

Supplementary Information to: Nutritional Value Score rates foods based on global health priorities

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Methods

Food composition data

All food composition data are publicly available in the Extended Data Excel File. The first two tabs, ‘Indonesian FCT’ and ‘Bangladeshi FCT’, correspond with the final food composition databases used for analysis. They include all unprocessed, minimally processed, and processed sentinel foods listed in the country-adapted Diet Quality Questionnaires for Indonesia and Bangladesh (dietquality.org), with the exception of sago porridge, papaya leaves, mangosteen, green mango and green papaya in Indonesia, and of pa ruti, arum, khichuri, koromcha, and lassi in Bangladesh. We were unable to include these foods as they were not available in either USDA databases¹ or national food composition tables for Indonesia and Bangladesh². We also excluded sausages as these are often ultra-processed and our analysis did not include ultra-processed foods.

The third and fourth tabs, ‘Plant foods_granular data’ and ‘Animal foods_granular data’, present nutrient values for all individual food items included under aggregate sentinel foods (for example, clams, mussels, oysters, and scallops for bivalve mollusks), and for different cooking methods and cuts (in the case of meat) for the same food (for example, omelet, scrambled, fried, and hard-boiled for eggs).

The fifth tab, ‘ALA values_USDA&literature’, includes values for ALA either from USDA databases (our preferred option when available) or from scientific literature. We aimed to obtain ALA values for *at least* one food per Diet Quality Questionnaire question, so that we could use them as a proxy for all other foods included under the same question. However, when this was not possible (for example, for question 9 on citrus fruits or question 15 on yogurt), we used the broader food group (or sub-group) average ALA value (in this example, the average ALA values for fruits and dairy, respectively).

Finally, the sixth tab, ‘DIAAS values_literature’, presents values for DIAAS obtained from scientific literature. For fruits and vegetables we used food group average values, assuming that DIAAS values do not show large variation across specific fruits and vegetables. For all other food groups, we aimed to obtain DIAAS values for *at least* one food per Diet Quality Questionnaire question, so that we could use them as a proxy for all other foods included under the same question. The only cases in which this was not possible were questions 14 on cheese and 15 on yogurt, for which we used DIAAS values for cow and/or sheep milk as proxies.

Dietary reference intakes

Table 1 | Recommended intakes for vitamins for adults (men and women) aged ≥ 18 years.

Vit A (mcg RAE)	Vit C (mg)	Vit D (mcg)	Vit E (mg)	Thiamin (mg)	Riboflavin (mg)	Niacin (mg)	Vit B ₆ (mg)	Folate (mcg DFE)	Vit B ₁₂ (mcg)	Choline (mg)
700	102.5	16.25	15	1.15	1.6	15	1.65	330	2.4	400

Recommended intakes for vitamin A, vitamin C, riboflavin, vitamin B₆, folate, and choline are from the European Food Safety Authority³. Recommended intakes for vitamin D, vitamin E, thiamin, niacin, and vitamin B₁₂ are from the Institute of Medicine⁴. Abbreviations: DFE, dietary folate equivalent; RAE, retinol activity equivalent; Vit, vitamin.

Table 2 | Recommended intakes for minerals for adults (men and women) aged ≥ 18 years.

Iron (mg) ^a			Zinc (mg) ^b				Calcium (mg)	Potassium (mg)	Magnesium (mg)
20%	15%	10%	R	SR	SU	U			
8.17	12.25	16.33	8.45	10.5	12.5	14.5	960	3000	366.25

Recommended intakes for iron, zinc, and calcium are from the European Food Safety Authority³. Recommended intakes for potassium, and magnesium are from the Institute of Medicine⁴. ^aThe percentages indicated represent different levels of bioavailability, which translate into different RNIs (the higher the bioavailability of iron in diets, the lower the amount needed to meet daily requirements). ^bAssuming 300 mg phytate/day and 44% absorption for refined (R) diets, 600 mg phytate/day and 35% absorption for semi-refined (SR) diets, 900 mg phytate/day and 30% absorption for semi-unrefined (SU) diets, and 1,200 mg phytate/day and 26% absorption for unrefined (U) diets. Abbreviations: R, refined; SR, semi-refined; SU, semi-unrefined; U, unrefined.

Additional results figures for Indonesia

Nutritional Value Scores by food group

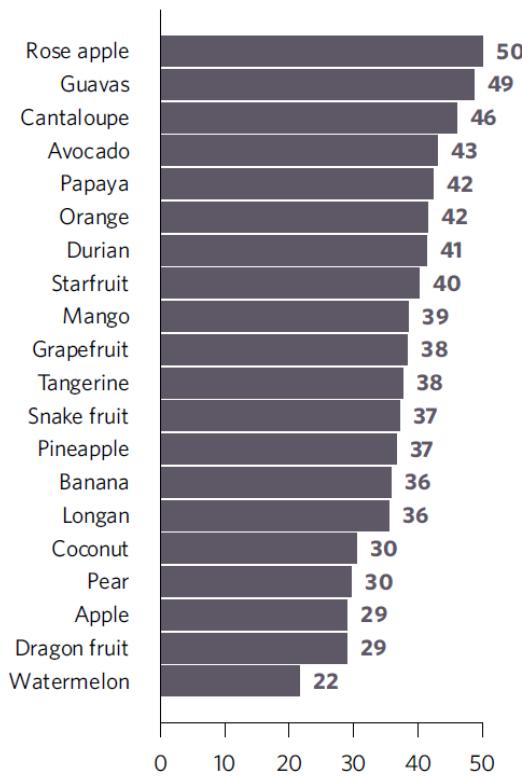


Figure 1 | Nutritional Value Scores for common Indonesian fruits.

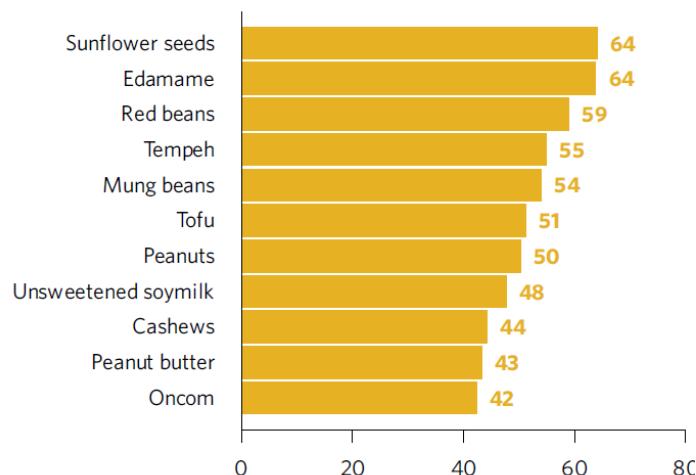


Figure 2 | Nutritional Value Scores for common Indonesian pulses, nuts, and seeds.

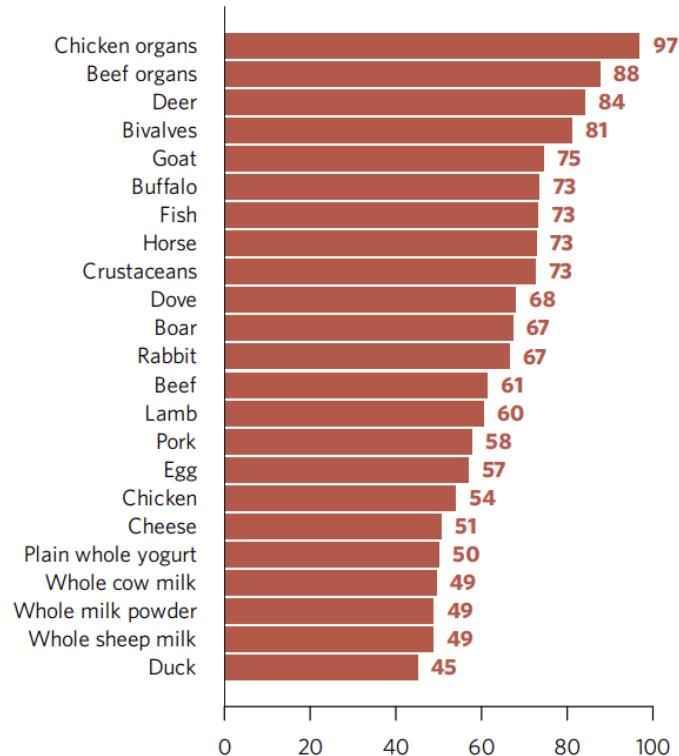


Figure 3 | Nutritional Value Scores for common Indonesian animal source foods.

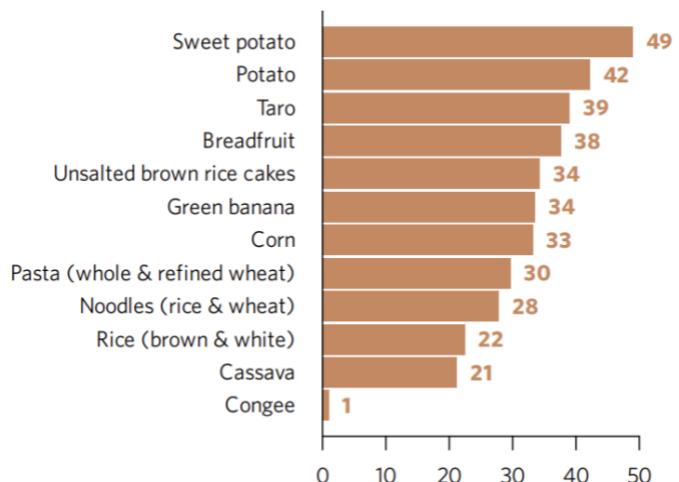


Figure 4 | Nutritional Value Scores for common Indonesian starchy staples.

Results for Bangladesh

Component nutritional scores

Table 3 | Component scores, Nutrient Density Scores and Nutritional Value Scores for common Bangladeshi foods

Food	Vitamin score	Mineral score	Essential amino acid score	n-3 fatty acid score	Fiber score	Nutrient ratio score	Nutrient Density Score	Nutritional Value Score
Spinach	74	90	52	25	68	93	92	100
Red amaranth leaves	63	100	40	17	97	99	87	100
Chicken liver	100	57	91	1	1	94	96	98
Amaranth leaves	64	91	46	26	92	95	86	98
Dried fish	43	91	95	100	1	55	100	94
Malabar spinach	75	75	40	27	67	94	82	93
Goat	38	53	100	1	1	100	66	77
Fish	39	18	80	78	1	88	55	68
Dove	37	46	81	11	1	86	58	67
Taro shoots	38	46	35	20	82	93	48	67
Paneer	45	49	89	3	1	68	65	66
Cabbage	41	40	36	15	61	91	45	63
Bitter melon	35	46	31	15	69	91	44	62
Quail	37	34	80	8	1	83	52	61
Beef	31	41	85	2	1	75	53	59
Egg	46	15	69	12	1	90	45	58
Radish	25	39	34	18	62	91	37	57
Calabash	22	46	32	19	51	87	38	56
Kohlrabi	32	34	34	11	59	89	37	56
Pointed gourd	24	37	31	11	63	95	34	55
Plain whole yogurt	21	25	68	13	1	100	37	55
Chicken	25	21	86	11	1	87	42	55
Whole cow milk	27	20	66	11	1	100	36	54
Whole sheep & goat milk	24	19	72	8	1	100	36	54
Tomatoes	37	33	33	15	33	82	39	53
Green beans	31	25	36	9	68	90	32	53
Long bean	30	36	39	7	35	81	38	52
Carrots	36	22	36	1	58	86	32	51
Pumpkin	42	37	33	1	24	70	41	50
Hog plum	26	43	25	17	27	77	37	50
Chickpeas	19	31	40	4	65	81	29	48
Guava	29	19	26	5	73	89	25	48
Dal	23	28	26	5	68	85	26	47

Food	Vitamin score	Mineral score	Essential amino acid score	n-3 fatty acid score	Fiber score	Nutrient ratio score	Nutrient Density Score	Nutritional Value Score
Rose apple	25	13	29	32	53	88	25	46
Green papaya	19	32	31	10	37	84	28	46
Sweet potato	29	16	57	1	31	72	32	44
Duck	22	20	69	1	1	69	34	43
Starfruit	16	10	28	27	65	90	18	42
Cheese	19	37	88	3	1	30	46	41
Malta orange	30	10	24	10	40	81	21	40
Jackfruit seeds	47	33	59	2	14	11	50	39
Orange	25	12	24	11	42	79	20	38
Cantaloupe	34	20	24	14	20	61	28	38
Papaya	26	16	23	12	32	73	22	37
Okra	22	15	30	4	21	66	21	33
Potato	14	17	58	3	20	53	25	33
Grapefruit	23	10	24	15	26	69	18	33
Cauliflower	27	8	31	4	20	67	20	33
Peanuts	35	45	28	2	54	1	41	31
Mango	29	6	24	9	24	60	19	30
Ash gourd	26	32	32	20	88	3	34	30
Popcorn	10	39	20	2	100	29	23	30
Banana	14	13	24	4	30	63	14	28
Pineapple	22	8	24	6	24	60	15	28
Eggplant	13	6	29	4	22	65	11	26
Custard apple	15	15	24	4	26	55	15	26
Jujube	16	9	24	12	24	55	15	26
Corn	13	13	14	2	29	64	10	25
Java plumb	7	6	25	15	28	65	9	25
Chapatti	18	20	6	2	68	41	14	24
Apples	2	2	22	6	39	76	2	24
Litchis	18	6	24	14	19	46	14	22
Jackfruit	18	17	26	5	17	34	18	21
Plantain (green and yellow)	11	12	24	3	23	28	12	15
Paratha	3	11	1	1	66	28	1	10
Watermelon	1	1	23	3	5	19	1	3
Rice (brown & white)	1	4	19	1	13	9	2	1

Nutritional Value Scores across all food groups and by food group

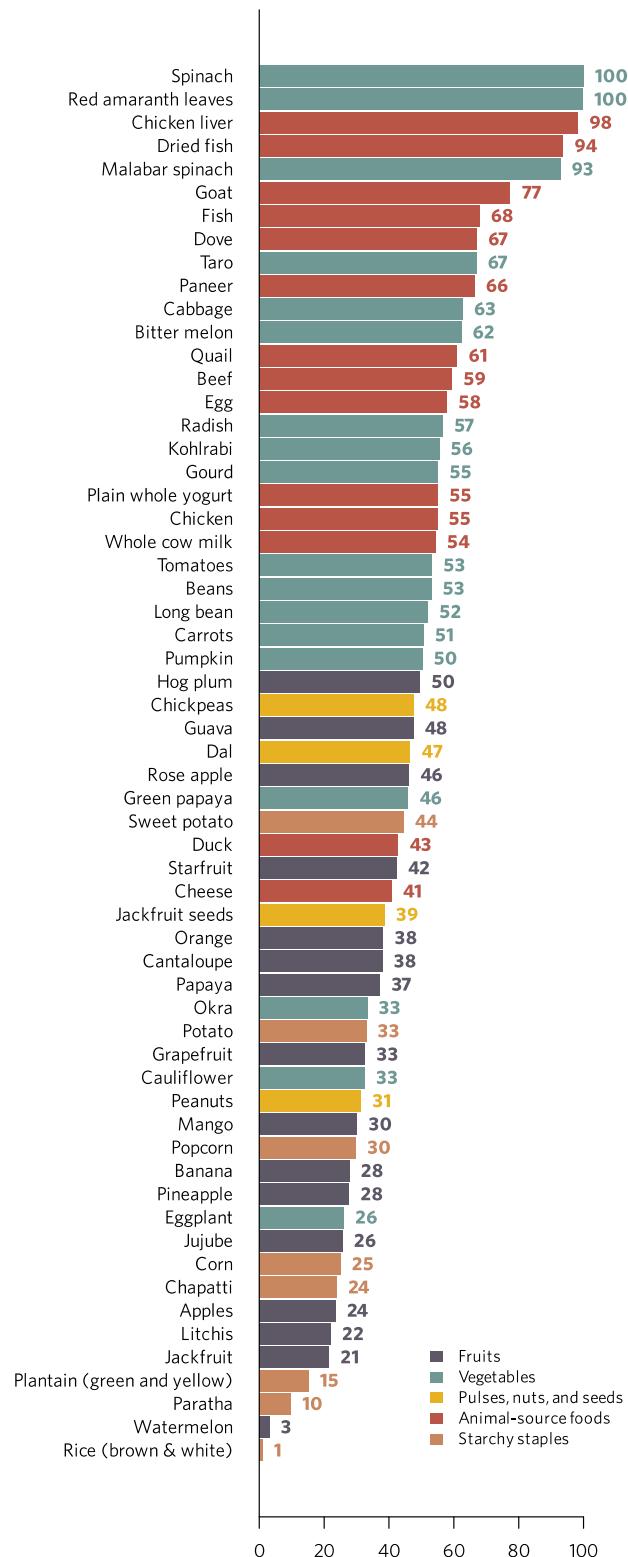


Figure 5 | Nutritional Value Scores for common Bangladeshi foods. This figure includes most, though not all, foods analyzed for Bangladesh.

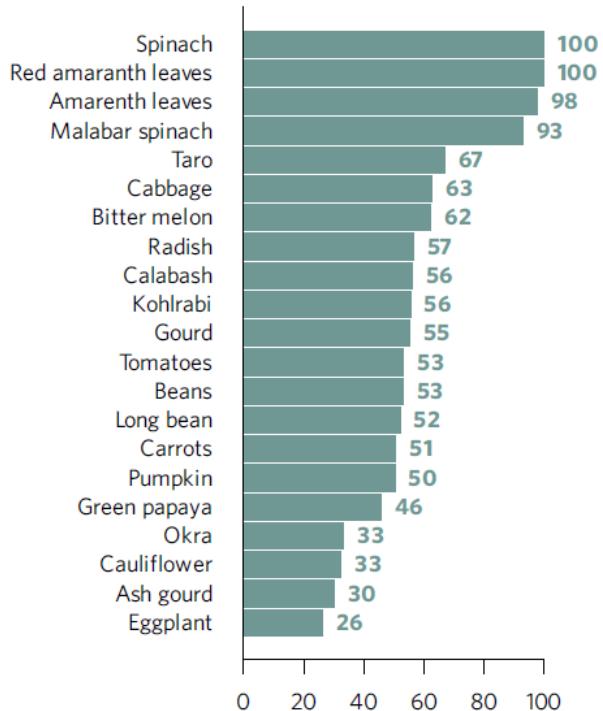


Figure 6 | Nutritional Value Scores for common Bangladeshi vegetables.

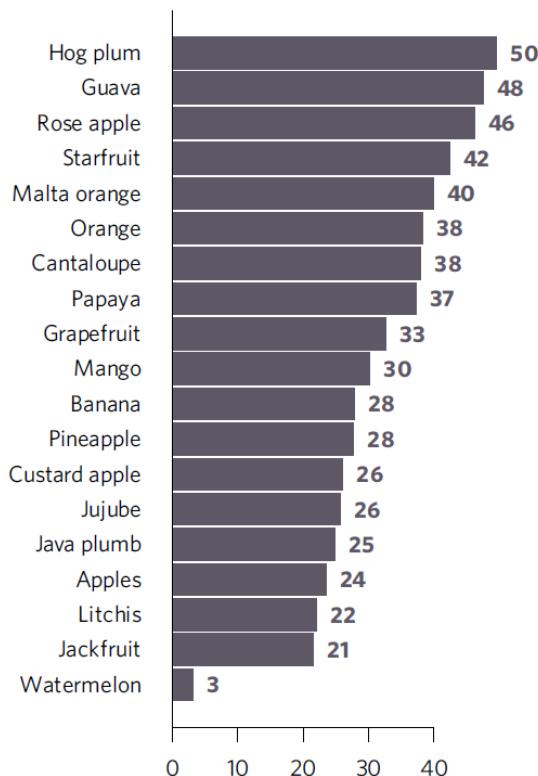


Figure 7 | Nutritional Value Scores for common Bangladeshi fruits.

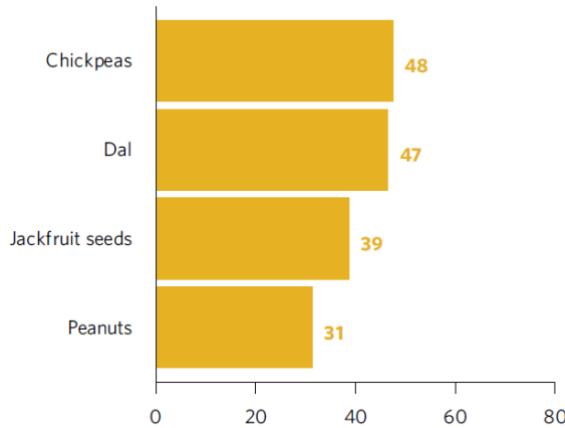


Figure 8 | Nutritional Value Scores for common Bangladeshi pulses, nuts, and seeds.

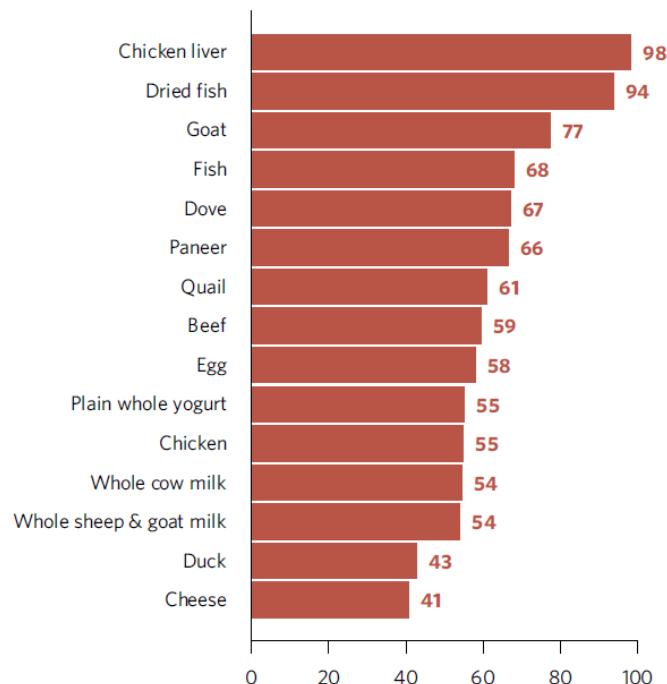


Figure 9 | Nutritional Value Scores for common Bangladeshi animal source foods.

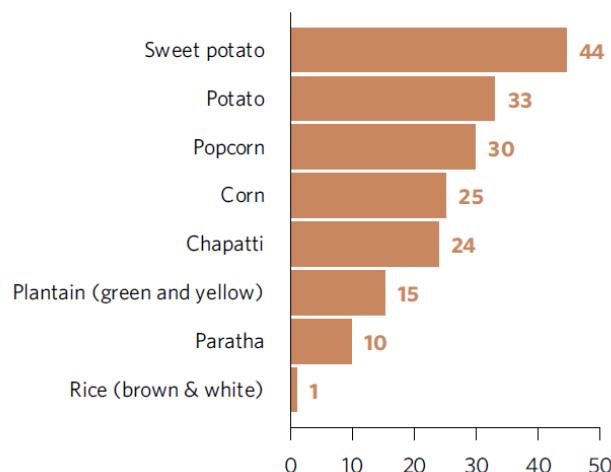


Figure 10 | Nutritional Value Scores for common Bangladeshi starchy staples.

Implications for life cycle assessment

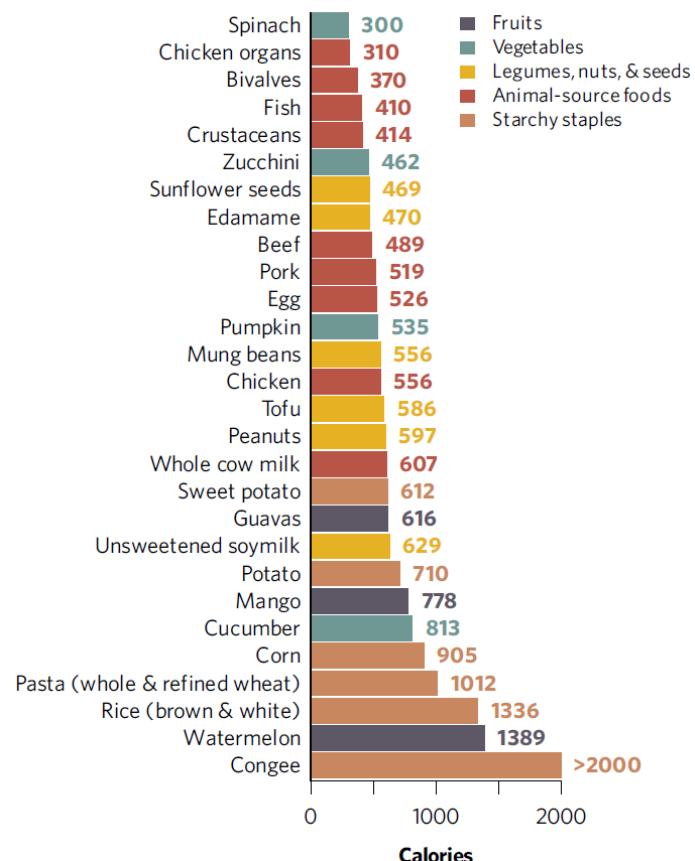


Figure 11 | Calories of Indonesian foods needed for a Nutritional Value Score of 100. The Nutritional Value Score rates foods by nutritional value. It is scaled from 1 (lowest) to 100 (highest).

Sensitivity analyses

The final analysis capped micronutrients at 100% of the RNI per 300 Calories and per 231 grams. Capping at 50% of the RNI made no change (5 foods) or increased the NVS of all foods except for chicken organs, oncom, watermelon, sunflower seeds, apple, beef organs, rice, pear, and dragon fruit (Table 4). In general, capping at 50% of the RNI favors foods with a balance of many micronutrients (for example, milk and eggs). In contrast, capping at 200% of the RNI made no change (8 foods) or decreased the NVS of all foods except for oncom, beef organs, watermelon, bivalves, apple, rice, pear, and dragon fruit (Table 5). The NVS for foods with a balance of many micronutrients like milk and eggs decreased when capping at 200% of the RNI instead of 100%.

In general, capping has differential effects on foods with a balance of micronutrients verses foods with a high quantity of one or two micronutrients. To demonstrate, the NVS for eggs in the final analysis was 57, increased to 65 when capping at 50% of the RNI, and decreased to 51 when capping at 200% of the RNI. Conversely, the NVS for beef organs (very high in vitamin A) was 88 in the final analysis, decreased to 87 when capping at 50% of the RNI, and increased to 91 when capping at 200% of the RNI.

Table 4 | Vitamin and mineral scores, Nutrient Density Scores and Nutritional Value Scores for common Indonesian foods when capping micronutrients at 100% and 50% of RNIs

Food	Vitamin score (100%)	Vitamin score (50%)	Mineral score (100%)	Mineral score (50%)	Nutrient Density Score (100%)	Nutrient Density Score (50%)	Nutritional Value Score (100%)	Nutritional Value Score (50%)
Spinach	79	86	100	100	96	100	100	100
Chicken organs	100	100	72	58	100	94	97	90
Drumstick leaves	77	82	66	85	77	89	82	89
Pumpkin leaves	65	71	72	79	76	82	86	88
Beef organs	86	94	59	56	88	90	88	87
Bivalves	39	58	63	65	74	85	81	87
Water spinach	68	76	73	73	77	81	85	86
Deer	64	72	65	65	82	86	84	85
Chinese broccoli	62	74	60	71	66	77	78	84
Chinese cabbage	62	70	71	72	74	78	82	83
Sweet potato leaves	54	77	55	66	60	77	73	83
Crustaceans	42	62	40	54	63	80	73	82
Fish	50	69	21	31	63	77	73	81
Cassava leaves	50	60	65	85	62	76	72	80
Broccoli	60	76	42	62	55	72	69	79
Buffalo	53	58	43	59	66	77	73	79
Horse	40	54	56	64	67	77	73	78
Boar	41	64	35	48	59	76	67	78
Dove	41	60	54	59	62	74	68	75
Goat	42	50	61	60	68	71	75	75

Food	Vitamin score (100%)	Vitamin score (50%)	Mineral score (100%)	Mineral score (50%)	Nutrient Density Score (100%)	Nutrient Density Score (50%)	Nutritional Value Score (100%)	Nutritional Value Score (50%)
Edamame	32	45	45	67	48	65	64	75
Rabbit	43	52	36	54	59	72	67	74
Red beans	30	46	35	54	39	56	59	69
Zucchini	47	57	51	59	52	61	65	69
Cabbage	43	57	43	55	46	59	62	69
Bitter melon	37	50	50	55	46	55	62	67
Pork	44	61	26	38	51	66	58	66
Egg	51	69	18	26	46	59	57	65
Beef	35	46	48	51	55	63	61	64
Tempeh	17	30	42	61	40	56	55	64
Mung bean sprouts	37	50	38	57	40	56	55	64
Green beans	33	53	27	45	33	52	53	64
Lamb	38	47	42	49	54	62	60	64
Pumpkin	45	59	40	54	43	57	56	64
Tomatoes	39	56	35	48	40	55	55	64
Long bean	30	44	40	57	38	53	54	63
Sunflower seeds	55	59	69	68	66	67	64	63
Chicken	29	42	25	36	42	55	54	61
Plain whole yogurt	22	35	25	47	34	51	50	61
Radish	26	35	42	58	35	47	53	60
Whole sheep milk	25	45	19	36	33	51	49	60
Carrots	38	55	24	35	33	46	52	59
Whole cow milk	27	41	20	38	33	49	49	59
Whole milk powder	23	37	22	42	33	49	49	59
Mung beans	22	26	28	42	32	41	54	59
Chayote	31	40	35	47	34	45	53	59
Tofu	7	12	43	63	35	47	51	58
Unsweetened soymilk	18	34	17	35	31	48	48	58
Winged beans	10	17	51	72	36	49	50	58
Mushrooms	34	50	24	39	30	45	48	57
Rose apple	28	42	14	24	25	37	50	57
Sweet potato	32	46	18	28	32	43	49	55
Tree fern	46	59	3	6	31	39	52	55
Guavas	32	44	21	31	27	37	49	54
Peanuts	40	49	55	60	48	55	50	53
Duck	26	43	23	33	35	48	45	53
Cheese	22	30	44	46	48	53	51	52
Red pepper	47	61	10	17	29	39	47	52

Food	Vitamin score (100%)	Vitamin score (50%)	Mineral score (100%)	Mineral score (50%)	Nutrient Density Score (100%)	Nutrient Density Score (50%)	Nutritional Value Score (100%)	Nutritional Value Score (50%)
Cantaloupe	36	48	21	29	30	39	46	51
Avocado	23	41	18	26	21	33	43	51
Potato	16	28	20	30	25	36	42	49
Durian	29	47	15	22	22	34	41	48
Luffa	16	28	24	33	22	32	42	48
Papaya	28	35	17	28	23	32	42	47
Peanut butter	34	44	48	52	41	48	43	46
Orange	27	35	13	21	21	29	42	46
Taro	17	31	19	28	17	29	39	45
Cauliflower	29	48	9	14	20	32	39	45
Cashews	16	26	76	70	46	48	44	44
Green pepper	29	37	8	13	20	26	40	43
Cucumber	9	17	22	36	18	29	37	43
Mango	31	44	7	11	19	28	39	43
Starfruit	18	22	10	18	16	22	40	43
Grapefruit	24	33	10	17	18	26	38	42
Tangerine	22	32	11	19	17	26	38	42
Breadfruit	13	23	17	25	15	24	38	42
Snake fruit	26	34	35	42	31	38	37	41
Oncom	1	1	53	52	35	34	42	40
Banana	15	24	15	23	15	23	36	40
Pineapple	24	31	8	13	17	22	37	39
Green banana	14	25	18	27	16	26	34	39
Longan	26	34	9	14	17	24	36	39
Corn	14	26	14	22	12	21	33	38
Unsalted brown rice cakes	16	21	38	44	26	32	34	36
Eggplant	14	26	7	10	12	19	33	36
Coconut	1	1	20	27	11	14	30	31
Pasta (whole & refined wheat)	5	8	13	19	8	13	30	31
Pear	2	2	4	7	4	5	30	29
Noodles (rice & wheat)	4	6	11	16	5	9	28	29
Dragon fruit	2	2	4	7	3	5	29	28
Apple	2	4	2	3	4	5	29	28
Cassava	11	19	8	12	3	8	21	24
Rice (brown & white)	2	3	5	7	2	3	22	22
Watermelon	2	2	1	1	1	1	22	20
Congee	6	8	2	5	7	9	1	1

Table 5 | Vitamin and mineral scores, Nutrient Density Scores and Nutritional Value Scores for common Indonesian foods when capping micronutrients at 100% and 200% of RNIs

Food	Vitamin score (100%)	Vitamin score (200%)	Mineral score (100%)	Mineral score (200%)	Nutrient Density Score (100%)	Nutrient Density Score (200%)	Nutritional Value Score (100%)	Nutritional Value Score (200%)
Spinach	79	76	100	100	96	96	100	100
Chicken organs	100	100	72	69	100	100	97	97
Beef organs	86	85	59	67	88	92	88	91
Bivalves	39	33	63	68	74	75	81	82
Pumpkin leaves	65	51	72	71	76	69	86	81
Chinese cabbage	62	56	71	66	74	70	82	80
Water spinach	68	55	73	65	77	68	85	79
Deer	64	50	65	49	82	68	84	74
Drumstick leaves	77	67	66	47	77	64	82	73
Chinese broccoli	62	51	60	43	66	54	78	69
Fish	50	39	21	16	63	57	73	69
Crustaceans	42	35	40	30	63	56	73	67
Horse	40	34	56	43	67	58	73	67
Cassava leaves	50	47	65	50	62	53	72	66
Goat	42	27	61	48	68	56	75	66
Buffalo	53	39	43	32	66	55	73	65
Sweet potato leaves	54	40	55	40	60	47	73	64
Rabbit	43	36	36	28	59	53	67	62
Broccoli	60	50	42	28	55	44	69	61
Edamame	32	29	45	34	48	42	64	60
Boar	41	25	35	27	59	48	67	60
Dove	41	26	54	42	62	50	68	59
Sunflower seeds	55	45	69	62	66	59	64	59
Bitter melon	37	32	50	42	46	41	62	59
Zucchini	47	38	51	38	52	42	65	58
Beef	35	27	48	38	55	48	61	56
Cabbage	43	38	43	28	46	38	62	56
Lamb	38	29	42	33	54	46	60	55
Red beans	30	19	35	26	39	30	59	53

Food	Vitamin score (100%)	Vitamin score (200%)	Mineral score (100%)	Mineral score (200%)	Nutrient Density Score (100%)	Nutrient Density Score (200%)	Nutritional Value Score (100%)	Nutritional Value Score (200%)
Egg	51	35	18	14	46	37	57	51
Pork	44	27	26	21	51	42	58	51
Tempeh	17	11	42	34	40	34	55	51
Mung beans	22	16	28	21	32	27	54	50
Radish	26	22	42	33	35	30	53	49
Cheese	22	15	44	44	48	46	51	49
Tree fern	46	38	3	2	31	28	52	49
Chicken	29	18	25	19	42	36	54	49
Tomatoes	39	29	35	24	40	31	55	49
Pumpkin	45	34	40	28	43	33	56	49
Oncom	1	1	53	68	35	43	42	49
Carrots	38	33	24	16	33	28	52	48
Tofu	7	5	43	33	35	30	51	48
Sweet potato	32	29	18	14	32	29	49	47
Rose apple	28	22	14	9	25	20	50	47
Chayote	31	24	35	22	34	26	53	47
Mung bean sprouts	37	25	38	25	40	29	55	47
Long bean	30	19	40	28	38	28	54	47
Guavas	32	29	21	15	27	24	49	47
Green beans	33	21	27	18	33	24	53	46
Winged beans	10	7	51	40	36	29	50	46
Peanuts	40	30	55	48	48	41	50	45
Plain whole yogurt	22	14	25	15	34	26	50	45
Whole cow milk	27	17	20	12	33	26	49	44
Unsweetened soymilk	18	12	17	10	31	26	48	44
Whole sheep milk	25	16	19	11	33	26	49	44
Red pepper	47	39	10	7	29	25	47	44
Whole milk powder	23	15	22	13	33	25	49	44
Cashews	16	10	76	77	46	44	44	43
Cantaloupe	36	31	21	14	30	25	46	43
Mushrooms	34	22	24	17	30	22	48	42
Duck	26	16	23	19	35	29	45	41
Papaya	28	24	17	12	23	19	42	40

Food	Vitamin score (100%)	Vitamin score (200%)	Mineral score (100%)	Mineral score (200%)	Nutrient Density Score (100%)	Nutrient Density Score (200%)	Nutritional Value Score (100%)	Nutritional Value Score (200%)
Green pepper	29	27	8	6	20	19	40	40
Avocado	23	15	18	14	21	16	43	40
Potato	16	10	20	15	25	21	42	40
Orange	27	22	13	9	21	17	42	39
Starfruit	18	16	10	7	16	14	40	39
Peanut butter	34	26	48	41	41	35	43	39
Luffa	16	11	24	16	22	16	42	39
Durian	29	18	15	12	22	16	41	37
Grapefruit	24	20	10	6	18	15	38	37
Taro	17	11	19	15	17	13	39	36
Mango	31	23	7	5	19	15	39	36
Breadfruit	13	9	17	13	15	12	38	36
Tangerine	22	16	11	8	17	14	38	35
Longan	26	25	9	6	17	17	36	35
Pineapple	24	20	8	6	17	14	37	35
Cauliflower	29	18	9	7	20	15	39	35
Cucumber	9	6	22	14	18	14	37	34
Snake fruit	26	23	35	26	31	26	37	34
Banana	15	10	15	11	15	11	36	34
Eggplant	14	9	7	6	12	10	33	31
Green banana	14	9	18	14	16	13	34	31
Unsalted brown rice cakes	16	11	38	32	26	22	34	31
Corn	14	9	14	11	12	8	33	31
Coconut	1	1	20	17	11	10	30	30
Pear	2	1	4	3	4	4	30	30
Apple	2	2	2	1	4	4	29	30
Dragon fruit	2	1	4	3	3	3	29	29
Pasta (whole & refined wheat)	5	3	13	10	8	7	30	29
Noodles (rice & wheat)	4	3	11	8	5	5	28	28
Rice (brown & white)	2	2	5	4	2	2	22	23
Watermelon	2	1	1	1	1	2	22	23
Cassava	11	7	8	7	3	1	21	20

Food	Vitamin score (100%)	Vitamin score (200%)	Mineral score (100%)	Mineral score (200%)	Nutrient Density Score (100%)	Nutrient Density Score (200%)	Nutritional Value Score (100%)	Nutritional Value Score (200%)
Congee	6	4	2	1	7	7	1	1

When shifting weights of dietary attributes toward protection against NCDs, the NVS for most foods increased, especially for plant-based foods (Table 6). The NVS for some animal source foods decreased, particularly organ meats and deer. In contrast, when shifting weights of dietary attributes toward nutrient density, the NVS for most foods decreased, especially for nutrient-poor fruits and starchy staples; the NVS for chicken organs increased.

Table 6 | Nutritional Value Scores for common Indonesian foods when shifting the weights of dietary attributes toward protection against NCDs and nutrient density, as compared to the original algorithm.

Food	Nutritional Value Score (NCD-focused)	Nutritional Value Score (nutrient-density-focused)	Nutritional Value Score (original)
Spinach	100	100	100
Chicken organs	78	100	97
Beef organs	74	88	88
Pumpkin leaves	96	81	86
Water spinach	92	81	85
Deer	74	83	84
Chinese cabbage	89	77	82
Drumstick leaves	79	79	82
Bivalves	93	76	81
Chinese broccoli	90	71	78
Goat	70	70	75
Buffalo	70	68	73
Fish	92	66	73
Sweet potato leaves	86	65	73
Horse	69	69	73
Crustaceans	83	66	73
Cassava leaves	75	64	72
Broccoli	82	59	69
Dove	66	63	68
Boar	68	61	67
Rabbit	66	61	67

Food	Nutritional Value Score (NCD-focused)	Nutritional Value Score (nutrient-density-focused)	Nutritional Value Score (original)
Zucchini	74	55	65
Sunflower seeds	68	68	64
Edamame	82	53	64
Cabbage	78	51	62
Bitter melon	80	50	62
Beef	59	56	61
Lamb	59	55	60
Red beans	88	46	59
Pork	58	52	58
Egg	62	47	57
Pumpkin	62	44	56
Tomatoes	68	42	55
Tempelh	70	44	55
Mung bean sprouts	64	43	55
Mung beans	86	40	54
Chicken	61	44	54
Long bean	67	41	54
Radish	71	40	53
Chayote	73	39	53
Green beans	75	38	53
Tree fern	76	37	52
Carrots	70	37	52
Tofu	66	38	51
Cheese	48	48	51
Peanuts	58	50	50
Rose apple	88	34	50
Plain whole yogurt	60	36	50
Winged beans	60	37	50
Whole cow milk	59	35	49
Sweet potato	64	36	49
Whole milk powder	59	35	49
Whole sheep milk	59	35	49

Food	Nutritional Value Score (NCD-focused)	Nutritional Value Score (nutrient-density-focused)	Nutritional Value Score (original)
Guavas	75	33	49
Mushrooms	62	33	48
Unsweetened soymilk	67	34	48
Red pepper	60	32	47
Cantaloupe	60	31	46
Duck	50	35	45
Cashews	42	43	44
Peanut butter	49	41	43
Avocado	70	26	43
Papaya	61	26	42
Luffa	63	25	42
Oncom	48	34	42
Potato	57	28	42
Orange	64	24	42
Durian	61	25	41
Green pepper	59	23	40
Starfruit	70	22	40
Taro	63	22	39
Cauliflower	54	22	39
Mango	56	21	39
Grapefruit	58	21	38
Breadfruit	63	19	38
Tangerine	58	20	38
Snake fruit	41	29	37
Cucumber	53	19	37
Pineapple	56	19	37
Banana	56	18	36
Longan	51	19	36
Unsalted brown rice cakes	44	26	34
Green banana	49	17	34
Corn	54	14	33
Eggplant	53	14	33

Food	Nutritional Value Score (NCD-focused)	Nutritional Value Score (nutrient-density-focused)	Nutritional Value Score (original)
Coconut	60	16	30
Pear	61	8	30
Pasta (whole & refined wheat)	51	11	30
Apple	59	8	29
Dragon fruit	58	8	29
Noodles (rice & wheat)	50	8	28
Rice (brown & white)	42	3	22
Watermelon	40	2	22
Cassava	39	3	21
Congee	1	1	1

Winsorising the NVS by truncating outliers at the 5th and 95th percentiles decreased the NVS for most foods but increased it for some of the most nutrient dense foods, except for spinach which received the top score in the final analysis (Table 7). In general, the rank of foods stayed similar, but more foods achieved the minimum and maximum scores.

Table 7 | Nutritional Value Scores for common Indonesian foods when winsorizing the NVS by truncating outliers at the 5th and 95th percentiles, as compared to the original algorithm.

Food	Nutritional Value Score (winsorized)	Nutritional Value Score (original)
Spinach	100	100
Chicken organs	100	97
Beef organs	100	88
Pumpkin leaves	100	86
Water spinach	100	85
Deer	99	84
Chinese cabbage	96	82
Drumstick leaves	96	82
Bivalves	94	81
Chinese broccoli	88	78
Goat	82	75
Buffalo	81	73
Fish	80	73

Food	Nutritional Value Score (winsorized)	Nutritional Value Score (original)
Sweet potato leaves	80	73
Horse	79	73
Crustaceans	79	73
Cassava leaves	77	72
Broccoli	72	69
Dove	71	68
Boar	70	67
Rabbit	68	67
Zucchini	65	65
Sunflower seeds	64	64
Edamame	63	64
Cabbage	61	62
Bitter melon	61	62
Beef	59	61
Lamb	58	60
Red beans	55	59
Pork	53	58
Egg	51	57
Pumpkin	50	56
Tomatoes	48	55
Tempeh	48	55
Mung bean sprouts	47	55
Mung beans	46	54
Chicken	46	54
Long bean	46	54
Radish	45	53
Chayote	44	53
Green beans	44	53
Tree fern	42	52
Carrots	42	52
Tofu	41	51
Cheese	40	51
Peanuts	39	50

Food	Nutritional Value Score (winsorized)	Nutritional Value Score (original)
Rose apple	39	50
Plain whole yogurt	39	50
Winged beans	39	50
Whole cow milk	38	49
Sweet potato	37	49
Whole milk powder	37	49
Whole sheep milk	37	49
Guavas	37	49
Mushrooms	35	48
Unsweetened soymilk	35	48
Red pepper	33	47
Cantaloupe	32	46
Duck	30	45
Cashews	29	44
Peanut butter	27	43
Avocado	27	43
Papaya	26	42
Luffa	25	42
Oncom	25	42
Potato	25	42
Orange	24	42
Durian	24	41
Green pepper	22	40
Starfruit	22	40
Taro	20	39
Cauliflower	19	39
Mango	19	39
Grapefruit	18	38
Breadfruit	17	38
Tangerine	17	38
Snake fruit	16	37
Cucumber	16	37
Pineapple	15	37

Food	Nutritional Value Score (winsorized)	Nutritional Value Score (original)
Banana	14	36
Longan	13	36
Unsalted brown rice cakes	11	34
Green banana	10	34
Corn	9	33
Eggplant	8	33
Coconut	4	30
Pear	3	30
Pasta (whole & refined wheat)	3	30
Apple	2	29
Dragon fruit	2	29
Noodles (rice & wheat)	1	28
Rice (brown & white)	1	22
Watermelon	1	22
Cassava	1	21
Congee	1	1

Each sensitivity analysis had different effects. Capping micronutrients at 50% of the RNI favored foods containing a balance of micronutrients, while capping at 200% favored foods with very high quantities of one or two vitamins and minerals. Shifting the weights of dietary attributes had a large effect on the NVS. Plant-based foods tended to score much higher on the NCD-focused NVS while nutrient dense plant and animal source foods scored higher on the nutrient density focused NVS. Winsorizing did not impact the relative ranking but moved foods near the highest and lowest NVS closer to each extremes. These sensitivity analyses reinforced our choice of capping, dietary attribute weights, and not capping. However, we suggest considering more NCD-focused dietary attribute weights in contexts where noncommunicable diseases are a larger problem than undernutrition, including most high-income countries.

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