

Country	Date	Location	Source	Population	Processing type	Primary species	Source	Avg. portion, g	Study portion relative to our analysis
Kenya	2014	Mfangano Island	Fiorella et al. 2018	WRA	Dried dagaa and cichlids, and fresh or fried tilapia and Nile perch	<i>Rastrineobola argentea</i> , <i>Cichlidae</i>	FW	85	207%
Kenya	2014	Mfangano Island	Fiorella et al. 2018	Child (<24 months)	Dried dagaa and cichlids, and fresh or fried tilapia and Nile perch	<i>Rastrineobola argentea</i> , <i>Cichlidae</i>	FW	-	-
Malawi	2018-2019	Mangochi District	Werner et al. 2024	Child (6-15 months)	Small fish (not identified)	<i>Engraulicypris sardella</i>	FW	3.35	37%
Uganda	2018	Eastern Uganda	Lydia O'Meara	WRA (NPNL)	Sun-dried fish	<i>Rastrineobola argentea</i>	FW	12.75	31%
Uganda	2018	Eastern Uganda	Lydia O'Meara	Child (12-23 mo)	Sun-dried fish	<i>Rastrineobola argentea</i>	FW	2	22%
Uganda	2018	Eastern Uganda	Kimere et al. 2022	Child (12-23 months)	Small fish with bones	<i>Rastrineobola argentea</i>	FW	2	22%
Uganda & Tanzania	-	Northwestern Tanzania and Central Uganda	Ekesa et al. 2019	Child (12-59 months)	Dried or fried	<i>Rastrineobola argentea</i>	FW	15	167%
Zambia	-	Lusaka	Marinda et al. 2018	Household	Fresh, dried, smoked, salted fish.	<i>Claris theodora</i> , <i>Rastrineobola argentea</i> , <i>Limnothrissa miodan</i> , <i>Stolothrissa miodon</i>	FW	-	-
Ghana	2022	Four coastal regions	Janananda et al. 2023	Child (18-59 months)	40 small fish species, primarily fried (43%) or smoked (38%)	<i>Sardinella aurita</i> , <i>Engraulis encrasicolus</i> , <i>Scomber colias</i>	M	29.5	328%
Ghana	-	National	Hasselberg et al. 2022	Child (6-23 months)	-	-	M	17	189%
Senegal	-	Dakar	Anderson et al. 2010	Adult Men (20-62 years)	No processing indicated.	<i>Epinephelus aeneus</i> , <i>Sardinella sp.</i>	M	33.17	81%
Tanzania	2015	Central Tanzania	Raymond et al. 2017	Child (6-23 months)	Whole fish, dried or smoked	Sardine and tilapia	-	-	-
Tanzania	2008-09	Rufiji river floodplain	Moreau & Garaway 2018	Household	Fresh and sundried	<i>Oreochromis urolepsis</i> , <i>Citharinus congicus</i> , <i>Synodontis rukwaensis</i> , <i>Rastrineobola argentea</i> , <i>Hilsa kelee</i>	FW & M	86.3	-
Kenya	2021	Southern Kenyan coast	Odoli et al. 2021	-	Dried sardine (<i>Sardinella gibbosa</i>)	<i>Sardinella gibbosa</i>	M	-	-
Ghana	2023	Greater Accra, Volta, Central, and Western regions	Agyei-Mensah et al. 2023	Household	Dried, smoked, or fried	<i>Sardinella</i> , <i>Engraulis encrasicolus</i>	M	-	-

Table S1 | Species composition and portion size of dried fish consumption from studies conducted across East and West Africa. WRA = women of reproductive age. Table is ordered by the ‘Source’ column, indicating fish sourced from freshwater (FW, green) or marine (M, blue) ecosystems

Country	Survey Name	Total population	Population year	N households	Avg. household size	Dried fish categories	% households		
							Fish	Fresh fish	Dried fish
Cote D'Ivoire	Enquête Harmonisée sur le Conditions de Vie des Ménages 2018-2019	28,873,034	2023	12,774	4.8	Poisson fumé mangni, Autres Poissons fumés	87%	57%	59%
Malawi	Fourth Integrated Household Survey 2016-2017	20,931,751	2023	12,447	4.3	Dried fish (small, medium, large), Smoked fish (small, medium, large)	73%	22%	63%
Nigeria	General Household Survey Wave 4 2018-2019	223,804,632	2023	4,976	5.2	Fish - smoked, Fish - dried	71%	16%	42%
Senegal	Enquête Harmonisée sur le Conditions de Vie des Ménages 2018-2019	17,763,163	2023	7,101	9.3	Poisson fumé Kethiakh (sardinelle), Autre Poisson fumé (Con fumé, yaboye ou obo fumé, ...), Poisson séché	91%	86%	67%
Tanzania	National Panel Survey 2014-2015, Wave 4	67,438,106	2023	3,352	5.3	Dried/salted fish and seafood	75%	58%	29%
Uganda	National Panel Survey 2010-2011	48,582,334	2023	2,657	7.1	Dry/Smoked fish	36%	17%	24%
		407,393,020		43,307					

Table S2 | The number of households surveyed in LSMS, dried fish types and % household consuming each fish type, by country. Total population estimates from data.worldbank.org. Some households consumed both smoked and dried, meaning combined processed proportions may exceed 100%.

Covariate	Definition	Link with fish consumption	Data source
Proximity to inland waterbody	Distance from household to nearest large inland waterbody, km	Households nearer to inland fish production sources are likely to have greater physical access to fish and at lower prices, thus associated with higher fish consumption	Lehner & Doll (2004), South (2017)
Proximity to marine coastline	Distance from household to nearest marine coastline, km	Households nearer to marine fish production sources are likely to have greater physical access to fish and at lower prices, thus associated with higher fish consumption	Lehner & Doll (2004), South (2017)
Proximity to urban centres	Travel time from household to nearest urban centre via surface transport (based on 2015 data)	Urban centres likely to have greater availability of fish products, through trade routes, and lower fish prices, thus associated with higher fish consumption	Weiss et al. (2018)
Wealth	Total expenditure on items in the past 3 months (square root and scaled to Purchasing Power Parity)	Dried fish are more affordable than fresh fish and so may be consumed more by poorer households	LSMS, World Bank (2024)
Household size	Number of people in household	Larger households consume more foods and thus may be more likely to have consumed fish in the past 7 days	LSMS
Household cluster	Nested intercept of household cluster (defined by country survey)	Non-independence of diet surveys from neighbouring households	LSMS
Household country	Country intercept	Country-level prevalence of fish consumption	LSMS

Table S3 | Explanatory covariates used in LSMS models of dried and fresh fish consumption.

	Calcium, mg	Iron, mg	Zinc, mg	Selenium, µg	Iodine, µg	Vitamin B12, µg	Vitamin A, µg	Vitamin D, µg	Omega-3 (EPA + DHA), g	Cadmium, µg	Lead, mg/kg	Mercury, µg
Children 0.5-5 years	450	7.5	4.1	20	110	0.8	250	5	0.7	0.32	0.05	0.02
Women 15-49 years	1150	30.1	11.4	55	150	2.4	650	5	1.1	1.625	0.05	0.104
Guideline	RNI	RNI	PRI	RDA	RDA	RNI	PRI	RNI	AI	PTMI	Maximum regulatory limit	TWI
Source	WHO & FAO (2004)	WHO & FAO (2004)	EFSA (2017)	IOM (2000)	IOM (2001)	WHO & FAO (2004)	EFSA (2017)	WHO & FAO (2004)	FAO & WHO (2010)	JECFA (2010)	EC (2014)	JECFA (2006)

Table S4 | Nutrient reference values and contaminant limits. Values are the per capita recommended intakes per day (for nutrients), or healthy limits per day, week, or month (for contaminants), for young children and non-pregnant, adult women. Iron requirements assume 10% bioavailability (i.e. diets with moderate phytate concentrations and some meat/fish). Zinc requirements assume an estimated phytate intake level of 900 mg/day (i.e. a semi-unrefined diet). Cadmium and mercury tolerable intakes were estimated for a child of 12.8 kg and adult woman of 65 kg. RNI = Recommended Nutrient Intake, PRI = Population Reference Intake, RDA = Recommended Dietary Allowance, AI = Adequate Intake, PTMI = Provisional Tolerable Monthly Intake, TWI = Tolerable Weekly Intake.

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Table S1

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Table S3

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Table S4

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