# Online Appendix

**How well do different nutrition assessment tools match?**

**Insights from rural Kenya**

Table A1 Food group classifications and corresponding food items

|  |  |  |
| --- | --- | --- |
| 1 | Cereals | Maize porridge, white rice, ugali, millet porridge, chapati, maize flour, mandazi, sorghum, millet flour, sorghum powder, wheat flour, sorghum flour, cassava flour, bread, brown wheat flour, brown rice, pasta/spaghetti |
| 2 | White roots & tubers | Sweet potatoes, Irish potatoes, cassava, chips, arrow roots, cooking banana |
| 3 | Vegetables | VA rich vegetables & tubers | Tomato, pumpkin, carrots, beetroot,  |
| Dark green leafy vegetables | Pumpkin leaves (Risosa), kales(Sukuma Wiki), amarantha (Emboga), black night shade (Managu), cow pea leaves, vine spinach, spider plant (Sagaa), jute mallow, bean leaves, spinach |
| Other vegetables | Onion, green maize, cabbage, spring onions, maize, dry maize, mushrooms, capsicum (pili pili hoho), garlic |
| 4 | Fruits | VA rich fruits | Guava, ripe paw paw, orange, ripe mango, tangerine  |
| Other fruits | banana, avocado, passion fruit, lemon fruits, apple, pineapple, watermelon, ripe banana, tree tomato |
| 5 | Meat | Organ meat | Matumbo |
| Flesh meat | Goat meat, beef, chicken, sausages |
| 6 | Eggs | Eggs |
| 7 | Fish & seafood | Sardines (Dagaa/Omena), fish |
| 8 | Legumes, nuts & seeds | Beans, soya powder, soya meat, green grams, cow peas, groundnuts, peas, soya bean,  |
| 9 | Milk & milk products | Sour milk, milk |
| 10 | Oils & fats | Cooking oil, margarine, fat, butter |
| 11 | Sweets | Sugar, sugarcane, molasses, chocolate, juices, soda, cake, sweets |
| 12 | Spices, condiments & beverages | Salt, strong tea, tea/milk tea, tea leaves, cocoa, drinking chocolate, royco cube, coffee, coriander (Dania), baking powder, yeast, parsley, beer, ginger, local beer, pepper, sorghum drink |
| VA, vitamin A |

Table A2 Adult and child measurements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | n | Mean | SD | Min | Max |
| *Adult*  |  |  |  |  |
| Age (year) | 1464 | 44·98 | 13·12 | 14·00 | 83·00 |
| wt (kg) | 1044 | 64·97 | 12·57 | 37·20 | 123·00 |
| ht (cm) | 1044 | 163·13 | 7·79 | 131·00 | 188·00 |
| BMI (kg/m²) | 1044 | 24·44 | 4·57 | 15·47 | 44·38 |
| Overweight (0/1) | 1044 | 0·40 | 0·49 | 0·00 | 1·00 |
| Underweight (0/1) | 1044 | 0·06 | 0·24 | 0·00 | 1·00 |
| *Child*  |  |  |  |  |
| Age (month) | 215 | 32·27 | 14·84 | 6·00 | 59·00 |
| wt (kg) | 215 | 12·92 | 3·18 | 5·40 | 22·90 |
| ht (cm) | 215 | 89·02 | 12·46 | 63·50 | 122·15 |
| WAZ | 215 | -0·25 | 1·13 | -4·28 | 2·27 |
| HAZ | 215 | -0·63 | 1·69 | -4·67 | 4·11 |
| WHZ | 213 | 0·15 | 0·96 | -4·74 | 2·19 |
| n, sample size; SD, standard deviation; wt, weight; ht, height; BMI, body mass index; WAZ, weight for age Z-score; HAZ, height for age Z-score; WHZ, weight for height Z-score |

Table A3 Pairwise correlation between household-level indicators and individual-level indicators for adults

|  |  |  |
| --- | --- | --- |
|  | **Household** | **Adult** |
| DDS | FVS | Energy intake (kcal/d/AE) | Energy intake (kJ/d/AE) | VA (µg/d/AE) | Zinc (mg/d/AE) | Iron (mg/d/AE) | DDS | FVS | MDD-W | MDD-W (both sexes) | BMI (kg/m²) | Overweight (Dummy BMI ≥25 0) | Underweight (Dummy BMI <18 5) | Energy Intake (kcal/d) | Energy Intake (kJ/d) | Energy (kcal/d) without outliers (IQR) | Energy intake (kcal/d) without outliers (mean) | Undernourished (<2400 kcal (0/1)) | Undernourished ( (FAO (0/1)) |
| **Household** | FVS | r | 0·7099\*\*\* | 1 |  |  |  |  |   |  |  |  |  |  |  |  |  |  |   |   |  |  |
| p | 0·00 |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |   |   |  |  |
| n | 809 | 809 |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Energy intake (kcal/d/AE) | r | 0·2723\*\*\* | 0·3432\*\*\* | 1 |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Energy intake (kJ/d/AE) | r | 0·2723\*\*\* | 0·3432\*\*\* | 1·0000\*\*\* | 1 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| VA (µg/d/AE) | r | 0·1100\*\*\* | 0·2137\*\*\* | 0·4203\*\*\* | 0·4203\*\*\* | 1 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Zinc (mg/d/AE) | r | 0·1264\*\*\* | 0·1793\*\*\* | 0·7851\*\*\* | 0·7851\*\*\* | 0·5134\*\*\* | 1 |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 | 801 |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iron (mg/d/AE) | r | 0·2261\*\*\* | 0·2907\*\*\* | 0·7442\*\*\* | 0·7442\*\*\* | 0·5467\*\*\* | 0·6741\*\*\* | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 | 801 | 801 |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Adult** | DDS | r | 0·2745\*\*\* | 0·2506\*\*\* | 0·1342\*\*\* | 0·1342\*\*\* | 0·1195\*\*\* | 0·0722\*\* | 0·1226\*\*\* | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·00 | 0·00 |  |  |  |  |  |  |  |  |  |  |  |  |
| n | 1012 | 1012 | 1002 | 1002 | 1002 | 1002 | 1002 | 1026 |  |  |  |  |  |  |  |  |  |  |  |  |
| FVS | r | 0·2953\*\*\* | 0·3171\*\*\* | 0·1883\*\*\* | 0·1883\*\*\* | 0·1003\*\*\* | 0·1001\*\* | 0·1586\*\*\* | 0·7412\*\*\* | 1 |  |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |  |  |  |  |  |
| n | 1012 | 1012 | 1002 | 1002 | 1002 | 1002 | 1002 | 1026 | 1026 |  |  |  |  |  |  |  |  |  |  |  |
| MDD-W | r | 0·2502\*\*\* | 0·3036\*\*\* | 0·1328\*\* | 0·1328\*\* | 0·1200\*\* | 0·0606 | 0·0999\*\* | 0·6866\*\*\* | 0·7084\*\*\* | 1 |  |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·01 | 0·01 | 0·01 | 0·21 | 0·04 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |  |  |  |  |
| n | 436 | 436 | 432 | 432 | 432 | 432 | 432 | 438 | 438 | 438 |  |  |  |  |  |  |  |  |  |  |
| MDD-W (both sexes) | r | 0·2481\*\*\* | 0·2548\*\*\* | 0·1296\*\*\* | 0·1296\*\*\* | 0·0943\*\*\* | 0·0529\* | 0·1015\*\*\* | 0·7074\*\*\* | 0·7386\*\*\* | 1·0000\*\*\* | 1 |  |  |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·09 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |  |  |  |
| n | 1012 | 1012 | 1002 | 1002 | 1002 | 1002 | 1002 | 1026 | 1026 | 438 | 1026 |  |  |  |  |  |  |  |  |  |
| BMI (kg/m²) | r | 0·049 | 0·0948\*\* | 0·1028\*\*\* | 0·1028\*\*\* | 0·0947\*\*\* | 0·0670\*\* | 0·0705\*\* | -0·0097 | 0·051 | 0·0225 | 0·0549 | 1 |  |  |  |  |  |  |  |  |
| p | 0·12 | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·02 | 0·78 | 0·14 | 0·67 | 0·11 | 0·00 |  |  |  |  |  |  |  |  |
| n | 1032 | 1032 | 1022 | 1022 | 1022 | 1022 | 1022 | 840 | 840 | 369 | 840 | 1044 |  |  |  |  |  |  |  |  |
| Overweight (Dummy BMI ≥25 0) | r | 0·0348 | 0·0601\* | 0·0569\* | 0·0569\* | 0·0834\*\* | 0·0369 | 0·0431 | -0·0238 | -0·0097 | 0·0116 | 0·0233 | 0·8007\*\*\* | 1 |  |  |  |  |  |  |  |
| p | 0·26 | 0·05 | 0·07 | 0·07 | 0·01 | 0·24 | 0·17 | 0·49 | 0·78 | 0·82 | 0·50 | 0·00 | 0·00 |  |  |  |  |  |  |  |
| n | 1032 | 1032 | 1022 | 1022 | 1022 | 1022 | 1022 | 840 | 840 | 369 | 840 | 1044 | 1044 |  |  |  |  |  |  |  |
| Underweight (Dummy BMI <18 5) | r | -0·0191 | -0·0489 | -0·0509 | -0·0509 | -0·0073 | -0·0226 | -0·0161 | -0·0074 | -0·0664\* | -0·0766 | -0·0547 | -0·3823\*\*\* | -0·2041\*\*\* | 1 |  |  |  |  |  |  |
| p | 0·54 | 0·12 | 0·10 | 0·10 | 0·82 | 0·47 | 0·61 | 0·83 | 0·05 | 0·14 | 0·11 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |
| n | 1032 | 1032 | 1022 | 1022 | 1022 | 1022 | 1022 | 840 | 840 | 369 | 840 | 1044 | 1044 | 1044 |  |  |  |  |  |  |
| Energy intake (kcal/d) | r | 0·1923\*\*\* | 0·1811\*\*\* | 0·1957\*\*\* | 0·1957\*\*\* | 0·0695\*\* | 0·0960\*\*\* | 0·1079\*\*\* | 0·2592\*\*\* | 0·2886\*\*\* | 0·2204\*\*\* | 0·2467\*\*\* | -0·0600\* | -0·0724\*\* | 0·0404 | 1 |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·08 | 0·04 | 0·25 |  |  |  |  |  |  |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 |  |  |  |  |  |
| Energy intake (kJ/d) | r | 0·1923\*\*\* | 0·1811\*\*\* | 0·1957\*\*\* | 0·1957\*\*\* | 0·0695\*\* | 0·0960\*\* | 0·1079\*\* | 0·2592\*\*\* | 0·2886\*\*\* | 0·2204\*\*\* | 0·2467\*\*\* | -0·0600\*\* | -0·0724\*\* | 0·0404 | 1·00\*\*\* | 1 |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·08 | 0·04 | 0·25 | 0·00 |  |  |  |  |  |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 |  |  |  |  |
| Energy intake (kcal/d)without outliers (IQR) | r | 0·2081\*\*\* | 0·1942\*\*\* | 0·1845\*\*\* | 0·1845\*\*\* | 0·0750\*\* | 0·0931\*\*\* | 0·1109\*\*\* | 0·2689\*\*\* | 0·2871\*\*\* | 0·2371\*\*\* | 0·2569\*\*\* | -0·0612\* | -0·0876\*\* | 0·0121 | 1·00\*\*\* | 1·00\*\*\* | 1 |   |   |   |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·08 | 0·01 | 0·73 | 0·00 | 0·00 | 0·00 |   |   |   |
| n | 988 | 988 | 979 | 979 | 979 | 979 | 979 | 1002 | 1002 | 432 | 1002 | 825 | 825 | 825 | 1002 | 1002 | 1002 |   |   |   |
| Energy intake (kcal/d)without outliers (mean) | r | 0·1787\*\*\* | 0·1813\*\*\* | 0·1604\*\*\* | 0·1604\*\*\* | 0·0502 | 0·0687\*\* | 0·0904\*\* | 0·2383\*\*\* | 0·2692\*\*\* | 0·2163\*\*\* | 0·2385\*\*\* | -0·0511 | -0·0669\* | 0·021 | 1·00\* | 1·00\*\*\* | 1·00\*\*\* | 1 |   |   |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·12 | 0·03 | 0·01 | 0·00 | 0·00 | 0·00 | 0·00 | 0·15 | 0·06 | 0·55 | 0·00 | 0·00 | 0·00 | 0·00 |   |   |
| n | 956 | 956 | 947 | 947 | 947 | 947 | 947 | 968 | 968 | 422 | 968 | 804 | 804 | 804 | 968 | 968 | 966 | 968 |   |   |
| Undernourished (<2400 kcal (0/1)) | r | -0·1250\*\*\* | -0·1418\*\*\* | -0·1368\*\*\* | -0·1368\*\*\* | -0·0657\*\* | -0·0885\*\* | -0·0841\*\* | -0·1861\*\*\* | -0·2028\*\*\* | -0·1749\*\*\* | -0·1882\*\*\* | 0·0399 | 0·0528 | -0·0579 | -0·7561\*\*\* | -0·7561\*\*\* | -0·7784\*\*\* | -0·7984\*\*\* | 1 |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·04 | 0·01 | 0·01 | 0·00 | 0·00 | 0·00 | 0·00 | 0·25 | 0·13 | 0·10 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 |  |
|  | Undernourished ( (FAO (0/1)) | r | -0·0951\*\* | -0·1277\*\*\* | -0·0907\*\* | -0·0907\*\* | -0·039 | -0·0825\*\* | -0·0341 | -0·1884\*\*\* | -0·1826\*\*\* | -0·1906\*\*\* | -0·1855\*\*\* | 0·1505\*\*\* | 0·1466\*\*\* | -0·0988\*\* | -0·7194\*\*\* | -0·7194\*\*\* | -0·7447\*\*\* | -0·7334\*\*\* | 0·7714\*\*\* | 1 |
| p | 0·01 | 0·00 | 0·01 | 0·01 | 0·27 | 0·02 | 0·33 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 820 | 820 | 812 | 812 | 812 | 812 | 812 | 829 | 829 | 366 | 829 | 828 | 828 | 828 | 829 | 829 | 826 | 805 | 829 | 829 |
| Protein (g/d) | r | 0·2109\*\*\* | 0·1659\*\*\* | 0·2060\*\*\* | 0·2060\*\*\* | 0·1199\*\*\* | 0·1208\*\*\* | 0·1382\*\*\* | 0·3186\*\*\* | 0·3131\*\*\* | 0·3269\*\*\* | 0·3360\*\*\* | -0·0646\* | -0·0749\*\* | 0·0153 | 0·8130\*\*\* | 0·8130\*\*\* | 0·8279\*\*\* | 0·7892\*\*\* | -0·6233\*\*\* | -0·5996\*\*\* |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·06 | 0·03 | 0·66 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
| Fat (g/d) | r | 0·1719\*\*\* | 0·1772\*\*\* | 0·1698\*\*\* | 0·1698\*\*\* | 0·041 | 0·0385 | 0·0631\* | 0·3044\*\*\* | 0·3256\*\*\* | 0·3234\*\*\* | 0·3273\*\*\* | -0·0325 | -0·0259 | -0·0418 | 0·6831\*\*\* | 0·6831\*\*\* | 0·7024\*\*\* | 0·6512\*\*\* | -0·5156\*\*\* | -0·4938\*\*\* |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·20 | 0·23 | 0·05 | 0·00 | 0·00 | 0·00 | 0·00 | 0·35 | 0·46 | 0·23 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
| Carbohydrate (g/d) | r | 0·1533\*\*\* | 0·1373\*\*\* | 0·1683\*\*\* | 0·1683\*\*\* | 0·0750\*\*\* | 0·1096\*\*\* | 0·1110\*\*\* | 0·1579\*\*\* | 0·1910\*\*\* | 0·1024\*\* | 0·1152\*\*\* | -0·0529 | -0·0707\*\* | 0·0760\*\* | 0·9014\*\*\* | 0·9014\*\*\* | 0·8908\*\*\* | 0·8939\*\*\*  | -0·6689\*\*\* | -0·6336\*\*\* |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·00 | 0·13 | 0·04 | 0·03 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
| VA (µg/d) | r | 0·0702\*\* | 0·0784\*\* | 0·0016 | 0·0016 | 0·1468\*\*\* | -0·017 | 0·052 | 0·1285\*\*\* | 0·1886\*\*\* | 0·2133\*\*\* | 0·2019\*\*\* | -0·0212 | -0·0124 | -0·0266 | 0·2372\*\*\* | 0·2372\*\*\* | 0·2475\*\*\* | 0·2593\*\*\* | -0·2197\*\*\* | -0·1595\*\*\* |
| p | 0·03 | 0·01 | 0·96 | 0·96 | 0·00 | 0·59 | 0·10 | 0·00 | 0·00 | 0·00 | 0·00 | 0·54 | 0·72 | 0·45 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
|  | Zinc (mg/d) | r | 0·1408\*\*\* | 0·1229\*\*\* | 0·1354\*\*\* | 0·1354\*\*\* | 0·0733\*\* | 0·0817\*\* | 0·1020\*\*\* | 0·1818\*\*\* | 0·1795\*\*\* | 0·1926\*\*\* | 0·2235\*\*\* | -0·0843\*\* | -0·1015\*\*\* | 0·0441 | 0·7370\*\*\* | 0·7370\*\*\* | 0·7585\*\*\* | 0·7538\*\*\* | -0·5941\*\*\* | -0·5699\*\*\* |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·01 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·00 | 0·21 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
| Iron (mg/d) | r | 0·1546\* | 0·1180\*\*\* | 0·1209\*\*\* | 0·1209\*\*\* | 0·0568\* | 0·0768\*\* | 0·0886\*\* | 0·1549\* | 0·1501\*\*\* | 0·1878\*\*\* | 0·1964\*\*\* | -0·0757\*\* | -0·0994\*\* | 0·0371 | 0·7540\*\*\* | 0·7540\*\*\* | 0·7818\*\*\* | 0·7628\*\*\* | -0·6106\*\*\* | -0·5821\*\*\* |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·07 | 0·02 | 0·01 | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·00 | 0·29 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |
| n | 993 | 993 | 984 | 984 | 984 | 984 | 984 | 1007 | 1007 | 433 | 1007 | 828 | 828 | 828 | 1007 | 1007 | 1002 | 968 | 1007 | 829 |
| DDS, dietary diversity score; FVS, food variety score; d, day; VA, vitamin A; MDD-W, minimum dietary diversity for women; BMI, body mass index; \**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A4 Pairwise correlation between household-level indicators and individual-level indicators for children

|  |  |  |
| --- | --- | --- |
|  | **Household** | **Child** |
|  | DDS | FVS | Energy intake (kcal/d/AE) | Energy intake (kJ/d/AE) | VA (µg/d/AE) | Zinc (mg/d/AE) | Iron (mg/d/AE) | DDS | MDD | FVS | Energy intake (kcal/d) | Energy intake (kJ/d) | Energy intake (kcal/d) without outliers (IQR) | Energy Intake (kcal/d) without outliers (mean) |
| **Household** | FVS | r | 0·7099\*\*\* | 1 |  |  |  |  |   |  |  |  |  |  |  |  |
| p | 0·00 |  |  |  |  |  |   |  |  |  |  |  |  |  |
| n | 809 | 809 |  |  |  |  |   |  |  |  |  |  |  |  |
| Energy intake (kcal/d/AE) | r | 0·2723\*\*\* | 0·3432\*\*\* | 1 |  |  |  |   |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 |  |  |  |  |   |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 |  |  |  |   |  |  |  |  |  |  |  |
| Energy intake (kJ/d/AE) | r | 0·2723\*\*\* | 0·3432\*\*\* | 1·0000\*\*\* | 1 |  |  |   |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 |  |  |   |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 |  |  |   |  |  |  |  |  |  |  |
| VA (µg/d/AE) | r | 0·1100\*\* | 0·2137\*\*\* | 0·4203\*\*\* | 0·4203\*\*\* | 1 |  |   |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 |  |  |   |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 |  |   |  |  |  |  |  |  |  |
| Zinc (mg/d/AE) | r | 0·1264\*\*\* | 0·1793\*\*\* | 0·7851\*\*\* | 0·7851\*\*\* | 0·5134\*\*\* | 1 |   |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |   |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 | 801 |   |  |  |  |  |  |  |  |
| Iron (mg/d/AE) | r | 0·2261\*\*\* | 0·2907\*\*\* | 0·7442\*\*\* | 0·7442\*\*\* | 0·5467\*\*\* | 0·6741\*\*\* | 1 |  |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |  |  |  |  |  |
| n | 801 | 801 | 801 | 801 | 801 | 801 | 801 |   |   |   |   |   |   |   |
| **Individual child** | DDS | r | 0·3094\*\*\* | 0·3335\*\*\* | 0·1521\*\* | 0·1521\*\* | 0·1752\*\*+ | 0·101 | 0·1223\* | 1 |  |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·01 | 0·01 | 0·00 | 0·10 | 0·05 | 0·00 |  |  |  |  |  |  |
| n | 269 | 269 | 266 | 266 | 266 | 266 | 266 | 271 |  |  |  |  |  |  |
| MDD | r | 0·2730\*\*\* | 0·3213\*\*\* | 0·1990\*\*\* | 0·1990\*\*\* | 0·1309\*\* | 0·1407\*\* | 0·1241\*\* | 0·7392\*\*\* | 1 |  |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·03 | 0·02 | 0·04 | 0·00 | 0·00 |  |  |  |  |  |
| n | 269 | 269 | 266 | 266 | 266 | 266 | 266 | 271 | 271 |  |  |  |  |  |
| FVS | r | 0·2946\*\*\* | 0·3859\*\*\* | 0·2110\*\*\* | 0·2110\*\*\* | 0·1472\*\* | 0·1236\*\* | 0·1665\*\* | 0·7672\*\*\* | 0·6550\*\*\* | 1 |  |  |  |  |
| p | 0·00 | 0·00 | 0·00 | 0·00 | 0·02 | 0·04 | 0·01 | 0·00 | 0·00 | 0·00 |  |  |  |  |
| n | 269 | 269 | 266 | 266 | 266 | 266 | 266 | 271 | 271 | 271 |  |  |  |  |
| Energy (kcal/d) | r | 0·1790\*\* | 0·2637\*\*\* | 0·1440\*\* | 0·1440\*\* | 0·0716 | 0·0878 | 0·1807\*\*\* | 0·2785\*\*\* | 0·2638\*\*\* | 0·3250\*\*\* | 1 |  |  |  |
| p | 0·00 | 0·00 | 0·02 | 0·02 | 0·26 | 0·17 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 |  |  |  |
| Energy (kJ/d) | r | 0·1790\*\*\* | 0·2637\*\*\* | 0·1440\*\* | 0·1440\*\* | 0·0716 | 0·0878 | 0·1807\*\* | 0·2785\*\*\* | 0·2638\*\*\* | 0·3250\*\*\* | 1·000\*\*\* | 1 |  |  |
| p | 0·00 | 0·00 | 0·02 | 0·02 | 0·26 | 0·17 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| Without outliers (IQR) | r | 0·1877\*\*\* | 0·3045\*\*\* | 0·0898 | 0·0898 | 0·0653 | 0·0278 | 0·1274\* | 0·2853\*\*\* | 0·2756\*\*\* | 0·3297\*\*\* | 1·00\*\*\* | 1·00\*\*\* |  |  |
| p | 0·00 | 0·00 | 0·16 | 0·16 | 0·31 | 0·67 | 0·05 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 249 | 249 | 246 | 246 | 246 | 246 | 246 | 250 | 250 | 250 | 250 | 250 |  |  |
| Without outliers (mean) | r | 0·2033\*\* | 0·3098\*\*\* | 0·084 | 0·084 | 0·0095 | -0·0157 | 0·102 | 0·3414\*\*\* | 0·3098\*\*\* | 0·3735\*\*\* | 1·00\*\*\* | 1·00\*\*\* |  |  |
| p | 0·00 | 0·00 | 0·20 | 0·20 | 0·88 | 0·81 | 0·12 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 239 | 239 | 236 | 236 | 236 | 236 | 236 | 240 | 240 | 240 | 240 | 240 |  |  |
| Protein (g/d) | r | 0·1096\* | 0·1993\*\* | 0·1753\*\* | 0·1753\*\* | 0·0427 | 0·1245\* | 0·2284\*\*\* | 0·2096\*\*\* | 0·2907\*\*\* | 0·2254\*\*\* | 0·7788\*\*\* | 0·7788\*\*\* |  |  |
| p | 0·08 | 0·00 | 0·01 | 0·01 | 0·50 | 0·05 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| Fat (g/d) | r | 0·1078\* | 0·2529\*\*\* | 0·1272\*\* | 0·1272\*\* | -0·0359 | 0·0384 | 0·0767 | 0·2894\*\*\* | 0·3142\*\*\* | 0·2879\*\*\* | 0·7496\*\*\* | 0·7496\*\*\* |  |  |
| p | 0·09 | 0·00 | 0·04 | 0·04 | 0·57 | 0·55 | 0·23 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| Carbohydrate (g/d) | r | 0·1738\*\* | 0·2133\*\*\* | 0·1123\* | 0·1123\* | 0·1170\* | 0·0873 | 0·1766\*\* | 0·2162\*\* | 0·1655\*\* | 0·2906\*\*\* | 0·9310\*\*\* | 0·9310\*\*\* |  |  |
| p | 0·01 | 0·00 | 0·08 | 0·08 | 0·06 | 0·17 | 0·01 | 0·00 | 0·01 | 0·00 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| VA (mcg/d) | r | 0·0479 | 0·1586\*\* | 0·0633 | 0·0633 | 0·1254\* | 0·0441 | 0·1144\* | 0·2181\*\*\* | 0·1874\*\*\* | 0·2761\*\*\* | 0·3722\*\*\* | 0·3722\*\*\* |  |  |
| p | 0·45 | 0·01 | 0·32 | 0·32 | 0·05 | 0·49 | 0·07 | 0·00 | 0·00 | 0·00 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| Zinc (mg/d) | r | 0·0795 | 0·1309\*\* | 0·1566\*\* | 0·1566\*\* | 0·0296 | 0·1154\* | 0·2135\*\*\* | 0·1150\* | 0·1968\*\*\* | 0·1423\*\* | 0·7433\*\*\* | 0·7433\*\*\* |  |  |
| p | 0·21 | 0·04 | 0·01 | 0·01 | 0·64 | 0·07 | 0·00 | 0·07 | 0·00 | 0·02 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| Iron (mg/d) | r | 0·0478 | 0·103 | 0·1301\*\* | 0·1301\*\* | 0·0346 | 0·103 | 0·2093\*\*\* | 0·1176\* | 0·1844\*\*\* | 0·1499\*\* | 0·7545\*\*\* | 0·7545\*\*\* |  |  |
| p | 0·45 | 0·10 | 0·04 | 0·04 | 0·59 | 0·11 | 0·00 | 0·06 | 0·00 | 0·02 | 0·00 | 0·00 |  |  |
| n | 254 | 254 | 251 | 251 | 251 | 251 | 251 | 255 | 255 | 255 | 255 | 255 |  |  |
| WAZ | r | 0·1322\* | 0·1540\*\* | 0·2022\*\*\* | 0·2022\*\*\* | -0·0079 | 0·105 | 0·1332\* | 0·0009 | 0·0989 | 0·0178 | 0·064 | 0·064 | 0·3345\*\*\* | 1 |
| p | 0·05 | 0·02 | 0·00 | 0·00 | 0·91 | 0·12 | 0·05 | 0·99 | 0·15 | 0·80 | 0·37 | 0·37 | 0·00 |  |
| n | 224 | 224 | 221 | 221 | 221 | 221 | 221 | 210 | 210 | 210 | 200 | 200 | 221 | 225 |
| HAZ | r | 0·107 | 0·0816 | 0·0858 | 0·0858 | -0·0491 | 0·0547 | 0·0491 | -0·0387 | 0·0715 | -0·0177 | 0·1515\*\* | 0·1515\*\* | -0·1677\* | 0·7900\*\*\* |
| p | 0·12 | 0·24 | 0·21 | 0·21 | 0·48 | 0·43 | 0·48 | 0·59 | 0·31 | 0·80 | 0·04 | 0·04 | 0·01 | 0·00 |
| n | 214 | 214 | 211 | 211 | 211 | 211 | 211 | 201 | 201 | 201 | 191 | 191 | 215 | 215 |
| WHZ | r | 0·0794 | 0·1266\* | 0·1580\*\* | 0·1580\*\* | 0·0705 | 0·0948 | 0·0768 | 0·0771 | 0·0812 | 0·0497 | -0·0933 | -0·0933 | 0·9139\*\*\* | 0·6053\*\*\* |
| p | 0·25 | 0·07 | 0·02 | 0·02 | 0·31 | 0·17 | 0·27 | 0·28 | 0·25 | 0·49 | 0·20 | 0·20 | 0·00 | 0·00 |
| n | 212 | 212 | 209 | 209 | 209 | 209 | 209 | 199 | 199 | 199 | 190 | 190 | 213 | 213 |
| DDS, dietary diversity score; FVS, food variety score; d, day; VA, vitamin A; MDD, minimum dietary diversity; BMI, body mass index; WAZ, weight-for-age Z-score; HAZ, height-for-age Z-score; WHZ, weight-for-height Z-score; IQR, interquartile range; \**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A5 Linear regressions to analyze associations between dietary indicators at household, adult, and child levels

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | FVS | Energy intake (kJ/d) | VA (µg/d) | Iron (mg/d) | Zinc (mg/d) |
| **Household** † |  |  |  |  |  |
| DDS | 3·03\*\*\* (0·14) | 1207·31\*\*\* (136·51) | 187·59\*\*\* (49·87) | 1·05\*\*\* (0·15) | 1·24\*\*\* (0·29) |
| Age of household head(years) | 0·01 (0·01) | 93·91\*\*\* (15·38) | 18·19\*\* (7·81) | 0·05\*\* (0·02) | 0·07\*\* (0·03) |
| Education of household head (years) | 0·05 (0·05) | 208·47\*\*\* (59·04) | 55·27\*\* (23·85) | 0·22\*\*\* (0·07) | 0·04 (0·13) |
| Total income (1,000 Ksh) | 0·0003 (0·00) | -0·12 (0·28) | -0·08 (0·07) | -0·0001 (0·00) | -0·0004 (0·00) |
| Constant | -7·02\*\*\* (1·05) | -3964·09\*\* (1556·37) | -682·77 (719·90) | -0·98 (2·32) | 9·92\*\*\* (3·54) |
| R² | 0·51 | 0·11 | 0·03 | 0·07 | 0·02 |
| N | 809 | 801 | 801 | 801 | 801 |
| **Adult** |   |   |   |   |   |
| DDS | 1·36\*\*\* (0·05) | 851·12\*\*\* (135·99) | 85·48\*\*\* (24·23) | 0·89\*\*\* (0·27) | 0·56\*\*\* (0·13) |
| Age of household head(years) | -0·00 (0·01) | -14·91 (11·12) | -1·46 (2·40) | -0·02 (0·02) | 0·00 (0·01) |
| Education of household head (years) | 0·06\*\*\* (0·02) | 75·58\*\* (34·50) | 8·51 (8·75) | 0·05 (0·06) | 0·04 (0·04) |
| Total income (1,000 Ksh) | 0·0004\*\*\* (0·00) | 0·75\*\* (0·32) | 0·02 (0·07) | 0·0007 (0·00) | 0·0001\*\*\* (0·00) |
| Constant | 1·62\*\*\* (0·44) | 4044·20\*\*\* (1221·80) | 889·77\*\*\* (235·85) | 10·88\*\*\* (2·08) | 3·91\*\*\* (1·18) |
| R² | 0·57 | 0·08 | 0·02 | 0·03 | 0·05 |
| N | 1026 | 1007 | 1007 | 1007 | 1007 |
| **Child** |   |   |   |   |   |
| DDS | 1·58\*\*\* (0·08) | 881·60\*\*\* (191·97) | 107·80\*\*\* (25·40) | 0·79\* (0·46) | 0·39\* (0·22) |
| Age of household head(years) | -0·00 (0·01) | 30·80 (20·42) | 4·77\* (2·58) | 0·04 (0·03) | 0·04\*\* (0·02) |
| Education of household head (years) | 0·03 (0·03) | 108·78 (83·99) | -4·28 (8·01) | 0·12 (0·14) | 0·07 (0·06) |
| Total income (1,000 Ksh) | -0·00002 (0·00) | 0·05 (0·05) | 0·08\*\*\* (0·01) | 0·0005\*\*\* (0·00) | 0·0003\*\*\* (0·00) |
| Constant | 0·55 (0·77) | -734·80 (1938·36) | 13·70 (229·57) | 2·18 (3·52) | 0·35 (1·70) |
| R² | 0·59 | 0·09 | 0·09 | 0·02 | 0·03 |
| n | 271 | 255 | 255 | 255 | 255 |
| FVS, food variety score; kJ, kilojoule; VA, vitamin A; d, day; DDS, dietary diversity score; n, sample sizeCoefficients with standard errors in parentheses; †Household dietary indicators are expressed per adult equivalent (AE).\**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A6 Regression explaining adult body mass index (BMI)

|  |  |
| --- | --- |
|  | BMI (kg/m²) |
| Energy intake (kJ/d) | -0·0000825 (0·00) |
| Age in years | 0·04\*\*\* (0·01) |
| Gender (male) | -2·33\*\*\* (0·31) |
| HH size | 0·05 (0·08) |
| Occupation (farming) | -0·48 (0·41) |
| Total income (1,000 Ksh) | 0·0008\*\* (0·00) |
| Constant | 23·59\*\*\* (0·98) |
| R-squared | 0·07 |
| Number of observations | 828 |
| BMI, body mass index; kJ, kilojoule; d, day; HH, householdValues are coefficients with standard errors in parentheses.*\*P<0·1, \*\*P<0·05, \*\*\*P<0·01* |

Table A7 Linear regressions to analyse associations between household-level and individual-level dietary indicators for adults

|  |  |
| --- | --- |
|  | **Adult** |
| **Household** | DDS | FVS | Energy intake (kJ/d) | VA (µg/d) | Iron (mg/d) | Zinc (mg/d) |
| DDS | 0·17\*\*\* (0·03) | 0·33\*\*\* (0·06) | 425·20\*\*\* (94·36) | 28·86\* (15·88) | 0·65\*\*\* (0·17) | 0·27\*\*\* (0·08) |
| Age of household head(years) | -0·01\*\*\* (0·00) | -0·01\*\* (0·01) | -21·48\*\* (10·59) | -2·60 (2·36) | -0·03\* (0·02) | -0·00 (0·01) |
| Education of household head (years) | 0·03\*\*\* (0·01) | 0·09\*\*\* (0·02) | 78·62\*\* (34·58) | 10·62 (8·68) | 0·05 (0·06) | 0·04 (0·04) |
| Total income (1,000 Ksh) | 0·0002\*\* (0·00) | 0·0006\*\*\* (0·00) | 0·67\*\* (0·32) | 0·03 (0·07) | 0·0006 (0·00) | 0·001\*\*\* (0·00) |
| Constant | 4·69\*\*\* (0·35) | 7·12\*\*\* (0·63) | 5521·62\*\*\* (1134·45) | 1174·31\*\*\* (208·26) | 10·61\*\*\* (1·78) | 4·94\*\*\* (1·05) |
| R² | 0·11 | 0·15 | 0·05 | 0·01 | 0·03 | 0·04 |
| n | 1012 | 1012 | 993 | 993 | 993 | 993 |
| DDS, dietary diversity score; FVS, food variety score; kJ, kilojoule; VA, vitamin A d, day; n, sample size Coefficients with standard errors in parentheses.\**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

**Table A8** Pairwise correlation between household-level indicators and individual-level indicators for female adults

|  |  |  |
| --- | --- | --- |
| Female |  | **Household** |
|  |  | DDS | FVS | Energy (kJ/d/AE) |
| DDS (n=631) |  | 0·3200\*\*\* | 0·2900\*\*\* | 0·1488\*\*\* |
| FVS (n=631) |  | 0·3149\*\*\* | 0·3359\*\*\* | 0·1689\*\*\* |
| MDD-W (n=436) |  | 0·2502\*\*\* | 0·3036\*\*\* | 0·1328\*\* |
| MDD-W (all women; n=631) |  | 0·2827\*\*\* | 0·3052\*\*\* | 0·1259\*\*\* |
| Energy (kJ/d ; n=626) |  | 0·2249\*\*\* | 0·2137\*\*\* | 0·1806\*\*\* |
| Protein (g/d; n=626) |  | 0·2412\*\*\* | 0·2032\*\*\* | 0·1780\*\*\* |
| Fat (g/d; n=626) |  | 0·1996\*\*\* | 0·2250\*\*\* | 0·1217\*\*\* |
| Carbohydrate (g/d; n=626) |  | 0·1780\*\*\* | 0·1532\*\*\* | 0·1697\*\*\* |
| VA (μg/d; n=626) |  | 0·1211\*\*\* | 0·1043\*\* | -0·0248 |
| Zinc (mg/d; n=626) |  | 0·1640\*\*\* | 0·1412\*\*\* | 0·1045\*\* |
| Iron (mg/d; n=626) |  | 0·1549\*\*\* | 0·1204\*\*\* | 0·0877\*\* |
| BMI (kg/m²; n=668) |  | 0·0736\* | 0·1337\*\*\* | 0·1189\*\*\* |
| DDS, dietary diversity score; FVS, food variety score; kJ, kilojoule; n, sample size; d, day; AE, adult equivalent; MDD-W, minimum dietary diversity for women; BMI, body mass index |
| \**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A9 Pairwise correlation between household-level indicators and individual-level indicators for male adults

|  |  |  |
| --- | --- | --- |
| Male |  | **Household** |
|  |  | DDS | FVS | Energy (kJ/d/AE) |
| DDS (n=381) |  | 0·2039\*\*\* | 0·1920\*\*\* | 0·1131\*\* |
| FVS (n=381) |  | 0·2640\*\*\* | 0·2886\*\*\* | 0·2185\*\*\* |
| MDD-W (male; n=381) |  | 0·1878\*\*\* | 0·1723\*\*\* | 0·1330\*\* |
| Energy Intake (kJ/d; n=367) |  | 0·1387\*\* | 0·1273\*\* | 0·2102\*\*\* |
| Protein (g/d; n=367) |  | 0·1744\*\*\* | 0·1157\*\* | 0·2352\*\*\* |
| Fat (g/d; n=367) |  | 0·1298\*\* | 0·1075\*\* | 0·2241\*\*\* |
| Carbohydrate (g/d; n=367) |  | 0·1100\*\* | 0·1086\* | 0·1627\*\*\* |
| VA (μg/d; n=367) |  | 0·0004 | 0·0447 | 0·0339 |
| Zinc (mg/d; n=367) |  | 0·1085\*\*\* | 0·0933\* | 0·1647\*\*\* |
| Iron (mg/d; n=367) |  | 0·1497\*\*\* | 0·1078\*\* | 0·1656\*\*\* |
| BMI (kg/m²; =364) |  | 0·0392 | 0·0482 | 0·1043\* |
| DDS, dietary diversity score; FVS, food variety score; kJ, kilojoule; n, sample size; d, day; AE, adult equivalent; MDD-W, minimum dietary diversity for women (here calculated for men); BMI, body mass index |
| \**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A10 Linear regressions to analyze associations between household-level and individual-level dietary indicators for children

|  |  |
| --- | --- |
|  | **Child** |
| **Household** | DDS | FVS | Energy intake (kJ/d) | VA (µg/d) | Iron (mg/d) | Zinc (mg/d) |
| DDS | 0·28\*\*\* (0·05) | 0·55\*\*\* (0·09) | 492·74\*\* (201·81) | 20·15 (24·45) | 0·25 (0·57) | 0·21 (0·26) |
| Age of household head (years) | -0·01\*\* (0·01) | -0·02\* (0·01) | 18·22 (21·64) | 3·27 (2·69) | 0·03 (0·03) | 0·03\* (0·02) |
| Education of household head (years) | 0·02 (0·02) | 0·06\* (0·04) | 117·89 (79·78) | -1·54 (7·90) | 0·14 (0·14) | 0·08 (0·07) |
| Total income (1,000 Ksh) | -0·00004\*\*\* (0·00) | -0·00003\*\*\* (0·00) | 0·02 (0·05) | 0·08\*\*\* (0·01) | 0·0005\*\*\* (0·00) | 0·0003\*\*\* (0·00) |
| Constant | 4·09\*\*\* (0·54) | 6·08\*\*\* (0·94) | 699·82 (2292·48) | 550·24\* (284·68) | 5·21 (5·13) | 1·07 (2·48) |
| R² | 0·12 | 0·11 | 0·04 | 0·03 | 0·01 | 0·02 |
| n | 269 | 269 | 254 | 254 | 254 | 254 |
| DDS, dietary diversity score; FVS, food variety score; kJ, kilojoule; VA, vitamin A; d, day; n, sample size Coefficients with standard errors in parentheses.\**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |

Table A11 Correlations between household-level energy and nutrient consumption and individual-level adequacy ratios for adults and children

|  |  |
| --- | --- |
|  | **Household** |
| **Adequacy ratios** | Energy intake (kJ/d/AE) | VA (µg/d/AE) | Zinc (mg/d/AE) | Iron (mg/d/AE) |
| **Adult** |  |  |  |  |
| Energy intake (kJ/d, n=984) | 0.1818\*\*\* |  |  |  |
| VA (µg/d; n=984) |  | -0.0109 |  |  |
| Zinc (mg/d; n=984) |  |  | 0.1152\*\*\* |  |
| Iron (mg/d; n=984) |  |  |  | 0.1324\*\*\* |
| **Child** |  |  |  |  |
| Energy intake (kJ/d, n=251) | 0.1487\*\* |  |  |  |
| VA (µg/d; n=251) |  | 0.0917 |  |  |
| Zinc (mg/d; n=251) |  |  | 0.1703\*\* |  |
| Iron (mg/d; n=251) |  |  |  | 0.1332\*\* |
| kJ, kilojoule; d, day; AE, adult equivalent; VA, vitamin A; n, sample size.\**P<*0·1, \*\**P<*0·05, \*\*\**P<*0·01 |