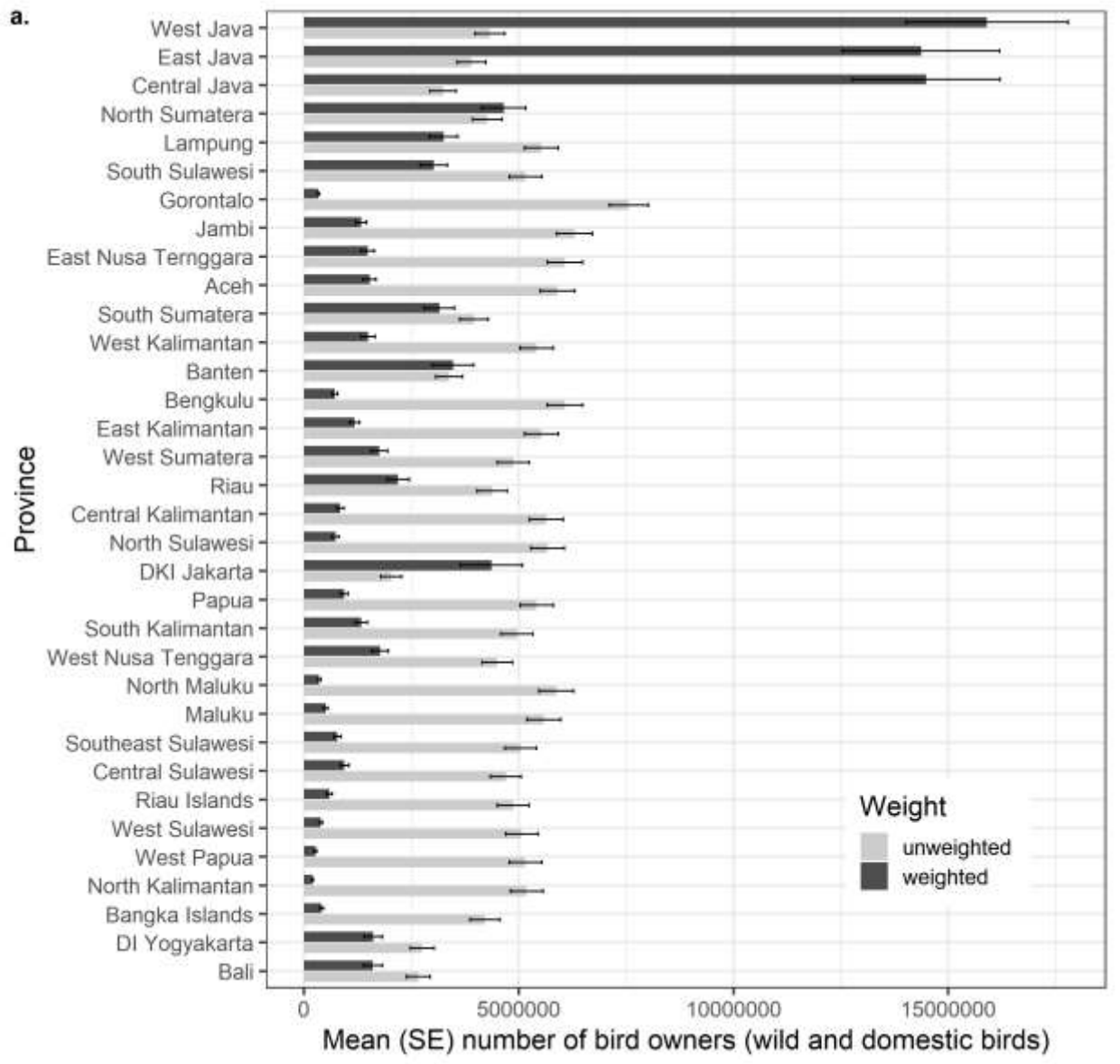
Why mostly do you consume shark products?

- 1. *Tradisi keluarga*/Part of the family tradition
- 2. *Ikut teman*/Suggested by friends
- 3. *Kesehatan*/Beneficial for human health
- 4. *Bisnis*/Business
- 5. *Penasaran*/Curious about the taste
- 6. *Lain2*/Don't know

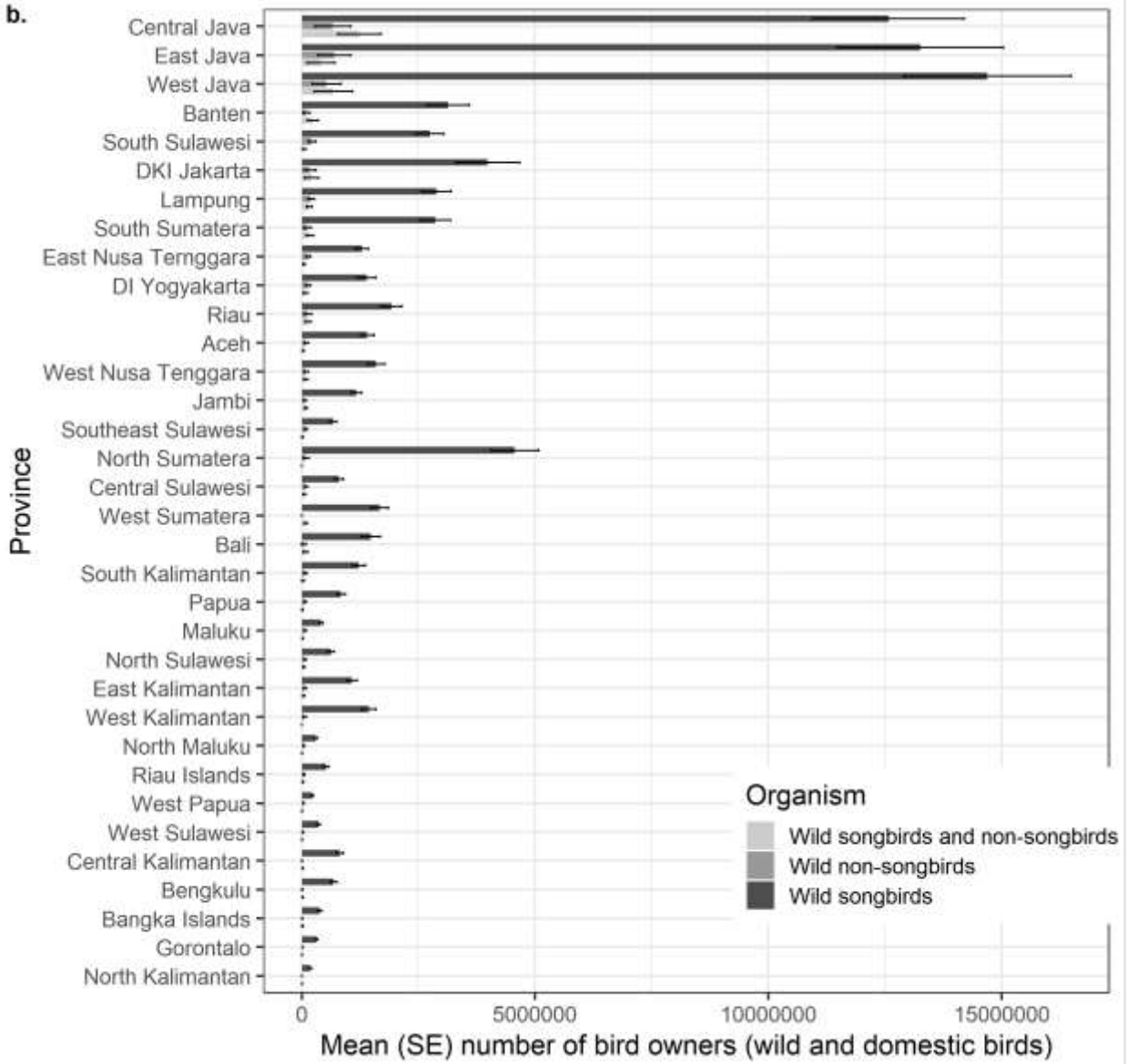
(Thank you message)

Terima kasih! Paket internet 20rb berhak menjadi milik Anda!

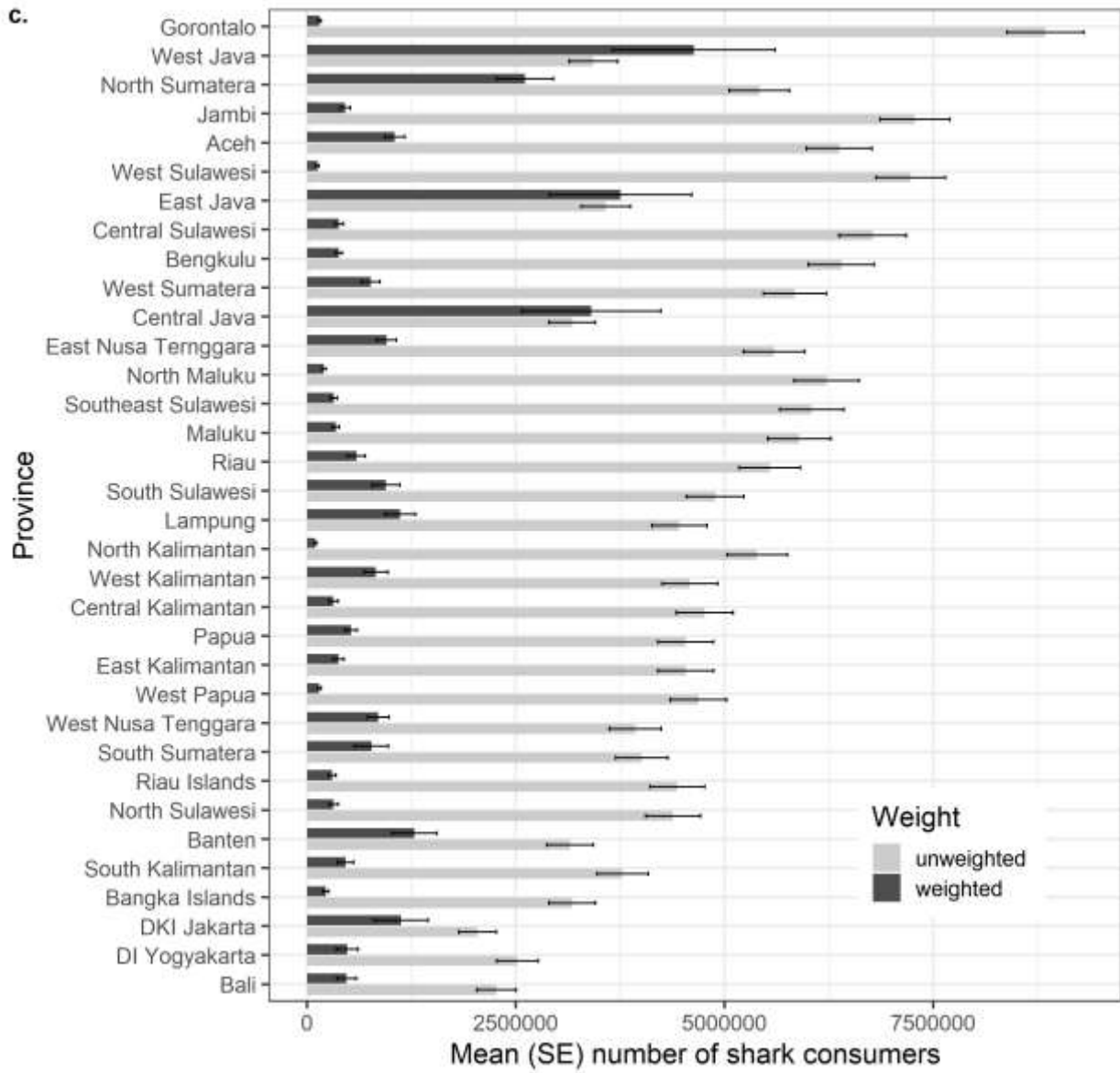
Thank you for your participation! 20k internet data is entitled to be yours!

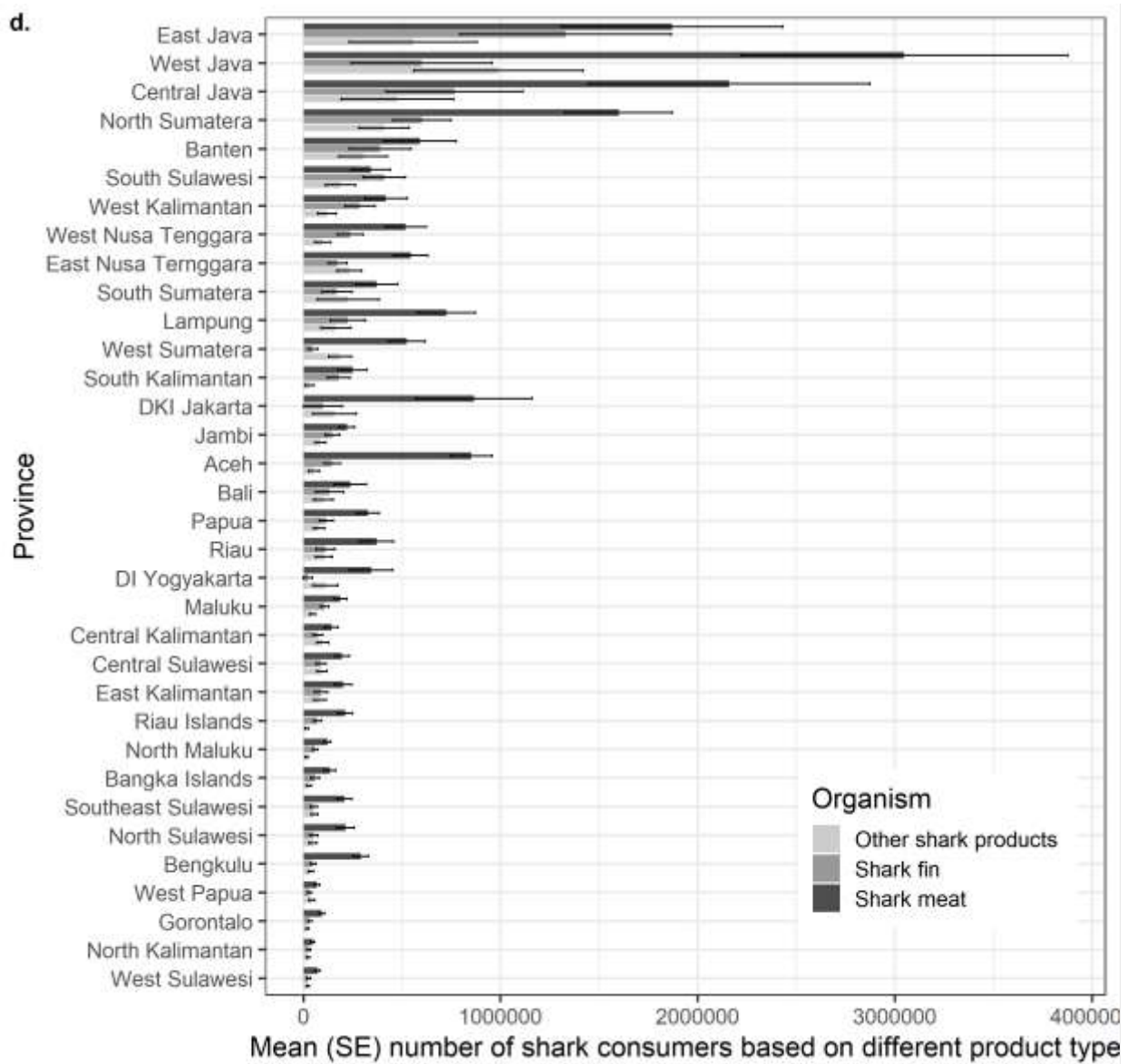


b.



c.





SUPPLEMENTARY FIG. 3 Barplot of estimation of a) all bird owners (wild and domestic birds) (y-axis) per province (x-axis) before weighting and post-weighting, b) songbird and other bird (non-songbird) owners (y-axis) per province (x-axis), c) all shark consumers (y-axis) per province (x-axis) before weighting and post-weighting, and d) shark consumers based on different product type. Values are the total number of owners (SE).

SUPPLEMENTARY TABLE 4 Summary of estimated number of bird owners (total and per 1000 people) at provincial level and at national level, and the number of birds owned at the national level.

Estimation within provinces with the highest number of bird owners (in million, compared to the real population*, in brackets) in Indonesia. Islands where this provinces come from is also shown in brackets. Standard error value and complete estimation for all provinces are provided in the Supplementary Material.

Wild and domestic bird owners	Wild songbird owners	Wild non-songbird owners	Wild bird owners (songbird and non-songbird)
West Java (Java) 15.9 (29.9)	West Java (Java) 14.7 (29.9)	East Java (Java) 0.7 (27.4)	Central Java (Java) 1.2 (23.1)
Central Java (Java) 14.5 (23.1)	East Java (Java) 13.3 (27.4)	Central Java (Java) 0.7 (23.1)	West Java (Java) 0.7 (29.9)
East Java (Java) 14.4 (27.4)	Central Java (Java) 12.6 (23.1)	West Java (Java) 0.5 (29.9)	Banten (Java) 0.2 (7.4)
North Sumatra (Sumatra) 4.7 (8.5)	North Sumatra (Sumatra) 4.6 (8.5)	South Sulawesi (Sulawesi) 0.2 (5.4)	Jakarta (Java) 0.2 (7.2)
Jakarta (Java) 4.4 (7.2)	Jakarta (Java) 4.0 (7.2)	Lampung (Sumatra) 0.2 (5.2)	South Sumatra (Sumatra) 0.2 (5.1)

* According to BPS 2012, within the age range of 15-74 years of age.

Estimation within provinces with the highest number of bird owners per 1000 people in Indonesia. Islands where this provinces come from is also shown in brackets. Complete estimation for all provinces are provided in the Supplementary Material.

Wild and domestic bird owners	Wild songbird owners	Wild non-songbird owners	Wild bird owners (songbird and non-songbird)
Jambi (Sumatra) 628.5	Bengkulu (Sumatra) 585.6	Maluku (Maluku) 72.5	Central Java (Java) 53.6
Central Java (Java) 627.1	South Sumatra (Sumatra) 560.1	West Papua (Papua) 69.1	Jambi (Sumatra) 43.1
DI Yogyakarta (Java) 626.7	Jambi (Sumatra) 553.5	North Maluku (Maluku) 67.0	Riau (Sumatra) 37.2
Lampung (Sumatra) 620.9	Lampung (Sumatra) 551.0	Southeast Sulawesi 62.3	South Sumatra (Sumatra) 34.3

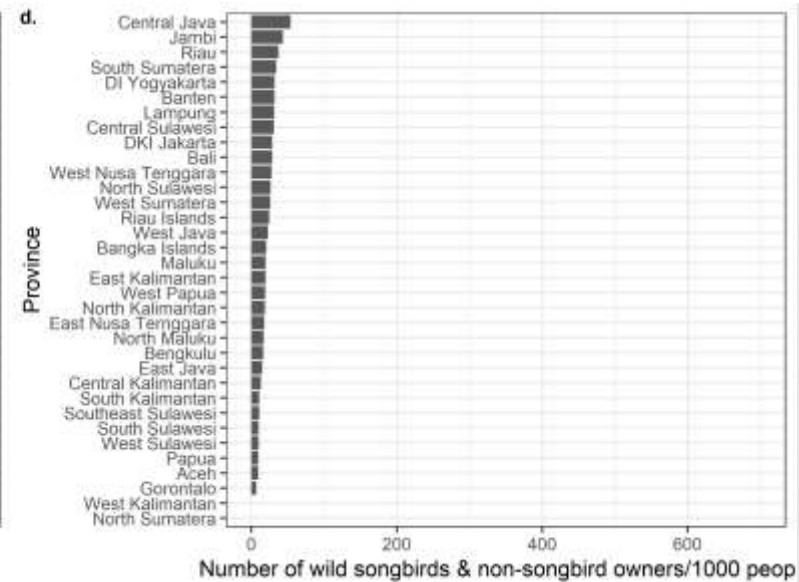
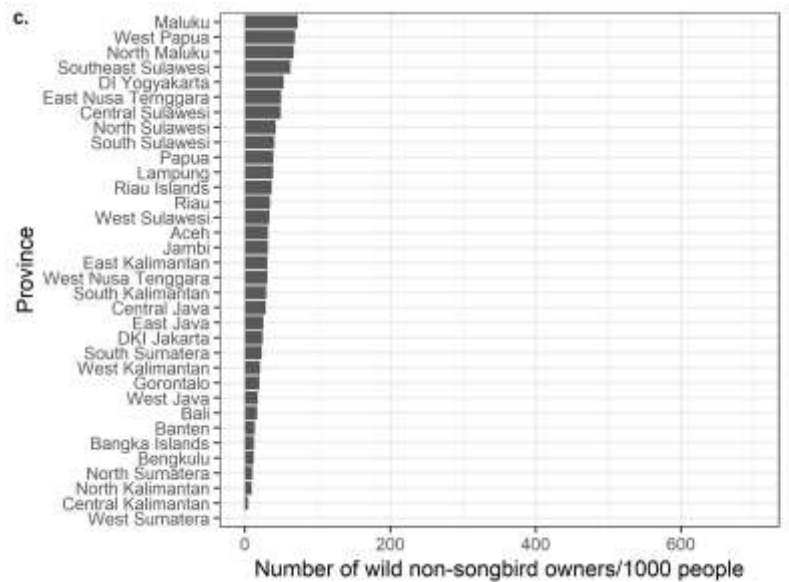
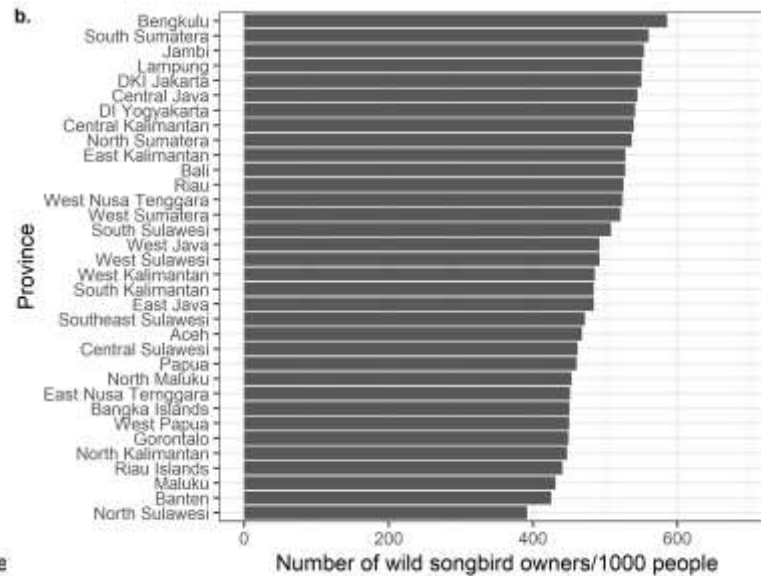
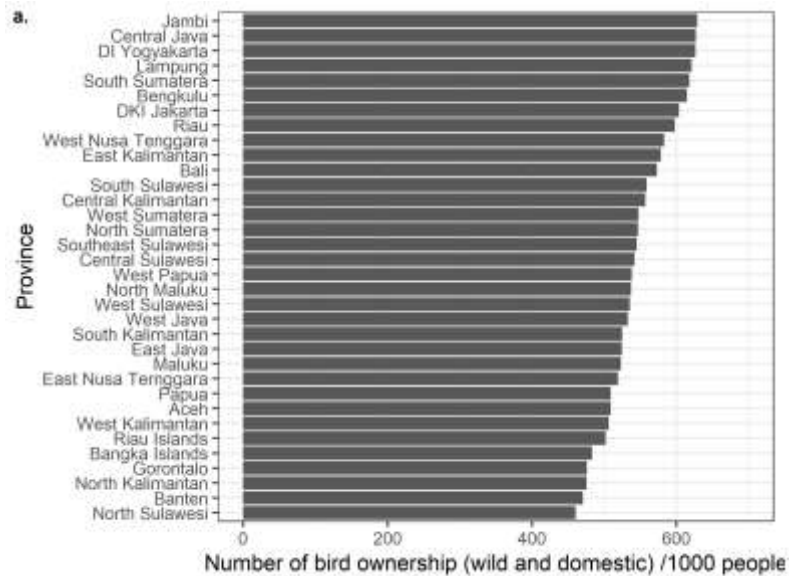
(Sulawesi)							
South Sumatra (Sumatra)	617.6	Jakarta (Java)	550.2	DI Yogyakarta (Java)	53.3	DI Yogyakarta (Java)	32.0

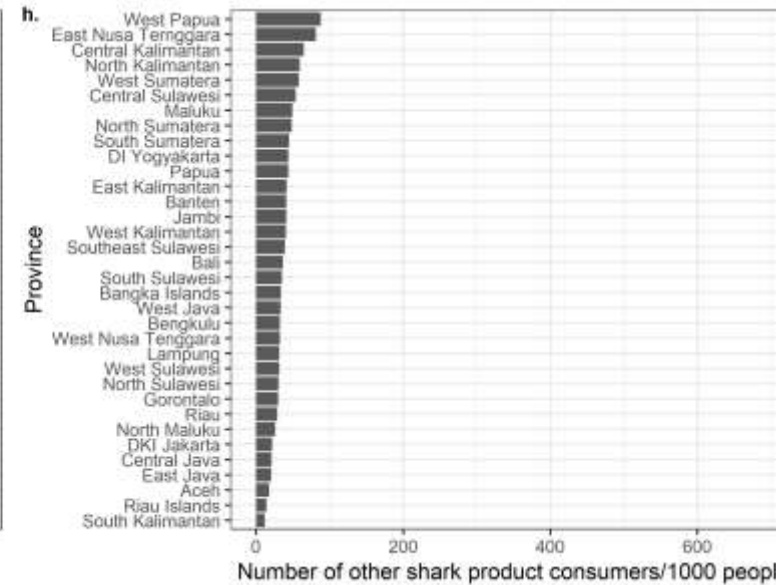
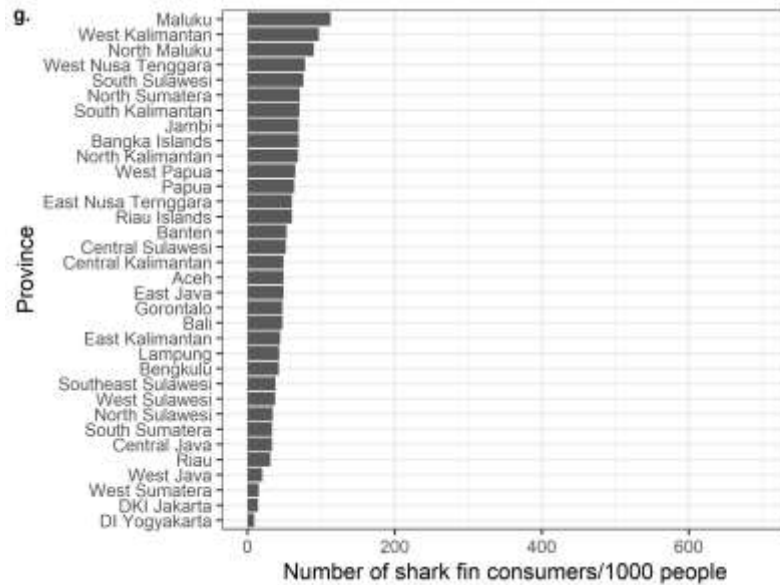
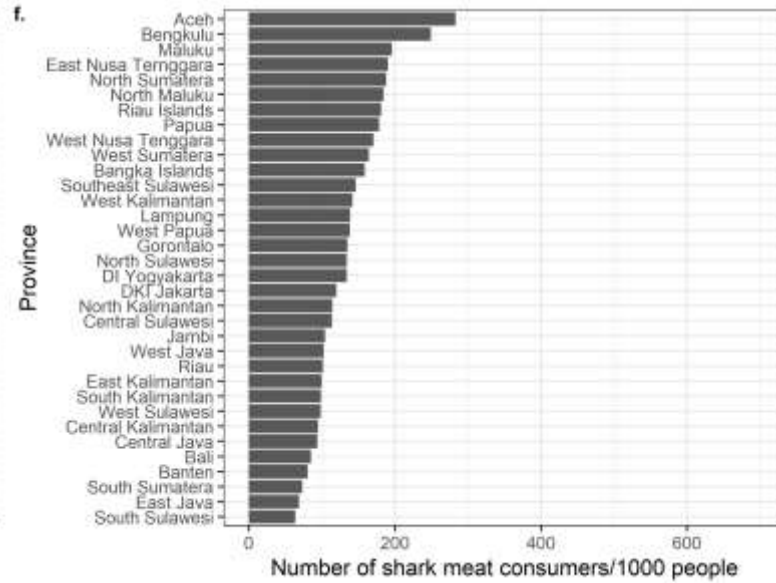
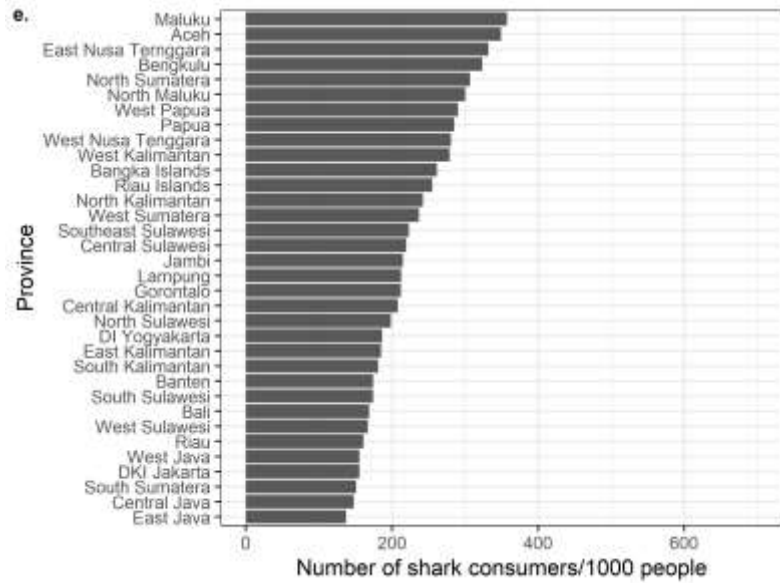
Total estimation of the number of bird owners across Indonesia (in million, mean \pm standard error)

Wild and domestic bird owners	Wild songbird owners	Wild non-songbird owners	Wild bird owners (songbird and non-songbird)
91.9 \pm 3.2	83.5 \pm 3.1	4.3 \pm 0.7	4.1 \pm 0.8

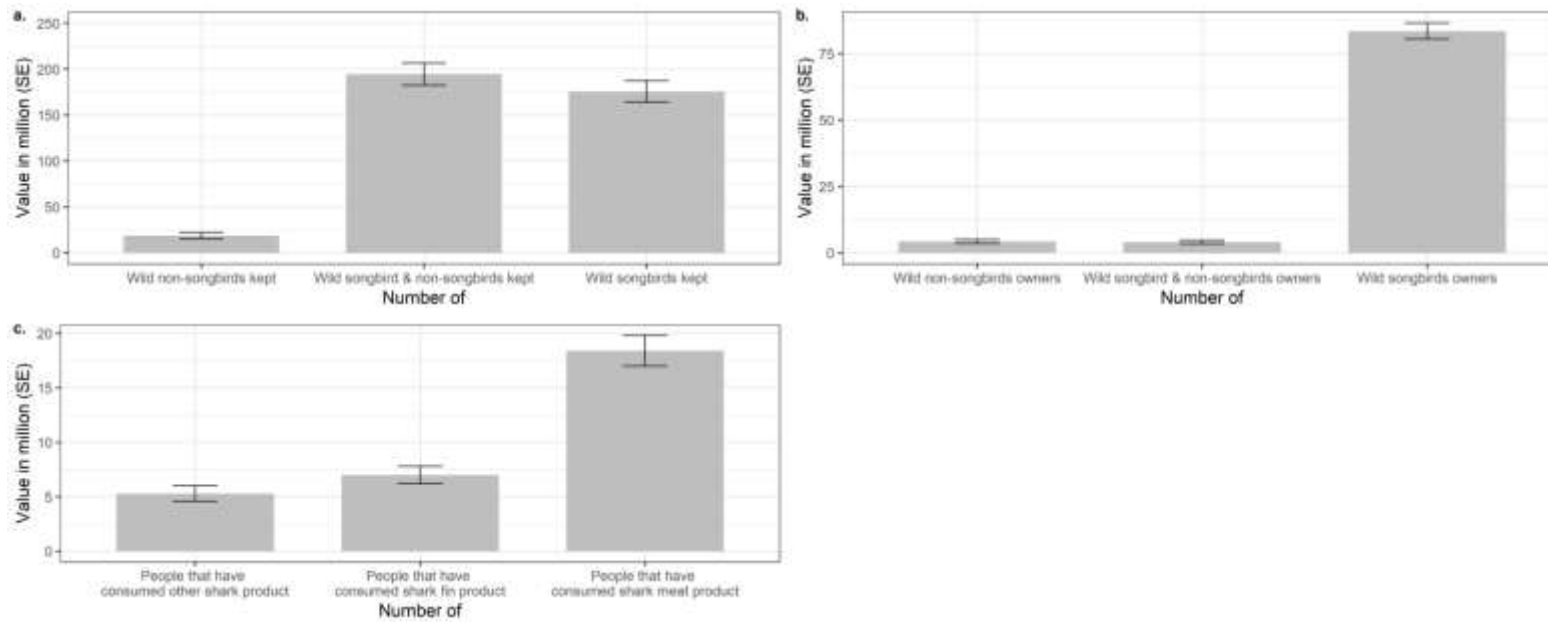
Total estimation of the number birds kept across Indonesia (in million, mean \pm standard error)

Wild and domestic birds kept	Wild songbirds kept	Wild non-songbirds kept
194.5 \pm 12.1	175.7 \pm 11.6	18.8 \pm 3.3





SUPPLEMENTARY FIG. 4 Barplot of estimation of the number of owners/consumers per 1000 people in each province for a) all bird owners (wild and domestic birds), b) wild songbird owners, c) wild non-songbird owners, d) wild birds (songbird and non-songbird) owners - at the same time, e) shark consumers, f) meat consumers, g) shark fin consumers, and h) other shark product consumers.



SUPPLEMENTARY FIG. 5 Barplot [value (SE)] of estimation of number of a) birds (wild and domestic), non-songbirds, and songbirds kept, b) wild non-songbird, wild songbird & non-songbird, and wild songbird owners, and c) people that has consumed other shark product, shark fin product, and shark meat product across the nation.

SUPPLEMENTARY TABLE 5 Summary of estimated number of shark consumers (total and per 1000 people) at provincial level and at national level.

Estimation of provinces with the highest number of shark product consumers (in million, compared to the real population*, in brackets) in Indonesia. Islands where this provinces come from is also shown in brackets. Standard error value is provided in the Supplementary Material.

Any shark product			Shark meat		Shark fin		Other shark product			
West (Java)	Java	4.6 (29.9)	West (Java)	Java	3.0 (29.9)	East (Java)	1.23 (27.4)	West (Java)	Java	1.0 (29.9)
East Java (Java)		3.8 (27.4)	Central Java (Java)		2.2 (23.1)	Central Java (Java)	0.8 (23.1)	East (Java)	Java	0.6 (27.4)
Central Java (Java)		3.4 (23.1)	East Java (Java)		1.9 (27.4)	North Sumatra (Sumatra)	0.6 (8.5)	Central Java (Java)	Java	0.5 (23.1)
North Sumatra (Sumatra)		2.6 (8.5)	North Sumatra (Sumatra)		1.6 (8.5)	West (Java)	Java	0.6 (29.9)	North Sumatra (Sumatra)	0.4 (8.5)
Banten (Java)		1.3 (7.4)	Jakarta (Java)		0.9 (7.2)	South Sulawesi (Sulawesi)		0.4 (2.8)	Banten (Java)	0.3 (7.4)

* According to BPS 2012, within the age range of 15-74 years of age.

Estimation of provinces with the highest number of shark product consumers per 1000 people in Indonesia. Islands where this provinces come from is also shown in brackets. Standard error value is provided in the Supplementary Material.

Any shark product			Shark meat		Shark fin		Other shark product			
Maluku (Maluku)		357.7	Aceh (Sumatra)		283.0	Maluku (Maluku)		112.7	West Papua (Papua)	87.8
Aceh (Sumatra)		349.1	Bengkulu (Sumatra)		249.1	West Kalimantan (Kalimantan)		96.9	East Nusa Tenggara (Nusa Tenggara)	81.3
East Nusa Tenggara (Nusa Tenggara)		332.0	Maluku (Maluku)		195.8	North Maluku (Maluku)		90.1	Central Kalimantan (Kalimantan)	64.9
Bengkulu (Sumatra)		323.9	East Nusa Tenggara (Nusa Tenggara)		190.3	West Nusa Tenggara (Nusa Tenggara)		78.0	North Kalimantan (Kalimantan)	59.4

North Sumatra (Sumatra)	306.9	North Sumatra (Sumatra)	188.0	South Sulawesi (Sulawesi)	75.9	West Sumatra (Sumatra)	58.1
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Total estimation of the number of the Indonesian population who have consumed shark product of various types (in million, mean \pm standard error)

Any shark product	Shark meat	Shark fin	Other shark product
33.5 \pm 1.8	18.4 \pm 1.4	7.0 \pm 0.8	5.3 \pm 0.7

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