# Supplemental Information (SI)



SI Figure 1: Per cent contribution of different LDF types to country LDF nutrient supplies in 2010

SI Table 1: Assumptions on income and population in 2050 for the IMPACT scenarios used

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Scenario\* | Burkina Faso | Ethiopia | India | Kenya | Nicaragua | Tanzania | Uganda | Vietnam |
|  | GDP in Billion US Dollars |
| High |  312.92  |  1,406.96  |  36,896.75  |  755.23  |  109.54  |  975.60  |  776.07  |  2,091.51  |
| Moderate |  221.00  |  895.67  |  27,538.48  |  509.87  |  85.86  |  702.11  |  555.22  |  1,602.44  |
| Low |  143.99  |  563.45  |  18,892.21  |  365.34  |  69.85  |  494.78  |  379.80  |  1,255.85  |
|  |  |  |  |  |  |  |  |  |
|  |  Population in Million heads  |
| High |  32.53  |  139.51  |  1,550.40  |  70.35  |  6.15  |  85.02  |  76.37  |  98.22  |
| Moderate |  38.60  |  158.83  |  1,733.80  |  78.06  |  7.01  |  102.25  |  93.25  |  104.38  |
| Low |  47.05  |  184.87  |  1,970.55  |  95.95  |  9.28  |  120.72  |  113.30  |  112.60  |
|  |  |  |  |  |  |  |  |  |
|  |  GDP per capita in US dollars  |
| High |  9,619.99  |  10,085.21  |  23,798.25  |  10,735.65  |  17,820.66  |  11,474.96  |  10,161.86  |  21,293.17  |
| Moderate |  5,725.09  |  5,639.22  |  15,883.35  |  6,532.15  |  12,242.24  |  6,866.37  |  5,953.89  |  15,352.55  |
| Low |  3,060.07  |  3,047.80  |  9,587.28  |  3,807.73  |  7,529.08  |  4,098.46  |  3,352.08  |  11,153.29  |

\*High: SSP1; Moderate: SSP2; Low: SSP3, all with no climate change effects. Assumptions on income and population are the same for the ‘moderate plus climate change’ scenario as for the ‘moderate’ scenario so that Moderate + CC = Moderate, with respect to socio-economic variables. Effects however differ on the supply side (not shown), where climate change imposes environmental stresses and thus productivity losses, on crop production.

SI Table 2: Nutrient equivalents per 100 g of selected foods of animal and plant origins

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FAO/IMPACT model commodity** | **USDA food classification** | Energy | Protein | Carbo- hydrate | Total sugar | Total Fat (lipid) | Iron | sodium | vitamin A RAE | folate | vitamin D (D2+D3) |
|  |  | Kcal | g | G | g | g | mg | mg | mug | mug | mug |
| Beef | Beef, carcass, separable lean and fat, choice, raw | 291 | 17.32 | 0 | 0 | 24.05 | 1.83 | 59 | 0 | 7 | 0 |
| Eggs | Egg, whole, raw, fresh | 143 | 12.56 | 0.72 | 0.37 | 9.51 | 1.75 | 142 | 160 | 47 | 2 |
| Milk | Milk, whole, 3.25% milkfat, without added vitamin a and vitamin d | 149 | 3.15 | 4.78 | 5.05 | 3.27 | 0.03 | 43 | 46 | 5 | 0.1 |
|  | Lamb, ground, raw | 282 | 16.56 | 0 | 0 | 23.41 | 1.55 | 59 | 0 | 18 | 0.1 |
|  | Goat, raw | 109 | 20.6 | 0 | 0 | 2.31 | 2.83 | 82 | 0 | 5 | 0 |
| Lamb | Average Lamb and Goat | 195.5 | 18.58 | 0 | 0 | 12.86 | 2.19 | 70.5 | 0 | 11.5 | 0.05 |
| Pork | Pork, fresh, carcass, separable lean and fat, raw | 376 | 13.91 | 0 | 0 | 35.07 | 0.69 | 42 | 2 | 4 | 0 |
| Poultry | Chicken, broilers or fryers, meat only, raw | 119 | 21.39 | 0 | 0 | 3.08 | 0.89 | 77 | 16 | 7 | 0.1 |
| Barley | Barley, hulled | 354 | 12.48 | 73.48 | 0.8 | 2.3 | 3.6 | 12 | 1 | 19 | 0 |
|  | Corn grain, white | 365 | 9.42 | 74.26 |  | 4.74 | 2.71 | 35 | 0 |  | 0 |
|  | Corn grain, yellow | 365 | 9.42 | 74.26 | 0.64 | 4.74 | 2.71 | 35 | 11 | 19 | 0 |
| Maize | Average of White and Yellow Corn | 365 | 9.42 | 74.26 | 0.64 | 4.74 | 2.71 | 35 | 5.5 | 19 | 0 |
| Millet | Millet, raw | 378 | 11.02 | 72.85 |  | 4.22 | 3.01 | 5 | 0 | 85 | 0 |
|  | Rice, white, short-grain, raw, unenriched | 358 | 6.5 | 79.15 |  | 0.52 | 0.8 | 1 |  | 6 | 0 |
|  | Rice, brown, long-grain, raw | 367 | 7.54 | 76.25 | 0.66 | 3.2 | 1.29 | 5 | 0 | 23 | 0 |
| Rice | Average Brown and White rice | 362.5 | 7.02 | 77.7 | 0.66 | 1.86 | 1.045 | 3 | 0 | 14.5 | 0 |
| Sorghum | Sorghum grain | 329 | 10.62 | 72.09 | 2.53 | 3.46 | 3.36 | 2 | 0 | 20 | 0 |
| Wheat | Wheat, durum | 339 | 13.68 | 71.13 |  | 2.47 | 3.52 | 2 | 0 | 43 | 0 |
| Other Cereals | triticale | 336 | 13.05 | 72.13 |  | 2.09 | 2.57 | 5 | 0 | 73 | 0 |
| Cassava | cassava, raw | 160 | 1.36 | 38.06 | 2.7 | 0.28 | 0.27 | 14 | 1 | 27 | 0 |
| Potato | Potatoes, flesh and skin, raw | 77 | 2.05 | 17.49 | 0.82 | 0.09 | 0.81 | 6 | 0 | 15 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **FAO/IMPACT model commodity** | **USDA food classification** | Energy | Protein | Carbo- hydrate | Total sugar | Total Fat (lipid) | Iron | sodium | vitamin A RAE | folate | vitamin D (D2+D3) |
|  |  | Kcal | g | g | g | g | mg | mg | mug | mug | mug |
| Sweet Potato | Sweet potato, raw, unprepared | 86 | 1.57 | 20.12 | 4.18 | 0.05 | 0.61 | 55 | 709 | 11 | 0 |
| Yams | Yam, raw | 118 | 1.53 | 27.88 | 0.5 | 0.17 | 0.54 | 9 | 7 | 23 | 0 |
| Other Roots & Tubers | Taro, raw | 112 | 1.5 | 26.46 | 0.4 | 0.2 | 0.55 | 11 | 4 | 22 | 0 |
| Beans | Beans, kidney, all types, mature seeds, raw | 333 | 23.58 | 60.01 | 2.23 | 0.83 | 8.2 | 24 | 0 | 394 | 0 |
| Chickpea | Chickpeas, mature seeds, raw | 378 | 20.47 | 62.95 | 10.7 | 6.04 | 4.31 | 24 | 3 | 557 | 0 |
| Cowpea | Cowpeas, common, mature seeds, raw | 336 | 23.52 | 60.03 | 6.9 | 1.26 | 8.27 | 16 | 3 | 633 | 0 |
| Lentils | Lentils, raw | 352 | 24.63 | 63.35 | 2.03 | 1.06 | 6.51 | 6 | 2 | 479 | 0 |
| Pigeon Peas |  Pigeon peas (red gram), mature seeds, raw  | 343 | 21.7 | 62.78 |  | 1.49 | 5.23 | 17 | 1 | 456 | 0 |
| Other Pulses |  Peas, green, split, mature seeds, raw  | 352 | 23.82 | 63.74 | 8 | 1.16 | 4.82 | 15 | 7 | 274 | 0 |
| Banana |  Bananas, raw  | 89 | 1.09 | 22.84 | 27.52 | 0.33 | 0.26 | 1 | 3 | 20 | 0 |
|  Plantains  |  Plantains, raw  | 122 | 1.3 | 31.89 | 15 | 0.37 | 0.6 | 4 | 56 | 22 | 0 |
|  Sub-tropical Fruits  |  Oranges, raw, all commercial varieties  | 47 | 0.9 | 11.75 | 9.35 | 0.12 | 0.1 | 0 | 11 | 30 | 0 |
|  Temperate Fruits  |  Apples, raw, with skin  | 52 | 0.26 | 13.81 | 10.39 | 0.17 | 0.12 | 1 | 3 | 3 | 0 |
|  Vegetables  |  Spinach, raw  | 23 | 2.86 | 3.63 | 0.42 | 0.39 | 2.71 | 79 | 469 | 194 | 0 |
|  Sugar  |  Sugars, brown  | 380 | 0.12 | 98.09 | 97.02 | 0 | 0.71 | 28 | 0 | 1 | 0 |
|  Groundnuts  |  Peanuts, all types, raw  | 567 | 25.8 | 16.13 | 4.72 | 49.24 | 4.58 | 18 | 0 | 240 | 0 |
|  Groundnut Oil  |  Oil, peanut, salad or cooking  | 884 |  |  |  | 100 | 0.03 | 0 | 0 | 0 | 0 |
|  Rapeseed  |  Seeds, lotus seeds, raw  | 89 | 4.13 | 17.28 |  | 0.53 | 0.95 | 1 | 1 | 28 | 0 |
| Rapeseed Oil | Oil, canola | 884 |  |  |  | 100 | 0 | 0 | 0 | 0 | 0 |
| Soybeans | Soybeans, mature seeds, raw | 446 | 36.49 | 30.16 | 7.33 | 19.94 | 15.7 | 2 | 1 | 375 | 0 |
| Soybean Oil | Oil, soybean, salad or cooking | 884 |  |  |  | 100 | 0.05 | 0 | 0 | 0 | 0 |
| Sun flower Oil | Oil, sunflower, linoleic, (approx 65%) | 884 |  |  |  | 100 | 0 | 0 | 0 | 0 | 0 |
| Palm Oil | Oil, palm | 884 | 0 | 0 | 0 | 100 | 0.01 | 0 | 0 | 0 |  |
| **FAO/IMPACT model commodity** | **USDA food classification** | Energy | Protein | Carbo- hydrate | Total sugar | Total Fat (lipid) | Iron | sodium | vitamin A RAE | folate | vitamin D (D2+D3) |
|  |  | Kcal | g | G | g | g | mg | mg | mug | mug | mug |
| Palm Kernel Oil | Vegetable oil, palm kernel | 862 |  |  |  | 100 | 0 | 0 | 0 | 0 | 0 |
| Other Oilseeds | seeds, flaxseed | 534 | 18.29 | 28.88 | 1.55 | 42.16 | 0.59 | 30 | 0 | 87 | 0 |
| Other Oils | Oil, coconut | 892 |  |  |  | 99.06 | 0.05 | 0 | 0 | 0 | 0 |
| Cocoa | Cocoa, dry powder, unsweetened | 228 | 19.6 | 57.9 | 1.75 | 13.7 | 13.86 | 21 | 0 | 32 | 0 |
| Coffee | Beverages, coffee, instant, regular, powder | 353 | 12.2 | 75.4 | 0 | 0.5 | 4.41 | 37 | 0 | 0 | 0 |
| Tea | Beverages, tea, instant, unsweetened, powder | 315 | 20.21 | 58.66 | 5.53 | 0 | 2.26 | 72 | 0 | 103 | 0 |
| Other Crops | Spices, curry powder | 325 | 14.29 | 55.83 | 2.76 | 14.01 | 19.1 | 52 | 1 | 56 | 0 |

 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Source: Data retrieved from USDA's national nutrient data base <https://ndb.nal.usda.gov/>, accessed 02 June 2016. Authors’ associations of USDA food categories to FAO/IMPACT model commodities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

SI Table 3: Calories and nutrient values of per capita food supplies in the eight countries in 2010, the base year

|  |  |
| --- | --- |
|  | Supply per capita per day in 2010 (% from LDF in brackets)  |
| Country | Energy | Macro Nutrients | Micro Nutrients |
|  | Calories (kcal/d) | Protein (g/d) | Carbs (g/d) | Fats (total fat) (g/d) | Iron (mg/d) | Folate (µg/d) | Vitamin (A1 µg/d) | Vitamin D µg/d |
| RDA2 | 2,2503 | 50 | 130 | 723 | 13 | 400 | 800 | 5 |
| Burkina Faso | 2,947 | 94 | 509 | 67 | 27 | 704 | 503 | 0.19 |
|  | (6.6) | (10.7) | (0.4) | (16.6) | (3.1) | (1.2) | (6.6) | (100.0) |
| Ethiopia  | 1,774 | 62 | 336 | 25 | 16 | 374 | 364 | 0.08 |
|  | (7.5) | (8.9) | (0.7) | (23.4) | (2.6) | (1.3) | (7.3) | (100.0) |
| India | 2,412 | 63 | 412 | 45 | 18 | 607 | 1,038 | 0.33 |
|  | (13.9) | (15.1) | (2.3) | (20.4) | (2.0) | (2.3) | (9.9) | (100.0) |
| Kenya | 2,411 | 65 | 396 | 50 | 18 | 552 | 998 | 0.31 |
|  | (18.3) | (22.2) | (2.7) | (32.1) | (4.7) | (2.9) | (10.9) | (100.0) |
| Nicaragua | 2,579 | 68 | 429 | 51 | 15 | 367 | 244 | 0.44 |
|  | (16.4) | (26.2) | (2.4) | (26.2) | (5.2) | (5.0) | (48.5) | (100.0) |
| Tanzania | 2,735 | 68 | 492 | 54 | 18 | 646 | 1,176 | 0.16 |
|  | (8.5) | (12.9) | (1.0) | (17.4) | (3.1) | (1.3) | (4.4) | (100.0) |
| Uganda | 2,704 | 61 | 509 | 49 | 18 | 661 | 2,206 | 0.14 |
|  | (8.8) | (14.3) | (0.9) | (21.3) | (2.7) | (1.2) | (2.2) | (100.0) |
| Vietnam | 2,608 | 71 | 451 | 58 | 19 | 668 | 1,256 | 0.18 |
|   | (15.6) | (25.9) | (0.3) | (56.2) | (5.3) | (1.5) | (2.4) | (100.0) |

1Values for vitamin A are of Retinol Activity Equivalent (RAE)

2Recommended dietary allowance (RDA) is the average amount sufficient to meet the nutrient requirement of about 98 per cent of healthy males and non-pregnant females in the 19-to-50 year-old cohorts (NAS, 2006). Not determined for fat intake due to insufficient data.

3Comparable values for calorie and fat intake calculated using(USDA & USDHS, 2010).

SI Table 4: Contribution of different food groups to per capita calorie supplies, by country in 2050\*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Livestock-Derived Foods | Cereals & Grains | Pulses & Legumes | Roots & Tubers | Fruits & Vegetables | Oils & Oilseeds | Other Crops |
| Burkina | 507 | 2329 | 337 | 21 | 57 | 197 | 98 |
|  | 162.4  | 5.8  | 13.5  | 2.9  | 114.2  | 37.8  | 49.0  |
|  |  |  |  |  |  |  |  |
| Ethiopia | 165.6  | 1564.6  | 227.7  | 32.0  | 66.0  | 68.0  | 116.2  |
|  | 25.1  | 18.9  | 65.4  | (1.5) | 106.3  | 42.2  | 53.5  |
|  |  |  |  |  |  |  |  |
| India | 472.0  | 1403.0  | 71.3  | 97.3  | 292.5  | 272.3  | 369.9  |
|  | 40.5  | 1.5  | 27.9  | 32.2  | 139.4  | 28.4  | 60.2  |
|  |  |  |  |  |  |  |  |
| Kenya | 501.6  | 1729.1  | 157.9  | 161.0  | 287.5  | 343.9  | 255.6  |
|  | 13.7  | 45.5  | 31.6  | 12.0  | 86.6  | 105.8  | 30.4  |
|  |  |  |  |  |  |  |  |
| Nicaragua | 506.2  | 1415.8  | 236.6  | 38.2  | 82.2  | 338.5  | 528.5  |
|  | 19.8  | 7.2  | 33.5  | (6.5) | 45.5  | 63.6  | 49.3  |
|  |  |  |  |  |  |  |  |
| Tanzania | 385.0  | 1178.8  | 299.4  | 635.5  | 391.0  | 456.5  | 131.9  |
|  | 66.2  | 10.6  | 26.9  | (0.1) | 88.4  | 77.9  | 30.5  |
|  |  |  |  |  |  |  |  |
| Uganda | 387.5  | 741.1  | 261.4  | 641.4  | 773.2  | 388.8  | 145.4  |
|  | 63.4  | 10.8  | 25.2  | (2.7) | 32.5  | 68.2  | 26.6  |
|  |  |  |  |  |  |  |  |
| Vietnam | 636.3  | 1563.2  | 105.6  | 52.9  | 222.7  | 88.6  | 336.3  |
|  | 56.8  | (3.5) | 21.3  | 5.8  | 40.4  | 8.8  | 63.9  |
|  |  |  |  |  |  |  |  |
| Mean | 445.1  | 1490.6  | 212.1  | 209.9  | 271.6  | 269.2  | 247.8  |
|  | 48.4  | 10.8  | 28.6  | 1.4  | 62.0  | 60.0  | 47.5  |

\* Showing results for the moderate economic growth scenario.

Values on lower rows are percent change from 2010 (negative values in parenthesis)

SI Table 5: Contribution of different livestock product types\* to per capita nutrient supplies, by country in 2010

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Item | Protein (g/d) | Carbohy-drates (g/d) | Fats (g/d) | Iron | Sodium | Vitamin A | Folate | Vitamin D |
| Burkina Faso | Eggs | 0.82 | 0.05 | 0.62 | 0.11 | 9.31 | 10.48 | 3.08 | 0.13 |
| Milk | 1.46 | 2.22 | 1.52 | 0.01 | 19.97 | 21.36 | 2.32 | 0.05 |
| Chicken Meat | 1.39 |  | 0.20 | 0.06 | 5.00 | 1.04 | 0.45 | 0.01 |
| Pig Meat | 0.95 |  | 2.40 | 0.05 | 2.87 | 0.14 | 0.27 |  |
| Beef or lambBeef or lamb | 5.43 |  | 6.42 | 0.59 | 19.13 |  | 2.54 | 0.00 |
| CDF | 84.11 | 506.69 | 56.13 | 25.69 | 147.70 | 469.56 | 695.78 |   |
| Ethiopia | Eggs | 0.16 | 0.01 | 0.12 | 0.02 | 1.81 | 2.04 | 0.60 | 0.03 |
| Milk | 1.65 | 2.51 | 1.71 | 0.02 | 22.54 | 24.11 | 2.62 | 0.05 |
| Chicken Meat | 0.42 |  | 0.06 | 0.02 | 1.53 | 0.32 | 0.14 | 0.00 |
| Pig Meat | 0.01 |  | 0.03 | 0.00 | 0.03 | 0.00 | 0.00 |  |
| Beef or lambBeef or lamb | 3.29 |  | 3.96 | 0.36 | 11.54 |  | 1.52 | 0.00 |
| CDF | 56.55 | 333.67 | 19.24 | 15.81 | 107.92 | 337.67 | 369.25 |   |
| India | Eggs | 0.79 | 0.05 | 0.60 | 0.11 | 8.90 | 10.03 | 2.95 | 0.13 |
| Milk | 6.31 | 9.57 | 6.55 | 0.06 | 86.07 | 92.08 | 10.01 | 0.20 |
| Chicken Meat | 0.99 |  | 0.14 | 0.04 | 3.56 | 0.74 | 0.32 | 0.00 |
| Pig Meat | 0.15 |  | 0.38 | 0.01 | 0.45 | 0.02 | 0.04 |  |
| Beef or lambBeef or lamb | 1.28 |  | 1.51 | 0.14 | 4.51 |  | 0.60 | 0.00 |
| CDF | 53.45 | 401.97 | 35.82 | 17.83 | 198.77 | 935.58 | 593.16 |   |
| Kenya | Eggs | 0.51 | 0.03 | 0.38 | 0.07 | 5.72 | 6.44 | 1.89 | 0.08 |
| Milk | 6.96 | 10.55 | 7.22 | 0.07 | 94.94 | 101.57 | 11.04 | 0.22 |
| Chicken Meat | 0.35 |  | 0.05 | 0.01 | 1.26 | 0.26 | 0.11 | 0.00 |
| Pig Meat | 0.15 |  | 0.37 | 0.01 | 0.44 | 0.02 | 0.04 |  |
| Beef or lambBeef or lamb | 6.38 |  | 8.11 | 0.69 | 22.16 |  | 2.81 | 0.00 |
| CDF | 50.36 | 385.74 | 34.14 | 17.28 | 236.71 | 889.57 | 536.07 |   |
| SI Table 5 continued. |
| Country | Item | Protein (g/d) | Carbohy-drates (g/d) | Fats (g/d) | Iron | Sodium | Vitamin A | Folate | Vitamin D |
| Nicaragua | Eggs | 1.20 | 0.07 | 0.91 | 0.17 | 13.61 | 15.34 | 4.51 | 0.19 |
| Milk | 6.69 | 10.15 | 6.94 | 0.06 | 91.31 | 97.68 | 10.62 | 0.21 |
| Chicken Meat | 7.04 |  | 1.01 | 0.29 | 25.34 | 5.27 | 2.30 | 0.03 |
| Pig Meat | 0.56 |  | 1.41 | 0.03 | 1.69 | 0.08 | 0.16 |  |
| Beef or lambBeef or lamb | 2.27 |  | 3.15 | 0.24 | 7.73 |  | 0.92 | 0.00 |
| CDF | 50.07 | 419.21 | 37.76 | 14.31 | 123.13 | 125.72 | 348.51 |   |
| Tanzania | Eggs | 0.30 | 0.02 | 0.23 | 0.04 | 3.45 | 3.88 | 1.14 | 0.05 |
| Milk | 3.25 | 4.93 | 3.37 | 0.03 | 44.34 | 47.43 | 5.16 | 0.10 |
| Chicken Meat | 0.92 |  | 0.13 | 0.04 | 3.29 | 0.68 | 0.30 | 0.00 |
| Pig Meat | 0.15 |  | 0.39 | 0.01 | 0.46 | 0.02 | 0.04 |  |
| Beef or lamb | 4.10 |  | 5.29 | 0.44 | 14.20 |  | 1.78 | 0.00 |
| CDF | 58.81 | 487.00 | 44.75 | 17.51 | 259.16 | 1123.88 | 637.24 |   |
| Uganda | Eggs | 0.22 | 0.01 | 0.17 | 0.03 | 2.47 | 2.78 | 0.82 | 0.03 |
| Milk | 3.11 | 4.72 | 3.23 | 0.03 | 42.48 | 45.44 | 4.94 | 0.10 |
| Chicken Meat | 1.11 |  | 0.16 | 0.05 | 3.99 | 0.83 | 0.36 | 0.01 |
| Pig Meat | 1.42 |  | 3.58 | 0.07 | 4.28 | 0.20 | 0.41 |  |
| Beef or lamb | 2.82 |  | 3.42 | 0.31 | 9.89 |  | 1.29 | 0.00 |
| CDF | 52.13 | 504.73 | 38.91 | 17.33 | 290.60 | 2156.41 | 653.17 |   |
| Vietnam | Eggs | 0.85 | 0.05 | 0.64 | 0.12 | 9.56 | 10.77 | 3.16 | 0.13 |
| Milk | 0.99 | 1.51 | 1.03 | 0.01 | 13.54 | 14.49 | 1.57 | 0.03 |
| Chicken Meat | 3.66 |  | 0.53 | 0.15 | 13.18 | 2.74 | 1.20 | 0.02 |
| Pig Meat | 11.18 |  | 28.20 | 0.55 | 33.77 | 1.61 | 3.22 |  |
| Beef or lamb | 1.61 |  | 2.18 | 0.17 | 5.49 |  | 0.66 | 0.00 |
| CDF | 52.31 | 449.89 | 25.40 | 18.08 | 245.12 | 1226.67 | 658.18 |   |

\*Total daily supply from crop-derived foods (CDF) included for comparison

Source: author’s calculations using model outputs corresponding to the reference scenario, and nutrient conversion rates (SI Table 2).

SI Table 6: Scenario projections on total household demand and net trade of livestock-derived foods, by country

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Scenarios | Food Groups\* | Burkina | Ethiopia | India | Kenya | Nicaragua | Tanzania | Uganda | Vietnam |
| High Growth | Eggs1 |  206  |  159  |  8,678  |  247  |  29  |  172  |  109  |  608  |
| Eggs2 |  (212) |  (132) |  (2,505) |  (218) |  13  |  (143) |  (116) |  (235) |
| Milk1 |  1,211  |  3,347  |  155,316  |  5,415  |  503  |  5,345  |  4,202  |  1,891  |
| Milk2 |  (641) |  910  |  70,776  |  639  |  262  |  (2,374) |  (2,170) |  (1,414) |
| Poultry meat1 |  405  |  293  |  26,382  |  221  |  155  |  557  |  563  |  1,500  |
| Poultry meat2 |  (259) |  (89) |  (17,256) |  (133) |  85  |  (290) |  (329) |  (99) |
| Pig meat1 |  286  |  16  |  911  |  87  |  14  |  108  |  633  |  4,711  |
| Pig meat2 |  3  |  (5) |  1,575  |  (57) |  12  |  (79) |  (328) |  102  |
| Beef or lamb1 |  1,669  |  1,405  |  7,918  |  1,678  |  52  |  1,710  |  1,254  |  636  |
| Beef or lamb2 |  (1,086) |  458  |  1,499  |  (248) |  154  |  (395) |  (735) |  (91) |
| Moderate Growth | Eggs1 |  195  |  147  |  8,112  |  222  |  31  |  172  |  110  |  561  |
| Eggs2 |  (197) |  (119) |  (1,769) |  (188) |  9  |  (144) |  (118) |  (192) |
| Milk1 |  1,180  |  3,581  |  161,329  |  6,037  |  568  |  5,669  |  4,583  |  1,842  |
| Milk2 |  (621) |  588  |  63,852  |  (34) |  178  |  (2,727) |  (2,600) |  (1,367) |
| Poultry meat1 |  330  |  264  |  19,339  |  166  |  160  |  495  |  506  |  1,383  |
| Poultry meat2 |  (194) |  (74) |  (10,977) |  (83) |  65  |  (245) |  (287) |  (87) |
| Pig meat1 |  248  |  13  |  940  |  72  |  15  |  99  |  631  |  4,601  |
| Pig meat2 |  33  |  (3) |  1,491  |  (42) |  11  |  (70) |  (329) |  13  |
| Beef or lamb1 |  1,382  |  1,451  |  7,896  |  1,636  |  54  |  1,716  |  1,209  |  611  |
| Beef or lamb2 |  (819) |  350  |  1,248  |  (259) |  140  |  (452) |  (709) |  (80) |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SI Table 6 continued. |
| Scenarios | Food Groups\* | Burkina | Ethiopia | India | Kenya | Nicaragua | Tanzania | Uganda | Vietnam |
| Low Growth | Eggs1 |  182  |  138  |  7,400  |  219  |  39  |  171  |  110  |  532  |
| Eggs2 |  (182) |  (110) |  (957) |  (187) |  (1) |  (144) |  (118) |  (177) |
| Milk1 |  1,144  |  3,946  |  168,469  |  7,532  |  744  |  5,959  |  4,978  |  1,844  |
| Milk2 |  (611) |  34  |  52,114  |  (1,763) |  (62) |  (3,069) |  (3,083) |  (1,373) |
| Poultry meat1 |  257  |  244  |  13,012  |  136  |  186  |  439  |  448  |  1,307  |
| Poultry meat2 |  (134) |  (71) |  (5,560) |  (60) |  23  |  (211) |  (247) |  (138) |
| Pig meat1 |  211  |  11  |  983  |  65  |  18  |  91  |  627  |  4,612  |
| Pig meat2 |  58  |  (1) |  1,350  |  (36) |  6  |  (62) |  (331) |  (335) |
| Beef or lamb1 |  1,108  |  1,551  |  7,833  |  1,769  |  63  |  1,717  |  1,154  |  601  |
| Beef or lamb2 |  (571) |  167  |  984  |  (469) |  114  |  (524) |  (680) |  (90) |
| Climate Change | Eggs1 |  192  |  145  |  8,075  |  220  |  31  |  171  |  109  |  554  |
| Eggs2 |  (193) |  (118) |  (1,648) |  (187) |  9  |  (143) |  (117) |  (186) |
| Milk1 |  1,173  |  3,560  |  160,743  |  6,010  |  568  |  5,643  |  4,563  |  1,835  |
| Milk2 |  (602) |  591  |  62,531  |  (26) |  173  |  (2,740) |  (2,589) |  (1,369) |
| Poultry meat1 |  324  |  259  |  19,055  |  163  |  157  |  485  |  496  |  1,376  |
| Poultry meat2 |  (184) |  (69) |  (10,617) |  (80) |  68  |  (236) |  (278) |  (62) |
| Pig meat1 |  244  |  13  |  923  |  70  |  15  |  98  |  621  |  4,577  |
| Pig meat2 |  42  |  (2) |  1,493  |  (41) |  11  |  (68) |  (320) |  76  |
| Beef or lamb1 |  1,369  |  1,442  |  7,831  |  1,621  |  54  |  1,700  |  1,199  |  610  |
| Beef or lamb2 |  (800) |  365  |  1,201  |  (238) |  145  |  (431) |  (696) |  (84) |

\*1Total demand by households; 2net trade, parenthesis indicating net import situation