Supplementary Information

Appendix S.1. Mapping between FishStatJ commodities and aggregate fish and aquaculture categories used for the nutritional database construction

| No. | FishStatJ category | Aggregate category code | Aggregate category description |
| --- | --- | --- | --- |
| 1 | Aquatic animals nei, cured | X2769\_proc | Aquatic Animals, Others (processed) |
| 2 | Aquatic animals nei, meal from offal | X2769\_proc | Aquatic Animals, Others (processed) |
| 3 | Aquatic plants | X2775\_prim | Aquatic Plants (primary) |
| 4 | Cephalopods, fresh | X2766\_prim | Cephalopods (primary) |
| 5 | Cephalopods, frozen | X2766\_proc | Cephalopods (processed) |
| 6 | Crustaceans, canned | X2765\_proc | Crustaceans (processed) |
| 7 | Crustaceans, fresh | X2765\_prim | Crustaceans (primary) |
| 8 | Crustaceans, frozen | X2765\_proc | Crustaceans (processed) |
| 9 | Demersal fish, fresh | X2762\_prim | Demersal Fish (primary) |
| 10 | Demersal frozen, fillets | X2762\_proc | Demersal Fish (processed) |
| 11 | Demersal, cured | X2762\_proc | Demersal Fish (processed) |
| 12 | Demersal, frozen, whole | X2762\_proc | Demersal Fish (processed) |
| 13 | Demersal, preparations nei | X2762\_proc | Demersal Fish (processed) |
| 14 | Freshwater & diadromous fish, fresh | X2761\_prim | Freshwater Fish (primary) |
| 15 | Freshwater & diadromous, canned | X2761\_proc | Freshwater Fish (processed) |
| 16 | Freshwater & diadromous, cured | X2761\_proc | Freshwater Fish (processed) |
| 17 | Freshwater & diadromous, frozen, whole | X2761\_proc | Freshwater Fish (processed) |
| 18 | Marine fish nei, preparations nei | X2764\_proc | Marine Fish, Other (processed) |
| 19 | Marine fish nei, body oils | X2781\_proc | Fish, Body Oil |
| 20 | Marine fish nei, canned | X2764\_proc | Marine Fish, Other (processed) |
| 21 | Marine fish nei, cured | X2764\_proc | Marine Fish, Other (processed) |
| 22 | Marine fish nei, fresh | X2764\_prim | Marine Fish, Other (primary) |
| 23 | Marine fish nei, fresh fillets | X2764\_proc | Marine Fish, Other (processed) |
| 24 | Marine fish nei, frozen fillets | X2764\_proc | Marine Fish, Other (processed) |
| 25 | Marine fish nei, frozen, whole | X2764\_proc | Marine Fish, Other (processed) |
| 26 | Marine fish nei, liver oils | X2782\_proc | Fish, Liver Oil |
| 27 | Marine fish nei, meal from offal | X2764\_proc | Marine Fish, Other (processed) |
| 28 | Molluscs excl. ceph., canned | X2767\_proc | Molluscs, Other (processed) |
| 29 | Molluscs excl. ceph., frozen | X2767\_proc | Molluscs, Other (processed) |
| 30 | Molluscs excl. cephalopods, fresh | X2767\_prim | Molluscs, Other (primary) |
| 31 | Pelagic fish, fresh | X2763\_prim | Pelagic Fish (primary) |
| 32 | Pelagic, canned | X2763\_proc | Pelagic Fish (processed) |
| 33 | Pelagic, cured | X2763\_proc | Pelagic Fish (processed) |
| 34 | Pelagic, frozen fillets | X2763\_proc | Pelagic Fish (processed) |
| 35 | Pelagic, frozen, whole | X2763\_proc | Pelagic Fish (processed) |
| 36 | Pelagic, meals | X2763\_proc | Pelagic Fish (processed) |
| 37 | Aquatic animals nei, fresh | X2769\_prim | Aquatic Animals, Others (primary) |
| 38 | Aquatic animals nei, preparations nei | X2769\_proc | Aquatic Animals, Others (processed) |
| 39 | Aquatic mammals, oils | X2768\_proc | Meat, Aquatic Mammals (processed) |
| 40 | Cephalopods, canned | X2766\_proc | Cephalopods (processed) |
| 41 | Crustaceans, cured | X2765\_proc | Crustaceans (processed) |
| 42 | Crustaceans, preparations nei | X2765\_proc | Crustaceans (processed) |
| 43 | Demersal, canned | X2762\_proc | Demersal Fish (processed) |
| 44 | Demersal, fresh fillets | X2762\_proc | Demersal Fish (processed) |
| 45 | Freshwater & diadromous, fresh fillets | X2761\_proc | Freshwater Fish (processed) |
| 46 | Freshwater & diadromous, frozen fillets | X2761\_proc | Freshwater Fish (processed) |
| 47 | Freshwater & diadromous, preparations nei | X2761\_proc | Freshwater Fish (processed) |
| 48 | Pelagic, fresh fillets | X2763\_proc | Pelagic Fish (processed) |
| 49 | Aquatic plants, dried | X2775\_proc | Aquatic Plants (processed) |
| 50 | Cephalopods, cured | X2766\_proc | Cephalopods (processed) |
| 51 | Crustaceans, meals | X2765\_proc | Crustaceans (processed) |
| 52 | Molluscs excl. ceph., cured | X2767\_proc | Molluscs, Other (processed) |
| 53 | Molluscs excl. ceph., meal from offal | X2767\_proc | Molluscs, Other (processed) |
| 54 | Pelagic, preparations nei | X2763\_proc | Pelagic Fish (processed) |
| 55 | Pelagic, body oils | X2781\_proc | Fish, Body Oil |
| 56 | Cephalopods, meal from offal | X2766\_proc | Cephalopods (processed) |
| 57 | Cephalopods, preparations nei | X2766\_proc | Cephalopods (processed) |
| 58 | Demersal, liver oils | X2782\_proc | Fish, Liver Oil |
| 59 | Demersal, meals | X2762\_proc | Demersal Fish (processed) |
| 60 | Freshwater & diadromous, meals | X2761\_proc | Freshwater Fish (processed) |
| 61 | Aquatic mammals, meals | X2768\_proc | Meat, Aquatic Mammals (processed) |
| 62 | Crustaceans, meal from offal | X2765\_proc | Crustaceans (processed) |
| 63 | Demersal, body oils | X2781\_proc | Fish, Body Oil |
| 64 | Aquatic plants, preparations nei | X2775\_proc | Aquatic Plants (processed) |

Source: Developed by author based on FAO (2020b).

Appendix S.2. Nutritional content by primary and processed commodities

| No. | Commodity code | Commodity name | Kcal/ 100 g | Proteins/ 100 g | Fats/ 100 g | Carbs/ 100 g |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | X21422 | Almonds shelled | 589 | 20.0 | 52.2 | 9.8 |
| 2 | X1371 | Almonds, with shell | 236 | 8.0 | 20.9 | 4.0 |
| 3 | X1654 | Anise, badian, fennel, coriander | 345 | 15.8 | 14.9 | 36.9 |
| 4 | X1341 | Apples | 48 | 0.1 | 0.3 | 11.2 |
| 5 | X1343 | Apricots | 45 | 1.3 | 0.4 | 9.1 |
| 6 | X21419\_01 | Apricots, dry | 238 | 3.7 | 0.5 | 54.7 |
| 7 | X2769\_PRIM | Aquatic Animals, Others (primary) | 30 | 4.0 | 0.2 | 3.1 |
| 8 | X2769\_PROC | Aquatic Animals, Others (processed) | 30 | 4.0 | 0.2 | 3.1 |
| 9 | X2775\_PRIM | Aquatic Plants (primary) | 54 | 2.8 | 0.6 | 9.4 |
| 10 | X2775\_PROC | Aquatic Plants (processed) | 54 | 2.8 | 0.6 | 9.4 |
| 11 | X1379\_01 | Areca nuts | 245 | 4.9 | 4.4 | 46.5 |
| 12 | X1216 | Artichokes | 20 | 1.1 | 0.1 | 3.7 |
| 13 | X1211 | Asparagus | 12 | 1.6 | 0.1 | 1.2 |
| 14 | X1311 | Avocados | 119 | 1.5 | 11.3 | 2.8 |
| 15 | X21181 | Bacon and ham | 362 | 13.1 | 34.1 | 0.7 |
| 16 | X1708 | Bambara beans | 365 | 17.7 | 6.3 | 59.4 |
| 17 | X1312 | Bananas | 60 | 0.7 | 0.3 | 13.6 |
| 18 | X115 | Barley | 332 | 12.0 | 1.8 | 67.0 |
| 19 | X23140\_05 | Barley, pearled | 346 | 9.0 | 1.4 | 74.4 |
| 20 | X1701 | Beans, dry | 341 | 22.1 | 1.7 | 59.3 |
| 21 | X1241\_9 | Beans, green | 50 | 3.0 | 0.4 | 8.6 |
| 22 | X24310\_01 | Beer of barley | 49 | 0.5 | 0.0 | 11.8 |
| 23 | X24310\_04 | Beer of sorghum | 40 | 0.4 | 0.0 | 9.6 |
| 24 | X1355\_9 | Berries nes | 49 | 1.0 | 0.7 | 9.7 |
| 25 | X2413 | Beverages, distilled alcoholic | 295 | 0.0 | 0.0 | 73.8 |
| 26 | X24230\_02 | Beverages, fermented rice | 133 | 0.3 | 0.0 | 33.0 |
| 27 | X24490 | Beverages, non alcoholic | 39 | 0.0 | 0.0 | 9.8 |
| 28 | X1355\_01 | Blueberries | 120 | 0.7 | 0.4 | 28.4 |
| 29 | X39120\_09 | Bran, buckwheat | 213 | 12.1 | 3.1 | 34.2 |
| 30 | X39120\_1 | Bran, fonio | 213 | 12.1 | 3.1 | 34.2 |
| 31 | X39120\_04 | Bran, maize | 213 | 12.1 | 3.1 | 34.2 |
| 32 | X39120\_07 | Bran, millet | 213 | 12.1 | 3.1 | 34.2 |
| 33 | X39120\_08 | Bran, sorghum | 213 | 12.1 | 3.1 | 34.2 |
| 34 | X39120\_01 | Bran, wheat | 213 | 12.1 | 3.1 | 34.2 |
| 35 | X21429\_01 | Brazil nuts, shelled | 656 | 14.3 | 66.2 | 0.8 |
| 36 | X1377 | Brazil nuts, with shell | 315 | 6.9 | 31.8 | 0.3 |
| 37 | F0020 | Bread | 249 | 8.2 | 1.2 | 51.4 |
| 38 | X1702 | Broad beans, horse beans, dry | 343 | 23.4 | 2.0 | 57.9 |
| 39 | X1192 | Buckwheat | 330 | 12.0 | 2.0 | 66.0 |
| 40 | X23140\_02 | Bulgur | 345 | 12.3 | 2.0 | 69.5 |
| 41 | X21691\_03 | Butter of karite nuts | 711 | 0.0 | 85.0 | 0.0 |
| 42 | X22241\_01 | Butter, cow milk | 717 | 0.9 | 81.1 | 0.0 |
| 43 | X22230\_03 | Buttermilk, curdled, acidified milk | 75 | 3.0 | 5.2 | 4.1 |
| 44 | X1212 | Cabbages and other brassicas | 19 | 1.0 | 0.1 | 3.5 |
| 45 | X1195 | Canary seed | 388 | 16.0 | 6.0 | 67.5 |
| 46 | X1356 | Carobs | 111 | 1.6 | 0.5 | 25.0 |
| 47 | X1251 | Carrots and turnips | 38 | 0.9 | 0.2 | 8.2 |
| 48 | X21424 | Cashew nuts, shelled | 574 | 15.3 | 46.4 | 23.8 |
| 49 | X1372 | Cashew nuts, with shell | 252 | 7.7 | 20.6 | 9.0 |
| 50 | X1359\_02 | Cashewapple | 43 | 0.8 | 0.6 | 8.6 |
| 51 | X1520\_01 | Cassava | 109 | 0.9 | 0.2 | 25.9 |
| 52 | X1520\_02 | Cassava dried | 212 | 2.8 | 0.7 | 48.6 |
| 53 | X1219\_01 | Cassava leaves | 53 | 5.8 | 1.1 | 5.0 |
| 54 | X1213 | Cauliflowers and broccoli | 9 | 0.8 | 0.1 | 1.2 |
| 55 | X2766\_PRIM | Cephalopods (primary) | 66 | 13.5 | 0.7 | 1.4 |
| 56 | X2766\_PROC | Cephalopods (processed) | 66 | 13.5 | 0.7 | 1.4 |
| 57 | X23140\_08 | Cereal preparations nes | 340 | 8.0 | 1.5 | 73.6 |
| 58 | X1199\_9 | Cereals nes | 340 | 8.0 | 1.5 | 73.6 |
| 59 | X23140\_03 | Cereals, breakfast | 340 | 8.0 | 1.5 | 73.6 |
| 60 | X22251\_04 | Cheese, processed | 103 | 12.5 | 4.5 | 3.1 |
| 61 | X22253 | Cheese, sheep milk | 310 | 23.2 | 22.8 | 3.0 |
| 62 | X22251\_01 | Cheese, whole cow milk | 387 | 25.0 | 31.0 | 2.0 |
| 63 | X1344\_02 | Cherries | 65 | 1.1 | 0.9 | 13.1 |
| 64 | X1344\_01 | Cherries, sour | 45 | 0.9 | 0.3 | 9.7 |
| 65 | X1373 | Chestnut | 158 | 1.8 | 1.7 | 33.9 |
| 66 | X1703 | Chick peas | 358 | 20.1 | 4.5 | 59.3 |
| 67 | X1691 | Chicory roots | 60 | 1.1 | 0.2 | 13.5 |
| 68 | X1652 | Chillies and peppers, dry | 337 | 11.3 | 15.5 | 38.1 |
| 69 | X1231 | Chillies and peppers, green | 25 | 1.1 | 0.3 | 4.5 |
| 70 | F0666 | Chocolate products nes | 393 | 4.2 | 35.7 | 13.7 |
| 71 | X24230\_03 | Cider etc | 47 | 0.1 | 0.0 | 11.7 |
| 72 | X1655 | Cinnamon (cannella) | 261 | 3.9 | 3.2 | 54.2 |
| 73 | X1656 | Cloves | 323 | 6.0 | 20.1 | 29.5 |
| 74 | X1640 | Cocoa, beans | 414 | 4.0 | 40.0 | 9.5 |
| 75 | X23620 | Cocoa, butter | 711 | 0.0 | 85.0 | 0.0 |
| 76 | X23610\_01 | Cocoa, paste | 472 | 1.7 | 44.0 | 17.3 |
| 77 | F0665 | Cocoa, powder & cake | 261 | 17.3 | 19.0 | 5.2 |
| 78 | X1460 | Coconuts | 184 | 1.7 | 17.4 | 5.2 |
| 79 | X21429\_07 | Coconuts, desiccated | 660 | 6.9 | 64.5 | 13.0 |
| 80 | X23912\_02 | Coffee, extracts | 129 | 4.0 | 0.0 | 28.3 |
| 81 | X1610 | Coffee, green | 47 | 6.7 | 0.0 | 5.1 |
| 82 | X23911 | Coffee, roasted | 56 | 8.0 | 0.0 | 6.0 |
| 83 | X23912\_01 | Coffee, substitutes containing coffee | 56 | 8.0 | 0.0 | 6.0 |
| 84 | X1492 | Copra | 636 | 6.0 | 61.4 | 14.9 |
| 85 | X143 | Cottonseed | 253 | 17.3 | 17.9 | 5.7 |
| 86 | X1706 | Cow peas, dry | 342 | 23.4 | 1.8 | 58.1 |
| 87 | X1355\_02 | Cranberries | 47 | 0.4 | 0.2 | 10.9 |
| 88 | X22120 | Cream fresh | 195 | 2.7 | 19.3 | 2.6 |
| 89 | X2765\_PRIM | Crustaceans (primary) | 47 | 9.3 | 0.5 | 1.3 |
| 90 | X2765\_PROC | Crustaceans (processed) | 47 | 9.3 | 0.5 | 1.3 |
| 91 | X1232 | Cucumbers and gherkins | 13 | 0.5 | 0.1 | 2.5 |
| 92 | X1351\_01 | Currants | 59 | 1.4 | 0.3 | 12.7 |
| 93 | X1314 | Dates | 156 | 1.5 | 0.4 | 36.6 |
| 94 | X2762\_PRIM | Demersal Fish (primary) | 42 | 8.3 | 0.8 | 0.4 |
| 95 | X2762\_PROC | Demersal Fish (processed) | 42 | 8.3 | 0.8 | 0.4 |
| 96 | X1233 | Eggplants (aubergines) | 21 | 0.9 | 0.1 | 4.1 |
| 97 | X23993\_03 | Eggs, dried | 594 | 45.8 | 41.8 | 8.7 |
| 98 | X231 | Eggs, hen, in shell | 139 | 10.7 | 9.8 | 2.0 |
| 99 | X23993\_02 | Eggs, liquid | 158 | 12.1 | 11.2 | 2.2 |
| 100 | X232 | Eggs, other bird, in shell | 163 | 11.3 | 12.1 | 2.2 |
| 101 | F1243 | Fat nes, prepared | 720 | 0.6 | 81.0 | 0.0 |
| 102 | X21513 | Fat, buffaloes | 847 | 2.0 | 93.0 | 0.5 |
| 103 | X21519\_02 | Fat, camels | 847 | 2.0 | 93.0 | 0.5 |
| 104 | X21512 | Fat, cattle | 847 | 2.0 | 93.0 | 0.5 |
| 105 | X21515 | Fat, goats | 847 | 2.0 | 93.0 | 0.5 |
| 106 | X21189\_02 | Fat, liver prepared (foie gras) | 462 | 11.4 | 43.8 | 5.6 |
| 107 | X21511\_01 | Fat, pigs | 712 | 4.7 | 76.7 | 0.7 |
| 108 | X21514 | Fat, sheep | 902 | 0.0 | 100.0 | 0.0 |
| 109 | X1315 | Figs | 73 | 0.8 | 0.3 | 16.8 |
| 110 | X21419\_02 | Figs dried | 253 | 3.0 | 1.2 | 57.6 |
| 111 | X2781\_PROC | Fish, Body Oil | 902 | 0.0 | 100.0 | 0.0 |
| 112 | X2782\_PROC | Fish, Liver Oil | 902 | 0.0 | 100.0 | 0.0 |
| 113 | X23170\_01 | Flour, cassava | 338 | 1.5 | 0.6 | 81.7 |
| 114 | X23120\_9 | Flour, cereals | 364 | 10.0 | 1.1 | 78.5 |
| 115 | X23120\_08 | Flour, fonio | 355 | 9.0 | 2.2 | 74.8 |
| 116 | X23120\_03 | Flour, maize | 363 | 8.4 | 1.2 | 79.7 |
| 117 | X23120\_1 | Flour, mixed grain | 364 | 10.0 | 1.1 | 78.5 |
| 118 | X23995\_03 | Flour, mustard | 469 | 26.4 | 36.3 | 9.2 |
| 119 | X21392 | Flour, potatoes | 355 | 8.5 | 0.4 | 79.4 |
| 120 | X23170\_03 | Flour, pulses | 340 | 22.0 | 2.0 | 58.5 |
| 121 | X23120\_01 | Flour, rice | 366 | 6.4 | 0.8 | 83.3 |
| 122 | X23170\_02 | Flour, roots and tubers nes | 282 | 5.0 | 0.6 | 64.2 |
| 123 | X23110 | Flour, wheat | 364 | 10.9 | 1.1 | 77.6 |
| 124 | X1193 | Fonio | 338 | 8.0 | 3.0 | 69.8 |
| 125 | F1232 | Food prep nes | 41 | 1.2 | 0.5 | 7.9 |
| 126 | X23999\_02 | Food preparations, flour, malt extract | 41 | 1.2 | 0.5 | 7.9 |
| 127 | X2761\_PRIM | Freshwater Fish (primary) | 69 | 10.9 | 2.5 | 0.7 |
| 128 | X2761\_PROC | Freshwater Fish (processed) | 69 | 10.9 | 2.5 | 0.7 |
| 129 | X23210\_03 | Fructose and syrup, other | 298 | 0.3 | 0.0 | 74.2 |
| 130 | X1329 | Fruit, citrus nes | 26 | 0.5 | 0.2 | 5.6 |
| 131 | X23991\_03 | Fruit, cooked, homogenized preparations | 59 | 0.3 | 0.0 | 14.5 |
| 132 | X21419\_99 | Fruit, dried nes | 267 | 2.8 | 0.6 | 62.6 |
| 133 | X1359\_9 | Fruit, fresh nes | 45 | 0.5 | 0.5 | 9.6 |
| 134 | X1349\_1 | Fruit, pome nes | 48 | 0.4 | 0.3 | 10.9 |
| 135 | F0623 | Fruit, prepared nes | 36 | 0.5 | 0.2 | 8.1 |
| 136 | X1349\_2 | Fruit, stone nes | 52 | 0.9 | 0.3 | 11.4 |
| 137 | X1319 | Fruit, tropical fresh nes | 41 | 0.5 | 0.7 | 8.2 |
| 138 | X1252 | Garlic | 130 | 12.0 | 0.4 | 19.6 |
| 139 | X23140\_06 | Germ, maize | 373 | 11.1 | 38.5 | 0.0 |
| 140 | X22242\_02 | Ghee, buffalo milk | 873 | 0.3 | 99.1 | 0.0 |
| 141 | X1657 | Ginger | 347 | 9.1 | 6.0 | 64.2 |
| 142 | X23210\_05 | Glucose and dextrose | 368 | 0.0 | 0.0 | 92.0 |
| 143 | X1351\_02 | Gooseberries | 44 | 0.9 | 0.6 | 8.8 |
| 144 | X1199\_02 | Grain, mixed | 340 | 8.0 | 1.5 | 73.6 |
| 145 | X1321 | Grapefruit (inc. pomelos) | 16 | 0.3 | 0.1 | 3.5 |
| 146 | X1330 | Grapes | 53 | 0.5 | 0.4 | 11.9 |
| 147 | X21495\_01 | Groundnuts, prepared | 580 | 26.8 | 49.2 | 7.5 |
| 148 | X21421 | Groundnuts, shelled | 567 | 25.7 | 49.2 | 5.4 |
| 149 | X142 | Groundnuts, with shell | 414 | 18.7 | 35.9 | 4.0 |
| 150 | X21423 | Hazelnuts, shelled | 632 | 13.0 | 62.6 | 4.2 |
| 151 | X1374 | Hazelnuts, with shell | 291 | 6.0 | 28.8 | 2.0 |
| 152 | X2910 | Honey, natural | 298 | 0.4 | 0.0 | 74.1 |
| 153 | X22270 | Ice cream and edible ice | 149 | 2.0 | 6.7 | 20.2 |
| 154 | X23991\_01 | Infant food | 368 | 15.2 | 2.9 | 70.3 |
| 155 | X21435\_02 | Juice, apple, concentrated | 166 | 0.5 | 0.4 | 40.1 |
| 156 | X21435\_01 | Juice, apple, single strength | 47 | 0.1 | 0.1 | 11.4 |
| 157 | X21439\_05 | Juice, citrus, concentrated | 157 | 2.1 | 0.5 | 36.0 |
| 158 | X21439\_04 | Juice, citrus, single strength | 47 | 0.6 | 0.2 | 10.7 |
| 159 | X21439\_9 | Juice, fruit nes | 48 | 0.5 | 0.1 | 11.3 |
| 160 | X21434 | Juice, grape | 61 | 0.6 | 0.1 | 14.4 |
| 161 | X21432 | Juice, grapefruit | 39 | 0.5 | 0.1 | 9.0 |
| 162 | X21432\_01 | Juice, grapefruit, concentrated | 146 | 2.0 | 0.5 | 33.4 |
| 163 | X21439\_03 | Juice, lemon, concentrated | 116 | 2.3 | 0.9 | 24.7 |
| 164 | X21439\_02 | Juice, lemon, single strength | 22 | 0.5 | 0.3 | 4.3 |
| 165 | X21431\_02 | Juice, orange, concentrated | 159 | 2.4 | 0.2 | 36.9 |
| 166 | X21431\_01 | Juice, orange, single strength | 42 | 0.6 | 0.1 | 9.7 |
| 167 | X21433 | Juice, pineapple | 56 | 0.3 | 0.1 | 13.5 |
| 168 | X21433\_01 | Juice, pineapple, concentrated | 179 | 1.3 | 0.1 | 43.2 |
| 169 | X21439\_07 | Juice, plum, concentrated | 215 | 2.0 | 0.1 | 51.5 |
| 170 | X21439\_06 | Juice, plum, single strength | 71 | 0.6 | 0.0 | 17.2 |
| 171 | X21321 | Juice, tomato | 17 | 0.8 | 0.1 | 3.2 |
| 172 | X1499\_01 | Karite nuts (sheanuts) | 579 | 6.8 | 49.0 | 27.7 |
| 173 | X1352 | Kiwi fruit | 52 | 0.9 | 0.4 | 11.2 |
| 174 | X1379\_02 | Kola nuts | 355 | 9.0 | 2.0 | 75.3 |
| 175 | X23210\_06 | Lactose | 387 | 0.0 | 0.0 | 96.8 |
| 176 | X21521 | Lard | 902 | 0.0 | 100.0 | 0.0 |
| 177 | X1254 | Leeks, other alliaceous vegetables | 37 | 0.7 | 0.1 | 8.3 |
| 178 | X1322 | Lemons and limes | 15 | 0.6 | 0.2 | 2.7 |
| 179 | X1704 | Lentils | 346 | 24.2 | 1.8 | 58.3 |
| 180 | X1214 | Lettuce and chicory | 12 | 1.1 | 0.2 | 1.5 |
| 181 | X1441 | Linseed | 498 | 18.0 | 34.0 | 30.0 |
| 182 | X1709\_02 | Lupins | 390 | 40.0 | 13.0 | 28.3 |
| 183 | X23710 | Macaroni | 367 | 12.0 | 1.1 | 77.3 |
| 184 | X112 | Maize | 356 | 9.5 | 4.3 | 69.8 |
| 185 | X1290\_01 | Maize, green | 56 | 2.1 | 0.8 | 10.1 |
| 186 | X24320 | Malt | 368 | 13.1 | 1.9 | 74.6 |
| 187 | X1316 | Mangoes, mangosteens, guavas | 45 | 0.4 | 0.2 | 10.4 |
| 188 | X23530 | Maple sugar and syrups | 348 | 0.0 | 0.0 | 87.0 |
| 189 | X21700\_01 | Margarine, liquid | 720 | 0.6 | 81.0 | 0.0 |
| 190 | X21700\_02 | Margarine, short | 720 | 0.6 | 81.0 | 0.0 |
| 191 | X2764\_PRIM | Marine Fish, Other (primary) | 64 | 10.3 | 2.2 | 0.8 |
| 192 | X2764\_PROC | Marine Fish, Other (processed) | 64 | 10.3 | 2.2 | 0.8 |
| 193 | X1630 | Mate | 40 | 10.0 | 0.0 | 0.0 |
| 194 | X21118\_02I | Meat indigenous, ass | 94 | 15.0 | 3.0 | 1.8 |
| 195 | X21170\_01I | Meat indigenous, bird nes | 185 | 17.1 | 12.4 | 1.3 |
| 196 | X21112I | Meat indigenous, buffalo | 77 | 11.3 | 3.1 | 1.0 |
| 197 | X21117\_01I | Meat indigenous, camel | 174 | 12.7 | 13.2 | 1.1 |
| 198 | X21111\_01I | Meat indigenous, cattle | 150 | 18.5 | 7.9 | 1.2 |
| 199 | X21121I | Meat indigenous, chicken | 122 | 12.3 | 7.7 | 0.9 |
| 200 | X21122I | Meat indigenous, duck | 291 | 8.3 | 28.3 | 0.8 |
| 201 | X21123I | Meat indigenous, geese | 301 | 12.9 | 27.2 | 1.2 |
| 202 | X21116I | Meat indigenous, goat | 123 | 14.0 | 7.0 | 1.0 |
| 203 | X21118\_01I | Meat indigenous, horse | 85 | 15.5 | 2.0 | 1.3 |
| 204 | X21118\_03I | Meat indigenous, mule | 94 | 15.0 | 3.0 | 1.8 |
| 205 | X21117\_02I | Meat indigenous, other camelids | 143 | 14.6 | 9.0 | 0.9 |
| 206 | X21113\_01I | Meat indigenous, pig | 326 | 11.0 | 31.0 | 0.8 |
| 207 | X21114I | Meat indigenous, rabbit | 118 | 17.0 | 5.0 | 1.3 |
| 208 | X21119\_01I | Meat indigenous, rodents | 81 | 16.2 | 1.4 | 0.9 |
| 209 | X21115I | Meat indigenous, sheep | 119 | 12.8 | 7.1 | 1.0 |
| 210 | X21124I | Meat indigenous, turkey | 126 | 16.1 | 6.3 | 1.2 |
| 211 | X21119\_9 | Meat nes | 126 | 16.4 | 6.0 | 1.6 |
| 212 | X2768\_PRIM | Meat, Aquatic Mammals (primary) | 136 | 21.0 | 5.0 | 1.8 |
| 213 | X2768\_PROC | Meat, Aquatic Mammals (processed) | 136 | 21.0 | 5.0 | 1.8 |
| 214 | X21118\_02 | Meat, ass | 94 | 15.0 | 3.0 | 1.8 |
| 215 | X21184\_01 | Meat, beef and veal sausages | 313 | 11.7 | 28.4 | 2.7 |
| 216 | F0875 | Meat, beef, preparations | 233 | 25.0 | 14.0 | 1.8 |
| 217 | X21170\_01 | Meat, bird nes | 185 | 17.1 | 12.4 | 1.3 |
| 218 | X21112 | Meat, buffalo | 77 | 11.3 | 3.1 | 1.0 |
| 219 | X21117\_01 | Meat, camel | 174 | 12.7 | 13.2 | 1.1 |
| 220 | X21111\_01 | Meat, cattle | 150 | 18.5 | 7.9 | 1.2 |
| 221 | X21111\_02 | Meat, cattle, boneless (beef & veal) | 225 | 14.7 | 18.0 | 1.1 |
| 222 | X21121 | Meat, chicken | 122 | 12.3 | 7.7 | 0.9 |
| 223 | F1061 | Meat, chicken, canned | 165 | 21.8 | 8.0 | 1.5 |
| 224 | X21183 | Meat, dried nes | 250 | 55.4 | 1.5 | 3.7 |
| 225 | X21122 | Meat, duck | 291 | 8.3 | 28.3 | 0.8 |
| 226 | X21170\_02 | Meat, game | 104 | 18.0 | 3.0 | 1.3 |
| 227 | X21116 | Meat, goat | 123 | 14.0 | 7.0 | 1.0 |
| 228 | X21123 | Meat, goose and guinea fowl | 301 | 12.9 | 27.2 | 1.2 |
| 229 | X21118\_01 | Meat, horse | 85 | 15.5 | 2.0 | 1.3 |
| 230 | X21118\_03 | Meat, mule | 94 | 15.0 | 3.0 | 1.8 |
| 231 | X21117\_02 | Meat, other camelids | 143 | 14.6 | 9.0 | 0.9 |
| 232 | X21119\_01 | Meat, other rodents | 81 | 16.2 | 1.4 | 0.9 |
| 233 | X21113\_01 | Meat, pig | 326 | 11.0 | 31.0 | 0.8 |
| 234 | X21184\_02 | Meat, pig sausages | 417 | 11.7 | 40.3 | 1.9 |
| 235 | F1042 | Meat, pig, preparations | 239 | 16.1 | 18.8 | 1.4 |
| 236 | X21113\_02 | Meat, pork | 220 | 13.4 | 18.0 | 1.1 |
| 237 | X21114 | Meat, rabbit | 118 | 17.0 | 5.0 | 1.3 |
| 238 | X21115 | Meat, sheep | 119 | 12.8 | 7.1 | 1.0 |
| 239 | X21124 | Meat, turkey | 126 | 16.1 | 6.3 | 1.2 |
| 240 | X1229 | Melons, other (inc.cantaloupes) | 17 | 0.4 | 0.1 | 3.6 |
| 241 | X1449\_01 | Melonseed | 400 | 18.2 | 33.9 | 5.5 |
| 242 | X22290 | Milk, products of natural constituents nes | 496 | 26.3 | 26.7 | 37.6 |
| 243 | X22110\_03 | Milk, reconstituted | 61 | 1.8 | 3.4 | 5.8 |
| 244 | X22110\_02 | Milk, skimmed cow | 35 | 3.4 | 0.2 | 4.9 |
| 245 | X22212 | Milk, skimmed dried | 362 | 36.2 | 0.8 | 52.5 |
| 246 | X22222\_01 | Milk, whole condensed | 321 | 7.9 | 8.7 | 52.8 |
| 247 | X22211 | Milk, whole dried | 496 | 26.3 | 26.7 | 37.6 |
| 248 | X22221\_01 | Milk, whole evaporated | 134 | 6.8 | 7.6 | 9.6 |
| 249 | X2212 | Milk, whole fresh buffalo | 97 | 3.8 | 6.9 | 4.9 |
| 250 | X2293 | Milk, whole fresh camel | 73 | 3.8 | 4.5 | 4.3 |
| 251 | X2211 | Milk, whole fresh cow | 61 | 3.3 | 3.3 | 4.5 |
| 252 | X2292 | Milk, whole fresh goat | 69 | 3.6 | 4.1 | 4.4 |
| 253 | X2291 | Milk, whole fresh sheep | 94 | 5.9 | 6.0 | 4.1 |
| 254 | X118 | Millet | 340 | 9.7 | 3.0 | 68.6 |
| 255 | X23180 | Mixes and doughs | 243.5 | 8.6 | 2.9 | 46.0 |
| 256 | X23540 | Molasses | 232 | 0.0 | 0.0 | 58.0 |
| 257 | X2767\_PRIM | Molluscs, Other (primary) | 15 | 2.3 | 0.2 | 1.0 |
| 258 | X2767\_PROC | Molluscs, Other (processed) | 15 | 2.3 | 0.2 | 1.0 |
| 259 | X1270 | Mushrooms and truffles | 24 | 2.0 | 0.4 | 3.1 |
| 260 | X21397\_01 | Mushrooms, canned | 24 | 1.9 | 0.3 | 3.4 |
| 261 | X1442 | Mustard seed | 469 | 24.9 | 28.8 | 27.6 |
| 262 | X1653 | Nutmeg, mace and cardamoms | 525 | 5.8 | 36.3 | 43.8 |
| 263 | X1379\_9 | Nuts nes | 262 | 7.0 | 25.0 | 2.3 |
| 264 | F0235 | Nuts, prepared (exc. groundnuts) | 615 | 15.5 | 56.2 | 11.8 |
| 265 | X117 | Oats | 385 | 13.0 | 7.5 | 66.4 |
| 266 | X23140\_07 | Oats rolled | 384 | 16.0 | 6.3 | 65.8 |
| 267 | X21152 | Offals, edible, buffaloes | 105 | 18.4 | 2.5 | 2.2 |
| 268 | X21159\_02 | Offals, edible, camels | 105 | 18.4 | 2.5 | 2.2 |
| 269 | X21151 | Offals, edible, cattle | 105 | 18.4 | 2.5 | 2.2 |
| 270 | X21156 | Offals, edible, goats | 117 | 14.6 | 5.7 | 1.8 |
| 271 | X21159\_01 | Offals, horses | 105 | 18.4 | 2.5 | 2.2 |
| 272 | X21160\_01 | Offals, liver chicken | 137 | 20.0 | 4.0 | 5.3 |
| 273 | X21160\_03 | Offals, liver duck | 136 | 18.7 | 4.6 | 5.0 |
| 274 | X21160\_02 | Offals, liver geese | 133 | 16.4 | 4.3 | 7.2 |
| 275 | X21153 | Offals, pigs, edible | 113 | 18.3 | 3.5 | 2.1 |
| 276 | X21155 | Offals, sheep,edible | 117 | 14.6 | 5.7 | 1.8 |
| 277 | X1491\_01 | Oil palm fruit | 158 | 0.3 | 13.2 | 9.5 |
| 278 | X34550 | Oil, boiled etc | 902 | 0.0 | 100.0 | 0.0 |
| 279 | X21691\_04 | Oil, castor beans | 884 | 0.0 | 100.0 | 0.0 |
| 280 | X2166 | Oil, coconut (copra) | 884 | 0.0 | 100.0 | 0.0 |
| 281 | X2168 | Oil, cottonseed | 884 | 0.0 | 100.0 | 0.0 |
| 282 | X2162 | Oil, groundnut | 884 | 0.0 | 100.0 | 0.0 |
| 283 | X21691\_11 | Oil, kapok | 884 | 0.0 | 100.0 | 0.0 |
| 284 | X21691\_12 | Oil, linseed | 884 | 0.0 | 100.0 | 0.0 |
| 285 | X21691\_02 | Oil, maize | 884 | 0.0 | 100.0 | 0.0 |
| 286 | X21673 | Oil, olive residues | 884 | 0.0 | 100.0 | 0.0 |
| 287 | X2167 | Oil, olive, virgin | 884 | 0.0 | 100.0 | 0.0 |
| 288 | X2165 | Oil, palm | 884 | 0.0 | 100.0 | 0.0 |
| 289 | X21691\_14 | Oil, palm kernel | 884 | 0.0 | 100.0 | 0.0 |
| 290 | X21691\_08 | Oil, poppy | 884 | 0.0 | 100.0 | 0.0 |
| 291 | X21641\_01 | Oil, rapeseed | 884 | 0.0 | 100.0 | 0.0 |
| 292 | X21691\_01 | Oil, rice bran | 884 | 0.0 | 100.0 | 0.0 |
| 293 | X21631\_02 | Oil, safflower | 884 | 0.0 | 100.0 | 0.0 |
| 294 | X21691\_07 | Oil, sesame | 884 | 0.0 | 100.0 | 0.0 |
| 295 | X2161 | Oil, soybean | 884 | 0.0 | 100.0 | 0.0 |
| 296 | X21631\_01 | Oil, sunflower | 884 | 0.0 | 100.0 | 0.0 |
| 297 | X21691\_9 | Oil, vegetable origin nes | 884 | 0.0 | 100.0 | 0.0 |
| 298 | X21529\_03 | Oils, fats of animal nes | 847 | 2.0 | 93.0 | 0.5 |
| 299 | X1449\_9 | Oilseeds nes | 387 | 14.7 | 31.7 | 10.7 |
| 300 | X1239\_01 | Okra | 31 | 1.6 | 0.3 | 5.5 |
| 301 | X1450 | Olives | 175 | 1.3 | 17.5 | 3.1 |
| 302 | F0262 | Olives preserved | 109 | 1.1 | 11.1 | 1.2 |
| 303 | X1253\_02 | Onions, dry | 31 | 1.1 | 0.2 | 6.2 |
| 304 | X1253\_01 | Onions, shallots, green | 24 | 1.7 | 0.1 | 4.1 |
| 305 | X1323 | Oranges | 34 | 0.7 | 0.1 | 7.6 |
| 306 | X1491\_02 | Palm kernels | 514 | 7.3 | 43.4 | 23.6 |
| 307 | X1317 | Papayas | 26 | 0.4 | 0.1 | 5.9 |
| 308 | F0022 | Pastry | 369 | 7.4 | 17.0 | 46.6 |
| 309 | X1345 | Peaches and nectarines | 33 | 0.5 | 0.1 | 7.5 |
| 310 | X21495\_02 | Peanut butter | 589 | 24.3 | 50.0 | 10.5 |
| 311 | X1342\_01 | Pears | 54 | 0.4 | 0.4 | 12.2 |
| 312 | X1705 | Peas, dry | 346 | 22.5 | 1.8 | 60.0 |
| 313 | X1242 | Peas, green | 31 | 2.1 | 0.2 | 5.2 |
| 314 | X2763\_PRIM | Pelagic Fish (primary) | 86 | 12.6 | 3.6 | 0.8 |
| 315 | X2763\_PROC | Pelagic Fish (processed) | 86 | 12.6 | 3.6 | 0.8 |
| 316 | X1651 | Pepper (piper spp.) | 276 | 10.7 | 2.7 | 52.2 |
| 317 | X1930\_01 | Peppermint | 70 | 0.4 | 0.1 | 16.9 |
| 318 | X1359\_01 | Persimmons | 82 | 0.6 | 0.3 | 19.2 |
| 319 | X1707 | Pigeon peas | 343 | 20.9 | 1.7 | 61.0 |
| 320 | X1318 | Pineapples | 26 | 0.2 | 0.2 | 5.9 |
| 321 | X21491 | Pineapples canned | 78 | 0.4 | 0.1 | 18.9 |
| 322 | X1375 | Pistachios | 289 | 10.3 | 24.2 | 7.5 |
| 323 | X1313 | Plantains and others | 75 | 0.8 | 0.3 | 17.3 |
| 324 | X1346 | Plums and sloes | 52 | 0.7 | 0.6 | 11.0 |
| 325 | X21412 | Plums dried (prunes) | 208 | 2.3 | 0.5 | 48.6 |
| 326 | X68 | Popcorn | 356 | 9.5 | 4.3 | 69.8 |
| 327 | X1448 | Poppy seed | 533 | 18.0 | 44.7 | 14.7 |
| 328 | X1510 | Potatoes | 67 | 1.6 | 0.1 | 14.9 |
| 329 | X21313 | Potatoes, frozen | 73 | 1.2 | 0.0 | 17.1 |
| 330 | X1709\_9 | Pulses nes | 340 | 22.0 | 2.0 | 58.5 |
| 331 | X1235 | Pumpkins, squash and gourds | 19 | 0.9 | 0.1 | 3.6 |
| 332 | X1342\_02 | Quinces | 35 | 0.2 | 0.1 | 8.3 |
| 333 | X1194 | Quinoa | 342 | 12.0 | 5.0 | 62.3 |
| 334 | X21411 | Raisins | 299 | 3.2 | 0.5 | 70.4 |
| 335 | X1443 | Rapeseed | 494 | 19.6 | 45.0 | 2.7 |
| 336 | X1353\_01 | Raspberries | 47 | 0.9 | 0.5 | 9.7 |
| 337 | X30 | Rice - total (Rice milled equivalent) | 360 | 6.4 | 0.8 | 81.8 |
| 338 | X23161\_03 | Rice, broken | 360 | 6.7 | 0.7 | 81.7 |
| 339 | X23162 | Rice, husked | 357 | 7.5 | 1.8 | 77.7 |
| 340 | X23161\_02 | Rice, milled | 360 | 6.4 | 0.8 | 81.8 |
| 341 | X113 | Rice, paddy | 280 | 6.0 | 1.4 | 60.9 |
| 342 | X1599\_1 | Roots and tubers nes | 91 | 1.6 | 0.2 | 20.7 |
| 343 | X116 | Rye | 319 | 12.0 | 1.9 | 63.5 |
| 344 | X1446 | Safflower seed | 314 | 9.7 | 30.3 | 0.6 |
| 345 | X1444 | Sesame seed | 573 | 17.7 | 49.7 | 13.7 |
| 346 | X2920 | Snails, not sea | 42 | 6.3 | 0.5 | 3.1 |
| 347 | X114 | Sorghum | 343 | 10.1 | 3.3 | 68.2 |
| 348 | X23995\_02 | Soya paste | 114 | 12.0 | 5.8 | 3.5 |
| 349 | X23995\_01 | Soya sauce | 56 | 12.0 | 0.5 | 0.9 |
| 350 | X141 | Soybeans | 335 | 38.0 | 18.0 | 5.3 |
| 351 | X1699 | Spices nes | 337 | 11.3 | 15.5 | 38.1 |
| 352 | X1215 | Spinach | 16 | 2.1 | 0.3 | 1.2 |
| 353 | X1354 | Strawberries | 28 | 0.6 | 0.4 | 5.5 |
| 354 | X1241\_01 | String beans | 27 | 1.6 | 0.1 | 4.9 |
| 355 | X1801 | Sugar beet | 70 | 1.3 | 0.1 | 16.0 |
| 356 | X1802 | Sugar cane | 30 | 0.2 | 0.0 | 7.3 |
| 357 | X23670\_01 | Sugar confectionery | 310 | 0.0 | 0.0 | 77.5 |
| 358 | X1809 | Sugar crops nes | 390 | 0.0 | 0.0 | 97.5 |
| 359 | X23210\_04 | Sugar nes | 310 | 0.0 | 0.0 | 77.5 |
| 360 | X23511\_02 | Sugar non-centrifugal | 351 | 1.0 | 0.0 | 86.8 |
| 361 | X2351F | Sugar Raw Centrifugal | 373 | 0.0 | 0.0 | 93.3 |
| 362 | X23520 | Sugar refined | 387 | 0.0 | 0.0 | 96.8 |
| 363 | X1445 | Sunflower seed | 308 | 12.3 | 26.8 | 4.4 |
| 364 | X21319\_01 | Sweet corn frozen | 54 | 1.8 | 0.4 | 10.8 |
| 365 | X21399\_03 | Sweet corn prep or preserved | 77 | 2.3 | 0.6 | 15.6 |
| 366 | X1530 | Sweet potatoes | 92 | 0.7 | 0.2 | 21.9 |
| 367 | X21523 | Tallow | 884 | 0.0 | 100.0 | 0.0 |
| 368 | X1324 | Tangerines, mandarins, clementines, satsumas | 32 | 0.5 | 0.1 | 7.3 |
| 369 | X1550 | Taro (cocoyam) | 86 | 1.5 | 0.2 | 19.6 |
| 370 | X1620 | Tea | 40 | 10.0 | 0.0 | 0.0 |
| 371 | X23914 | Tea, mate extracts | 18 | 4.5 | 0.0 | 0.0 |
| 372 | X1234 | Tomatoes | 17 | 0.8 | 0.2 | 3.0 |
| 373 | X21399\_01 | Tomatoes, paste | 84 | 3.8 | 0.9 | 15.2 |
| 374 | X21399\_02 | Tomatoes, peeled | 19 | 0.9 | 0.2 | 3.4 |
| 375 | X1191 | Triticale | 327 | 11.6 | 2.1 | 65.4 |
| 376 | X1658 | Vanilla | 337 | 11.3 | 15.5 | 38.1 |
| 377 | X21691\_09 | Vegetable tallow | 884 | 0.0 | 100.0 | 0.0 |
| 378 | X21340 | Vegetables in vinegar | 29 | 1.4 | 1.3 | 2.9 |
| 379 | X21393\_9 | Vegetables, dehydrated | 341 | 6.6 | 1.3 | 75.7 |
| 380 | X464 | Vegetables, dried nes | 22 | 1.4 | 0.2 | 3.7 |
| 381 | X1290\_9 | Vegetables, fresh nes | 22 | 1.4 | 0.2 | 3.7 |
| 382 | X1990\_01 | Vegetables, fresh or dried products nes | 22 | 1.4 | 0.2 | 3.7 |
| 383 | F0473 | Vegetables, frozen | 71 | 3.3 | 0.5 | 13.3 |
| 384 | X23991\_02 | Vegetables, homogenized preparations | 41 | 1.2 | 0.5 | 7.9 |
| 385 | X1243 | Vegetables, leguminous nes | 23 | 2.3 | 0.1 | 3.2 |
| 386 | F0472 | Vegetables, preserved nes | 38 | 2.1 | 0.3 | 6.7 |
| 387 | F0475 | Vegetables, preserved, frozen | 71 | 3.3 | 0.5 | 13.3 |
| 388 | X21330\_9 | Vegetables, temporarily preserved | 65 | 3.3 | 0.3 | 12.3 |
| 389 | X24220 | Vermouths & similar | 137 | 0.1 | 0.0 | 34.2 |
| 390 | X1709\_01 | Vetches | 325 | 31.5 | 1.9 | 45.5 |
| 391 | X23490\_01 | Wafers | 439 | 9.2 | 13.1 | 71.1 |
| 392 | X21429\_02 | Walnuts, shelled | 642 | 14.3 | 61.9 | 6.9 |
| 393 | X1376 | Walnuts, with shell | 289 | 6.4 | 27.8 | 3.3 |
| 394 | X1221 | Watermelons | 17 | 0.3 | 0.2 | 3.5 |
| 395 | X111 | Wheat | 334 | 12.2 | 2.3 | 66.1 |
| 396 | X22130\_03 | Whey, condensed | 26 | 0.9 | 0.3 | 4.9 |
| 397 | X22130\_02 | Whey, dry | 346 | 12.3 | 0.8 | 72.4 |
| 398 | X24212\_02 | Wine | 68 | 0.0 | 0.0 | 17.0 |
| 399 | X1540 | Yams | 101 | 1.3 | 0.2 | 23.5 |
| 400 | X1591 | Yautia (cocoyam) | 109 | 1.7 | 0.3 | 24.9 |
| 401 | X22230\_01 | Yoghurt | 61 | 3.5 | 3.3 | 4.3 |
| 402 | X22230\_02 | Yoghurt, concentrated or not | 82 | 4.7 | 1.5 | 12.4 |

Source: Developed by author based on FAO (2020c), FAO (2013), Gebhardt and Thomas (2002).

Appendix S.3. Mapping between countries without reported FBS and ‘like’ countries

| No. | Countries without reported FBS  ISO code Country name Population, mn | | | Like countries  ISO code Country name | |
| --- | --- | --- | --- | --- | --- |
| 1 | BHR | Bahrain | 1.36 | KWT | Kuwait |
| 2 | BTN | Bhutan | 0.77 | MDV | Maldives |
| 3 | BDI | Burundi | 10.82 | DJI | Djibouti |
| 4 | COK | Cook Islands | 0.01 | NCL | New Caledonia |
| 5 | COD | Democratic Republic of the Congo | 74.88 | AGO | Angola |
| 6 | ERI | Eritrea | 6.38 | DJI | Djibouti |
| 7 | LBY | Libya | 6.26 | DZA | Algeria |
| 8 | MHL | Marshall Islands | 0.05 | VUT | Vanuatu |
| 9 | NRU | Nauru | 0.01 | PYF | French Polynesia |
| 10 | PNG | Papua New Guinea | 7.46 | SLB | Solomon Islands |
| 11 | QAT | Qatar | 2.17 | KWT | Kuwait |
| 12 | SYC | Seychelles | 0.09 | SDN | Sudan |
| 13 | SGP | Singapore | 5.47 | HKG | China, Hong Kong SAR |
| 14 | SYR | Syrian Arab Republic | 18.77 | YEM | Yemen |
| 15 | TON | Tonga | 0.11 | WSM | Samoa |
| 16 | COM | Comoros | 0.77 | DJI | Djibouti |
| 17 | GUF | French Guyana | 0.24 | SUR | Suriname |
| 18 | FSM | Micronesia (Federated States of) | 0.1 | VUT | Vanuatu |
| 19 | PRI | Puerto Rico | 3.53 | TTO | Trinidad and Tobago |
| 20 | REU | Reunion | 0.84 | FRA | France |
| 21 | SOM | Somalia | 10.52 | DJI | Djibouti |
| 22 | ASM | American Samoa | 0.06 | PYF | French Polynesia |
| 23 | VGB | British Virgin Islands | 0.1 | LCA | Saint Lucia |
| 24 | CYM | Cayman Islands | 0.06 | BHS | Bahamas |
| 25 | GNQ | Equatorial Guinea | 0.82 | GAB | Gabon |
| 26 | FLK | Falkland Islands (Malvinas) | 0 | SUR | Suriname |
| 27 | FRO | Faroe Islands | 0.05 | MNE | Montenegro |
| 28 | GRL | Greenland | 0.06 | BMU | Bermuda |
| 29 | GLP | Guadeloupe | 0.4 | FRA | France |
| 30 | GUM | Guam | 0.17 | NCL | New Caledonia |
| 31 | LIE | Liechtenstein | 0.04 | ISL | Iceland |
| 32 | MTQ | Martinique | 0.39 | FRA | France |
| 33 | MSR | Montserrat | 0.01 | ATG | Antigua and Barbuda |
| 34 | NIU | Niue | 0 | NCL | New Caledonia |
| 35 | PSE | Palestine | 4.29 | YEM | Yemen |
| 36 | SHN | Saint Helena, Ascension and Tristan da Cunha | 0.01 | CPV | Cabo Verde |
| 37 | SPM | Saint Pierre and Miquelon | 0.01 | BMU | Bermuda |
| 38 | SSD | South Sudan | 10.55 | SDN | Sudan |
| 39 | TKL | Tokelau | 0 | NCL | New Caledonia |
| 40 | TUV | Tuvalu | 0.01 | WSM | Samoa |
| 41 | VIR | United States Virgin Islands | 0.03 | LCA | Saint Lucia |
| 42 | WLF | Wallis and Futuna Islands | 0.02 | NCL | New Caledonia |
| 43 | ESH | Western Sahara | 0.55 | DZA | Algeria |
| 44 | AND | Andorra | 0.07 | ISL | Iceland |
| 45 | AIA | Anguilla | 0.02 | BHS | Bahamas |
| 46 | ABW | Aruba | 0.1 | BHS | Bahamas |
| 47 | VAT | Holy See | 0 | MNE | Montenegro |
| 48 | MYT | Mayotte | 0.25 | DJI | Djibouti |
| 49 | MCO | Monaco | 0.04 | MNE | Montenegro |
| 50 | MNP | Northern Mariana Islands | 0.05 | NCL | New Caledonia |
| 51 | PLW | Palau | 0.02 | PYF | French Polynesia |
| 52 | PCN | Pitcairn | 0 | NCL | New Caledonia |
| 53 | SMR | San Marino | 0.03 | MNE | Montenegro |
| 54 | SJM | Svalbard and Jan Mayen Islands | 0 | NOR | Norway |
| 55 | TCA | Turks and Caicos Islands | 0.03 | BHS | Bahamas |
| 56 | NFK | Norfolk Island | 0 | AUS | Australia |

Source:Developed by author based on Aguiar et al. (2019) and WB (2020).

Appendix S.4. Technical conversion factors for processed commodities

| No. | Code | Commodity name | TCF value |
| --- | --- | --- | --- |
| 1 | X21422 | Almonds shelled | 0.4 |
| 2 | X21419\_01 | Apricots, dry | 0.29 |
| 3 | X21181 | Bacon and ham | 0.77 |
| 4 | X24310\_01 | Beer of barley | 1 |
| 5 | X2960\_01 | Beeswax | 1 |
| 6 | X39140\_01 | Beet pulp | 1 |
| 7 | X2413 | Beverages, distilled alcoholic | 1 |
| 8 | X24490 | Beverages, non alcoholic | 1 |
| 9 | X39120\_04 | Bran, maize | 1 |
| 10 | X39120\_01 | Bran, wheat | 1 |
| 11 | F0020 | Bread | 0.9085 |
| 12 | X22241\_01 | Butter, cow milk | 1 |
| 13 | X22230\_03 | Buttermilk, curdled, acidified milk | 1 |
| 14 | X21910\_05 | Cake copra | 1 |
| 15 | X21910\_15 | Cake cottonseed | 1 |
| 16 | X21910\_04 | Cake of groundnuts | 1 |
| 17 | X21910\_16 | Cake linseed | 1 |
| 18 | X21910\_08 | Cake rapeseed | 1 |
| 19 | X21910\_03 | Cake soybean | 1 |
| 20 | X21910\_07 | Cake sunflower | 1 |
| 21 | X21424 | Cashew nuts, shelled | 0.24 |
| 22 | X1520\_02 | Cassava dried | 1 |
| 23 | X23140\_08 | Cereal preparations nes | 0.95 |
| 24 | X23140\_03 | Cereals, breakfast | 0.95 |
| 25 | X22251\_04 | Cheese, processed | 0.2 |
| 26 | X22251\_01 | Cheese, whole cow milk | 0.2 |
| 27 | F0666 | Chocolate products nes | 1.9928 |
| 28 | X24230\_03 | Cider etc | 1 |
| 29 | X25020\_01 | Cigarettes | 1 |
| 30 | X25020\_02 | Cigars cheroots | 1 |
| 31 | X23620 | Cocoa, butter | 1 |
| 32 | F0665 | Cocoa, powder & cake | 0.424 |
| 33 | X21429\_07 | Coconuts, desiccated | 0.44 |
| 34 | X39211 | Cocoons unreelable & waste | 2 |
| 35 | X23912\_02 | Coffee, extracts | 0.33 |
| 36 | X39150\_01 | Coffee husks and skins | 1 |
| 37 | X23911 | Coffee, roasted | 0.8 |
| 38 | X23912\_01 | Coffee, substitutes containing coffee | 0.5 |
| 39 | X1929\_08 | Coir | 1 |
| 40 | X1921\_02 | Cotton lint | 1 |
| 41 | F0769 | Cotton waste | 1 |
| 42 | X22120 | Cream fresh | 1 |
| 43 | X23993\_03 | Eggs, dried | 0.3 |
| 44 | X23993\_02 | Eggs, liquid | 1 |
| 45 | F1243 | Fat nes, prepared | 1 |
| 46 | X21189\_02 | Fat, liver prepared (foie gras) | 1 |
| 47 | X34120 | Fatty acids | 1 |
| 48 | X21932\_02 | Fatty substance residues | 1 |
| 49 | X23319\_04 | Feed compound nes | 1 |
| 50 | X39120\_91 | Feed vegetable products nes | 1 |
| 51 | X21419\_02 | Figs dried | 1 |
| 52 | X23120\_9 | Flour, cereals | 0.95 |
| 53 | X23120\_03 | Flour, maize | 0.99 |
| 54 | X23995\_03 | Flour, mustard | 3.5 |
| 55 | X21392 | Flour, potatoes | 0.19 |
| 56 | X23170\_03 | Flour, pulses | 0.22 |
| 57 | X23170\_02 | Flour, roots and tubers nes | 0.22 |
| 58 | X23110 | Flour, wheat | 0.79 |
| 59 | F1232 | Food prep nes | 1 |
| 60 | X23999\_02 | Food preparations, flour, malt extract | 0.85 |
| 61 | X39170\_01 | Food wastes | 1 |
| 62 | X1919\_96 | Forage products | 1 |
| 63 | X23210\_03 | Fructose and syrup, other | 1 |
| 64 | X23991\_03 | Fruit, cooked, homogenized preparations | 1.1 |
| 65 | X21419\_99 | Fruit, dried nes | 0.4 |
| 66 | F0623 | Fruit, prepared nes | 0.9 |
| 67 | X23210\_05 | Glucose and dextrose | 1 |
| 68 | F0994 | Grease incl. lanolin wool | 1 |
| 69 | X21495\_01 | Groundnuts, prepared | 0.75 |
| 70 | X21421 | Groundnuts, shelled | 1 |
| 71 | X2943\_02 | Hair fine | 1 |
| 72 | X21423 | Hazelnuts, shelled | 0.4 |
| 73 | X2951\_04 | Hides cattle wet salted | 0.8 |
| 74 | X22270 | Ice cream and edible ice | 1 |
| 75 | X23991\_01 | Infant food | 1 |
| 76 | X21435\_02 | Juice, apple, concentrated | 0.65 |
| 77 | X21435\_01 | Juice, apple, single strength | 0.2 |
| 78 | X21439\_05 | Juice, citrus, concentrated | 0.3 |
| 79 | X21439\_04 | Juice, citrus, single strength | 0.8 |
| 80 | X21439\_9 | Juice, fruit nes | 0.6 |
| 81 | X21434 | Juice, grape | 0.75 |
| 82 | X21432 | Juice, grapefruit | 0.47 |
| 83 | X21432\_01 | Juice, grapefruit, concentrated | 0.14 |
| 84 | X21431\_02 | Juice, orange, concentrated | 0.1 |
| 85 | X21431\_01 | Juice, orange, single strength | 0.45 |
| 86 | X21433 | Juice, pineapple | 0.72 |
| 87 | X21433\_01 | Juice, pineapple, concentrated | 0.5 |
| 88 | X21321 | Juice, tomato | 0.465 |
| 89 | X1922\_01 | Jute | 1 |
| 90 | X23210\_06 | Lactose | 1 |
| 91 | X21521 | Lard | 1 |
| 92 | X23710 | Macaroni | 0.79 |
| 93 | X24320 | Malt | 0.73 |
| 94 | X23530 | Maple sugar and syrups | 1 |
| 95 | X21700\_01 | Margarine, liquid | 1 |
| 96 | X21700\_02 | Margarine, short | 1 |
| 97 | X21190\_01 | Meal meat | 1 |
| 98 | X21184\_01 | Meat, beef and veal sausages | 0.8 |
| 99 | F0875 | Meat, beef, preparations | 0.6 |
| 100 | X21111\_02 | Meat, cattle, boneless (beef & veal) | 0.71 |
| 101 | F1061 | Meat, chicken, canned | 0.9 |
| 102 | X21183 | Meat, dried nes | 0.46 |
| 103 | X21184\_02 | Meat, pig sausages | 0.85 |
| 104 | F1042 | Meat, pig, preparations | 0.88 |
| 105 | X21113\_02 | Meat, pork | 1 |
| 106 | X22290 | Milk, products of natural constituents nes | 0.8 |
| 107 | X22110\_02 | Milk, skimmed cow | 1 |
| 108 | X22212 | Milk, skimmed dried | 0.1 |
| 109 | X22222\_01 | Milk, whole condensed | 0.35 |
| 110 | X22211 | Milk, whole dried | 0.15 |
| 111 | X22221\_01 | Milk, whole evaporated | 0.4 |
| 112 | X23180 | Mixes and doughs | 0.85 |
| 113 | X23540 | Molasses | 1 |
| 114 | X21397\_01 | Mushrooms, canned | 1.1 |
| 115 | F0235 | Nuts, prepared (exc. groundnuts) | 0.82 |
| 116 | X23140\_07 | Oats rolled | 0.95 |
| 117 | X21160\_01 | Offals, liver chicken | 1 |
| 118 | X34550 | Oil, boiled etc | 1 |
| 119 | X21691\_04 | Oil, castor beans | 1 |
| 120 | X2166 | Oil, coconut (copra) | 1 |
| 121 | X2168 | Oil, cottonseed | 1 |
| 122 | X35410\_9 | Oil essential nes | 1 |
| 123 | X2162 | Oil, groundnut | 1 |
| 124 | X21691\_12 | Oil, linseed | 1 |
| 125 | X21691\_02 | Oil, maize | 1 |
| 126 | X21673 | Oil, olive residues | 1 |
| 127 | X2167 | Oil, olive, virgin | 1 |
| 128 | X21691\_14 | Oil, palm kernel | 1 |
| 129 | X21641\_01 | Oil, rapeseed | 1 |
| 130 | X21691\_07 | Oil, sesame | 1 |
| 131 | X2161 | Oil, soybean | 1 |
| 132 | X21631\_01 | Oil, sunflower | 1 |
| 133 | X21691\_9 | Oil, vegetable origin nes | 1 |
| 134 | X21529\_03 | Oils, fats of animal nes | 1 |
| 135 | F0262 | Olives preserved | 1 |
| 136 | F0022 | Pastry | 0.8 |
| 137 | X21495\_02 | Peanut butter | 0.75 |
| 138 | X23311 | Pet food | 1 |
| 139 | X21491 | Pineapples canned | 0.72 |
| 140 | X21412 | Plums dried (prunes) | 1 |
| 141 | X21313 | Potatoes, frozen | 0.47 |
| 142 | X21411 | Raisins | 0.25 |
| 143 | X30 | Rice - total (Rice milled equivalent) | 0.72 |
| 144 | X23161\_03 | Rice, broken | 0.72 |
| 145 | X23162 | Rice, husked | 0.8 |
| 146 | X23161\_02 | Rice, milled | 0.72 |
| 147 | X1950\_02 | Rubber natural dry | 1 |
| 148 | X1950\_01 | Rubber natural | 1 |
| 149 | X26110 | Silk raw | 1 |
| 150 | X2953\_01 | Skins sheep with wool | 1 |
| 151 | X23995\_01 | Soya sauce | 3.5 |
| 152 | X1913 | Straw husks | 1 |
| 153 | X23670\_01 | Sugar confectionery | 1.05 |
| 154 | X23210\_04 | Sugar nes | 1 |
| 155 | X2351f | Sugar Raw Centrifugal | 1 |
| 156 | X23520 | Sugar refined | 1 |
| 157 | X21319\_01 | Sweet corn frozen | 0.35 |
| 158 | X21399\_03 | Sweet corn prep or preserved | 0.45 |
| 159 | X21523 | Tallow | 1 |
| 160 | X23914 | Tea, mate extracts | 1 |
| 161 | X25090 | Tobacco products nes | 1 |
| 162 | X1970 | Tobacco unmanufactured | 1 |
| 163 | X21399\_01 | Tomatoes, paste | 0.22 |
| 164 | X21399\_02 | Tomatoes, peeled | 0.75 |
| 165 | X21340 | Vegetables in vinegar | 1.2 |
| 166 | X21393\_9 | Vegetables, dehydrated | 0.4 |
| 167 | X1990\_01 | Vegetables, fresh or dried products nes | 0.8 |
| 168 | F0473 | Vegetables, frozen | 1 |
| 169 | X23991\_02 | Vegetables, homogenized preparations | 1 |
| 170 | F0472 | Vegetables, preserved nes | 1 |
| 171 | F0475 | Vegetables, preserved, frozen | 1 |
| 172 | X21330\_9 | Vegetables, temporarily preserved | 1 |
| 173 | X24220 | Vermouths & similar | 1 |
| 174 | X23490\_01 | Wafers | 0.79 |
| 175 | X21429\_02 | Walnuts, shelled | 0.44 |
| 176 | X17400 | Watersice etc | 1 |
| 177 | X22130\_02 | Whey, dry | 0.1 |
| 178 | X24212\_02 | Wine | 1 |
| 179 | X26130 | Wool degreased | 1 |
| 180 | X2941 | Wool greasy | 1 |
| 181 | F1009 | Wool hair waste | 1 |
| 182 | X22230\_01 | Yoghurt | 0.8 |
| 183 | X22230\_02 | Yoghurt, concentrated or not | 0.8 |
| 184 | X23320 | Alfalfa meal and pellets | 1 |
| 185 | X23140\_05 | Barley, pearled | 0.95 |
| 186 | X21429\_01 | Brazil nuts, shelled | 0.44 |
| 187 | X21910\_02 | Cake maize | 1 |
| 188 | X21910\_06 | Cake palm kernel | 1 |
| 189 | X23610\_01 | Cocoa, paste | 0.8 |
| 190 | X1492 | Copra | 0.21 |
| 191 | X21800 | Cotton linter | 1 |
| 192 | X26160 | Cotton carded combed | 1 |
| 193 | F1293 | Crude materials | 1 |
| 194 | X39160 | Dregs from brewing distillation | 1 |
| 195 | X39130\_04 | Feed and meal gluten | 1 |
| 196 | X1929\_9 | Fibre crops nes | 1 |
| 197 | X26190\_01 | Flax fibre and tow | 1 |
| 198 | X1929\_01 | Flax fibre raw | 1 |
| 199 | X26190\_02 | Flax tow waste | 1 |
| 200 | X23120\_1 | Flour, mixed grain | 0.95 |
| 201 | X23140\_06 | Germ, maize | 0.95 |
| 202 | X1659 | Hops | 1 |
| 203 | X21439\_03 | Juice, lemon, concentrated | 0.06 |
| 204 | X21160\_03 | Offals, liver duck | 1 |
| 205 | X21631\_02 | Oil, safflower | 1 |
| 206 | X1930\_02 | Pyrethrum dried | 1 |
| 207 | X2944 | Silk-worm cocoons reelable | 1 |
| 208 | X2951\_06 | Skins calve wet salted | 0.8 |
| 209 | X2954\_01 | Skins goat wet salted | 1 |
| 210 | X2953\_04 | Skins sheep dry salted | 0.3 |
| 211 | X2953\_03 | Skins sheep wet salted | 0.6 |
| 212 | X23220\_06 | Starch cassava | 0.23 |
| 213 | X21931 | Waxes vegetable | 1 |
| 214 | X21910\_11 | Cake sesame seed | 0.43 |
| 215 | X23319\_11 | Feed minerals | 1 |
| 216 | X23319\_06 | Feed supplements | 1 |
| 217 | X2959\_99 | Hides nes | 1 |
| 218 | X35410\_01 | Oil citronella | 1 |
| 219 | X21910\_01 | Cake rice bran | 1 |
| 220 | X23170\_01 | Flour, cassava | 0.22 |
| 221 | X21160\_02 | Offals, liver geese | 1 |
| 222 | X22130\_03 | Whey, condensed | 0.35 |
| 223 | X1929\_07 | Manila fibre (abaca) | 1 |
| 224 | X23999\_04 | Pyrethrum extraction | 1 |
| 225 | X21691\_03 | Butter of karite nuts | 1 |
| 226 | X22253 | Cheese, sheep milk | 0.2 |
| 227 | X21439\_02 | Juice, lemon, single strength | 0.06 |
| 228 | X23140\_02 | Bulgur | 0.95 |
| 229 | X1919\_91 | Forage and silage grasses nes | 1 |
| 230 | X2952\_05 | Hides horse dry salted | 0.3 |
| 231 | X39120\_07 | Bran, millet | 1 |
| 232 | X39120\_15 | Feed pulp of fruit | 1 |
| 233 | X23120\_01 | Flour, rice | 0.99 |
| 234 | X1919\_11 | Hay (unspecified) | 1 |
| 235 | X21910\_12 | Cake mustard | 0.53 |
| 236 | X2951\_09 | Hides buffalo dry salted | 0.3 |
| 237 | X24310\_04 | Beer of sorghum | 1 |
| 238 | X24230\_02 | Beverages, fermented rice | 1 |
| 239 | X21910\_14 | Cake kapok | 1 |
| 240 | X1919\_03 | Forage and silage clover | 1 |
| 241 | X23319\_09 | Vitamins | 1 |
| 242 | X21691\_01 | Oil, rice bran | 1 |
| 243 | X2942\_02 | Hair goat coarse | 1 |
| 244 | X21910\_1 | Cake safflower | 1 |
| 245 | X22242\_02 | Ghee, buffalo milk | 1 |
| 246 | X1929\_03 | Kapok fibre | 1 |
| 247 | X22110\_03 | Milk, reconstituted | 1 |
| 248 | X2951\_08 | Hides buffalo wet salted | 0.6 |
| 249 | X23511\_02 | Sugar non-centrifugal | 1 |
| 250 | X21439\_06 | Juice, plum, single strength | 0.06 |
| 251 | X23995\_02 | Soya paste | 3.5 |
| 252 | X39120\_08 | Bran, sorghum | 1 |
| 253 | X21910\_17 | Cake hempseed | 1 |
| 254 | X23120\_08 | Flour, fonio | 0.99 |
| 255 | X1919\_05 | Turnips for fodder | 1 |
| 256 | X1499\_06 | Kapokseed in shell | 1 |
| 257 | X21691\_11 | Oil, kapok | 1 |
| 258 | X1919\_92 | Forage and silage legumes | 1 |
| 259 | X39130\_03 | Potato offals | 0.47 |
| 260 | X39120\_09 | Bran, buckwheat | 1 |
| 261 | X464 | Vegetables, dried nes | 0.2 |
| 262 | X39120\_1 | Bran, fonio | 1 |
| 263 | X39120\_17 | Cane tops | 1 |
| 264 | X2959\_08 | Hides camel nes | 0.6 |
| 265 | X21691\_08 | Oil, poppy | 1 |
| 266 | X21439\_07 | Juice, plum, concentrated | 0.3 |
| 267 | X2953 | Skins sheep fresh | 0.6 |
| 268 | X1499\_07 | Kapokseed shelled | 0.5 |
| 269 | X2959\_06 | Hides camel wet salted | 0.6 |
| 270 | X68 | Popcorn | 1 |
| 271 | X21691\_09 | Vegetable tallow | 1 |
| 272 | X1919\_1 | Hay (clover lucerneetc) | 1 |
| 273 | X2761\_proc | Freshwater Fish (processed) | 1 |
| 274 | X2762\_proc | Demersal Fish (processed) | 1 |
| 275 | X2763\_proc | Pelagic Fish (processed) | 1 |
| 276 | X2764\_proc | Marine Fish, Other (processed) | 1 |
| 277 | X2765\_proc | Crustaceans (processed) | 1 |
| 278 | X2766\_proc | Cephalopods (processed) | 1 |
| 279 | X2767\_proc | Molluscs, Other (processed) | 1 |
| 280 | X2769\_proc | Aquatic Animals, Others (processed) | 1 |
| 281 | X2775\_proc | Aquatic Plants (processed) | 1 |
| 282 | X2768\_proc | Meat, Aquatic Mammals (processed) | 1 |
| 283 | X2781\_proc | Fish, Body Oil | 0.1 |
| 284 | X2782\_proc | Fish, Liver Oil | 0.1 |

Source: Based on FAO (2013), Bruckner (2019) and additional estimates for selected commodities.

Appendix S.5. Mapping between primary commodities, processed commodities and food balance sheet categories

Table G.1.Mapping between processed and primary commodities for the case of 1-to-1

| No. | Processed commodity code | | Processed commodity name | Primary commodity code | | Primary commodity name |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | X21422 | Almonds shelled | | X1371 | Almonds, with shell | |
| 2 | X21419\_01 | Apricots, dry | | X1343 | Apricots | |
| 3 | X21181 | Bacon and ham | | X21113\_01 | Meat, pig | |
| 4 | F0020 | Bread | | X111 | Wheat | |
| 5 | X22230\_03 | Buttermilk, curdled, acidified milk | | X2211 | Milk, whole fresh cow | |
| 6 | X21424 | Cashew nuts, shelled | | X1372 | Cashew nuts, with shell | |
| 7 | X1520\_02 | Cassava dried | | X1520\_01 | Cassava | |
| 8 | X23140\_08 | Cereal preparations nes | | X1199\_9 | Cereals nes | |
| 9 | X23140\_03 | Cereals, breakfast | | X111 | Wheat | |
| 10 | X22251\_04 | Cheese, processed | | X2211 | Milk, whole fresh cow | |
| 11 | X22251\_01 | Cheese, whole cow milk | | X2211 | Milk, whole fresh cow | |
| 12 | F0666 | Chocolate products nes | | X1640 | Cocoa, beans | |
| 13 | F0665 | Cocoa, powder & cake | | X1640 | Cocoa, beans | |
| 14 | X21429\_07 | Coconuts, desiccated | | X1460 | Coconuts | |
| 15 | X23911 | Coffee, roasted | | X1610 | Coffee, green | |
| 16 | X23912\_01 | Coffee, substitutes containing coffee | | X1610 | Coffee, green | |
| 17 | X23993\_03 | Eggs, dried | | X231 | Eggs, hen, in shell | |
| 18 | X23993\_02 | Eggs, liquid | | X231 | Eggs, hen, in shell | |
| 19 | X21419\_02 | Figs dried | | X1315 | Figs | |
| 20 | X23120\_9 | Flour, cereals | | X1199\_9 | Cereals nes | |
| 21 | X23120\_03 | Flour, maize | | X112 | Maize | |
| 22 | X23995\_03 | Flour, mustard | | X1442 | Mustard seed | |
| 23 | X21392 | Flour, potatoes | | X1510 | Potatoes | |
| 24 | X23170\_03 | Flour, pulses | | X1709\_9 | Pulses nes | |
| 25 | X23170\_02 | Flour, roots and tubers nes | | X1599\_1 | Roots and tubers nes | |
| 26 | X23110 | Flour, wheat | | X111 | Wheat | |
| 27 | F1232 | Food prep nes | | X1199\_9 | Cereals nes | |
| 28 | X23999\_02 | Food preparations, flour, malt extract | | X111 | Wheat | |
| 29 | X39170\_01 | Food wastes | | X1290\_9 | Vegetables, fresh nes | |
| 30 | X23991\_03 | Fruit, cooked, homogenized preparations | | X1359\_9 | Fruit, fresh nes | |
| 31 | X21419\_99 | Fruit, dried nes | | X1359\_9 | Fruit, fresh nes | |
| 32 | F0623 | Fruit, prepared nes | | X1359\_9 | Fruit, fresh nes | |
| 33 | X21495\_01 | Groundnuts, prepared | | X142 | Groundnuts, with shell | |
| 34 | X21421 | Groundnuts, shelled | | X142 | Groundnuts, with shell | |
| 35 | X21423 | Hazelnuts, shelled | | X1374 | Hazelnuts, with shell | |
| 36 | X2951\_04 | Hides cattle wet salted | | X21111\_01 | Meat, cattle | |
| 37 | X22270 | Ice cream and edible ice | | X2211 | Milk, whole fresh cow | |
| 38 | X21435\_02 | Juice, apple, concentrated | | X1341 | Apples | |
| 39 | X21435\_01 | Juice, apple, single strength | | X1341 | Apples | |
| 40 | X21439\_05 | Juice, citrus, concentrated | | X1329 | Fruit, citrus nes | |
| 41 | X21439\_04 | Juice, citrus, single strength | | X1329 | Fruit, citrus nes | |
| 42 | X21439\_9 | Juice, fruit nes | | X1359\_9 | Fruit, fresh nes | |
| 43 | X21434 | Juice, grape | | X1330 | Grapes | |
| 44 | X21432 | Juice, grapefruit | | X1321 | Grapefruit (inc. pomelos) | |
| 45 | X21432\_01 | Juice, grapefruit, concentrated | | X1321 | Grapefruit (inc. pomelos) | |
| 46 | X21431\_02 | Juice, orange, concentrated | | X1323 | Oranges | |
| 47 | X21431\_01 | Juice, orange, single strength | | X1323 | Oranges | |
| 48 | X21433 | Juice, pineapple | | X1318 | Pineapples | |
| 49 | X21433\_01 | Juice, pineapple, concentrated | | X1318 | Pineapples | |
| 50 | X21321 | Juice, tomato | | X1234 | Tomatoes | |
| 51 | X23710 | Macaroni | | X111 | Wheat | |
| 52 | X23530 | Maple sugar and syrups | | X1809 | Sugar crops nes | |
| 53 | X21184\_01 | Meat, beef and veal sausages | | X21111\_01 | Meat, cattle | |
| 54 | F0875 | Meat, beef, preparations | | X21111\_01 | Meat, cattle | |
| 55 | X21111\_02 | Meat, cattle, boneless (beef & veal) | | X21111\_01 | Meat, cattle | |
| 56 | F1061 | Meat, chicken, canned | | X21121 | Meat, chicken | |
| 57 | X21183 | Meat, dried nes | | X21119\_9 | Meat nes | |
| 58 | X21184\_02 | Meat, pig sausages | | X21113\_01 | Meat, pig | |
| 59 | F1042 | Meat, pig, preparations | | X21113\_01 | Meat, pig | |
| 60 | X21113\_02 | Meat, pork | | X21113\_01 | Meat, pig | |
| 61 | X22290 | Milk, products of natural constituents nes | | X2211 | Milk, whole fresh cow | |
| 62 | X22110\_02 | Milk, skimmed cow | | X2211 | Milk, whole fresh cow | |
| 63 | X22212 | Milk, skimmed dried | | X2211 | Milk, whole fresh cow | |
| 64 | X22222\_01 | Milk, whole condensed | | X2211 | Milk, whole fresh cow | |
| 65 | X22211 | Milk, whole dried | | X2211 | Milk, whole fresh cow | |
| 66 | X22221\_01 | Milk, whole evaporated | | X2211 | Milk, whole fresh cow | |
| 67 | X23180 | Mixes and doughs | | X111 | Wheat | |
| 68 | X21397\_01 | Mushrooms, canned | | X1270 | Mushrooms and truffles | |
| 69 | F0235 | Nuts, prepared (exc. groundnuts) | | X1379\_9 | Nuts nes | |
| 70 | X23140\_07 | Oats rolled | | X117 | Oats | |
| 71 | X21160\_01 | Offals, liver chicken | | X21121 | Meat, chicken | |
| 72 | X21529\_03 | Oils, fats of animal nes | | X21512 | Fat, cattle | |
| 73 | F0262 | Olives preserved | | X1450 | Olives | |
| 74 | F0022 | Pastry | | X111 | Wheat | |
| 75 | X21495\_02 | Peanut butter | | X142 | Groundnuts, with shell | |
| 76 | X21491 | Pineapples canned | | X1318 | Pineapples | |
| 77 | X21412 | Plums dried (prunes) | | X1346 | Plums and sloes | |
| 78 | X21313 | Potatoes, frozen | | X1510 | Potatoes | |
| 79 | X21411 | Raisins | | X1330 | Grapes | |
| 80 | X30 | Rice - total (Rice milled equivalent) | | X113 | Rice, paddy | |
| 81 | X23161\_03 | Rice, broken | | X113 | Rice, paddy | |
| 82 | X23162 | Rice, husked | | X113 | Rice, paddy | |
| 83 | X23161\_02 | Rice, milled | | X113 | Rice, paddy | |
| 84 | X23995\_01 | Soya sauce | | X141 | Soybeans | |
| 85 | X23210\_04 | Sugar nes | | X1809 | Sugar crops nes | |
| 86 | X21319\_01 | Sweet corn frozen | | X112 | Maize | |
| 87 | X21399\_03 | Sweet corn prep or preserved | | X112 | Maize | |
| 88 | X23914 | Tea, mate extracts | | X1620 | Tea | |
| 89 | X21399\_01 | Tomatoes, paste | | X1234 | Tomatoes | |
| 90 | X21399\_02 | Tomatoes, peeled | | X1234 | Tomatoes | |
| 91 | X23490\_01 | Wafers | | X111 | Wheat | |
| 92 | X21429\_02 | Walnuts, shelled | | X1376 | Walnuts, with shell | |
| 93 | X17400 | Watersice etc | | X2211 | Milk, whole fresh cow | |
| 94 | X22130\_02 | Whey, dry | | X2211 | Milk, whole fresh cow | |
| 95 | X22230\_01 | Yoghurt | | X2211 | Milk, whole fresh cow | |
| 96 | X22230\_02 | Yoghurt, concentrated or not | | X2211 | Milk, whole fresh cow | |
| 97 | X23140\_05 | Barley, pearled | | X115 | Barley | |
| 98 | X21429\_01 | Brazil nuts, shelled | | X1377 | Brazil nuts, with shell | |
| 99 | X23610\_01 | Cocoa, paste | | X1640 | Cocoa, beans | |
| 100 | X1492 | Copra | | X1460 | Coconuts | |
| 101 | X23120\_1 | Flour, mixed grain | | X1199\_02 | Grain, mixed | |
| 102 | X23140\_06 | Germ, maize | | X112 | Maize | |
| 103 | X21439\_03 | Juice, lemon, concentrated | | X1322 | Lemons and limes | |
| 104 | X21160\_03 | Offals, liver duck | | X21122 | Meat, duck | |
| 105 | X23170\_01 | Flour, cassava | | X1520\_01 | Cassava | |
| 106 | X22130\_03 | Whey, condensed | | X2211 | Milk, whole fresh cow | |
| 107 | X22253 | Cheese, sheep milk | | X2291 | Milk, whole fresh sheep | |
| 108 | X21439\_02 | Juice, lemon, single strength | | X1322 | Lemons and limes | |
| 109 | X23140\_02 | Bulgur | | X111 | Wheat | |
| 110 | X23120\_01 | Flour, rice | | X113 | Rice, paddy | |
| 111 | X22110\_03 | Milk, reconstituted | | X2211 | Milk, whole fresh cow | |
| 112 | X21439\_06 | Juice, plum, single strength | | X1346 | Plums and sloes | |
| 113 | X23995\_02 | Soya paste | | X141 | Soybeans | |
| 114 | X23120\_08 | Flour, fonio | | X1193 | Fonio | |
| 115 | X464 | Vegetables, dried nes | | X1290\_9 | Vegetables, fresh nes | |
| 116 | X21439\_07 | Juice, plum, concentrated | | X1346 | Plums and sloes | |
| 117 | X68 | Popcorn | | X112 | Maize | |
| 118 | X2761\_proc | Freshwater Fish (processed) | | X2761\_prim | Freshwater Fish (primary) | |
| 119 | X2762\_proc | Demersal Fish (processed) | | X2762\_prim | Demersal Fish (primary) | |
| 120 | X2763\_proc | Pelagic Fish (processed) | | X2763\_prim | Pelagic Fish (primary) | |
| 121 | X2764\_proc | Marine Fish, Other (processed) | | X2764\_prim | Marine Fish, Other (primary) | |
| 122 | X2765\_proc | Crustaceans (processed) | | X2765\_prim | Crustaceans (primary) | |
| 123 | X2766\_proc | Cephalopods (processed) | | X2766\_prim | Cephalopods (primary) | |
| 124 | X2767\_proc | Molluscs, Other (processed) | | X2767\_prim | Molluscs, Other (primary) | |
| 125 | X2769\_proc | Aquatic Animals, Others (processed) | | X2769\_prim | Aquatic Animals, Others (primary) | |
| 126 | X2775\_proc | Aquatic Plants (processed) | | X2775\_prim | Aquatic Plants (primary) | |
| 127 | X2768\_proc | Meat, Aquatic Mammals (processed) | | X2768\_prim | Meat, Aquatic Mammals (primary) | |

Source: Developed by author based on FAO (2020a) and FAO (2020b).

Table G.2.Mapping between processed and primary commodities for the case of 1-to-many

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Processed commodity code | Processed commodity name | Primary commodity code |
| 1 | X2413 | Beverages, distilled alcoholic | X111, X112, X115, X116 |
| 2 | X24490 | Beverages, non-alcoholic | X1801, X1802, |
| 3 | X21189\_02 | Fat, liver prepared (foie gras) | X21519\_02, X21512, X21515, X21514, X21511\_01, X21513 |
| 4 | X23670\_01 | Sugar confectionery | X1801, X1802 |
| 5 | X2351f | Sugar Raw Centrifugal | X1801, X1802 |
| 6 | X23520 | Sugar refined | X1801, X1802 |
| 7 | X21523 | Tallow | X21519\_02, X21512, X21515, X21514, X21511\_01, X21513 |
| 8 | X21340 | Vegetables in vinegar | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 9 | X21393\_9 | Vegetables, dehydrated | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 10 | X1990\_01 | Vegetables, fresh or dried products nes | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 11 | F0473 | Vegetables, frozen | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 12 | X23991\_02 | Vegetables, homogenized preparations | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 13 | F0472 | Vegetables, preserved nes | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 14 | F0475 | Vegetables, preserved, frozen | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 15 | X21330\_9 | Vegetables, temporarily preserved | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 16 | X21691\_09 | Vegetable tallow | X112, X1234, X1232, X1290\_9, X1216, X1215, X1510, X1219\_01, X1235, X1233, X1252, X1254, X1214, X1231, X1213, X1251, X1212 |
| 17 | X2781\_proc | Fish, Body Oil | X2762\_prim, X2763\_prim, X2764\_prim |
| 18 | X2782\_proc | Fish, Liver Oil | X2762\_prim, X2763\_prim, X2764\_prim |

Source: Developed by author based on FAO (2020a) and FAO (2020b).

Table G.3. Processed commodities directly mapped to the FBS categories

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Processed commodity code | Processed commodity name | FBS category code | FBS category name |
| 1 | X23511\_02 | Sugar non-centrifugal | X2541 | Sugar non-centrifugal |
| 2 | X23670\_01 | Sugar confectionery | X2542 | Sugar (Raw Equivalent) |
| 3 | X2351f | Sugar Raw Centrifugal | X2542 | Sugar (Raw Equivalent) |
| 4 | X23520 | Sugar refined | X2542 | Sugar (Raw Equivalent) |
| 5 | X2161 | Oil, soybean | X2571 | Soyabean Oil |
| 6 | X2162 | Oil, groundnut | X2572 | Groundnut Oil |
| 7 | X21631\_01 | Oil, sunflower | X2573 | Sunflowerseed Oil |
| 8 | X21641\_01 | Oil, rapeseed | X2574 | Rape and Mustard Oil |
| 9 | X2168 | Oil, cottonseed | X2575 | Cottonseed Oil |
| 10 | X21691\_14 | Oil, palm kernel | X2576 | Palmkernel Oil |
| 11 | X2166 | Oil, coconut (copra) | X2578 | Coconut Oil |
| 12 | X21691\_07 | Oil, sesame | X2579 | Sesameseed Oil |
| 13 | X21673 | Oil, olive residues | X2580 | Olive Oil |
| 14 | X2167 | Oil, olive, virgin | X2580 | Olive Oil |
| 15 | X21691\_01 | Oil, rice bran | X2581 | Ricebran Oil |
| 16 | X21691\_02 | Oil, maize | X2582 | Maize Germ Oil |
| 17 | X23620 | Cocoa, butter | X2586 | Oilcrops Oil, Other |
| 18 | X21700\_01 | Margarine, liquid | X2586 | Oilcrops Oil, Other |
| 19 | X21700\_02 | Margarine, short | X2586 | Oilcrops Oil, Other |
| 20 | X34550 | Oil, boiled etc | X2586 | Oilcrops Oil, Other |
| 21 | X21691\_04 | Oil, castor beans | X2586 | Oilcrops Oil, Other |
| 22 | X21691\_12 | Oil, linseed | X2586 | Oilcrops Oil, Other |
| 23 | X21691\_9 | Oil, vegetable origin nes | X2586 | Oilcrops Oil, Other |
| 24 | X21631\_02 | Oil, safflower | X2586 | Oilcrops Oil, Other |
| 25 | X21691\_03 | Butter of karite nuts | X2586 | Oilcrops Oil, Other |
| 26 | X21691\_11 | Oil, kapok | X2586 | Oilcrops Oil, Other |
| 27 | X21691\_08 | Oil, poppy | X2586 | Oilcrops Oil, Other |
| 28 | X21691\_09 | Vegetable tallow | X2586 | Oilcrops Oil, Other |
| 29 | X24220 | Vermouths & similar | X2655 | Wine |
| 30 | X24212\_02 | Wine | X2655 | Wine |
| 31 | X24310\_01 | Beer of barley | X2656 | Beer |
| 32 | X24230\_03 | Cider etc | X2657 | Beverages, Fermented |
| 33 | X24310\_04 | Beer of sorghum | X2657 | Beverages, Fermented |
| 34 | X24230\_02 | Beverages, fermented rice | X2657 | Beverages, Fermented |
| 35 | X2413 | Beverages, distilled alcoholic | X2658 | Beverages, Alcoholic |
| 36 | X23991\_01 | Infant food | X2680 | Infant food |
| 37 | X22241\_01 | Butter, cow milk | X2740 | Butter, Ghee |
| 38 | X22242\_02 | Ghee, buffalo milk | X2740 | Butter, Ghee |
| 39 | X22120 | Cream fresh | X2743 | Cream |
| 40 | X2781\_proc | Fish, Body Oil | X2781 | Fish, Body Oil |
| 41 | X2782\_proc | Fish, Liver Oil | X2782 | Fish, Liver Oil |

Source: Developed by author based on FAO (2020a) and FAO (2020b).

Appendix S.6. Mapping between primary commodities and food balance sheet categories

| No. | Primary commodity code | Primary commodity name | FBS category code | FBS category name |
| --- | --- | --- | --- | --- |
| 1 | X1371 | Almonds, with shell | X2551 | Nuts and products |
| 2 | X1654 | Anise, badian, fennel, coriander | X2645 | Spices, Other |
| 3 | X1341 | Apples | X2617 | Apples and products |
| 4 | X1343 | Apricots | X2625 | Fruits, Other |
| 5 | X115 | Barley | X2513 | Barley and products |
| 6 | X1355\_9 | Berries nes | X2625 | Fruits, Other |
| 7 | X143 | Cottonseed | X2559 | Cottonseed |
| 8 | X1315 | Figs | X2625 | Fruits, Other |
| 9 | X1329 | Fruit, citrus nes | X2614 | Citrus, Other |
| 10 | X1359\_9 | Fruit, fresh nes | X2625 | Fruits, Other |
| 11 | X1349\_2 | Fruit, stone nes | X2625 | Fruits, Other |
| 12 | X1330 | Grapes | X2620 | Grapes and products (excl wine) |
| 13 | X1441 | Linseed | X2570 | Oilcrops, Other |
| 14 | X112 | Maize | X2514 | Maize and products |
| 15 | X1229 | Melons, other (inc.cantaloupes) | X2625 | Fruits, Other |
| 16 | X118 | Millet | X2517 | Millet and products |
| 17 | X1379\_9 | Nuts nes | X2551 | Nuts and products |
| 18 | X1450 | Olives | X2563 | Olives (including preserved) |
| 19 | X1253\_02 | Onions, dry | X2602 | Onions |
| 20 | X1323 | Oranges | X2611 | Oranges, Mandarines |
| 21 | X1345 | Peaches and nectarines | X2625 | Fruits, Other |
| 22 | X1342\_01 | Pears | X2625 | Fruits, Other |
| 23 | X1375 | Pistachios | X2551 | Nuts and products |
| 24 | X1346 | Plums and sloes | X2625 | Fruits, Other |
| 25 | X1510 | Potatoes | X2531 | Potatoes and products |
| 26 | X1709\_9 | Pulses nes | X2549 | Pulses, Other and products |
| 27 | X113 | Rice, paddy | X2805 | Rice (Milled Equivalent) |
| 28 | X1444 | Sesame seed | X2561 | Sesame seed |
| 29 | X1699 | Spices nes | X2645 | Spices, Other |
| 30 | X1801 | Sugar beet | X2537 | Sugar beet |
| 31 | X1802 | Sugar cane | X2536 | Sugar cane |
| 32 | X1445 | Sunflower seed | X2557 | Sunflower seed |
| 33 | X1290\_9 | Vegetables, fresh nes | X2605 | Vegetables, Other |
| 34 | X1376 | Walnuts, with shell | X2551 | Nuts and products |
| 35 | X1221 | Watermelons | X2625 | Fruits, Other |
| 36 | X111 | Wheat | X2511 | Wheat and products |
| 37 | X1701 | Beans, dry | X2546 | Beans |
| 38 | X1241\_9 | Beans, green | X2605 | Vegetables, Other |
| 39 | X1702 | Broad beans, horse beans, dry | X2549 | Pulses, Other and products |
| 40 | X1212 | Cabbages and other brassicas | X2605 | Vegetables, Other |
| 41 | X1251 | Carrots and turnips | X2605 | Vegetables, Other |
| 42 | X1213 | Cauliflowers and broccoli | X2605 | Vegetables, Other |
| 43 | X1344\_02 | Cherries | X2625 | Fruits, Other |
| 44 | X1344\_01 | Cherries, sour | X2625 | Fruits, Other |
| 45 | X1373 | Chestnut | X2551 | Nuts and products |
| 46 | X1231 | Chillies and peppers, green | X2605 | Vegetables, Other |
| 47 | X1232 | Cucumbers and gherkins | X2605 | Vegetables, Other |
| 48 | X1314 | Dates | X2619 | Dates |
| 49 | X1233 | Eggplants (aubergines) | X2605 | Vegetables, Other |
| 50 | X1252 | Garlic | X2605 | Vegetables, Other |
| 51 | X1254 | Leeks, other alliaceous vegetables | X2605 | Vegetables, Other |
| 52 | X1322 | Lemons and limes | X2612 | Lemons, Limes and products |
| 53 | X1214 | Lettuce and chicory | X2605 | Vegetables, Other |
| 54 | X1270 | Mushrooms and truffles | X2605 | Vegetables, Other |
| 55 | X117 | Oats | X2516 | Oats |
| 56 | X2165 | Oil, palm | X2577 | Palm Oil |
| 57 | X1239\_01 | Okra | X2605 | Vegetables, Other |
| 58 | X1253\_01 | Onions, shallots, green | X2605 | Vegetables, Other |
| 59 | X1242 | Peas, green | X2605 | Vegetables, Other |
| 60 | X1235 | Pumpkins, squash and gourds | X2605 | Vegetables, Other |
| 61 | X1342\_02 | Quinces | X2625 | Fruits, Other |
| 62 | X116 | Rye | X2515 | Rye and products |
| 63 | X114 | Sorghum | X2518 | Sorghum and products |
| 64 | X141 | Soybeans | X2555 | Soyabeans |
| 65 | X1215 | Spinach | X2605 | Vegetables, Other |
| 66 | X1324 | Tangerines, mandarins, clementines, satsumas | X2611 | Oranges, Mandarines |
| 67 | X1234 | Tomatoes | X2601 | Tomatoes and products |
| 68 | X1243 | Vegetables, leguminous nes | X2605 | Vegetables, Other |
| 69 | X1709\_01 | Vetches | X2549 | Pulses, Other and products |
| 70 | X1216 | Artichokes | X2605 | Vegetables, Other |
| 71 | X1312 | Bananas | X2615 | Bananas |
| 72 | X1356 | Carobs | X2605 | Vegetables, Other |
| 73 | X1703 | Chick peas | X2549 | Pulses, Other and products |
| 74 | X1652 | Chillies and peppers, dry | X2641 | Pimento |
| 75 | X1319 | Fruit, tropical fresh nes | X2625 | Fruits, Other |
| 76 | X1321 | Grapefruit (inc. pomelos) | X2613 | Grapefruit and products |
| 77 | X142 | Groundnuts, with shell | X2556 | Groundnuts (Shelled Eq) |
| 78 | X1704 | Lentils | X2549 | Pulses, Other and products |
| 79 | X1705 | Peas, dry | X2547 | Peas |
| 80 | X1443 | Rapeseed | X2558 | Rape and Mustardseed |
| 81 | X1354 | Strawberries | X2625 | Fruits, Other |
| 82 | X1191 | Triticale | X2520 | Cereals, Other |
| 83 | X1520\_01 | Cassava | X2532 | Cassava and products |
| 84 | X1640 | Cocoa, beans | X2633 | Cocoa Beans and products |
| 85 | X1460 | Coconuts | X2560 | Coconuts - Incl Copra |
| 86 | X1290\_01 | Maize, green | X2605 | Vegetables, Other |
| 87 | X1318 | Pineapples | X2618 | Pineapples and products |
| 88 | X1550 | Taro (cocoyam) | X2534 | Roots, Other |
| 89 | X1540 | Yams | X2535 | Yams |
| 90 | X1372 | Cashew nuts, with shell | X2551 | Nuts and products |
| 91 | X1610 | Coffee, green | X2630 | Coffee and products |
| 92 | X1491\_01 | Oil palm fruit | X2562 | Palm kernels |
| 93 | X1491\_02 | Palm kernels | X2562 | Palm kernels |
| 94 | X1530 | Sweet potatoes | X2533 | Sweet potatoes |
| 95 | X1316 | Mangoes, mangosteens, guavas | X2625 | Fruits, Other |
| 96 | X1211 | Asparagus | X2605 | Vegetables, Other |
| 97 | X1311 | Avocados | X2625 | Fruits, Other |
| 98 | X1195 | Canary seed | X2520 | Cereals, Other |
| 99 | X1199\_9 | Cereals nes | X2520 | Cereals, Other |
| 100 | X1709\_02 | Lupins | X2549 | Pulses, Other and products |
| 101 | X1630 | Mate | X2635 | Tea (including mate) |
| 102 | X1449\_9 | Oilseeds nes | X2570 | Oilcrops, Other |
| 103 | X1317 | Papayas | X2625 | Fruits, Other |
| 104 | X1930\_01 | Peppermint | X2645 | Spices, Other |
| 105 | X1446 | Safflower seed | X2570 | Oilcrops, Other |
| 106 | X1241\_01 | String beans | X2605 | Vegetables, Other |
| 107 | X1620 | Tea | X2635 | Tea (including mate) |
| 108 | X1374 | Hazelnuts, with shell | X2551 | Nuts and products |
| 109 | X1355\_01 | Blueberries | X2625 | Fruits, Other |
| 110 | X1706 | Cow peas, dry | X2549 | Pulses, Other and products |
| 111 | X1351\_01 | Currants | X2625 | Fruits, Other |
| 112 | X1352 | Kiwi fruit | X2625 | Fruits, Other |
| 113 | X1442 | Mustard seed | X2558 | Rape and Mustardseed |
| 114 | X1359\_01 | Persimmons | X2625 | Fruits, Other |
| 115 | X1353\_01 | Raspberries | X2625 | Fruits, Other |
| 116 | X1192 | Buckwheat | X2520 | Cereals, Other |
| 117 | X1351\_02 | Gooseberries | X2625 | Fruits, Other |
| 118 | X1199\_02 | Grain, mixed | X2520 | Cereals, Other |
| 119 | X1448 | Poppy seed | X2570 | Oilcrops, Other |
| 120 | X1355\_02 | Cranberries | X2625 | Fruits, Other |
| 121 | X1707 | Pigeon peas | X2549 | Pulses, Other and products |
| 122 | X1313 | Plantains and others | X2616 | Plantains |
| 123 | X1379\_01 | Areca nuts | X2551 | Nuts and products |
| 124 | X1657 | Ginger | X2645 | Spices, Other |
| 125 | X1809 | Sugar crops nes | X2543 | Sweeteners, Other |
| 126 | X1349\_1 | Fruit, pome nes | X2625 | Fruits, Other |
| 127 | X1691 | Chicory roots | X2605 | Vegetables, Other |
| 128 | X1658 | Vanilla | X2645 | Spices, Other |
| 129 | X1599\_1 | Roots and tubers nes | X2534 | Roots, Other |
| 130 | X1591 | Yautia (cocoyam) | X2534 | Roots, Other |
| 131 | X1193 | Fonio | X2520 | Cereals, Other |
| 132 | X1499\_01 | Karite nuts (sheanuts) | X2570 | Oilcrops, Other |
| 133 | X1379\_02 | Kola nuts | X2551 | Nuts and products |
| 134 | X1449\_01 | Melonseed | X2570 | Oilcrops, Other |
| 135 | X1651 | Pepper (piper spp.) | X2640 | Pepper |
| 136 | X1653 | Nutmeg, mace and cardamoms | X2645 | Spices, Other |
| 137 | X1377 | Brazil nuts, with shell | X2551 | Nuts and products |
| 138 | X1194 | Quinoa | X2520 | Cereals, Other |
| 139 | X1359\_02 | Cashewapple | X2625 | Fruits, Other |
| 140 | X1219\_01 | Cassava leaves | X2605 | Vegetables, Other |
| 141 | X1708 | Bambara beans | X2549 | Pulses, Other and products |
| 142 | X1655 | Cinnamon (cannella) | X2645 | Spices, Other |
| 143 | X1656 | Cloves | X2642 | Cloves |
| 144 | X231 | Eggs, hen, in shell | X2744 | Eggs |
| 145 | X21519\_02 | Fat, camels | X2737 | Fats, Animals, Raw |
| 146 | X21512 | Fat, cattle | X2737 | Fats, Animals, Raw |
| 147 | X21515 | Fat, goats | X2737 | Fats, Animals, Raw |
| 148 | X21514 | Fat, sheep | X2737 | Fats, Animals, Raw |
| 149 | X2910 | Honey, natural | X2745 | Honey |
| 150 | X21117\_01I | Meat indigenous, camel | X2735 | Meat, Other |
| 151 | X21111\_01I | Meat indigenous, cattle | X2731 | Bovine Meat |
| 152 | X21121I | Meat indigenous, chicken | X2734 | Poultry Meat |
| 153 | X21116I | Meat indigenous, goat | X2732 | Mutton & Goat Meat |
| 154 | X21115I | Meat indigenous, sheep | X2732 | Mutton & Goat Meat |
| 155 | X21117\_01 | Meat, camel | X2735 | Meat, Other |
| 156 | X21111\_01 | Meat, cattle | X2731 | Bovine Meat |
| 157 | X21121 | Meat, chicken | X2734 | Poultry Meat |
| 158 | X21170\_02 | Meat, game | X2735 | Meat, Other |
| 159 | X21116 | Meat, goat | X2732 | Mutton & Goat Meat |
| 160 | X21115 | Meat, sheep | X2732 | Mutton & Goat Meat |
| 161 | X2293 | Milk, whole fresh camel | X2848 | Milk - Excluding Butter |
| 162 | X2211 | Milk, whole fresh cow | X2848 | Milk - Excluding Butter |
| 163 | X2292 | Milk, whole fresh goat | X2848 | Milk - Excluding Butter |
| 164 | X2291 | Milk, whole fresh sheep | X2848 | Milk - Excluding Butter |
| 165 | X21159\_02 | Offals, edible, camels | X2736 | Offals, Edible |
| 166 | X21151 | Offals, edible, cattle | X2736 | Offals, Edible |
| 167 | X21156 | Offals, edible, goats | X2736 | Offals, Edible |
| 168 | X21155 | Offals, sheep,edible | X2736 | Offals, Edible |
| 169 | X232 | Eggs, other bird, in shell | X2744 | Eggs |
| 170 | X21511\_01 | Fat, pigs | X2737 | Fats, Animals, Raw |
| 171 | X21113\_01I | Meat indigenous, pig | X2733 | Pigmeat |
| 172 | X21119\_9 | Meat nes | X2735 | Meat, Other |
| 173 | X21113\_01 | Meat, pig | X2733 | Pigmeat |
| 174 | X2212 | Milk, whole fresh buffalo | X2848 | Milk - Excluding Butter |
| 175 | X21153 | Offals, pigs, edible | X2736 | Offals, Edible |
| 176 | X21118\_01I | Meat indigenous, horse | X2735 | Meat, Other |
| 177 | X21114I | Meat indigenous, rabbit | X2735 | Meat, Other |
| 178 | X21124I | Meat indigenous, turkey | X2734 | Poultry Meat |
| 179 | X21118\_01 | Meat, horse | X2735 | Meat, Other |
| 180 | X21114 | Meat, rabbit | X2735 | Meat, Other |
| 181 | X21124 | Meat, turkey | X2734 | Poultry Meat |
| 182 | X21159\_01 | Offals, horses | X2736 | Offals, Edible |
| 183 | X21122I | Meat indigenous, duck | X2734 | Poultry Meat |
| 184 | X21123I | Meat indigenous, geese | X2734 | Poultry Meat |
| 185 | X21122 | Meat, duck | X2734 | Poultry Meat |
| 186 | X21123 | Meat, goose and guinea fowl | X2734 | Poultry Meat |
| 187 | X21513 | Fat, buffaloes | X2737 | Fats, Animals, Raw |
| 188 | X21112I | Meat indigenous, buffalo | X2731 | Bovine Meat |
| 189 | X21112 | Meat, buffalo | X2731 | Bovine Meat |
| 190 | X21152 | Offals, edible, buffaloes | X2736 | Offals, Edible |
| 191 | X21117\_02I | Meat indigenous, other camelids | X2735 | Meat, Other |
| 192 | X21119\_01I | Meat indigenous, rodents | X2735 | Meat, Other |
| 193 | X21117\_02 | Meat, other camelids | X2735 | Meat, Other |
| 194 | X21119\_01 | Meat, other rodents | X2735 | Meat, Other |
| 195 | X21118\_02I | Meat indigenous, ass | X2735 | Meat, Other |
| 196 | X21118\_02 | Meat, ass | X2735 | Meat, Other |
| 197 | X21170\_01 | Meat, bird nes | X2735 | Meat, Other |
| 198 | X21118\_03I | Meat indigenous, mule | X2735 | Meat, Other |
| 199 | X21118\_03 | Meat, mule | X2735 | Meat, Other |
| 200 | X2920 | Snails, not sea | X2735 | Meat, Other |
| 201 | X21170\_01I | Meat indigenous, bird nes | X2735 | Meat, Other |
| 202 | X2761\_prim | Freshwater Fish (primary) | X2761 | Freshwater Fish |
| 203 | X2762\_prim | Demersal Fish (primary) | X2762 | Demersal Fish |
| 204 | X2763\_prim | Pelagic Fish (primary) | X2763 | Pelagic Fish |
| 205 | X2764\_prim | Marine Fish, Other (primary) | X2764 | Marine Fish, Other |
| 206 | X2765\_prim | Crustaceans (primary) | X2765 | Crustaceans |
| 207 | X2766\_prim | Cephalopods (primary) | X2766 | Cephalopods |
| 208 | X2767\_prim | Molluscs, Other (primary) | X2767 | Molluscs, Other |
| 209 | X2769\_prim | Aquatic Animals, Others (primary) | X2769 | Aquatic Animals, Others |
| 210 | X2775\_prim | Aquatic Plants (primary) | X2775 | Aquatic Plants |
| 211 | X2768\_prim | Meat, Aquatic Mammals (primary) | X2768 | Meat, Aquatic Mammals |

Source: Developed by author based on FAO (2020a) and FAO (2020b).