

1st Edition

Nourishing Children: Menus for Recovery

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INTRODUCTION

Welcome to ***Nourishing Children: Menus for Recovery***. In short, this is a book of rehabilitation menus from 23 countries developed by World Vision staff and the communities they work in, using locally available, low-cost, nutrient-dense ingredients. Many times, you will find included in the recipes, neglected underutilized indigenous foods that are contextual to the area. The menus included in this book were successfully used in a food-based rehabilitation and behaviour change approach called, “Positive Deviance/Hearth (PDH)” program to rehabilitate undernourished children and prevent malnutrition within the communities where they were designed. Please note, these menus are only examples of highly contextualized menus used to rehabilitate malnourished children in specific communities and are not meant to be used across an entire country.

All menus in this booklet meet the Hearth Menu Requirements, which entail¹:

- Only use of locally available and low-cost foods;
- Fulfilment of all Hearth menu energy and nutrient requirements;
- Inclusion of both a meal and snack (to increase child’s appetite) that does not exceed 300g of food;
- Foods that are not too bulky or chunky, as it makes it difficult for younger children to consume; and
- Good consistency (does not run off the spoon like water but is thicker).

¹ Baik, D. and Klaas N. (2021). *World Vision’s Training of Facilitators for Positive Deviance Hearth (3rd ed.)*. Toronto, Canada. <https://doi.org/10.6084/m9.figshare.13615310>

ACKNOWLEDGEMENTS

We want to thank those from WV offices in: Bangladesh, Burundi, Cambodia, Democratic Republic of Congo, Ethiopia, Ghana, Haiti, Indonesia, Kenya, Guatemala, Laos, Mali, Mozambique, Myanmar, Nepal, Niger, Philippines, Rwanda, Sierra Leone, Sri Lanka, Timor Leste, Uganda, and Zambia who contributed their menus to this menu book. Thank you for tirelessly working to rehabilitate the undernourished children in your communities and making a difference every day. You are the real heroes!

Additional technical reviewers for the introduction and methodology sections of the first edition of ***Nourishing Children: Menus for Recovery*** include: Carmen Tse and Colleen Emary.

METHODOLOGY FOR PDH MENU PREPARATION

All the menus in this book were informed by findings of a formative research approach including a situational analysis and positive deviance inquiry (PDI). This process is crucial to ensure PDH menus are low cost and nutrient-dense but also importantly consists of local foods/ingredients that are easily accessible and available to community members. The formative research is conducted by WV program staff trained in PDH, community members, and leaders. The menu design and calculation is done by WV program staff trained in PDH and reviewed by WV Health and Nutrition Technical staff.

A situational analysis was used to understand the context of the community such as existing resources/services and their functionality; the seasonality of foods available; common diseases/illnesses during different seasons, disability, common practices within the households, food taboos, and other myths associated with child feeding and caring practices.

The situational analysis consisted of the following activities:

1. **Community mapping** or social mapping was used to help the community identify the accessibility and existing resources/services within their surroundings such as locating the large farms, small farms, markets, water sources, etc. on the map.
2. **Wealth ranking** was done with community members because only they know how to define the poor households in their community. Agreement from community on the final criteria defined families as poor or non-poor so that later they would believe that Positive Deviant (PD) families (poor families with healthy children) exist in their community.
3. **Transect walk** was a systematic walk across the community together with the local people to observe the resources available in the community and to understand the challenges to good nutrition, especially those factors that might affect child care, food security and water, sanitation and hygiene. It was also used to verify the wealth ranking status for poor and non-poor households. A home visit was conducted during the transect walk to observe household food production, and what foods are available in the wild, backyard, and/or kitchen gardens of especially poor households.
4. **Nutrition assessment** was done by taking weight and middle upper-arm circumference (MUAC) of children under 59 months of age and in some cases, up to 36 months of age. Caregivers were asked the wealth ranking questions and PDH volunteers apply the wealth ranking criteria to assign families as poor or non-poor. Nutritional assessment and wealth ranking data for each child was analysed together to identify the positive deviant (PD), non-positive deviant (non-PD), and negative deviant (ND) households.

- PDs are well-nourished children from poor families
 - Non-PDs are malnourished children from poor families or well-nourished children from non-poor families.
 - NDs are malnourished children from non-poor families. These households were identified in order to conduct Positive Deviant Inquiries.
5. **Seasonal calendar** was conducted to help understand the types of foods available and what sicknesses and diseases are common during various seasons. This seasonal information was considered when conducting the market survey and in the menu design.
 6. **Market survey** was conducted in every community to support menu design. It involved collecting food availability and price information from the local market where the community buys its food. Approximate cost and variability in cost and/or quantity of all available foods during different seasons was identified to inform the design of Hearth menus with easily accessible, low cost, and locally available foods. The market survey should be conducted during different seasons such as dry and rainy season to design different menus by season.

Positive Deviance Inquiry (PDI) was carried out to understand the common feeding, hygiene, caring, and health seeking practices and identify positive, unique practices in the PD households. Home visits to non-PD households was done first to understand rationale for behavioural or food choices, and challenges and barriers households faced in practicing positive behaviours. The home visits in PD households helped identify how the poor households overcame the challenges and barriers that others in their community could not overcome, thus uncovering local solutions. A 24-hour diet recall was conducted in the households as part of the PDI to identify the PD foods, which are the foods that are locally available, low cost, nutrient-dense, and only consumed by the PD households.

Food availability information from the seasonal calendar and community mapping were used to ask questions especially to the PD households on how they access food. Coping strategies were also identified in the PD households during the lean seasons.

Designing the Hearth Menu

Based on the PDI findings and the market survey, two to four Hearth menus, each with a snack and a meal, were developed for each community using locally sourced ingredients and PD food(s). The menu adhered to appropriate volume for a young child and included sufficient amounts of energy, protein, and key micronutrients (Vitamin A, Vitamin C, zinc, and iron).

Stepwise process to design Hearth Menu

1. Country or Regional Food Composition Table and the information from the market survey, PDI, and seasonal calendar were used to identify locally acceptable and available, low-cost, and nutrient-dense foods – preference in the design was given to the foods fed by the PD households and PD foods.

2. The WV menu calculator was used to select varieties of foods to include into a menu, taking into consideration suitable amounts for a small child to consume. Additional foods not found in the WV menu calculator were found in the National or Regional Food Composition tables and inserted into the WV menu calculator. The menu calculator automatically converted and calculated the cooked to raw values for certain foods to support ease of recipe creation (as the ingredients in the recipe should be listed as raw ingredients). As a rule of thumb, the following conversion was used for cooked to raw foods:
 - Rice, beans, lentils, and pulses, divide by 2
 - Porridge, divide by 2.5
 - Green leafy vegetables, multiply by 1.4
3. A meal and snack were designed, adjusting the varieties of ingredients and amounts to meet all the energy and nutrient requirements of the Hearth meal. The Hearth menu requirements ensure rapid rehabilitation of undernourished children. If the Hearth supplemental meal does not meet these minimum requirements, weight gain can be compromised². The Hearth meal is an extra supplement meal in addition to what children usually eat at home and not a meal substitute. Even if all the energy and nutrient requirements are not met, one may see weight gain, but it may take longer to rehabilitate the child. All the menus included in this booklet meet the Hearth menu's energy and nutrient requirements.

Hearth menu energy and nutrient requirements include:

- Volume: 250-300g (including snack)
 - Energy (kcal): 600-800
 - Protein (g): 25-27 (18-20 during lean season)
 - Vitamin A (mcg RAE): 300
 - Vitamin C (mg): 15-25
 - Iron (mg): 8-10
 - Zinc (mg): 3-5
4. The cost of the menu is usually calculated by inserting the cost per 100g of edible portion into the Master tab of the Menu Calculator.
 5. The weight in grams of each ingredient is then changed to common household measures used in the community, such as cup, spoon, tin, palm of hand, etc.
 6. A final copy of the menu is printed or drawn on a poster to share with caregivers. Drawings and images as well as practice of making the menus are used to communicate and share the menus.

Let us now take a tour of the various menus used across Africa, Latin America, and Asia to rehabilitate undernourished children!

² Nutrition Working Group, Child Survival Collaborations and Resources Group (CORE), Positive Deviance/Hearth: A Resource Guide for Sustainably Rehabilitating Malnourished Children, Washington, D.C: December 2002.

BANGLADESH

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	Rice, white, boiled	15	19.95	0.42	0	0	0.15	0.06	7.5
Vitamin-A rich fruits and vegetables	Carrot, boiled	8	2.64	0.072	90.96	0.24	0.056	0.048	8
Eggs	Egg, hen, whole, boiled	60	102	8.34	98.4	0	2.1	0.69	60
Legumes and Nuts	Lentils, boiled without salt	65	75.4	5.863	0	0.975	2.1645	0.8255	32.5
Vitamin-A rich fruits and vegetables	Green amaranth, small, blanched	20	4.2	0.422	55.6	8.22	0.452	0.176	28
Fats and Oils	Vegetable oil	29	256.36	0	0	0	0	0	29
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Dried small fish (usipa), cooked with salt	30	37.5	5.1	0	0	0.99	2.73	30
Other Fruits and Vegetables	Lemon, juice	2	0.58	0.022	0.06	1.06	0.012	0.002	2
Miscellaneous	Tumeric, dried	16	53.6	1.104	0.16	0	5.312	0.6048	16
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Legumes and Nuts	Beans, kidney, boiled without salt	35	44.45	3.0345	0	0.42	0.777	0.35	17.5
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	20	7.6	0.1	71	11.8	0.14	0.28	20
	Total	300	604.28	24.4775	316.18	22.715	12.1535	5.7663	

BURUNDI

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Maize Porridge (with oil)	85	352.24	14.365	0.51	0.51	4.76	2.21	34
Legumes and Nuts	Beans, kidney, boiled without salt	50	63.5	4.335	0	0.6	1.11	0.5	25
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Dried small fish (usipa), cooked with salt	50	62.5	4.335	0	0	1.65	4.55	50
Vitamin-A rich fruits and vegetables	Cassava, fresh leaves, cooked with salt	40	8	0.8	104.4	4.8	0.64	0.24	40
Fats and Oils	Palm Oil	10	89.5	0	0	0	0.04	0	10
Miscellaneous	Salt	2	0	0	0	0	0.0066	0.002	2
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Mango, ripe, fruit	50	31	0.3	213.5	17.5	0.5	0.3	50
			0	0	0	0	0	0	0
	Total	287	606.74	28.3	318.41	23.41	8.7066	7.802	

CAMBODIA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Porridge, white rice, boiled	80	47.2	3.28	0	0	0.1	0.152	32
Eggs	Egg, hen, whole, boiled	50	85	6.95	82	0	1.75	0.575	50
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	40	36.4	3.52	279.6	0	1.92	0.28	56
Fats and Oils	Groundnut oil	21	189.63	0	0	0	0	0	21
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Dried small fish (usipa), cooked with salt	25	31.25	4.25	0	0	0.825	2.275	25
Legumes and Nuts	Groundnut, fresh, roasted	39	145.86	6.63	0	0	1.17	0.429	19.5
Miscellaneous	Jaggery	15	57.45	0.06	24	01.665	0	0	15
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	30	11.4	0.15	106.5	17.7	0.21	0.42	30
			0	0	0	0	0	0	0
Total		300	604.19	24.84	492.1	17.7	7.64	4.131	

DEMOCRATIC REPUBLIC OF CONGO

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Legumes and Nuts	Groundnut, fresh, boiled	65	153.4	7.02	0	0	1.235	0.65	32.5
Other Fruits and Vegetables	Tomato, red, ripe, cooked	25	4.5	0.2375	6	5.7	0.17	0.035	25
Grains, Roots, and Tubers	Rice, white, boiled	50	66.5	1.4	0	0	0.5	0.2	25
Fats and Oils	Palm oil, unrefined	20	180	0	1144	0	0.02	0	20
Vitamin-A rich fruits and vegetables	Amaranth, boiled	20	4.2	0.422	27.8	8.22	0.452	0.176	28
Legumes and Nuts	Soya bean, dry roasted	25	112.75	9.895	0	1.15	1.2375	1.1925	25
Additional Foods	Caterpillar, boiled	30	78.3	11.208	0	0	5.244	0.24	30
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Other Fruits and Vegetables	Orange, sweet, fresh	20	10.54	0.1	1.2	13	0.08	0.1394	20
			0	0	0	0	0	0	0
	Total	255	610.05	30.2825	1179	28.07	8.9385	2.6329	

ETHIOPIA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Maize Porridge (with oil)	70	290.08	11.83	0.42	0.42	3.92	1.82	28
Legumes and Nuts	Groundnut, fresh, roasted	41	153.34	6.97	0	0	1.23	0.451	20.5
Eggs	Egg, hen, whole, boiled	60	102	8.34	98.4	0	2.1	0.69	60
Other Fruits and Vegetables	Tomato, red, ripe, cooked	20	3.6	0.19	4.8	4.56	0.136	0.028	20
Fats and Oils	Vegetable oil	5	44.2	0	0	0	0	0	5
Vitamin-A rich fruits and vegetables	Dark Green Leaves, fresh, cooked with salt	30	5.4	0.33	120.3	5.1	0.15	0.03	42
Miscellaneous	Salt	2	0	0	0	0	0.0066	0.002	2
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Mango, ripe, fruit, raw	30	18.6	0.18	128.1	10.5	0.3	0.18	30
			0	0	0	0	0	0	0
	Total	258	617.22	27.84	352.02	20.58	7.8426	3.201	

GHANA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Maize Porridge (with oil)	85	352.24	14.365	0.51	0.51	4.76	2.21	34
Grains, Roots, and Tubers	Cassava, boiled	30	49.5	0.36	0.3	3.9	0.42	0.06	30
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	30	27.3	2.64	209.7	0	1.44	0.21	42
Miscellaneous	Salt	0	0	0	0	0	0	0	0
Other Fruits and Vegetables	Okra, fresh, boiled	42	8.82	0.462	15.96	2.1	0.336	0.168	58.8
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Dried small fish (usipa), cooked with salt	20	25	3.4	0	0	0.66	1.82	20
Other Fruits and Vegetables	onion, cooked	23	10.12	0.3128	0	1.196	0.0552	0.0483	23
Additional Foods	Chilli pepper, hot, red, fresh	3	2.25	0.09	4.68	4.26	0.036	0.0108	3
Legumes and Nuts	Dawadawa	2	1.346	0.1312	0	3.824	0	0	0
Fats and Oils	Palm oil, unrefined	10	90	0	572	0	0.01	0	10
			0	0	0	0	0	0	0
SNACK									
Legumes and Nuts	Groundnut, fresh, boiled	30	70.8	3.24	0	0	0.57	0.3	15
			0	0	0	0	0	0	0
	Total	275	637,376	25.001	803.15	15.79	8.2872	4.8271	

HAITI

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Legumes and Nuts	Chickpea, boiled without salt	50	82	4.43	0.5	0.65	1.445	0.765	25
Other Fruits and Vegetables	Garlic, raw	10	13.6	0.61	0	1.8	0.15	0.06	23
Grains, Roots, and Tubers	Sweet potato, boiled	50	50.5	0.85	394.5	7.5	0.85	0.15	50
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	40	36.4	3.52	279.6	0	1.92	0.28	56
Fats and Oils	Vegetable oil	10	88.4	0	0	0	0	0	10
Other Fruits and Vegetables	Spring onion, fresh	20	8.8	0.44	95	8.4	0.46	0.0828	20
Other Fruits and Vegetables	Parsley, fresh	5	9.95	0.175	29.15	8.75	0.245	0.0385	5
Legumes and Nuts	Beans, kidney, boiled without salt	25	31.75	2.1675	0	0.3	0.555	0.25	2.5
2. Legumes and Nuts	Cashewnut, raw	5	29.45	1	0	0	0.32	0.2295	5
1. Grains, Roots, and Tubers	Rice, brown, boiled	35	47.25	1.05	0	0	0.245	0.245	17.5
			0	0	0	0	0	0	0
SNACK									
Miscellaneous	Sugar (white), not fortified	5	18.45	0	0	0	0.01	0.005	5
Miscellaneous	Sesame seeds, white, roasted	5	34.1	1.305	0	0	0.65	0.3591	5
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	35	198.45	9.03	0	0	1.61	0.595	17.5
			0	0	0	0	0	0	0
Total		295	649.1	24.5775	798.75	27.4	8.46	3.0599	

INDONESIA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	Rice steamed, white	60	78.6	1.32	0	0	0.24	0.36	30
Vitamin-A rich fruits and vegetables	Daun segak kegar	40	23.6	2.56	4008	65.6	1.4	0.52	56
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Ikan tembang, segar (Bongas, fresh)	70	142.8	11.2	21	0	1.4	1.82	70
Fats and Oils	Minyak goreng	25	223.75	0	0	0	0.1	0	25
Miscellaneous	Garam	2	0	0	0	0	0.0066	0.002	2
Additional Foods	Bawang merah, segar (Shallot)	2	0.92	0.03	0.04	0.04	0.016	0.004	2
Additional Foods	Bawang putih, segar (Garlic)	2	2.24	0.09	0	0.03	0.02	0.008	2
Miscellaneous	Kecap manis (Soybean sauce)	20	14.2	1.14	0	0	1.14	0.008	20
Miscellaneous	Tumeric, dried	10	33.5	0.69	0.1	0	3.32	0.378	10
Legumes and Nuts	Groundnut, fresh, roasted	45	168.3	7.65	0	0	1.35	0.495	22.5
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	20	7.6	0.1	71	11.8	0.14	0.28	20
			0	0	0	0	0	0	0
	Total	296	695.51	24.78	4100.14	77.74	9.1326	3.875	

KENYA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	Rice, white, fried	40	148	2.724	0	0	0.64	0.48	40
Legumes and Nuts	Lentils, boiled without salt	75	87	6.765	0	1.125	2.4975	0.9525	37.5
Eggs	Hen egg, fried	60	117.6	8.166	131.4	0	1.134	0.834	60
Vitamin-A rich fruits and vegetables	Dark green leaves, fresh	30	14.4	1.5	285	30	1.2	0.228	30
Vitamin-A rich fruits and vegetables	Carrot, boiled	7	2.31	0.063	79.59	0.21	0.049	0.042	7
Other Fruits and Vegetables	Onion, cooked	7	3.08	0.0952	0	0.364	0.0168	0.0147	7
Other Fruits and Vegetables	Tomato, red, ripe, cooked	10	1.8	0.095	2.4	2.28	0.068	0.014	10
Fats and Oils	Vegetable oil	10	88.4	0	0	0	0	0	10
Miscellaneous	Salt	1	0	0	0	0	0.0033	0.001	1
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	131.4	745.038	33.9012	0	0	6.0444	2.2338	131.4
			0	0	0	0	0	0	0
SNACK									
7. Other Fruits and Vegetables	Avocado, raw	25	37.25	0.4	5	4	0.275	0.15	25
			0	0	0	0	0	0	0
	Total	396.4	1244.878	53.7094	503.39	37.979	11.928	4.95	

GUATEMALA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Beef, ground, 20% fat, pan-broiled	50	123	12.02	0	0	1.795	3.035	50
Legumes and Nuts	Black beans, cooked	45	39.6	2.628	0.45	0	0.8235	0.297	22.5
Eggs	Egg, hardboiled	60	93	7.548	89.4	0	0.714	0.63	60
Dairy Products (milk, yogurt, cheese)	White cheese, skim milk	12	15.24	2.52	0.72	0	0.216	0	12
Other Fruits and Vegetables	Onion, raw	12	3.84	0.132	0.12	0.84	0.06	0.024	12
Other Fruits and Vegetables	Parsley, fresh	5	9.95	0.175	29.15	8.75	0.245	0.0385	5
Additional Foods	Oatmeal, boiled	35	17.85	0.7665	27.65	0	0.091	0.1085	14
Vitamin-A rich fruits and vegetables	Dark Green Leaves, fresh, cooked with salt	19	3.42	0.209	76.19	3.23	0.095	0.019	26.6
Miscellaneous	Tumeric, dried	17	56.95	1.173	0.17	0	5.644	0.6426	17
Fats and Oils	Palm oil, unrefined	25	225	0	1430	0	0.025	0	25
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Mango, ripe, fruit, raw	20	12.4	0.12	85.4	7	0.2	0.12	20
			0	0	0	0	0	0	0
	Total	300	600.25	27.2915	1739.25	19.82	9.9085	4.9146	

LAOS

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	sticky rice (white), steamed	50	114.5	2.3	0	0	0.15	0.5	25
Vitamin-A rich fruits and vegetables	Morning glory/Swamp cabbage, blanched	31	6.2	0.6448	161.2	4.96	0.4092	0.0496	43.4
Eggs	Egg, hen, whole, boiled	60	102	8.34	98.4	0	2.1	0.69	60
Other Fruits and Vegetables	Garlic, raw	8	10.88	0.488	0	1.44	0.12	0.048	8
Fats and Oils	Vegetable oil	17	150.28	0	0	0	0	0	17
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Siamese mud carp, grilled	40	49.6	8.44	3.56	0.56	0.24	0.6	40
Legumes and Nuts	Lentils, raw	35	123.55	9.03	0	0	2.639	1.673	35
Miscellaneous	Salt	1	0	0	0	0	0.0033	0.001	1
Vitamin-A rich fruits and vegetables	Wildbetal Leafbush	33	19.8	1.386	85.14	5.61	1.386	0.33	33
		0	0	0	0	0	0	0	0
SNACK									
1. Grains, Roots, and Tubers	Sweet Potato, boiled	25	25.25	0.425	197.25	3.75	0.425	0.075	25
		0	0	0	0	0	0	0	0
Total		300	602.06	31.0538	545.55	16.32	7.4725	3.9666	

MALI

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Maize Porridge (with oil)	100	414.4	16.9	0.6	0.6	5.6	2.6	40
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Tilapia, cooked dry heat	40	51.2	10.46	0	0	0.276	0.164	40
Legumes and Nuts	Groundnut, seeds, dried, raw	30	173.1	7.44	0	0.3	0.69	0.84	30
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	40	36.4	3.52	279.6	0	1.92	0.28	56
Vitamin-A rich fruits and vegetables	Carrot, boiled	10	3.3	0.09	113.7	0.3	0.07	0.06	10
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	30	11.4	0.15	106.5	17.7	0.21	0.42	30
		0	0	0	0	0	0	0	0
	Total	250	689.8	38.56	500.4	18.9	8.766	4.364	

MOZAMBIQUE

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	30	27.3	2.64	209.7	0	1.44	0.21	42
Grains, Roots, and Tubers	Sweet Potato, boiled	40	40.4	0.68	315.6	6	0.68	0.12	40
Grains, Roots, and Tubers	Cassava, dried, raw	60	210.6	1.26	1.2	40.8	2.28	0.48	60
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	55	311.85	14.19	0	0	2.53	0.935	27.5
Legumes and Nuts	Cashewnut, raw	30	176.7	6	0	0	1.92	1.377	30
Fats and Oils	Palm oil, unrefined	5	45	0	286	0	0.005	0	5
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Other Fruits and Vegetables	Banana, ripe, raw	30	30	0.39	5.7	3	0.3	0.33	30
		0	0	0	0	0	0	0	0
	Total	250	841.85	25.16	818.2	49.8	9.155	3.452	

MYANMAR

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	sticky rice (white), steamed	40	91.6	1.84	0	0	0.12	0.4	20
Eggs	Egg, hen, whole, boiled	30	51	4.17	49.2	0	1.05	0.345	30
Miscellaneous	Salt	1	0	0	0	0	0.0033	0.001	1
Fats and Oils	Vegetable oil	8	70.72	0	0	0	0	0	8
Grains, Roots, and Tubers	Maize, yellow, boiled	30	40.8	1.08	10.5	0.3	0.48	0.18	30
Vitamin-A rich fruits and vegetables	Pumpkin, boiled	30	6	0.15	60.3	1.5	0.06	0.06	30
Vitamin-A rich fruits and vegetables	Morning glory/Swamp cabbage, blanched	30	6	0.624	156	4.8	0.396	0.048	42
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Anchovy, fillet, grilled	30	200.4	8.28	6	0.63	1.14	0.759	30
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	30	27.3	2.64	209.7	0	1.44	0.21	30
Other Fruits and Vegetables	Spring onion, fresh	20	8.8	0.44	95	8.4	0.46	0.0828	20
Additional Foods	snail, pond, river	15	11.1	1.815	0	0	1.425	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
10. Additional Foods	Mongogo Nut (Bok Nut)	30	197.7	7.8	0	0	1.11	1.2	30
		0	0	0	0	0	0	0	0
	Total	294	711.42	28.839	586.7	15.63	7.6843	3.2858	

NEPAL

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Fats and Oils	Mustard oil	10	90	0	0	0	0	0	10
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	40	226.8	10.32	0	0	1.84	0.68	20
Legumes and Nuts	Soya bean, dry roasted	45	202.95	17.811	0	2.07	2.2275	2.1465	45
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Dried small fish (usipa), cooked with salt	20	25	3.4	0	0	0.66	1.82	20
Vitamin-A rich fruits and vegetables	Mustard leaves, fresh, cooked with salt	35	5.6	0.385	74.55	0	0.35	0.14	49
Miscellaneous	Tumeric, dried	8	26.8	0.552	0.08	0	2.656	0.3024	8
Miscellaneous	Salt	2	0	0	0	0	0.0066	0.002	2
Other Fruits and Vegetables	Garlic, raw	3	4.08	0.183	0	0.54	0.045	0.018	3
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	65	24.7	0.325	230.75	38.35	0.455	0.91	65
		0	0	0	0	0	0	0	0
	Total	228	605.93	32.976	305.38	40.96	8.2401	6.0189	

NIGER

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Vitamin-A rich fruits and vegetables	Carrot, boiled	25	8.25	0.225	284.25	0.75	0.175	0.15	25
Vitamin-A rich fruits and vegetables	Pumpkin, boiled	25	5	0.125	50.25	1.25	0.05	0.05	25
Legumes and Nuts	Soya bean, dry roasted	65	293.15	25.727	0	2.99	3.2175	3.1005	65
Legumes and Nuts	Beans, kidney, boiled without salt	25	31.75	2.1675	0	0.3	0.555	0.25	12.5
Fats and Oils	Palm oil, unrefined	5	45	0	286	0	0.005	0	5
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	65	368.55	16.77	0	0	2.99	1.105	32.5
Other Fruits and Vegetables	onion, cooked	10	4.4	0.136	0	0.52	0.024	0.021	10
Vitamin-A rich fruits and vegetables	Pumpkin, fresh leaves, boiled	20	2.2	0.12	59.6	2.2	0.1	0.08	28
Miscellaneous	Salt	2	0	0	0	0	0.0066	0.002	2
Other Fruits and Vegetables	Tomato, red, ripe, cooked	13	2.34	0.1235	3.12	2.964	0.0884	0.0182	13
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Mango, ripe, fruit, raw	30	18.6	0.18	128.1	10.5	0.3	0.18	30
		0	0	0	0	0	0	0	0
	Total	285	779.24	45.574	811.32	21.474	7.5115	4.9567	248

PHILIPPINES

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	Rice, brown, boiled	40	54	1.2	0	0	0.28	0.28	20
Eggs	Egg, hen, whole, boiled	30	51	4.17	49.2	0	1.05	0.345	30
Miscellaneous	Salt	2	0	0	0	0	0.0066	0.002	2
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Anchovy, fillet, grilled	45	300.6	12.42	9	0.945	1.71	1.1385	45
Vitamin-A rich fruits and vegetables	Morning glory/Swamp cabbage, fresh	30	9.3	0.87	137.1	8.4	0.99	0.15	30
Legumes and Nuts	Black Beans, cooked	35	30.8	2.044	0.35	0	0.6405	0.231	17.5
Other Fruits and Vegetables	Garlic, raw	30	40.8	1.83	0	5.4	0.45	0.18	30
Other Fruits and Vegetables	Ginger, raw	3	2.16	0.057	0	0.15	0.033	0.0108	3
Other Fruits and Vegetables	onion, cooked	10	4.4	0.136	0	0.52	0.024	0.021	10
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	45	255.15	11.61	0	0	2.07	0.765	22.5
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	30	11.4	0.15	106.5	17.7	0.21	0.42	30
		0	0	0	0	0	0	0	0
	Total	300	759.61	34.487	302.15	33.115	7.4641	3.5433	

RWANDA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Legumes and Nuts	Groundnut, fresh, boiled	65	153.4	7.02	0	0	1.235	0.65	32.5
Other Fruits and Vegetables	Tomato, red, ripe, cooked	25	4.5	0.2375	6	5.7	0.17	0.035	25
Grains, Roots, and Tubers	Rice, white, boiled	50	66.5	1.4	0	0	0.5	0.2	25
Fats and Oils	Palm oil, unrefined	15	135	0	858	0	0.015	0	15
Vitamin-A rich fruits and vegetables	Green amaranth, small, blanched	35	7.35	0.7385	97.3	14.385	0.791	0.308	49
Legumes and Nuts	Soya bean, dry roasted	35	157.85	13.853	0	1.61	1.7325	1.6695	35
Additional Foods	Caterpillar, boiled	30	78.3	11.208	0	0	5.244	0.24	30
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Other Fruits and Vegetables	Orange, sweet, fresh	18	9.36	0.09	1.08	11.7	0.072	0.12546	18
		0	0	0	0	0	0	0	
	Total	273	612.26	34.547	962.38	33.395	9.7595	3.22796	

SIERRA LEONE

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Vitamin-A rich fruits and vegetables	Amaranth, boiled	30	6.3	0.633	41.7	12.33	0.678	0.264	42
Grains, Roots, and Tubers	Sweet Potato, boiled	40	40.4	0.68	315.6	6	0.68	0.12	40
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	50	283.5	12.9	0	0	2.3	0.85	25
Legumes and Nuts	Beans, kidney, boiled without salt	30	38.1	2.601	0	0.36	0.666	0.3	15
Fats and Oils	Palm oil, unrefined	5	45	0	286	0	0.005	0	5
Additional Foods	Maize Porridge (with oil)	60	248.64	10.14	0.36	0.36	3.36	1.56	24
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Mango, ripe, fruit, raw	35	21.7	0.21	149.45	12.25	0.35	0.21	35
		0	0	0	0	0	0	0	0
	Total	250	683.64	27.164	793.11	31.3	8.039	3.304	

SRI LANKA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Grains, Roots, and Tubers	Rice, white, boiled	40	53.2	1.12	0	0	0.4	0.16	20
Miscellaneous	Jaggery	25	95.75	0.1	40	0	2.775	0	25
Legumes and Nuts	Chickpea, boiled without salt	30	49.2	2.658	0.3	0.39	0.867	0.459	15
Flesh Foods (Meat, fish, poultry, and liver/organ meats)	Anchovy sprats	18	46.62	9.2088	2.3094	0	0.5508	0.756	18
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	30	170.1	7.74	0	0	1.38	0.51	15
Grains, Roots, and Tubers	Finger millet	25	80	1.79	0.3825	0	1.155	0.6325	25
Vitamin-A rich fruits and vegetables	Carrot, boiled	25	8.25	0.225	284.25	0.75	0.175	0.15	25
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	15	13.65	1.32	104.85	0	0.72	0.105	21
Additional Foods	Coconut milk	20	37	0.38	0	0.417	0.12	0.0998	20
Fats and Oils	Coconut oil	15	135	0	0	0	0.225	0	15
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Other Fruits and Vegetables	Lemon, juice	30	8.7	0.33	0.9	15.9	0.18	0.03	30
		0	0	0	0	0	0	0	0
	Total	273	697.47	24.8718	432.9919	17.457	8.5478	2.9023	

TIMOR LESTE

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Vitamin-A rich fruits and vegetables	Moringa leaves, boiled	30	27.3	2.64	209.7	0	1.44	0.21	42
Eggs	Egg, hen, whole, boiled	58	98.6	8.062	95.12	0	2.03	0.667	58
Legumes and Nuts	Soya bean, boiled without salt	117	202.41	19.4688	0	1.989	6.0138	1.3455	58.5
Grains, Roots, and Tubers	Sweet Potato, boiled	12	12.12	0.204	94.68	1.8	0.204	0.036	12
Other Fruits and Vegetables	Garlic, fresh	5	2.55	0.105	0	0.5045	0.035	0.01875	5
Additional Foods	Coconut milk	20	37	0.38	0	0.417	0.12	0.0998	20
Fats and Oils	Coconut oil	23	207	0	0	0	0.345	0	23
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	13.3	0.175	124.25	20.65	0.245	0.49	0.005	35
		0	0	0	0	0	0	0	0
	Total	300	600.28	31.0348	523.75	25.3605	10.4328	2.86705	

UGANDA

Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Cost/ Amount
MEAL								
Tomato, red, ripe, cooked	0	0	0	0	0	0	0	0
Cassava, fresh leaves, cooked with salt	30	6	0.6	78.3	3.6	0.48	0.18	150
Sweet Potato, boiled	30	30.3	0.51	236.7	4.5	0.51	0.09	0
Dried small fish (usipa), cooked with salt	15	18.75	2.55	0	0	0.495	1.365	100
Vegetable oil	12	106.08	0	0	0	0	0	240
Mung Bean, dried	50	162	11	9.5	0	4	0.415	0
Groundnut, dried, roasted (also gnut flour)	35	198.45	9.03	0	0	1.61	0.595	70
Cassava Stiff Porridge	90	126	2.43	1.26	6.48	1.08	0.54	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
SNACK								
Papaya (paw paw), fruit, ripe, raw	30	11.4	0.15	106.5	17.7	0.21	0.42	60
	0	0	0	0	0	0	0	0
	262	658.98	26.27	432.26	32.28	8.385	3.605	\$620.00

ZAMBIA

Food Group	Food	Quantity Grams	Calories 600 - 800	Protein 25 - 27g	Vit. A 300 RAE	Vit. C 15 - 25mg	Iron 8- 10mg	Zinc 3 - 5mg	Raw Quantity (grams)
MEAL									
Additional Foods	Maize Porridge (with oil)	65	269.36	10.985	0.39	0.39	3.64	1.69	26
Legumes and Nuts	Beans, kidney, boiled without salt	65	82.55	5.6355	0	0.78	1.443	0.65	32.5
Legumes and Nuts	Groundnut, dried, roasted (also gnut flour)	35	198.45	9.03	0	0	1.61	0.595	17.5
Vitamin-A rich fruits and vegetables	Black Jack Leaves, raw	20	8	1	12.76	3.6	3.68	1.138	20
Miscellaneous	Sugar (white), not fortified	5	18.45	0	0	0	0.01	0.005	5
Fats and Oils	Vegetable oil	5	44.2	0	0	0	0	0	5
Grains, Roots, and Tubers	Sweet Potato, boiled	25	25.25	0.425	197.25	3.75	0.425	0.075	25
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
SNACK									
Vitamin-A rich fruits and vegetables	Papaya (paw paw), fruit, ripe, raw	60	22.8	0.3	213	35.4	0.42	0.84	60
		0	0	0	0	0	0	0	0
	Total	280	669.06	27.3755	423.4	43.92	11.228	4.993	



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