

A photograph of a center pivot irrigation system in a vast, golden-brown field under a clear blue sky. A central black pipe descends from the top, with several large, reddish-brown circular wheels or risers spaced out along its length. The field is filled with mature, golden wheat or grain. A white, torn-paper-like border runs diagonally across the bottom right corner of the image.

UK Water Footprint:
the impact of the UK's food
and fibre consumption on
global water resources

Volume two: appendices

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Appendix A: Acronyms and Abbreviations

BOD	Biological Oxygen Demand
COD	Chemical Oxygen Demand
DEFRA	Department for Environment, Food and Rural Affairs
DFID	Department for International Development
EF	Ecological Footprint
FAO	Food and Agriculture Organization
Gm ³	Billion cubic meters
GNI	Gross National Income
ITC	International Trade centre
Mm ³	Million cubic meters
NGO	Non-Governmental organisation
PC-TAS	Personal Computer Trade Analysis System of the ITC
UNESCO-WWAP	UNESCO- World Water Assessment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VWC	Virtual water content
WF	Water Footprint
WFD	Water Framework Directive
WWF	World Wildlife Fund

Appendix B: Methods

The WF is the cumulative amount of water consumed directly (drinking and service water use) or indirectly (water used to produce goods consumed). The indirect water use is quantified at the locations where production takes place, not at locations where products are consumed. Before quantifying the WF of a product, we need to analyse the virtual water content of that product which distinguishes the kind of water used in the production process.

Virtual water content of a primary crop

A major part of the following section is drawn upon the methodology presented in Chapagain and Orr (2008). The virtual water content of a primary crop VWC_c (m^3/t) is calculated as the ratio of the volume of water used for crop production WU_c (m^3/ha), to the volume of crop produced, Y_c (t/ha).

$$VWC_c = \frac{WU_c}{Y_c}$$

The volume of water used for crop production (WU_c m^3/ha) is composed of two components:

$$WU_c = WU_{evaporative} + WU_{non-evaporative}$$

where $WU_{evaporative}$ is the volume of water evaporated and $WU_{non-evaporative}$ is the volume of water unavailable for further use as a result of pollution which is calculated as:

$$WU_{evaporative} = WU_g + WU_b$$

$$WU_{non-evaporative} = WU_p$$

Here WU_g (m^3/ha) is the evaporation of rainfall from crop land (green water use), WU_b (m^3/ha) is the evaporation of irrigation water from crop land (blue water use), and WU_p (m^3/ha) is the polluted volume of water resources resulting from leached fertilisers, chemicals or pesticides from agricultural land. The first two components, WU_g and WU_b , are evaporative and are no longer available immediately in the local hydrological cycle. The required dilution volume, WU_p , is theoretically available further downstream from the point of use. This water may or may not be economically re-usable depending on the absolute position of the return flows or its desired use. For example, return flows from coastal areas are not useful for drinking, industrial use or for irrigation. However, this water may be usable for other important uses such as to balance the effect of salt intrusion or to support saline water ecosystems in coastal areas.

Therefore, the virtual water content of a primary crop is made of evaporative and non-evaporative components expressed as:

$$VWC_c = \frac{WU_{evaporative}}{Y_c} + \frac{WU_{non-evaporative}}{Y_c} = VWC_e + VWC_{ne}$$

where the evaporative virtual water content of a crop, VWC_e , is calculated as:

$$VWC_e = \frac{WU_{evaporative}}{Y_c} = \frac{WU_g}{Y_c} + \frac{WU_b}{Y_c} = VWC_g + VWC_b$$

and the non-evaporative virtual water content of a crop, VWC_{ne} , is calculated as:

$$VWC_{ne} = \frac{WU_{non-evaporative}}{Y_c} = \frac{WU_p}{Y_c} = VWC_p$$

where VWC_p is the pollution component of virtual water content of the crop. The components WU_g and WU_b depend on the specific crop evaporation requirement and soil moisture availability in the field. The crop evaporation requirement for a crop ($ET_c[t]$ mm/day) is calculated using the crop coefficient ($K_c[t]$) for the respective growth period and reference crop evaporation ($ET_o[t]$ mm/day) at that particular location and time.

$$ET_c[t] = K_c[t] \times ET_o[t]$$

The crop evaporation (ET_c) is calculated using the method recommended by FAO (Allen *et al.*, 1998) using the CROPWAT model (FAO, 1992). The climate data averaged for political boundaries are taken from the Tyndall centre of Climate Change Research (Mitchel, 2003). From case studies on cotton, tomatoes and sugar crops the climate data are taken from FAO (FAO, 1993, 2001). Soil moisture is maintained either by effective rainfall or by irrigation water supply. The CROPWAT model has a few inbuilt options to estimate effective rainfall. We have chosen the USDA SCS (USDA Soil Conservation Service) method, as it is one of the most widely used in estimating effective rainfall in agricultural water management (Cuenca, 1989; Jensen *et al.*, 1990).

The green water use, $u_g[t]$, is equal to the minimum effective rainfall, $p_{eff}[t]$, and the crop evaporation requirement at that time step.

$$u_g[t] = \min(ET_c[t], p_{eff}[t])$$

Total green water use (WU_g) in crop production is calculated by summing-up green water use for each time step over the entire length of crop period, I (day).

$$WU_g = \sum_{t=0}^I u_g[t]$$

Green water use is independent of irrigation water supply and solely depends on the effective rainfall and crop evaporation requirements, whereas blue water use depends on crop evaporation requirement, green water availability and irrigation water supply. The first two variables $ET_c[t]$ and $u_g[t]$ define the irrigation requirement ($I_r[t]$) which is calculated as:

$$I_r[t] = ET_c[t] - u_g[t]$$

The blue water use, $u_b[t]$ is the minimum irrigation requirement, $I_r[t]$, and the effective irrigation water supply, $I_{eff}[t]$. The effective irrigation supply is the part of the irrigation water supply that is stored as soil moisture and available for crop evaporation. Blue water use is zero if the entire crop evaporation requirement is met by effective rainfall.

$$u_b[t] = \min(I_r[t], I_{eff}[t])$$

Total blue water use (WU_b) in crop production is calculated by summing-up blue water use for each time step over the entire length of crop period, I (day).

$$WU_b = \sum_{t=0}^l u_b[t]$$

The dilution volume of water is a theoretical amount of water that would be required to dilute pollutants emitted during the production process to such an extent that the quality of the ambient water would remain below agreed water quality standards. The translation of the pollution effect into an equivalent volume of water necessary for dilution per unit of production is difficult to quantify, as the agreed standard can always be debated. The standard can differ widely based on the use value of the water resources further downstream.

$$u_p[t] = \max\left(\frac{L[i,t]}{L_a[i,t]}\right)$$

Where $L[i,t]$ is the weight of a pollutant i (ton) emitted into the water system from crop production and $L_a[i,t]$ is the permissible limit of that particular pollutant (t/m^3) in ground or surface water bodies. Total dilution water use in crop production is thus,

$$WU_p = \sum_{t=0}^l u_p[t] = WU_{non- evaporative}$$

A schematic of estimating the blue, green and non-evaporative water use and the respective components of the virtual water content of primary crops is presented in figure A1.

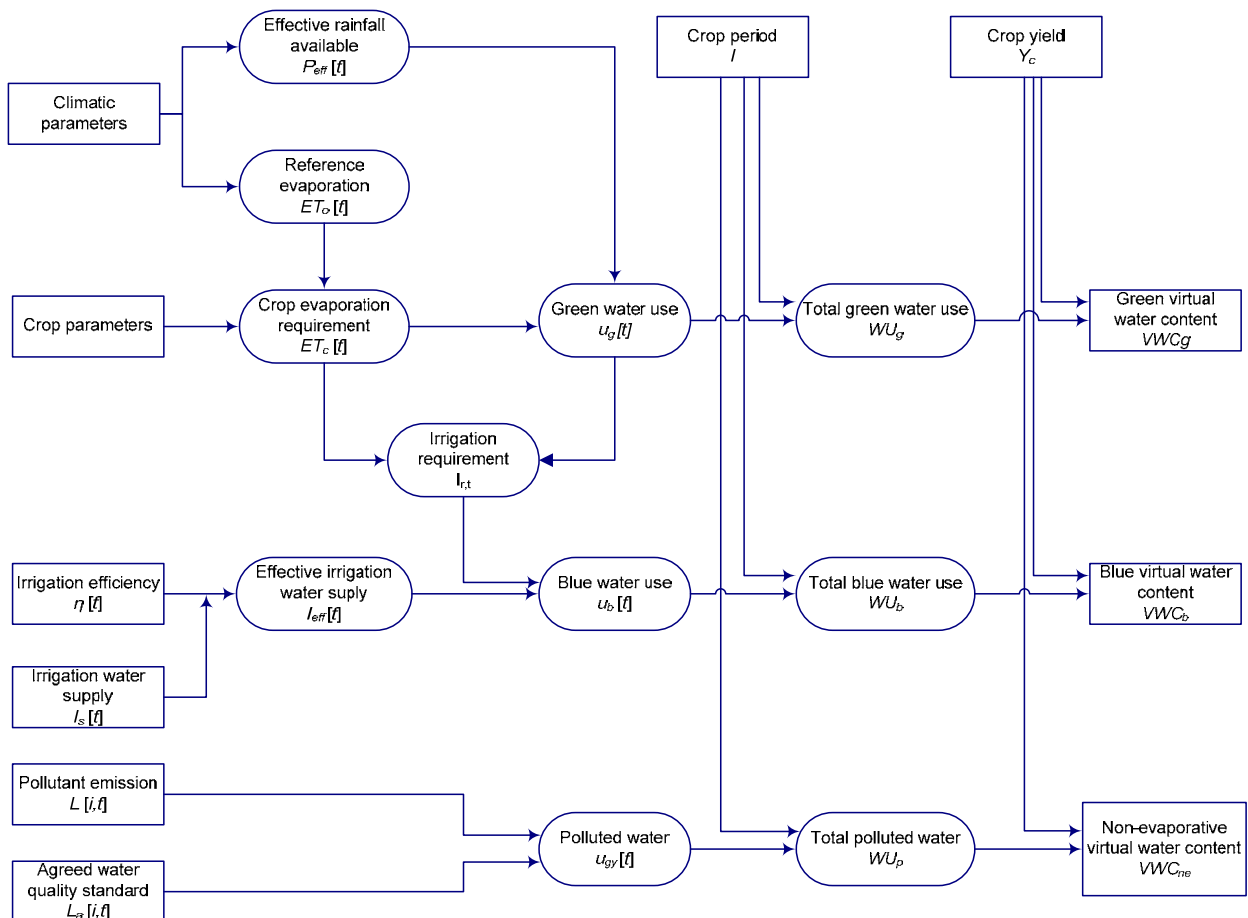


Figure A.1 Schematic to calculate the virtual water content of a crop product.

The above method is applicable for open production systems where the use of effective rainfall (WU_g) fulfils part of the crop evaporation demand, thus reducing irrigation water use (WU_b). The green water component is zero in covered systems. Green houses have different dynamics of crop evaporation which the CROPWAT model cannot directly use to estimate real crop evaporation. Compared to irrigated crops outdoors, the seasonal ET of greenhouse horticultural crops is relatively low due to a lower evaporative demand inside greenhouses (Orgaz *et al.*, 2005). Based on the observed climatic data inside the greenhouse, the calculated ET_c matched 70-80% of the ET_c computed with climatic parameters observed in the open environment (Fernández, 2000; Fernandes *et al.*, 2003; Harmato *et al.*, 2004).

Virtual water content of a live animal

The following section on the method to estimate the virtual water content of a live animal is based on Chapagain and Hoekstra (2003; 2004). The virtual water content of an animal at the end of its lifespan is the sum of water used to grow and process its feed, to provide its drinking water, and to clean and maintain its housing.

$$VWC = VWC_{feed} + VWC_{drink} + VWC_{serv}$$

VWC_{feed} , VWC_{drink} and VWC_{serv} represent the virtual water content of an animal related to feed, drinking water and service water consumption respectively. The virtual water content of an animal arising from feed consumption is the sum of the actual water that is required to prepare the feed mix and the virtual water consumed in the form of feeds.

$$VWC_{feed} = \frac{\int_{birth}^{slaughter} \left\{ q_{mixing} + \sum_{c=1}^{n_c} VWC \times Crop_{feed} \right\} dt}{W} + \frac{\int_{birth}^{slaughter} q_d dt}{W} + \frac{\int_{birth}^{slaughter} q_{serv} dt}{W}$$

Here q_{mixing} represents the volume of water required for mixing the feed. $Crop_{feed}$ is the quantity of feed crop consumed by the animal daily. q_d and q_{serv} are the daily drinking water requirement and the daily service water requirement of the animal respectively. W is the live weight of the animal at the end of its lifespan. The virtual water content of an animal originating from drinking is equal to the total volume of water withdrawn for drinking water supply, calculated over the entire life span of the animal. Similarly, the virtual water content of an animal from the service water used is equal to the total volume of water used to in the farmyard to maintain the environment during the entire lifespan of the animal.

Virtual water content of processed crop and livestock products

The sum of the virtual water content of the root product and the process water used is distributed to various products from it based on the value fraction and production fraction of the product being processed (Chapagain and Hoekstra, 2003). The product fraction pf of product p is defined as the weight of the primary product obtained per ton of primary crop or live animal. For example, if one ton of paddy (rice) produces 0.62 ton of husked rice, the product fraction of husked rice is 0.62. Generally the product fraction is less than one. If a product is obtained during the lifetime of an animal, the pf can be greater than one; e.g. milk from a cow or eggs from a hen. The value fraction, vf , of a product is the ratio of the market value of the product to the aggregated market value of all the products obtained from the primary crop or live animal:

$$vf = \frac{v \times pf}{\sum (v \times pf)}$$

The denominator is the sum of the market value of all products that originate from the primary crop or the live animal. Here, v is the market value of each individual product obtained in the process and pf is its product fraction.

Hence, the virtual water content VWC of a processed product is calculated as;

$$VWC = (VWC + PWR) \times \frac{vf}{pf}$$

Virtual water imports and exports

In the virtual water import or export between nations, Q , is calculated by multiplying commodity traded (T_c , t/yr) by the virtual water content of the product at exporting locations (VWC , m³/t).

$$Q = \sum_{c=1}^c T_c \times VWC_c$$

Water use in agricultural production

Water used in crop production is calculated by multiplying the crop production volumes, P_c , with its virtual water VWC_c .

$$CWU = \sum_{c=1}^n P_c \times VWC_c$$

Water used in livestock production is calculated in two steps. First the gross virtual water equivalent of all the livestock products for each country is estimated by multiplying the virtual water content of the livestock products by production quantities. Second, the part of the crop (either produced domestically or imported, and that is used as feed) is multiplied by its respective virtual water content to get an estimation of the water already included inside the water used in livestock production in a country. Finally, this overlapping volume of water is subtracted from the gross volume of water used in livestock sector to get the net water use in livestock production, LWU , in a country. Data on crop and livestock production per country is obtained from FAO (FAOSTAT data, 2008b).

$$LWU = \sum_{lp=1}^n P_{lp} \times VWC_{lp} - \sum_{c=1}^n Crop_{feed} \times VWC_c$$

Total water use in agricultural production in a country is the sum of water used in crop production and the net water used in livestock production.

$$AWU = LWU + CWU$$

Water footprints

The virtual water budget (VWB) of a country is the sum of water use in agricultural production (AWU), water use in household ($WU_{household}$), water use in industrial production ($WU_{industry}$) and virtual water imported in the form of products (VWI).

$$VWB = AWU + WU_{household} + WU_{industry} + VWI$$

Not all the water that is withdrawn in a country for industrial and agricultural production and the volume of virtual water imported (virtual water budget) is consumed in a country. Part of it is exported in the form of export products (VWE). Hence, the WF of a country is calculated as;

$$WF = AWU + WU_{household} + WU_{industry} + VWI - VWE$$

The virtual water export (VWE), is composed of two parts; related to export of domestic products ($VWE_{domestic}$) and related to the export of imported products ($VWE_{imported}$).

$$VWE = VWE_{domestic} + VWE_{imported}$$

The trade data on exports do not show whether a particular product that is exported from a country is a re-export of an imported product or an export of a domestic product. Hence, it is difficult to assign precise virtual water content (m^3/ton) to re-exported products. To simplify the calculation, it is assumed that for a particular category of a product, the share of virtual water related to the re-export of imported products is in direct proportion to the share of gross virtual water import in the country (related to the import of products in that particular category) to the total virtual water budget for that product category in the UK. The virtual water budget per product category is calculated as the sum of the total volume of domestic water used to produce products under that particular category and the virtual water import related to the import of products in this category.

The WF can either be *internal* ($WF_{internal}$, consumption of domestic products) or *external* ($WF_{external}$, consumption of imported products).

$$WF = WF_{internal} + WF_{external}$$

The internal water footprint of a country, $WF_{internal}$ is calculated as;

$$WF_{internal} = AWU + WU_{household} + WU_{industry} - VWE_{domestic}$$

The external water footprint of a country is calculated as;

$$WF_{external} = VWI - VWE_{imported}$$

Since the virtual water content of a product has three components, blue (VWC_{blue}), green (VWC_{bgreen}) and non-evaporative (VWC_{ne}), the resulting WF can also be expressed in terms of methods of water use.

$$WF = WF_{blue} + WF_{green} + WF_{non-evaporative}$$

A schematic diagram to estimate the WF of a nation is presented in figure A2.

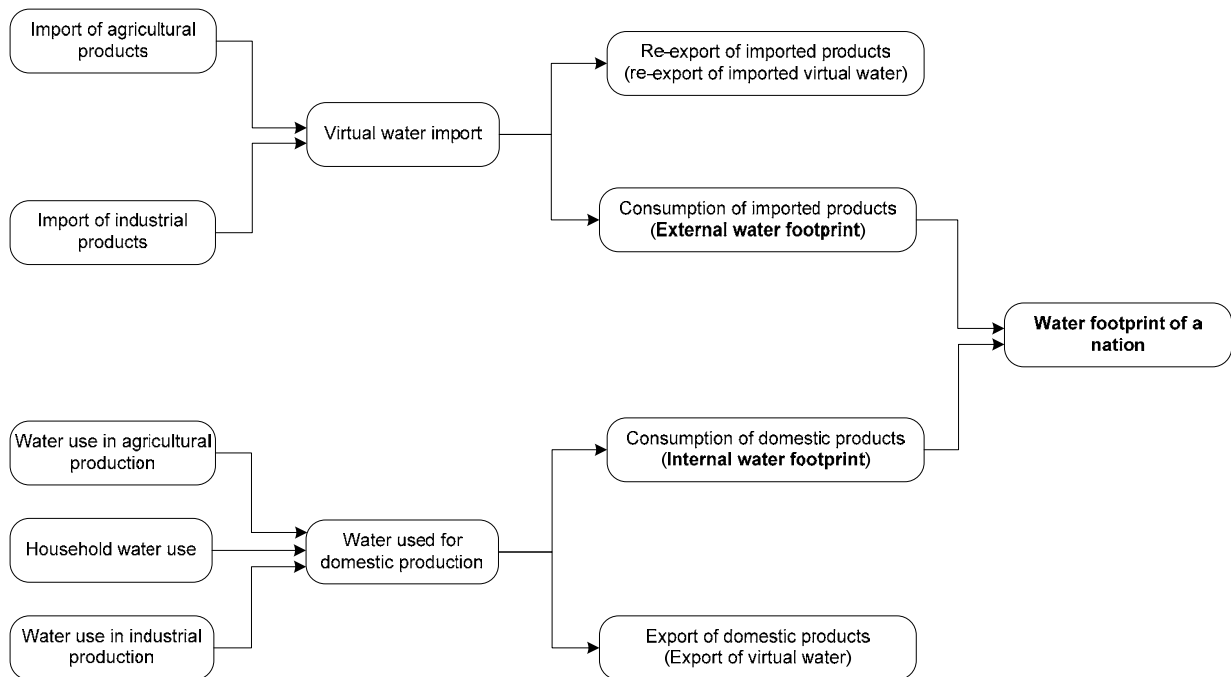


Figure A.2 Schematic to calculate WF of a nation.

The trade data base (ITC, 1999, 2004) used in estimating virtual water flows of international trade in most extensive studies on water footprint and virtual water (Chapagain and Hoekstra, 2004; Hoekstra and Chapagain, 2008) is limited when it comes to tracing back the origin of imported products. As such, the resulting virtual water flows estimated in these studies are not sufficient to find the exact location of the water footprint of a nation. For example, besides many trade partners, the UK also imports coffee from the Netherlands, a non-coffee growing nation. Rather, The Netherlands re-exports part of its coffee imports from its various trade partners. Moreover, not all of these trade partners grow coffee themselves. Hence a product that is imported to the UK from the Netherlands has a hidden supply chain that must be exposed in order to exactly locate the WF of the UK related to the consumption of coffee. Only such improved ways of estimating a WF can provide useful information on the real impact assessment at the production site. In this study, all the products imported to the UK are traced back to 2 immediate levels of trading partners. In reality, some products are traded beyond the 3rd level. The residual WF to be allocated beyond this level is relatively small. The calculation up to the 3rd level shows that this residual WF of the UK is less than 3% of the total external WF (figure A.3).

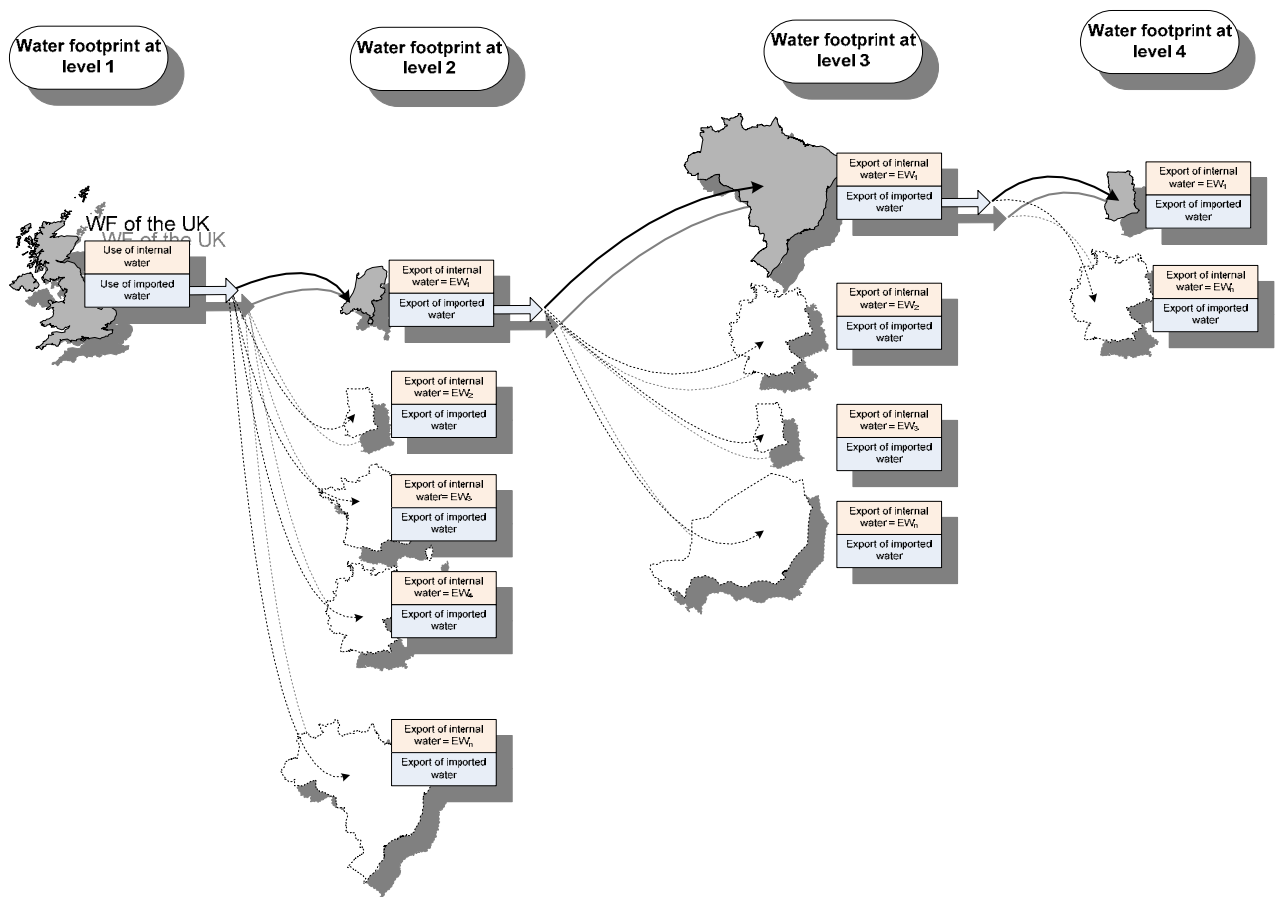


Figure A.3 Schematic to trace the external WF of the UK along its supply chain.

Impact assessment of the external WF

A WF has two dimensions; volume (expressed in terms of m^3/yr) and colour (expressed in terms of source of water used). Understanding the quantity and quality of water use is important; however it is less meaningful unless seen in the context of local conditions in production sites. For example, a larger WF, if falls in regions where the opportunity cost of water is low or availability of water in maintaining ecosystem functions are not under pressure, reducing such WF may not serve any meaningful purpose.

In general assessments of water availability, water use and water stress has seldom taken into account the requirements of aquatic ecosystems for water. However, it is very important that a certain volume of water is allocated for the maintenance of freshwater ecosystem functions and services. The quantification of this volume of water, often known as the environmental flow requirement, is location and time specific and is often highly debated. According to Smakthin *et al.* (2004) the environmental water requirement to maintain a fair condition of freshwater ecosystems range globally from 20 to 50 percent of the mean annual river flow in a basin.

For estimating the environmental water scarcity which takes into account the environmental flow requirement; we have taken the ratio of water withdrawal to the remainder from actual renewable water resources after deducting the environmental flow requirement.

$$S = \left[\frac{W}{ARWR - EFR} \right]$$

Where S is the environmental water scarcity, W is the total volume of water withdrawal from the system, $ARWR$ is the volume of actual renewable water resources and EFR is the environmental flow requirement. We have assumed that the EFR is 30% of the $ARWR$ for the present study. Based on the value of S per country, a water scarcity map is plotted.

Overlaying the external WF map of a country upon the water scarcity map is very useful to visualise the group of countries where impacts are significant (figure 6.1). As the scarcity map does not include green water use and availability, a proper mapping would overlay only the blue component of the external WF which gives the group of countries where the external WF of the UK has the largest impacts. In the absence of exact information on blue and green components of the UK WF, we have traced these locations in two steps. First the total external WF is plotted against the stress indicator to get the groups of countries in the high impact zone (figure 6.2). Then, based on product specific information regarding the irrigation water use per country, we can select the hot-spots of the external WF of the UK.

Appendix C: Data sources

Data	Source	Remarks
International trade	PC-TAS (ITC, 2006)	Period 2000-04
Crop parameters per crop per country		
▪ <i>Crop water requirement</i>	Chapagain and Hoekstra (2004)	
▪ <i>Production, yield and harvested area</i>	FAO (FAOSTAT data, 2008b)	
▪ <i>Crop categories</i>	FAO (FAOSTAT data, 2008a)	
Livestock production per country	FAOSTAT(FAOSTAT data, 2008b)	
Product fraction and value fraction	Chapagain and Hoekstra (2004)	
Feed utilisation per country		
▪ <i>Crop products used as feed</i>	Food Balance Sheet FBS (FAOSTAT data, 2008a)	
▪ <i>Imported crop used as feed</i>	-	Calculated based on FBS
▪ <i>Domestic crop used as feed</i>	-	Calculated based on FBS
Virtual water content		
▪ <i>Industrial products per country</i>	Chapagain and Hoekstra (2004)	Average for the period 1997- 01
▪ <i>Cotton products</i>	Chapagain et al (2005)	Average for the period 1997- 01
▪ <i>Spanish tomatoes</i>	Chapagain and Orr (2008)	
▪ <i>Others agricultural products</i>	-	Calculated as described in the methods section (Appendix B)
Water availability and withdrawal		
▪ Actual renewable water resources per country	AQUASTAT (FAO, 2007)	
▪ Withdrawal per sector per country	AQUASTAT (FAO, 2007)	
Climate variables	Tyndall Centre for Climate Change Research (Mitchel, 2003)	Climate data for political boundaries

Note: Other data sources are explicitly cited in the text.

Appendix D: Virtual water flows to the UK by product

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
1	15	100110	Durum wheat	29.8	52.0
2	15	100190	Wheat nes and meslin	1145.9	1124.0
3	15	110100	Wheat or meslin flour	67.3	61.6
4	15	110311	Wheat groats and meal	6.2	0.8
5	15	110321	Wheat pellets	1.7	0.2
6	15	110811	Wheat, starch	22.6	6.4
7	15	110900	Wheat gluten, whether or not dried	55.4	9.9
8	27	100610	Rice in the husk (paddy or rough)	17.8	6.9
9	27	100620	Rice, husked (brown)	840.4	11.0
10	27	100630	Rice, semi-milled or wholly milled, whether or not polished or glazed	397.8	223.6
11	27	100640	Rice, broken	213.0	22.0
12	27	110230	Rice flour	19.4	0.9
13	27	110314	Rice groats and meal	1.2	0.0
14	44	100300	Barley	55.6	696.6
15	44	110411	Barley, rolled or flaked grains	0.5	0.5
16	44	110421	Barley, hulled, pearled, sliced or kibbled	0.0	0.2
17	44	110710	Malt, not roasted	27.4	367.0
18	44	110720	Malt, roasted	0.9	31.9
19	44	220300	Beer made from malt	114.7	53.3
20	56	071040	Sweet corn, frozen	677.8	2.8
21	56	100590	Maize (corn) nes	689.1	70.6
22	56	110220	Maize (corn) flour	6.7	3.7
23	56	110313	Maize (corn) groats and meal	3.7	17.8
24	56	110423	Maize (corn), hulled, pearled, sliced or kibbled	12.6	15.8
25	56	110812	Maize (corn) starch	23.0	12.7
26	56	151521	Maize (corn) oil crude	0.1	9.7
27	56	151529	Maize (corn) oil and its fractions, refined but not chemically modified	6.9	4.1
28	71	100200	Rye	1.4	2.5
29	71	110210	Rye flour	0.0	0.2
30	75	100400	Oats	13.7	71.2
31	75	110312	Oat groats and meal	0.0	1.0
32	75	110412	Oats, rolled or flaked grains	1.4	27.3
33	75	110422	Oats, hulled, pearled, sliced or kibbled	2.9	2.6
34	79	100820	Millet	56.2	0.9
35	83	100700	Grain sorghum	12.7	19.1
36	89	100810	Buckwheat	0.9	0.5
37	101	100830	Canary seed	13.5	0.0
38	108	100890	Cereals un-milled nes	21.5	0.6
39	108	110290	Cereal flour nes	13.6	12.1
40	108	110319	Cereal groats and meal nes	2.7	14.4
41	108	110329	Cereal pellets nes	11.0	0.5
42	108	110419	Cereals, rolled or flaked grains nes	85.4	19.8
43	108	110429	Cereals, hulled, pearled, sliced or kibbled nes	3.2	7.0
44	108	110430	Germ of cereals, whole, rolled, flaked or ground	6.5	4.7

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
45	116	070190	Potatoes, fresh or chilled nes	61.9	9.5
46	116	071010	Potatoes, frozen	11.3	1.4
47	116	110510	Potato flour and meal	7.3	0.3
48	116	110520	Potato flakes	5.0	0.5
49	116	110813	Potato starch	28.6	0.5
50	122	071420	Sweet potatoes, fresh or dried, whether or not sliced or pelleted	4.4	0.1
51	125	071410	Manioc (cassava), fresh or dried, whether or not sliced or pelleted	1.5	0.2
52	125	110814	Manioc (cassava) starch	2.6	0.9
53	149	070690	Salad beetroot, salsif, celeriac, radish & similar edible roots, fresh/chilled nes	8.2	3.0
54	149	110620	Flour & meal of sago & of roots or tubers with hi starch content	0.2	0.2
55	149	110819	Starches nes	0.9	0.1
56	149	110820	Inulin	1.6	0.1
57	156	121292	Sugar cane, fresh or dried, whether or not ground	0.0	0.0
58	156	170111	Raw sugar, cane	1707.4	132.4
59	156	170191	Refined sugar, in solid form, containing added flavouring or colouring matter	5.4	145.3
60	156	170199	Refined sugar, in solid form, nes	167.9	1123.4
61	156	170220	Maple sugar and maple syrup	1.7	0.6
62	156	170230	Glucose & glucose syrup not containing fruct/containing in dry state <20% by wt fructose	247.8	106.4
63	156	170240	Glucose inc syrup containing in dry state min 20% but <50% by wt of fructose	30.1	4.1
64	156	170250	Fructose, chemically pure	17.1	0.1
65	156	170260	Fructose & fructose syrup nes, containing in dry state >50% by weight of fructose	47.1	0.2
66	156	170310	Cane molasses	229.6	22.4
67	156	170390	Molasses nes	45.8	9.4
68	157	121291	Sugar beet, fresh or dried, whether or not ground	0.4	0.0
69	157	170112	Raw sugar, beet	2.0	13.6
70	161	170290	Sugar nes, including invert sugar	160.7	185.8
71	176	071332	Beans, small red (Adzuki) dried, shelled, whether or not skinned or split	1.6	0.3
72	176	071333	Kidney beans & white pea beans dried shelled, whether o not skinned or split	107.5	7.7
73	176	071339	Beans dried, shelled, whether or not skinned or split, nes	24.4	5.7
74	176	110610	Flour and meal of the dried leguminous vegetables of heading No 07.13	3.6	8.9
75	181	071350	Broad beans & horse beans dried, shelled, whether or not skinned or split	1.4	109.6
76	187	071310	Peas dried, shelled, whether or not skinned or split	31.7	27.6
77	191	071320	Chickpeas, dried, shelled, whether or not skinned or split	30.1	1.5
78	201	071340	Lentils dried, shelled, whether or not skinned or split	59.0	6.8
79	211	071331	Urd, mung, black/green gram beans dried shelled, whether/not skinned/split	20.9	1.0
80	216	080121	Brazil nuts, in shell, fresh or dried	4.4	0.3
81	216	080122	Brazil nuts, without shell, fresh or dried	38.2	6.0
82	217	080131	Cashew nuts, in shell, fresh or dried	0.0	0.6
83	217	080132	Cashew nuts, without shell, fresh or dried	173.8	20.4
84	220	080240	Chestnuts, fresh or dried, whether or not shelled or peeled	13.8	0.0
85	221	080211	Almonds in shell fresh or dried	4.2	1.4
86	221	080212	Almonds, fresh or dried, shelled or peeled	105.4	46.8
87	222	080231	Walnuts in shell, fresh or dried	5.4	0.1
88	222	080232	Walnuts, fresh or dried, shelled or peeled	37.4	1.2
89	223	080250	Pistachios, fresh or dried, whether or not shelled or peeled	61.4	16.5
90	225	080221	Hazelnuts or filberts in shell fresh or dried	3.4	0.3
91	225	080222	Hazelnuts or filberts, fresh or dried, shelled or peeled	32.4	18.9

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
92	234	080290	Nuts edible, fresh or dried, whether or not shelled or peeled, nes	37.6	5.3
93	236	120100	Soya beans	1137.9	519.1
94	236	120810	Soya bean flour and meals	24.6	26.0
95	236	150710	Soya-bean oil crude, whether or not degummed	212.3	43.0
96	236	150790	Soya-bean oil and its fractions, refined but not chemically modified	61.5	24.7
97	236	230400	Soya-bean oil-cake & other solid residues, whether or not ground or pellet	1655.7	24.9
98	242	120210	Ground-nuts in shell not roasted or otherwise cooked	44.2	1.5
99	242	120220	Ground-nuts shelled, whether or not broken, not roasted or otherwise cooked	297.7	16.3
100	242	150810	Ground-nut oil, crude	51.4	3.5
101	242	150890	Ground-nut oil and its fractions refined but not chemically modified	25.6	7.6
102	242	230500	Ground-nut oil-cake & other solid residues, whether or not ground or pellet	89.0	0.3
103	249	080111	Coconuts, desiccated	13.4	1.0
104	249	080119	Coconuts, excluding desiccated	3.4	0.0
105	249	120300	Copra	13.8	3.3
106	249	151311	Coconut (copra) oil crude	114.4	1.3
107	249	151319	Coconut (copra) oil & its fractions refined but not chemically modified	12.8	4.0
108	249	230650	Coconut/copra oil-cake & other solid residues, whether/not ground/pellet	55.4	0.0
109	254	120710	Palm nuts and kernels, whether or not broken	28.1	0.4
110	254	151110	Palm oil, crude	1956.0	70.9
111	254	151190	Palm oil and its fractions refined but not chemically modified	585.3	167.5
112	254	151321	Palm kernel or babassu oil, crude	42.8	0.6
113	254	151329	Palm kernel/babassu oil their fractions, refined but not chemically modified	11.9	1.0
114	254	230660	Palm nut/kernel oil-cake & other solid residues, whether/not ground/pellet	546.7	5.2
115	260	071120	Olives, provisionally preserved but not suitable for immediate consumption	1.7	1.1
116	260	150910	Olive oil, virgin	429.8	53.1
117	260	150990	Olive oil and its fractions refined but not chemically modified	292.9	33.0
118	265	151530	Castor oil & its fractions, whether/not refined, but not chemically modified	478.3	51.0
119	267	120600	Sunflower seeds, whether or not broken	92.6	15.7
120	267	151211	Sunflower-seed or safflower oil, crude	318.7	13.8
121	267	151219	Sunflower-seed/safflower oil & their fractions refined but not chemically modified	318.6	39.4
122	267	230630	Sunflower seed oil-cake & other solid residues, whether/not ground/pellet	434.5	52.5
123	270	120500	Rape or colza seeds, whether or not broken	449.3	137.1
124	270	151410	Rape, colza or mustard oil crude	159.8	37.2
125	270	151490	Rape, colza or mustard oil & their fractions refined but not chemically modified	175.8	40.8
126	270	230640	Rape/colza seed oil-cake & other solid residues, whether/not ground/pellet	107.8	67.9
127	277	151560	Joboba oil & its fractions whether/not refined, but not chemically modified	0.3	0.0
128	277	151590	Vegetable fats & oils nes & their fractions, refined or not but not chemically mod	49.1	20.7
129	277	151710	Margarine, excluding liquid margarine	274.9	53.7
130	277	230690	Vegetable oil-cake & other solid residues nes, whether or not ground or pelleted	38.2	3.8
131	277	230890	Vegetable material, waste, residues & by-prod nes, pelleted or not, used in animal feed	50.2	5.9
132	280	120760	Safflower seeds, whether or not broken	8.4	0.1
133	289	120740	Sesame seeds, whether or not broken	47.2	14.7
134	289	151550	Sesame oil & its fractions whether/not refined, but not chemically modified	35.3	10.9
135	292	120750	Mustard seeds, whether or not broken	2.5	1.1
136	296	120791	Poppy seeds, whether or not broken	1.3	0.3
137	333	120400	Linseed, whether or not broken	35.3	56.9
138	333	151511	Linseed oil, crude	10.6	3.6

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
139	333	151519	Linseed oil and its fractions, refined but not chemically modified	16.2	18.9
140	333	230620	Linseed oil-cake & other solid residues, whether or not ground or pellet	3.0	2.5
141	339	120799	Oil seeds and oleaginous fruits, nes, whether or not broken	34.0	1.1
142	339	120890	Flours and meals of oil seeds or oleaginous fruits, except mustard, nes	4.6	1.6
143	358	070490	Cabbages, kohlrabi, kale and similar edible brassicas nes, fresh or chilled	6.2	0.3
144	366	070910	Globe artichokes, fresh or chilled	1.1	0.0
145	367	070920	Asparagus, fresh or chilled	8.5	0.2
146	372	070511	Cabbage lettuce (head lettuce) fresh or chilled	4.4	0.2
147	372	070519	Lettuce, fresh or chilled nes	4.3	0.1
148	373	070970	Spinach, N-Z spinach & orache spinach (garden spinach), fresh or chilled	0.4	0.0
149	373	071030	Spinach, N-Z spinach and orache spinach (garden spinach), frozen	3.2	0.4
150	388	070200	Tomatoes, fresh or chilled	12.8	0.0
151	388	200950	Tomato juice unfermented & not spirited, whether or not sugared or sweet	0.3	0.0
152	393	070410	Cauliflowers and headed broccoli, fresh or chilled	14.0	0.9
153	393	070420	Brussels sprouts, fresh or chilled	1.1	0.1
154	397	070700	Cucumbers and gherkins, fresh or chilled	3.2	0.0
155	397	071140	Cucumbers & gherkins provisionally preserved, but not for immediate consumption	0.3	0.0
156	399	070930	Aubergines(egg-plants), fresh or chilled	3.5	0.0
157	401	070960	Peppers of the genus Capsicum or of the genus Pimenta, fresh or chilled	5.9	0.0
158	401	090920	Coriander seeds	3.8	0.0
159	402	070310	Onions and shallots, fresh or chilled	35.8	2.6
160	403	071110	Onions, provisionally preserved but not suitable for immediate consumption	0.3	0.0
161	403	071220	Onions dried but not further prepared	1.8	0.1
162	406	070320	Garlic, fresh or chilled	5.7	1.7
163	407	070390	Leeks and other alliaceous vegetables, fresh or chilled	0.9	0.0
164	414	070820	Beans, shelled or unshelled, fresh or chilled	18.4	0.1
165	414	071022	Beans, frozen	7.1	0.6
166	417	070810	Peas, shelled or unshelled, fresh or chilled	5.9	0.4
167	417	071021	Peas, frozen	9.2	8.7
168	426	070610	Carrots and turnips, fresh or chilled	6.8	0.4
169	426	070940	Celery, other than celeriac, fresh or chilled	3.7	0.0
170	449	070951	Mushrooms, fresh or chilled	16.3	0.1
171	449	070952	Truffles, fresh or chilled	0.0	0.0
172	459	070521	Witloof chicory, fresh or chilled	0.1	0.0
173	459	070529	Chicory, fresh or chilled, nes	0.8	0.0
174	463	070990	Vegetables, fresh or chilled nes	37.5	0.8
175	463	071080	Vegetables, frozen nes	43.3	5.1
176	463	071090	Mixtures of vegetables, frozen	9.6	1.3
177	463	071190	Vegetables nes & mixtures provisional preserved but not for immediate consumption	2.7	0.3
178	463	071290	Vegetables and mixtures dried, but not further prepared nes	12.9	1.0
179	463	121299	Vegetable products nes used primarily for human consumption	0.7	0.0
180	486	080300	Bananas including plantains, fresh or dried	744.3	4.5
181	490	080510	Oranges, fresh or dried	155.0	3.0
182	490	200911	Orange juice, unfermented & not spirited, whether/not sugared/sweet, frozen	74.9	12.8
183	490	200919	Orange juice nes, unfermented & not spirited, whether or not sugared or sweet	170.3	7.9
184	495	080520	Mandarins (tang & Satsuma) Clementine & similar citrus hybrids, fresh/dried	117.0	2.1

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
185	497	080530	Lemons and limes, fresh or dried	30.0	0.7
186	507	080540	Grapefruit, fresh or dried	20.6	1.2
187	512	080590	Citrus fruits, fresh or dried, nes	2.9	0.9
188	512	081400	Peel of citrus fruit/melons (watermelons) fresh, frozen, dried/prov preserved	1.6	0.3
189	512	200930	Citrus fruit juice nes excluding mix unfermented un-spirited, sugar/sweet	12.0	8.1
190	512	200980	Fruit & vegetable juice nes (excluding mixed) unfermented un-spirited, whether/not sugar/sweet	386.6	13.2
191	512	200990	Mixtures of juices unfermented & not spirited whether or not sugared or sweet	53.0	21.7
192	515	080810	Apples, fresh	129.5	2.8
193	515	081330	Apples, dried	6.9	0.7
194	515	200970	Apple juice unfermented & not spirited whether or not sugared or sweetened	27.5	1.5
195	521	080820	Pears and quinces, fresh	47.7	0.8
196	526	080910	Apricots, fresh	6.8	0.1
197	526	081310	Apricots, dried	37.1	1.6
198	531	080920	Cherries, fresh	27.9	0.5
199	531	081210	Cherries provisionally preserved but unsuitable f immediate consumption	2.8	0.1
200	534	080930	Peaches, including nectarines, fresh	64.1	2.5
201	536	080940	Plums and sloes, fresh	93.4	0.3
202	536	081320	Prunes, dried	14.8	1.0
203	541	081350	Mixtures of edible nuts or dried fruits of this chapter	6.3	1.4
204	541	121230	Apricot, peach/plum stones & kernels nes, used primarily for human consumption	0.1	1.4
205	544	081010	Strawberries, fresh	8.6	0.4
206	544	081110	Strawberries, uncooked or steamed o boiled in water, sweetened or not frozen	8.0	0.3
207	544	081220	Strawberries provisional preserved but unsuitable f immediate consumption	0.3	0.0
208	547	081020	Raspberries, blackberries, mulberries and loganberries, fresh	5.1	0.1
209	547	081120	Raspberries, mulberries, etc uncooked, steam/boil in water sweetened/not, frozen	15.3	0.9
210	550	081030	Black, white or red currants and gooseberries, fresh	0.4	0.2
211	552	081040	Cranberries, bilberries and other fruits, fresh	0.3	0.0
212	560	080610	Grapes, fresh	105.2	5.4
213	560	080620	Grapes, dried	291.6	6.2
214	560	200920	Grapefruit juice, unfermented & not spirited, whether or not sugared or sweet	15.0	2.3
215	560	200960	Grape juice (including grape must) unfermented & un-spirited, with or without/not sugar/sweet	15.9	1.9
216	560	220410	Grape wines, sparkling	57.5	3.0
217	560	220421	Grape wines nes, including ort & grape must, unfermented by add alcohol in container <=2l	553.5	25.4
218	560	220429	Grape wines nes, including fort & grape must, unfermented by add alcohol, in container > 2l	80.1	8.4
219	560	220430	Grape must nes, unfermented, other than that of heading No 20.09	4.7	0.2
220	560	220510	Vermouth & other grape wines flavours w plants or aromatic substance in ctrn <= 2 l	7.4	1.4
221	560	220590	Vermouth & other grape wines flavour with plants or aromatic substance in ctrn > 2 l	6.0	0.3
222	560	220600	Fermented beverages nes (for example, cider, perry, mead, etc)	19.7	56.2
223	560	220820	Spirits obtained by distilling grape wine or grape marc	17.0	7.8
224	567	080711	Watermelons, fresh	2.6	0.0
225	567	080719	Melons, fresh, other than watermelons	22.8	0.0
226	569	080420	Figs, fresh or dried	7.5	0.8

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227	571	080450	Guavas, mangoes and mangosteens, fresh or dried	45.2	0.9
228	572	080440	Avocados, fresh or dried	34.3	0.9
229	574	080430	Pineapples, fresh or dried	7.7	0.2
230	574	200940	Pineapple juice, unfermented & not spirited, whether or not sugared or sweet	20.1	1.8
231	577	080410	Dates, fresh or dried	33.6	1.4
232	592	081050	Kiwifruit, fresh	40.1	0.6
233	600	080720	Papaws (papayas), fresh	4.5	0.0
234	619	081090	Fruits, fresh nes	14.3	0.6
235	619	081190	Fruits & edible nuts uncooked, steam/boil (water) sweetened/not, frozen, nes	36.8	4.4
236	619	081290	Fruits & nuts provisional preserved but unfit f immediate consumption nes	35.6	0.7
237	619	081340	Fruits, dried nes	11.4	4.2
238	641	121410	Lucerne (alfalfa) meal and pellets	0.9	0.1
239	643	070890	Leguminous vegetables, shelled or unshelled, fresh or chilled nes	0.2	0.3
240	643	071029	Leguminous vegetables frozen nes	2.2	0.3
241	643	071390	Leguminous vegetables dried, shelled, whether or not skinned or split, nes	0.4	2.3
242	649	121490	Swedes, mangold, fodder root, hay, clover, sainfoin, forage kale, etc	0.9	0.5
243	656	090111	Coffee, not roasted, not decaffeinated	1555.9	72.3
244	656	090112	Coffee, not roasted, decaffeinated	110.1	2.4
245	656	090121	Coffee, roasted, not decaffeinated	373.7	39.1
246	656	090122	Coffee, roasted, decaffeinated	28.5	3.3
247	656	090190	Coffee husks and skins, coffee substitutes	1.3	0.4
248	661	180100	Cocoa beans, whole or broken, raw or roasted	4547.9	86.8
249	661	180200	Cocoa shells, husks, skins and other cocoa waste	20.4	3.0
250	661	180310	Cocoa paste not defatted	480.2	208.2
251	661	180320	Cocoa paste wholly or partly defatted	0.1	325.4
252	661	180400	Cocoa butter, fat and oil	2146.1	398.2
253	661	180500	Cocoa powder, not containing added sugar or other sweetening matter	103.5	185.7
254	661	180610	Cocoa powder, containing added sugar or other sweetening matter	47.5	72.0
255	674	090210	Green tea (not fermented) in packages not exceeding 3 kg	0.8	3.4
256	674	090220	Green tea (not fermented) in packages exceeding 3 kg	5.3	1.4
257	674	090230	Black tea (fermented)&partly fermented tea in packages not exceeding 3 kg	67.7	144.9
258	674	090240	Black tea (fermented) & partly fermented tea in packages exceeding 3 kg	1253.4	97.4
259	677	121010	Hop cones, not ground, powdered or pelleted	1.6	0.5
260	677	121020	Hop cones, ground, powdered or pelleted and lupulin	7.7	1.1
261	677	130213	Hop extract	3.7	3.8
262	687	090411	Pepper of the genus Piper, ex cubeb pepper, neither crushed nor ground	18.9	1.8
263	687	090412	Pepper of the genus Piper, except cubeb pepper, crushed or ground	8.8	1.8
264	689	090420	Fruits of the genus Capsicum or Pimenta, dried, crushed or ground	52.2	22.7
265	692	090500	Vanilla beans	28.6	11.9
266	693	090610	Cinnamon and cinnamon-tree flowers neither crushed nor ground	16.2	1.5
267	693	090620	Cinnamon and cinnamon-tree flowers crushed or ground	5.8	0.0
268	698	090700	Cloves (whole fruit, cloves and stems)	22.8	2.2
269	702	090810	Nutmeg	16.6	2.9
270	702	090820	Mace	4.4	0.0
271	702	090830	Cardamoms	27.3	3.9
272	702	091040	Thyme and bay leaves	19.7	7.1
273	711	090910	Anise or badian seeds	0.7	0.0
274	720	071490	Arrowroot, salep etc from or dried whether or not sliced o pelleted & sago pith	21.9	0.6

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275	720	091010	Ginger	16.7	1.0
276	720	091030	Turmeric (curcuma)	4.3	0.0
277	723	090930	Cumin seeds	2.5	0.0
278	723	090940	Caraway seeds	0.0	0.0
279	723	090950	Fennel or juniper seeds	0.7	0.0
280	723	091020	Saffron	0.1	0.2
281	723	091050	Curry	2.7	0.1
282	723	091091	Mixtures of two/more of the prods	8.7	2.8
283	723	091099	Spices nes	7.0	6.8
284	826	240110	Tobacco, unmanufactured, not stemmed or stripped	2.3	3.5
285	826	240120	Tobacco, unmanufactured, partly or wholly stemmed or stripped	130.6	11.6
286	826	240130	Tobacco refuse	36.6	6.9
287	826	240210	Cigars, cheroots and cigarillos, containing tobacco	1.0	1.0
288	826	240220	Cigarettes containing tobacco	11.6	729.8
289	826	240399	Tobacco extracts and essences	0.6	11.9
290	Feed nes	230990	Animal feed preparations nes	124.6	50.6
291	Cotton	120720	Cotton seeds, whether or not broken	1.9	0.0
292	Cotton	140420	Cotton linters	0.7	0.1
293	Cotton	151221	Cotton-seed oil crude, whether or not gossypol has been removed	0.6	0.1
294	Cotton	151229	Cotton-seed and its fractions refined but not chemically modified	1.2	0.4
295	Cotton	230610	Cotton seed oil-cake & other solid residues, whether or not ground or pellet	19.8	3.5
296	Cotton	470610	Cotton linters pulp	28.2	0.7
297	Cotton	520100	Cotton, not carded or combed	143.9	630.5
298	Cotton	520210	Cotton yarn waste (including thread waste)	14.1	0.1
299	Cotton	520291	Garnetted stock of cotton	10.4	0.4
300	Cotton	520299	Cotton waste, nes	23.1	4.7
301	Cotton	520300	Cotton, carded or combed	83.9	2.3
302	Cotton	520411	Cotton sewing thread >/=85% by weight of cotton, not put up for retail sale	2.9	0.8
303	Cotton	520419	Cotton sewing thread,<85% by weight of cotton, not put up for retail sale	0.1	0.3
304	Cotton	520420	Cotton sewing thread, put up for retail sale	1.0	0.3
305	Cotton	520511	Cotton yarn,>/=85%,single,uncombd,>/=714.29 dtex, nt put up	63.5	80.1
306	Cotton	520512	Cotton yarn,>/=85%,single,uncombed,714.29 >dtex>/=232.56, not put up	74.3	6.9
307	Cotton	520513	Cotton yarn,>/=85%,single,uncombed,232.56>dtex>/=192.31, not put up	7.7	3.7
308	Cotton	520514	Cotton yarn,>/=85%,single,uncombed,192.31 >dtex>/=125, not put up	12.4	0.0
309	Cotton	520515	Cotton yarn,>/=85%,single,uncombd,<125 dtex, not put up f retail sale	0.3	0.0
310	Cotton	520521	Cotton yarn,>/=85%, single, combed,>/=714.29, not put up	2.2	0.0
311	Cotton	520522	Cotton yarn,>/=85%,single,combed, 714.29 >dtex>/=232.56, not put up	31.6	2.3
312	Cotton	520523	Cotton yarn,>/=85%, single, combed, 232.56 >dtex>/=192.31, not put up	18.9	2.2
313	Cotton	520524	Cotton yarn,>/=85%, single, combed, 192.31 >dtex>/=125, not put up	24.5	0.7
314	Cotton	520526	Cotton yarn >85% single combed 125-106 dtex, not retail	2.2	0.1
315	Cotton	520527	Cotton yarn >85% single combed 106- 83 dtex, not retail	0.5	0.0
316	Cotton	520528	Cotton yarn >85% single combed <83.33 dtex, not retail	0.2	0.0
317	Cotton	520531	Cotton yarn,>/=85%, multi, uncombed,>/=714.29 dtex, not put up, nes	24.1	0.4
318	Cotton	520532	Cotton yarn,>/=85%,multi,uncombed,714.29 >dtex>/=232.56,nt put up, nes	16.3	2.2
319	Cotton	520533	Cotton yarn,>/=85%,multi,uncombed,232.56 >dtex>/=192.31,nt put up,nes	1.8	0.7
320	Cotton	520534	Cotton yarn,>/=85%,multi,uncombed,192.31 >dtex>/=125,nt put up, nes	2.2	0.5
321	Cotton	520535	Cotton yarn,>/=85%,multi,uncombed, <125 dtex, not put up, nes	0.1	0.0
322	Cotton	520541	Cotton yarn,>/=85%, multiple, combed,>/=714.29 dtex, not put up, nes	2.7	0.1

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323	Cotton	520542	Cotton yarn,>=85%,multi,combed,714.29 >dtex>/=232.56,nt put up, nes	9.6	1.4
324	Cotton	520543	Cotton yarn,>=85%,multi,combed,232.56 >dtex>/=192.31,nt put up, nes	4.4	0.1
325	Cotton	520544	Cotton yarn,>=85%,multiple,combed,192.31 >dtex>/=125,not put up, nes	9.0	1.9
326	Cotton	520546	Cotton yarn >85% multiple combed 125-106 dtex, not ret.	0.2	0.2
327	Cotton	520547	Cotton yarn >85% multiple combed 106- 83 dtex, not ret.	1.8	0.2
328	Cotton	520548	Cotton yarn >85% multiple combed <83.33 dtex, not ret.	6.3	0.3
329	Cotton	520611	Cotton yarn, <85%, single, uncombed,>/=714.29, not put up	15.5	0.1
330	Cotton	520612	Cotton yarn, <85%, single, uncombed, 714.29 >dtex>/=232.56, nt put up	7.6	0.7
331	Cotton	520613	Cotton yarn, <85%, single, uncombed,232.56 >dtex>/=192.31, not put up	0.3	0.1
332	Cotton	520614	Cotton yarn, <85%, single, uncombed, 192.31 >dtex>/=125, nt put up	0.1	0.0
333	Cotton	520615	Cotton yarn,<85%,single,uncombed,<125 dtex, not put up for retail sale	0.8	0.0
334	Cotton	520621	Cotton yarn, <85%, single, combed,>/=714.29 dtex,nt put up	0.0	0.0
335	Cotton	520622	Cotton yarn, <85%, single, combed, 714.29 >dtex>/=232.56, not put up	0.4	0.1
336	Cotton	520623	Cotton yarn, <85%, single, combed, 232.56 >dtex>/=192.31, not put up	0.8	0.0
337	Cotton	520624	Cotton yarn, <85%, single, combed, 192.31 >dtex>/=125, not put up	0.3	0.1
338	Cotton	520625	Cotton yarn,<85%,single,combed,<125 dtex, not put up for retail sale	0.0	0.0
339	Cotton	520631	Cotton yarn, <85%, multiple, uncombed,>/=714.29, not put up, nes	1.5	0.0
340	Cotton	520632	Cotton yarn,<85%,multiple,uncombed,714.29 >dtex>/=232.56,nt put up, nes	0.7	0.3
341	Cotton	520633	Cotton yarn,<85%,multiple,uncombed,232.56 >dtex>/=192.31,nt put up, nes	0.0	0.0
342	Cotton	520634	Cotton yarn,<85%,multiple,uncombed,192.31 >dtex>/=125,nt put up, nes	0.0	0.0
343	Cotton	520641	Cotton yarn, <85%, multiple, combed,>/=714.29, nt put up, nes	0.1	0.0
344	Cotton	520642	Cotton yarn,<85%,multiple,combed,714.29 >dtex>/=232.56,nt put up,nes	0.6	0.1
345	Cotton	520643	Cotton yarn,<85%,multiple,combed,232.56 >dtex>/=192.31,nt put up,nes	0.1	0.0
346	Cotton	520644	Cotton yarn,<85%,multiple,combed,192.31 >dtex>/=125,nt put up,nes	1.3	0.1
347	Cotton	520645	Cotton yarn, <85%, multiple, combed, <125 dtex, not put up, nes	0.0	0.0
348	Cotton	520710	Cotton yarn (o/t sewing thread)>/=85% by weight of cotton, put up	21.9	0.7
349	Cotton	520790	Cotton yarn (o/t sewing thread) <85% by wt of cotton, put up f retail sale	2.2	0.1
350	Cotton	520811	Plain weave cotton fabric,>/=85%, not more than 100 g/m2, unbleached	29.8	10.9
351	Cotton	520812	Plain weave cotton fabric,>/=85%, >100 g/m2 to 200 g/m2, unbleached	178.9	22.0
352	Cotton	520813	Twill weave cotton fabric,>/=85%, not more than 200 g/m2, unbleached	9.4	0.8
353	Cotton	520819	Woven fabrics of cotton,>/=85%, not more than 200 g/m2,unbleached, nes	17.9	3.9
354	Cotton	520821	Plain weave cotton fabrics,>/=85%, not more than 100 g/m2, bleached	4.0	1.9
355	Cotton	520822	Plain weave cotton fabric,>/=85%, >100 g/m2 to 200 g/m2, bleached	34.8	2.6
356	Cotton	520823	Twill weave cotton fabric,>/=85%, not more than 200 g/m2, bleached	0.9	0.1
357	Cotton	520829	Woven fabrics of cotton,>/=85%, nt more than 200 g/m2, bleached, nes	2.4	3.0
358	Cotton	520831	Plain weave cotton fabric,>/=85%, not more than 100 g/m2, dyed	5.5	2.9
359	Cotton	520832	Plain weave cotton fabric,>/=85%,>100g/m= to 200g/m=, dyed	17.1	16.3
360	Cotton	520833	Twill weave cotton fabrics,>/=85%, not more than 200 g/m2, dyed	1.6	1.5
361	Cotton	520839	Woven fabrics of cotton,>/=85%, not more than 200 g/m2, dyed, nes	8.8	5.1
362	Cotton	520841	Plain weave cotton fabric,>/=85%, not more than 100 g/m2, yarn dyed	1.3	0.3
363	Cotton	520842	Plain weave cotton fabrics,>/=85%, >100 g/m2 to 200 g/m2, yarn dyed	17.9	3.0
364	Cotton	520843	Twill weave cotton fabric,>/=85%, not more than 200 g/m2, yarn dyed	17.7	0.4
365	Cotton	520849	Woven fabrics of cotton,>/=85%,nt more than 200 g/m2, yarn dyed, nes	12.2	2.5
366	Cotton	520851	Plain weave cotton fabrics,>/=85%, not more than 100 g/m2, printed	3.8	2.8
367	Cotton	520852	Plain weave cotton fabric,>/=85%, >100 g/m2 to 200 g/m2, printed	25.3	19.0
368	Cotton	520853	Twill weave cotton fabric,>/=85%, not more than 200 g/m2, printed	0.5	0.5
369	Cotton	520859	Woven fabrics of cotton,>/=85%, not more than 200 g/m2,printed, nes	4.0	8.7
370	Cotton	520911	Plain weave cotton fabric,>/=85%, more than 200 g/m2, unbleached	78.3	5.3

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371	Cotton	520912	Twill weave cotton fabric,>/=85%, more than 200 g/m2, unbleached	59.5	3.2
372	Cotton	520919	Woven fabrics of cotton,>/=85%,more than 200 g/m2, unbleached, nes	46.5	5.9
373	Cotton	520921	Plain weave cotton fabric,>/=85%, more than 200 g/m2, bleached	7.1	1.6
374	Cotton	520922	Twill weave cotton fabrics,>/=85%, more than 200 g/m2, bleached	1.3	0.2
375	Cotton	520929	Woven fabrics of cotton,>/=85%, more than 200 g/m2, bleached, nes	4.9	0.8
376	Cotton	520931	Plain weave cotton fabrics,>/=85%, more than 200 g/m2, dyed	19.9	6.3
377	Cotton	520932	Twill weave cotton fabrics,>/=85%, more than 200 g/m2, dyed	17.9	10.3
378	Cotton	520939	Woven fabrics of cotton,>/=85%, more than 200 g/m2, dyed, nes	33.7	11.5
379	Cotton	520941	Plain weave cotton fabrics,>/=85%, more than 200 g/m2, yarn dyed	6.0	2.5
380	Cotton	520942	Denim fabrics of cotton,>/=85%, more than 200 g/m2	98.6	13.3
381	Cotton	520943	Twill weave cotton fab,o/t denim,>/=85%,more than 200 g/m2,yarn dyed	1.1	0.4
382	Cotton	520949	Woven fabrics of cotton,>/=85%, more than 200 g/m2, yarn dyed, nes	11.5	3.3
383	Cotton	520951	Plain weave cotton fabrics,>/=85%, more than 200 g/m2, printed	8.0	10.6
384	Cotton	520952	Twill weave cotton fabrics,>/=85%, more than 200 g/m2, printed	1.2	4.7
385	Cotton	520959	Woven fabrics of cotton,>/=85%, more than 200 g/m2, printed, nes	7.5	15.0
386	Cotton	521011	Plain weave cotton fab,<85% mixed w m-m fib, not more than 200 g/m2,unbl	31.8	6.3
387	Cotton	521012	Twill weave cotton fab,<85% mixed w m-m fib, not more than 200 g/m2,unbl	0.5	0.1
388	Cotton	521019	Woven fabric of cotton,<85% mixed with m-m fib,</=200 g/m2,unbl,nes	0.6	0.2
389	Cotton	521021	Plain weave cotton fabric,<85% mixed w m-m fib, not more than 200 g/m2,bl	4.0	0.2
390	Cotton	521022	Twill weave cotton fab,<85% mixed w m-m fib, not more than 200 g/m2,bl	0.0	0.1
391	Cotton	521029	Woven fabrics of cotton,<85% mixed with m-m fib,</=200 g/m2, bl, nes	0.3	0.1
392	Cotton	521031	Plain weave cotton fab,<85% mixed w m-m fib, not more than 200 g/m2,dyd	4.0	1.3
393	Cotton	521032	Twill weave cotton fab,<85% mixed w m-m fib, not more than 200 g/m2,dyd	0.6	0.1
394	Cotton	521039	Woven fabrics of cotton,<85% mixed with m-m fib,</=200 g/m2,dyed,nes	1.6	0.8
395	Cotton	521041	Plain weave cotton fab,<85% mixed w m-m fib, not more than 200g/m2,yarn dyed	2.6	0.3
396	Cotton	521042	Twill weave cotton fab,<85% mixed w m-m fib, not more than 200g/m2,yarn dyed	0.0	0.0
397	Cotton	521049	Woven fabrics of cotton,<85% mixed w m-m fib,</=200g/m2,yarn dyed, nes	2.9	0.3
398	Cotton	521051	Plain weave cotton fab,<85% mixed w m-m fib, not more thn 200 g/m2,printd	3.4	0.6
399	Cotton	521052	Twill weave cotton fab,<85% mixed w m-m fib, not more thn 200g/m2,printd	0.1	0.1
400	Cotton	521059	Woven fabrics of cotton,<85% mixed with m-m fib,</=200g/m2,printed,nes	0.4	0.5
401	Cotton	521111	Plain weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,unbleachd	2.9	1.7
402	Cotton	521112	Twill weave cotton fab,<85% mixed with m-m fib, more than 200 g/m2,unbl	6.0	0.1
403	Cotton	521119	Woven fabrics of cotton,<85% mixed w m-m fib, more than 200g/m2,unbl,nes	3.0	0.5
404	Cotton	521121	Plain weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,bleachd	0.6	0.0
405	Cotton	521122	Twill weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,bleached	0.0	0.4
406	Cotton	521129	Woven fabrics of cotton,<85% mixed w m-m fib, more than 200 g/m2,bl,nes	0.4	0.1
407	Cotton	521131	Plain weave cotton fab,<85% mixed with m-m fib, more than 200 g/m2,dyed	4.0	0.6
408	Cotton	521132	Twill weave cotton fab,<85% mixed with m-m fib, more than 200 g/m2,dyed	2.8	1.9
409	Cotton	521139	Woven fabrics of cotton,<85% mixed w m-m fib, more than 200 g/m2,dyd,nes	7.0	2.0
410	Cotton	521141	Plain weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,yarn dyed	0.7	0.1
411	Cotton	521142	Denim fabrics of cotton, <85% mixed with m-m fib, more than 200 g/m2	0.7	0.3
412	Cotton	521143	Twill weave cotton fab,o/t denim,<85% mixed w m-m fib,>200g/m2,yarn dyed	0.6	0.1
413	Cotton	521149	Woven fabrics of cotton,<85% mixed with m-m fib,>200 g/m2,yarn dyed, nes	21.2	2.5
414	Cotton	521151	Plain weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,printd	0.5	0.2
415	Cotton	521152	Twill weave cotton fab,<85% mixed w m-m fib, more than 200 g/m2,printd	0.4	2.3
416	Cotton	521159	Woven fabrics of cotton,<85% mixed w m-m fib, more than 200g/m2,printd,nes	1.4	0.8
417	Cotton	521211	Woven fabrics of cotton, weighing not more than 200 g/m2,unbleached,nes	1.0	0.6

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418	Cotton	521212	Woven fabrics of cotton, weighing not more than 200 g/m2, bleached, nes	0.4	0.3
419	Cotton	521213	Woven fabrics of cotton, weighing not more than 200 g/m2, dyed, nes	1.2	0.9
420	Cotton	521214	Woven fabrics of cotton, <!=200g/m2, of yarns of different colours, nes	1.9	0.2
421	Cotton	521215	Woven fabrics of cotton, weighing not more than 200 g/m2, printed, nes	0.3	0.5
422	Cotton	521221	Woven fabrics of cotton, weighing more than 200 g/m2, unbleached, nes	0.9	0.1
423	Cotton	521222	Woven fabrics of cotton, weighing more than 200 g/m2, bleached, nes	0.1	0.0
424	Cotton	521223	Woven fabrics of cotton, weighing more than 200 g/m2, dyed, nes	3.4	1.1
425	Cotton	521224	Woven fabrics of cotton, >200 g/m2, of yarns of different colours, nes	1.5	0.3
426	Cotton	521225	Woven fabrics of cotton, weighing more than 200 g/m2, printed, nes	0.7	1.3
427	Cotton	550992	Yarn of other synthetic staple fibres mixed with cotton, not put up, nes	11.1	0.2
428	Cotton	551030	Yarn of artificial staple fibres mixed with cotton, not put up, nes	3.2	0.0
429	Cotton	580121	Woven uncut weft pile fabrics of cotton, o/t terry and narrow fabrics	0.4	0.1
430	Cotton	580122	Cut corduroy fabrics of cotton, o/t narrow fabrics	12.4	2.6
431	Cotton	580123	Woven weft pile fabrics of cotton, nes	1.7	0.2
432	Cotton	580124	Woven warp pile fab of cotton, epingle (uncut), o/t terry & narrow fab	0.3	0.0
433	Cotton	580125	Woven warp pile fabrics of cotton, cut, o/t terry and narrow fabrics	3.7	2.4
434	Cotton	580126	Chenille fabrics of cotton, o/t narrow fabrics	20.0	1.3
435	Cotton	580211	Terry towelling & similar woven terry fab of cotton, o/t narrow fab, unbleached	0.5	0.0
436	Cotton	580219	Terry towelling & similar woven terry fab of cotton, o/t unbl & o/t nar fab	4.7	0.2
437	Cotton	580310	Gauze of cotton, o/t narrow fabrics	0.2	1.1
438	Cotton	580631	Narrow woven fabrics of cotton, nes	12.7	5.7
439	Cotton	581091	Embroidery of cotton, in the piece, in strips or in motifs, nes	7.5	0.2
440	Cotton	600121	Looped pile knitted or crocheted fabrics, of cotton	1.9	0.5
441	Cotton	600191	Pile knitted or crocheted fabrics, of cotton, nes	34.6	88.3
442	Cotton	600292	Knitted or crocheted fabrics, of cotton, nes	42.4	13.2
443	Cotton	610120	Mens/boys overcoats, anoraks etc, of cotton, knitted	8.0	1.9
444	Cotton	610220	Womens/girls overcoats, anoraks etc, of cotton, knitted	16.3	1.0
445	Cotton	610322	Mens/boys ensembles, of cotton, knitted	4.6	0.4
446	Cotton	610332	Mens/boys jackets and blazers, of cotton, knitted	6.7	0.8
447	Cotton	610412	Womens/girls suits, of cotton, knitted	4.4	1.7
448	Cotton	610422	Womens/girls ensembles, of cotton, knitted	7.1	1.0
449	Cotton	610452	Womens/girls skirts, of cotton, knitted	9.1	3.9
450	Cotton	610510	Mens/boys shirts, of cotton, knitted	149.7	16.2
451	Cotton	610610	Womens/girls blouses and shirts, of cotton, knitted	68.4	14.4
452	Cotton	610711	Mens/boys underpants and briefs, of cotton, knitted	113.1	7.9
453	Cotton	610721	Mens/boys nightshirts and pyjamas, of cotton, knitted	42.3	2.6
454	Cotton	610791	Mens/boys bathrobes, dressing gowns etc of cotton, knitted	7.3	0.6
455	Cotton	610821	Womens/girls briefs and panties, of cotton, knitted	127.5	8.8
456	Cotton	610831	Womens/girls nightdresses and pyjamas, of cotton, knitted	91.8	4.6
457	Cotton	610891	Womens/girls bathrobes, dressing gowns, etc, of cotton, knitted	25.8	1.2
458	Cotton	610910	T-shirts, singlets and other vests, of cotton, knitted	923.7	161.3
459	Cotton	611020	Pullovers, cardigans and similar articles of cotton, knitted	433.9	115.3
460	Cotton	611120	Babies garments and clothing accessories of cotton, knitted	159.4	11.8
461	Cotton	611211	Track suits, of cotton, knitted	8.5	2.4
462	Cotton	611420	Garments nes, of cotton, knitted	28.0	2.7
463	Cotton	611592	Hosiery nes, of cotton, knitted	214.0	19.3
464	Cotton	611692	Gloves, mittens and mitts, nes, of cotton, knitted	17.4	0.4
465	Cotton	620192	Mens/boys anoraks and similar articles, of cotton, not knitted	27.8	3.8

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466	Cotton	620292	Women's/girls anoraks and similar article of cotton, not knitted	33.6	1.5
467	Cotton	620322	Mens/boys ensembles, of cotton, not knitted	4.3	0.4
468	Cotton	620332	Mens/boys jackets and blazers, of cotton, not knitted	16.6	2.0
469	Cotton	620412	Womens/girls suits, of cotton, not knitted	25.5	2.2
470	Cotton	620422	Womens/girls ensembles, of cotton, not knitted	24.1	0.3
471	Cotton	620432	Womens/girls jackets, of cotton, not knitted	33.1	2.4
472	Cotton	620442	Womens/girls dresses, of cotton, not knitted	28.0	2.1
473	Cotton	620452	Womens/girls skirts, of cotton, not knitted	89.3	4.6
474	Cotton	620520	Mens/boys shirts, of cotton, not knitted	269.8	17.9
475	Cotton	620630	Womens/girls blouses and shirts, of cotton, not knitted	83.5	8.1
476	Cotton	620711	Mens/boys underpants and briefs, of cotton, not knitted	15.9	2.1
477	Cotton	620721	Mens/boys nightshirts and pyjamas, of cotton, not knitted	9.7	1.5
478	Cotton	620791	Mens/boys bathrobes, dressing gowns, etc of cotton, not knitted	14.6	1.4
479	Cotton	620821	Womens/girls nightdresses and pyjamas, of cotton, not knitted	47.9	1.6
480	Cotton	620891	Womens/girls panties, bathrobes, etc, of cotton, not knitted	26.8	1.1
481	Cotton	620920	Babies garments and clothing accessories of cotton, not knitted	53.9	4.4
482	Cotton	621131	Mens/boys garments nes, of wool or fine animal hair, not knitted	0.3	0.4
483	Cotton	621142	Womens/girls garments nes, of cotton, not knitted	22.0	4.8
484	Cotton	621320	Handkerchiefs, of cotton, not knitted	4.4	0.2
485	Cotton	630130	Blankets (o/t electric) and travelling rugs, of cotton	22.6	2.0
486	Cotton	630221	Bed linen, of cotton, printed, not knitted	71.3	5.0
487	Cotton	630231	Bed linen, of cotton, nes	270.0	10.0
488	Cotton	630251	Table linen, of cotton, not knitted	50.4	5.5
489	Cotton	630260	Toilet & kitchen linen, of terry towelling or similar terry fab, of cotton	428.1	15.8
490	Cotton	630291	Toilet and kitchen linen, of cotton, nes	91.5	8.8
491	Cotton	630311	Curtains, drapes, interior blinds & curtain or bed valances, of cotton, knit	10.7	1.8
492	Cotton	630391	Curtains/drapes/interior blinds & curtain/bd valances, of cotton, not knit	124.2	5.8
493	Cotton	630492	Furnishing articles nes, of cotton, not knitted or crocheted	94.5	1.1
494	Cotton	630520	Sacks and bags, for packing of goods, of cotton	8.0	1.6
495	Cotton	630611	Tarpaulins, awnings and sunblinds, of cotton	1.9	0.7
496	Cotton	630621	Tents, of cotton	8.8	0.5
497	Cotton	630641	Pneumatic mattresses, of cotton	1.6	0.4
498	Cotton	630691	Camping goods nes, of cotton	8.6	0.1
499	Flower	060310	Cut flowers & flower buds for bouquets or ornamental purposes, fresh	22.4	0.4
500	Flower	060390	Cut flowers & flower buds for bouquets or ornamental purposes, ex fresh	0.4	0.1
501	Flower	060410	Mosses and lichens suitable for bouquets or for ornamental purposes	0.1	0.0
502	Flower	060491	Foliage, branch & pts of plant w/o flo/bud, grass, for bouquets & orn purp, fr	1.1	0.1
503	Flower	060499	Foliage, branch, etc w/o flowers/buds & grass for bouquet/orn purp exc fr	0.2	0.0
504	Bovine	010210	Bovine, live pure-bred breeding	5.7	0.3
505	Bovine	010290	Bovine, live except pure-bred breeding	9.6	0.3
506	Bovine	020110	Bovine carcasses and half carcasses, fresh or chilled	172.6	3.1
507	Bovine	020120	Bovine cuts bone in, fresh or chilled	195.5	9.5
508	Bovine	020130	Bovine cuts boneless, fresh or chilled	1370.9	50.0
509	Bovine	020210	Bovine carcasses and half carcasses, frozen	4.0	0.1
510	Bovine	020220	Bovine cuts bone in, frozen	37.3	2.7
511	Bovine	020230	Bovine cuts boneless, frozen	911.5	87.7
512	Bovine	020610	Bovine edible offal, fresh or chilled	63.7	1.2
513	Bovine	020621	Bovine tongues, edible offal, frozen	24.0	3.2

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514	Bovine	020622	Bovine livers, edible offal, frozen	5.9	0.4
515	Bovine	020629	Bovine edible offal, frozen nes	64.0	2.8
516	Bovine	021020	Bovine meat cured	3.3	2.0
517	Bovine	160250	Bovine meat and meat offal nes, excluding livers, prepared or preserved	2097.8	41.1
518	Bovine	410110	Bovine skins, whole, raw	32.0	39.3
519	Bovine	410121	Bovine hides, whole, fresh or wet-salted	201.8	225.1
520	Bovine	410122	Butts and bends, bovine, fresh or wet-salted	0.2	1.7
521	Bovine	410129	Hide sections, bovine, nes, fresh or wet-salted	1.0	13.8
522	Bovine	410130	Bovine hides, raw, nes	0.5	7.7
523	Bovine	410140	Equine hides and skins, raw	0.0	0.5
524	Bovine	410410	Bovine skin leather, whole	13.2	10.0
525	Bovine	410421	Bovine leather, vegetable pre-tanned, nes	3.4	1.2
526	Bovine	410422	Bovine leather, otherwise pre-tanned, nes	40.9	284.4
527	Bovine	410429	Bovine and equine leather, tanned or retanned, nes	16.0	61.8
528	Bovine	410431	Bovine and equine leather, full/split grains, nes	143.6	63.0
529	Bovine	410439	Bovine and equine leather, nes	39.4	35.0
530	Goats	010420	Goats, live	0.0	0.0
531	Goats	020450	Goat meat, fresh, chilled or frozen	0.1	0.1
532	Goats	410310	Goat or kid hides and skins, raw, nes	0.3	0.3
533	Goats	410611	Goat or kid skin leather, vegetable pre-tanned	0.1	0.0
534	Goats	410612	Goat or kid skin leather, otherwise pre-tanned	0.2	0.8
535	Goats	410619	Goat or kid skin leather, tanned or retanned, nes	0.2	0.2
536	Goats	410620	Goat or kid skin leather, nes	0.6	0.4
537	Horse	010111	Horses, live pure-bred breeding	3.8	2.2
538	Horse	010119	Horses, live except pure-bred breeding	1.6	71.5
539	Horse	020500	Horse, ass, mule or hinny meat, fresh, chilled or frozen	0.0	9.1
540	Horse	050300	Horsehair & waste put up or not as a layer with or without supg material	0.5	0.2
541	Layer	040700	Eggs, bird, in shell, fresh, preserved or cooked	80.1	35.6
542	Layer	040811	Egg yolks dried	3.1	0.6
543	Layer	040819	Egg yolks nes	2.6	3.5
544	Layer	040891	Eggs, bird, not in shell, dried	7.4	1.3
545	Layer	040899	Eggs, bird, not in shell nes	12.0	6.0
546	Livestock nes	010600	Animals, live nes	4.0	3.8
547	Livestock nes	020890	Meat and edible meat offal, nes fresh, chilled or frozen	26.9	28.7
548	Livestock nes	021090	Meat & edible meat offal cured nes & edible meat or offal, flours & meals	454.4	17.7
549	Livestock nes	050290	Hair and waste of badger and of other brush-making hair	7.7	0.7
550	Livestock nes	050400	Guts, bladders and stomachs of animals except fish whole or in pieces	39.6	60.7
551	Livestock nes	151610	Animal fats & oils & fract hydrogenated, inter/re-esterifid, etc, ref	8.0	8.5
552	Livestock nes	151620	Veg fats & oils & fractions hydrogenatd, inter/re-esterifid, etc, ref	253.0	106.6
553	Livestock nes	160100	Sausage & sim prod of meat, meat offal/blood & food prep basd on these prod	614.0	31.5
554	Livestock nes	160210	Homogenized preparations of meat and meat offal	42.6	6.1
555	Livestock nes	160220	Livers of any animal prepared or preserved	63.8	0.7
556	Livestock nes	160290	Meat, meat offal or blood, prepared or preserved, nes	47.4	19.0
557	Livestock nes	410390	Raw hides and skins of animals, nes	2.6	1.7
558	Livestock nes	410790	Leather, nes	0.2	1.1
559	Livestock nes	410800	Chamois (including combination chamois) leather	7.1	8.2
560	Livestock nes	410900	Patent leather and patent laminated leather; metallised leather	7.8	2.7
561	Livestock nes	411000	Parings and other waste of leather; leather dust, powder and flour	36.0	38.9

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
562	Livestock nes	411100	Composition leather, in slabs, sheets or strip	15.6	2.0
563	Livestock nes	420400	Articles of leather or of composition leather, for technical uses	6.1	1.7
564	Livestock nes	420500	Articles of leather or of composition leather, nes	105.9	27.7
565	Milk	040110	Milk not concentrated and unsweetened not exceeding 1% fat	11.8	10.2
566	Milk	040120	Milk not concentrated & unsweetened exceeding 1% not exceeding 6% fat	50.0	159.1
567	Milk	040130	Milk and cream not concentrated and unsweetened exceeding 6% fat	18.3	119.8
568	Milk	040210	Milk powder not exceeding 1.5% fat	89.5	163.3
569	Milk	040221	Milk and cream powder unsweetened exceeding 1.5% fat	28.0	171.5
570	Milk	040229	Milk and cream powder sweetened exceeding 1.5% fat	9.3	13.1
571	Milk	040291	Milk and cream unsweetened, nes	11.0	28.6
572	Milk	040299	Milk and cream nes sweetened	9.2	2.6
573	Milk	040310	Yogurt concentrated o not, sweetened or not, flavoured oo containing fruit o cocoa	130.0	5.7
574	Milk	040390	Buttermilk, curdled milk & cream, kephir & ferm or acid milk & cream nes	48.3	14.2
575	Milk	040410	Whey whether or not concentrated or sweetened	10.5	22.6
576	Milk	040490	Products consisting of natural milk constituents sweetened or not nes	2.0	1.5
577	Milk	040510	Butter	349.8	102.3
578	Milk	040520	Dairy spreads	15.5	2.4
579	Milk	040590	Fats and oils derived from milk nes	21.2	59.8
580	Milk	040610	Cheese, fresh (including whey cheese) unfermented, and curd	151.8	22.1
581	Milk	040620	Cheese, grated or powdered, of all kinds	37.5	11.3
582	Milk	040630	Cheese processed, not grated or powdered	162.3	44.3
583	Milk	040640	Cheese, blue-veined	18.7	9.9
584	Milk	040690	Cheese nes	607.7	121.5
585	Poultry	010511	Fowls, live domestic weighing not more than 185 g	0.2	32.0
586	Poultry	010512	Live turkey chicks <=0.185kg	0.3	0.6
587	Poultry	010519	Poultry, live except domestic fowls, weighing not more than 185 g	0.1	0.5
588	Poultry	010592	Live fowl weighing 0.185-2kg	0.0	3.8
589	Poultry	010593	Live fowl >2kg	0.3	2.3
590	Poultry	010599	Poultry, live except domestic fowls, weighing more than 185 g	0.1	1.1
591	Poultry	020711	Fowls, whole, fresh or chilled	53.0	5.4
592	Poultry	020712	Fowls, whole, frozen	35.1	3.2
593	Poultry	020713	Fowls, cuts & offal, fresh/chilled	141.2	54.4
594	Poultry	020714	Fowls, cuts & offal, frozen	248.0	204.7
595	Poultry	020724	Turkey, whole. fresh or chilled	4.6	3.9
596	Poultry	020725	Turkey, whole, frozen	3.0	1.3
597	Poultry	020726	Turkey, cuts & offal, fresh or chilled	21.1	14.4
598	Poultry	020727	Turkey, cuts & offal, frozen	10.3	49.1
599	Poultry	020732	Ducks/geese/guinea fowl, whole, fresh or chilled	3.0	1.9
600	Poultry	020733	Ducks/geese/guinea fowl, whole, frozen	9.5	10.1
601	Poultry	020734	Ducks/geese/guinea fowl, fatty livers, fresh/chilled	1.9	0.0
602	Poultry	020735	Ducks/geese/guinea fowl, cuts/offal nes, fresh/chilled	2.9	0.4
603	Poultry	020736	Ducks/geese/guinea fowl, cuts/offal, frozen	5.9	5.1
604	Poultry	160231	Turkey meat and meat offal prepared or preserved, excluding livers	64.9	3.4
605	Poultry	160232	Fowl meat, prepared/preserved	224.0	13.4
606	Poultry	160239	Dom fowl, duck, goose & guinea fowl meat & meat offal prep/preserved excluding livers	40.0	15.9
607	Sheep	010410	Sheep, live	2.0	15.3

SN	FAO code	PCTAS code	Product as defined in the PCTAS	Virtual water import (Mm ³ /yr)	Virtual water export (Mm ³ /yr)
608	Sheep	020410	Lamb carcasses and half carcasses, fresh or chilled	15.3	163.5
609	Sheep	020421	Sheep carcasses and half carcasses, fresh or chilled	2.7	13.1
610	Sheep	020422	Sheep cuts, bone in, fresh or chilled	53.4	19.6
611	Sheep	020423	Sheep cuts, boneless, fresh or chilled	4.2	4.0
612	Sheep	020430	Lamb carcasses and half carcasses, frozen	23.3	0.9
613	Sheep	020441	Sheep carcasses and half carcasses, frozen	0.6	0.2
614	Sheep	020442	Sheep cuts, bone in, frozen	215.2	3.7
615	Sheep	020443	Sheep cuts, boneless, frozen	152.1	5.2
616	Sheep	020680	Sheep, goats, asses, mules or hinnies edible offal, fresh or chilled	0.6	1.8
617	Sheep	020690	Sheep, goats, asses, mules or hinnies edible offal, frozen	29.7	0.9
618	Sheep	410210	Sheep or lamb skins, raw, with wool on, nes	8.6	150.1
619	Sheep	410221	Sheep or lamb skins, pickled, without wool on	13.6	14.0
620	Sheep	410229	Sheep or lamb skins, raw, o/t pickled, without wool on	0.7	1.4
621	Sheep	410511	Sheep or lamb skin leather, vegetable pre-tanned	0.1	0.0
622	Sheep	410512	Sheep or lamb skin leather, otherwise pre-tanned	0.2	3.8
623	Sheep	410519	Sheep or lamb skin leather, tanned or retanned, nes	0.4	0.6
624	Sheep	410520	Sheep or lamb skin leather, nes	1.3	2.4
625	Swine	010310	Swine, live pure-bred breeding	0.2	3.5
626	Swine	010391	Swine, live except pure-bred breeding weighing less than 50 kg	0.0	0.4
627	Swine	010392	Swine, live except pure-bred breeding weighing 50 kg or more	77.9	4.3
628	Swine	020311	Swine carcasses and half carcasses, fresh or chilled	87.4	115.0
629	Swine	020312	Hams, shoulders and cuts thereof, of swine bone in, fresh or chilled	681.9	28.2
630	Swine	020319	Swine cuts, fresh or chilled, nes	468.3	61.1
631	Swine	020321	Swine carcasses and half carcasses, frozen	4.5	2.0
632	Swine	020322	Hams, shoulders and cuts thereof, of swine, bone in, frozen	18.5	25.1
633	Swine	020329	Swine cuts, frozen nes	465.2	96.2
634	Swine	020630	Swine edible offal, fresh or chilled	0.5	3.9
635	Swine	020641	Swine livers, edible offal, frozen	1.1	0.3
636	Swine	020649	Swine edible offal, frozen nes	35.0	21.3
637	Swine	021011	Hams, shoulders and cuts thereof, of swine bone in, cured	20.3	3.4
638	Swine	021012	Bellies, streaky and cuts thereof, swine cured	47.2	3.9
639	Swine	021019	Swine meat cured, nes	1629.0	15.4
640	Swine	050210	Bristles, hair and waste of pigs, hogs or boars	14.2	10.0
641	Swine	160241	Hams and cuts thereof of swine prepared or preserved	111.8	16.9
642	Swine	160242	Shoulders and cut thereof of swine prepared or preserved	9.2	0.3
643	Swine	160249	Swine meat & meat offal nes/exc livers/ incl mixtures, prepared or preserved	98.6	16.0
644	Swine	410710	Swine leather, nes	4.0	0.8
Grand Total				55092	14879

Note: **nes** stands for 'not else specified', **exc** stands for 'excluding' and **incl** stands for 'including'. There are 503 number of crop products (including flower and cotton textiles) and 141 number of livestock products (including live animals).

Appendix E: Water footprint of the UK by product category

Product code	Product category	Water for production in the UK Mm ³ /yr	Virtual water import Mm ³ /yr	Export of virtual water Mm ³ /yr			Water Footprint Mm ³ /yr		
				National	Imported	Total	Internal	External	Total
15	Wheat	7409	1329	1104	150	1255	6305	1178	7483
27	Rice	0	1490	0	264	264	0	1225	1225
44	Barley	4091	199	1130	20	1149	2961	179	3141
56	Maize	0	1420	0	137	137	0	1283	1283
71	Rye	13	1	3	0	3	11	1	12
75	Oats	422	18	100	2	102	322	16	338
79	Millet	0	56	0	1	1	0	55	55
83	Sorghum	0	13	0	13	13	0	0	0
89	Buckwheat	0	1	0	0	0	0	1	1
101	Canary seed	0	14	0	0	0	0	14	14
108	Cereals nes	0	144	0	20	20	0	124	124
116	Potatoes	479	114	10	2	12	469	112	581
122	Sweet Potatoes	0	4	0	0	0	0	4	4
125	Cassava	0	4	0	1	1	0	3	3
149	Roots and tubers nes	0	11	0	1	1	0	10	10
156	Sugar cane	0	2500	0	1544	1544	0	955	955
157	Sugar beets	506	2	14	0	14	493	2	495
161	Sugar crops nes	0	161	0	86	86	0	75	75
176	Beans	0	137	0	23	23	0	114	114
181	Broad beans	84	1	0	1	1	84	0	84
187	Peas	163	32	26	2	28	137	30	167
191	Chick-Peas	0	30	0	0	0	0	30	30
201	Lentils	0	59	0	0	0	0	59	59
211	Pulses nes	290	21	1	0	1	289	21	310
216	Brazil nuts	0	43	0	6	6	0	36	36
217	Cashew Nuts	0	174	0	21	21	0	153	153
220	Chestnuts	0	14	0	0	0	0	14	14
221	Almonds	0	110	0	48	48	0	61	61
222	Walnuts	0	43	0	1	1	0	41	41
223	Pistachios	0	61	0	17	17	0	45	45
225	Hazelnuts (Filberts)	0	36	0	19	19	0	17	17
234	Nuts nes	0	38	0	5	5	0	32	32
236	Soybeans	0	3092	0	638	638	0	2454	2454
242	Groundnuts	0	508	0	29	29	0	479	479
249	Coconuts	0	213	0	10	10	0	204	204
254	Oil palm fruit	0	3171	0	225	225	0	2946	2946
260	Olives	0	724	0	87	87	0	637	637
265	Castor beans	0	478	0	25	25	0	453	453
267	Sunflower	0	1164	0	121	121	0	1043	1043
270	Rapeseed	1255	893	226	57	283	1029	836	1865
277	Jjoba seeds	0	537	0	135	135	0	403	403
280	Safflower	0	8	0	0	0	0	8	8
289	Sesame	0	82	0	26	26	0	57	57
292	Mustard	0	3	0	0	0	0	2	2
296	Poppy seed	0	1	0	0	0	0	1	1
328	Cotton	0	6263	0	1602	1602	0	4662	4662

333	Linseed	85	65	38	44	82	47	22	68
339	Oilseeds nes	0	39	0	1	1	0	37	37
358	Cabbages	27	6	0	0	0	27	6	33
366	Artichokes	0	1	0	0	0	0	1	1
367	Asparagus	3	9	0	0	0	3	8	11
372	Lettuce	12	9	0	0	0	12	9	21
373	Spinach	0	4	0	0	0	0	3	3
388	Tomatoes	1	13	0	0	0	1	13	14
393	Cauliflower	33	15	0	1	1	32	15	47
397	Cucumbers and gherkins	0	4	0	0	0	0	4	4
399	Eggplants	0	4	0	0	0	0	4	4
401	Chillies & peppers	0	10	0	0	0	0	10	10
402	Onions Shallots green	4	36	2	1	3	3	35	38
403	Onions dry	29	2	0	0	0	29	2	31
406	Garlic	0	6	0	2	2	0	4	4
407	Leeks and other Alliac. vegetables	7	1	0	0	0	7	1	7
414	Beans	3	25	0	1	1	3	25	28
417	Peas	67	15	9	1	9	58	15	73
426	Carrots	17	10	0	0	0	17	10	27
449	Mushrooms	0	16	0	0	0	0	16	16
459	Chicory roots	0	1	0	0	0	0	1	1
463	Vegetables fresh nes	77	107	5	4	9	72	103	175
486	Bananas	0	744	0	5	5	0	740	740
490	Oranges	0	400	0	24	24	0	376	376
495	Tangerine, Mandarin, Clementine, Satsuma	0	117	0	2	2	0	115	115
497	Lemons and limes	0	30	0	1	1	0	29	29
507	Grapefruit and pomelos	0	21	0	1	1	0	19	19
512	Citrus fruit nes	0	456	0	44	44	0	412	412
515	Apples	47	164	1	4	5	46	160	206
521	Pears	10	48	0	1	1	10	47	57
526	Apricots	0	44	0	2	2	0	42	42
531	Cherries	2	31	0	1	1	2	30	32
534	Peaches and Nectarines	0	64	0	2	2	0	62	62
536	Plums	6	108	0	1	1	6	107	113
541	Stone Fruit nes	0	6	0	3	3	0	4	4
544	Strawberries	10	17	0	1	1	10	16	26
547	Raspberries	6	20	0	1	1	6	19	26
550	Currants	5	0	0	0	0	5	0	5
552	Blueberries	0	0	0	0	0	0	0	0
560	Grapes	1	1174	0	118	119	1	1055	1056
567	Watermelons	0	25	0	0	0	0	25	25
569	Figs	0	8	0	1	1	0	7	7
571	Mangoes	0	45	0	1	1	0	44	44
572	Avocados	0	34	0	1	1	0	33	33
574	Pineapples	0	28	0	2	2	0	26	26
577	Dates	0	34	0	1	1	0	32	32
592	Kiwi fruit	0	40	0	1	1	0	39	39
600	Papayas	0	5	0	0	0	0	4	4
619	Fruit fresh nes	0	98	0	9	9	0	89	89
641	Feed nes	0	1	0	0	0	0	1	1

656	Coffee	0	2069	0	118	118	0	1952	1952
661	Cocoa beans	0	7346	0	1279	1279	0	6066	6066
674	Tea	0	1327	0	247	247	0	1080	1080
677	Hops	5	13	5	0	5	0	13	13
687	Pepper,White/Long/Black	0	28	0	4	4	0	24	24
689	Pimento, allspice	0	52	0	23	23	0	30	30
692	Vanilla	0	29	0	12	12	0	17	17
693	Cinnamon (Canella)	0	22	0	2	2	0	20	20
698	Cloves	0	23	0	2	2	0	21	21
702	Nutmeg, Mace, Cardamons	0	68	0	14	14	0	54	54
711	Anise, Badian, Fennel	0	1	0	0	0	0	1	1
720	Ginger	0	43	0	2	2	0	41	41
723	Spices nes	0	22	0	10	10	0	12	12
826	Tobacco	0	183	0	183	183	0	0	0
	Flower	0	24	0	1	1	0	24	24
	Bovine	5432	5458	576	372	948	4855	5086	9942
	Goats	1	2	1	0	2	0	1	1
	Horse	17	6	17	6	23	0	0	0
	Eggs	627	105	36	11	47	591	95	686
	Livestock nes	235	1743	235	133	368	0	1610	1610
	Milk	6685	1782	879	207	1086	5807	1575	7382
	Poultry	2638	869	330	96	427	2308	773	3081
	Sheep	916	524	302	98	401	614	426	1040
	Swine	2142	3775	205	223	428	1936	3552	5488
	Total	33867	55092	5459	8662	14122	28407	46430	74837

Appendix F: The Water Footprint of Nations (2000-04)

	Internal WF (Gm ³ /yr)				External WF (Gm ³ /yr)			Total WF	
	Agriculture	Industrial	Household	Total	Agriculture	Industrial	Total	Gm ³ /yr	m ³ /cap/yr
Afghanistan	21.4	0.0	0.3	21.7		0.03	0.03	21.8	831
Albania	4.6	0.1	0.2	4.9	1.6	0.04	1.62	6.5	2104
Algeria	41.9	0.5	1.3	43.7	18.8	0.31	19.06	62.8	1998
Angola	15.7	0.0	0.1	15.8		0.17	0.17	16.0	1085
Argentina	58.1	2.4	4.8	65.3	1.8	1.57	3.36	68.6	1823
Armenia	2.4	0.1	0.9	3.3	1.3	0.03	1.30	4.6	1521
Australia	52.1	1.3	6.7	60.1	4.2	4.14	8.34	68.4	3483
Austria	7.5	1.1	0.8	9.3	7.0	3.55	10.56	19.9	2460
Azerbaijan	7.8	1.9	0.8	10.5	2.4	0.03	2.45	12.9	1580
Bangladesh	128.8	0.4	2.4	131.6	3.7	0.37	4.04	135.6	936
Belarus	10.1	0.2	0.6	10.9	5.3	0.07	5.39	16.3	1647
Belgium-Lux.	7.6	0.4	1.1	9.2	24.1	0.59	24.72	33.9	3145
Benin	11.6	0.0	0.0	11.7	0.4	0.04	0.47	12.2	1575
Bolivia	25.5	0.0	0.2	25.7	1.1	0.11	1.16	26.8	3096
Bosnia-Herz.	3.5			3.5	0.8	0.20	1.01	4.6	1178
Botswana	1.8	0.0	0.0	1.8	0.5	0.07	0.56	2.4	1351
Brazil	422.3	9.2	12.5	444.0	172.1	3.30	175.40	619.4	3455
Bulgaria	14.7	0.0	0.4	15.1	2.6	0.00	2.63	17.7	2247
Burkina Faso	23.1	0.0	0.1	23.2	0.6	0.04	0.63	23.8	1879
Burundi	7.5	0.0	0.0	7.5	0.0	0.01	0.03	7.5	1062
Cambodia	23.0	0.0	0.1	23.0	0.7	0.10	0.76	23.8	1796
Cameroon	17.2	0.1	0.2	17.4		0.07	0.07	17.5	1054
Canada	35.5	11.5	8.8	55.7	10.5	5.19	15.70	71.4	2277
Central Afr. Rep.	5.4	0.0	0.0	5.4	0.0	0.01	0.06	5.4	1364
Chad	19.0	0.0	0.0	19.1		0.03	0.03	19.1	2092
Chile	8.4	2.0	1.3	11.7	2.2	0.90	3.12	14.8	941
China	994.9	83.0	33.9	1111.8	91.0	7.58	98.61	1210.4	946
Colombia	44.8	0.4	5.4	50.7	6.1	0.71	6.81	57.5	1336
Congo DR	35.0	0.1	0.2	35.3		0.08	0.08	35.4	659
Costa Rica	4.4	0.3	0.8	5.6	1.1	0.26	1.34	6.9	1684
Cote D'Ivoire	24.1	0.1	0.2	24.4		0.15	0.15	24.5	1387
Croatia	5.8			5.8	2.8	0.54	3.32	9.1	2048
Cuba	17.0	0.5	2.1	19.5	1.1	0.24	1.32	20.8	1859
Cyprus	0.9	0.0	0.1	0.9	1.2	0.20	1.36	2.3	3219
Czech Rep.	9.8	0.8	1.1	11.7	4.6	0.99	5.62	17.3	1693
Denmark	6.8	0.3	0.4	7.5	4.6	2.48	7.04	14.5	2709
Dominican R.	9.4	0.0	1.1	10.5	0.3	0.50	0.77	11.3	1252
Ecuador	23.1	0.7	2.1	25.9	1.3	0.20	1.49	27.4	2168
Egypt	58.1	7.0	4.5	69.6		0.70	0.70	70.3	1019
El Salvador	3.7	0.1	0.3	4.2	1.5	0.20	1.66	5.8	910
Eritrea	2.5			2.5	0.3	0.03	0.28	2.7	684
Estonia	0.8	0.0	0.1	0.9	2.7	0.19	2.90	3.8	2811
Ethiopia	50.0	0.1	0.1	50.2	1.1	0.09	1.21	51.4	740
Finland	6.0	1.1	0.3	7.4	2.9	1.15	4.09	11.5	2216
France	68.7	15.3	6.3	90.2	40.8	10.85	51.62	141.8	2377
Gabon	1.2	0.0	0.1	1.3	0.7	0.05	0.71	2.0	1645
Gambia	1.5	0.0	0.0	1.5	0.5	0.01	0.47	2.0	1411
Germany	56.3	18.8	5.5	80.6	61.2	17.55	78.78	159.4	1934
Ghana	26.9	0.1	0.2	27.1	1.0	0.18	1.15	28.3	1339
Greece	17.9	0.8	0.9	19.6	10.3	1.69	11.97	31.6	2873

	Internal WF (Gm ³ /yr)				External WF (Gm ³ /yr)			Total WF	
	Agriculture	Industrial	Household	Total	Agriculture	Industrial	Total	Gm ³ /yr	m ³ /cap/yr
Guatemala	9.2	0.2	0.1	9.5	1.7	0.26	1.91	11.4	969
Guinea	22.6	0.0	0.1	22.8	0.7	0.03	0.71	23.5	2756
Haiti	6.4	0.0	0.1	6.5		0.07	0.07	6.5	738
Honduras	5.9	0.1	0.1	6.1	0.2	0.13	0.36	6.5	1001
India	1027.6	19.8	40.2	1087.6	22.8	2.33	25.17	1112.8	1062
Indonesia	271.1	0.4	5.9	277.4	24.9	1.63	26.51	303.9	1434
Iran	98.1	1.0	4.9	104.0	13.6	0.53	14.12	118.1	1789
Iraq	38.3	2.1	1.3	41.6		0.58	0.58	42.2	1833
Ireland	5.8	0.5	0.2	6.5	3.0	2.12	5.11	11.6	2948
Israel	5.8	0.1	0.5	6.4	5.5	2.22	7.77	14.1	2155
Italy	74.3	10.1	8.0	92.4	69.7	8.69	78.43	170.8	2977
Jamaica	1.9	0.1	0.1	2.1	0.5	0.16	0.71	2.8	1074
Japan	25.1	13.8	17.3	56.1	83.6	16.46	100.08	156.2	1226
Jordan	2.5	0.0	0.2	2.7	6.2	0.22	6.42	9.1	1813
Kazakhstan	35.8	1.1	0.6	37.6	1.1	0.06	1.17	38.7	2599
Kenya	31.0	0.1	0.5	31.6	3.3	0.18	3.46	35.1	1065
Korea DPRP	15.6	2.4	1.8	19.7		0.10	0.10	19.8	853
Korea Republic	16.1	2.3	6.5	24.9	36.2	6.80	43.00	67.9	1427
Kuwait	0.2	0.0	0.2	0.5	1.2	0.54	1.78	2.3	974
Laos	9.3	0.1	0.1	9.5		0.04	0.04	9.6	1769
Latvia	1.9	0.1	0.2	2.1	1.0	0.14	1.10	3.2	1384
Lebanon	3.6	0.0	0.4	4.1	3.9	0.38	4.29	8.4	2164
Liberia	4.1	0.0	0.0	4.1		0.04	0.04	4.2	1298
Libya	7.4	0.1	0.5	8.0		0.29	0.29	8.3	1487
Lithuania	3.3	0.0	0.2	3.6	1.7	0.31	2.00	5.6	1603
Macedonia	1.5			1.5	1.0	0.11	1.08	2.5	1252
Madagascar	23.9		0.3	24.2	1.1	0.05	1.12	25.4	1478
Malawi	13.1	0.0	0.1	13.3	2.1	0.04	2.15	15.4	1260
Malaysia	49.2	0.9	1.5	51.6	25.3	2.41	27.70	79.3	3270
Mali	29.0	0.0	0.0	29.0	0.3	0.05	0.30	29.3	2761
Malta	0.1	0.0	0.0	0.1	0.6	0.18	0.82	0.9	2330
Mauritania	3.8	0.0	0.1	4.0		0.03	0.03	4.0	1485
Mauritius	0.6	0.0	0.1	0.7	1.5	0.09	1.62	2.3	1925
Mexico	165.3	3.1	13.9	182.3	96.1	7.25	103.39	285.7	2857
Moldova Rep.	5.8	0.8	0.2	6.8	0.5	0.03	0.48	7.3	1801
Morocco	60.2	0.2	0.8	61.3	6.0	0.53	6.49	67.8	2324
Mozambique	19.8	0.0	0.1	19.8	0.6	0.06	0.63	20.5	1069
Myanmar	92.5	0.1	0.3	93.0		0.17	0.17	93.1	1992
Namibia	1.9	0.0	0.1	2.0	0.9	0.10	0.98	3.0	1561
Nepal	24.6	0.0	0.3	24.9	0.6	0.09	0.71	25.6	1006
Netherlands	3.5	2.6	0.4	6.5	16.8	6.72	23.47	30.0	1861
New Zealand	8.9	0.2	1.0	10.1	1.4	0.84	2.25	12.4	3122
Nicaragua	5.4	0.0	0.2	5.7	0.5	0.10	0.62	6.3	1194
Nigeria	258.6	0.4	1.5	260.5	8.9	0.32	9.23	269.7	2053
Norway	2.9	1.0	0.5	4.4	3.1	1.59	4.72	9.1	2001
Pakistan	215.0	1.8	3.1	219.9	5.6	0.35	5.92	225.8	1558
Panama	3.3	0.0	0.5	3.9	0.5	0.21	0.75	4.6	1507
Peru	21.3	1.4	1.5	24.2	4.2	0.38	4.62	28.8	1094
Philippines	121.6	0.8	4.7	127.1	11.2	0.75	11.98	139.1	1749
Poland	32.7	6.9	1.8	41.4	12.5	1.85	14.35	55.8	1458
Portugal	11.2	1.5	1.1	13.7	13.2	1.65	14.88	28.6	2761
Romania	36.5	3.5	2.0	42.1	6.5	0.34	6.87	48.9	2229
Russia	212.3	13.3	14.3	239.9	44.0	0.80	44.82	284.7	1961
Rwanda	10.1	0.0	0.0	10.2	0.1	0.02	0.16	10.3	1189

	Internal WF (Gm ³ /yr)				External WF (Gm ³ /yr)			Total WF	
	Agriculture	Industrial	Household	Total	Agriculture	Industrial	Total	Gm ³ /yr	m ³ /cap/yr
Saudi Arabia	14.9	0.2	1.7	16.8	14.5	1.67	16.21	33.0	1528
Senegal	16.2	0.0	0.1	16.3	4.2	0.07	4.26	20.6	1886
Serbia- Montg	17.9			17.9	1.2	0.26	1.44	19.3	2372
Sierra Leone	5.4	0.0	0.0	5.4		0.01	0.01	5.4	1096
Slovakia	3.6			3.6	2.4	0.82	3.20	6.8	1266
Slovenia	1.4			1.4	1.9	0.63	2.48	3.9	1956
Somalia	13.6	0.0	0.0	13.6		0.01	0.01	13.6	1813
South Africa	48.3	1.2	2.6	52.1	9.0	1.51	10.52	62.6	1384
Spain	72.1	5.7	4.3	82.2	30.5	6.66	37.12	119.3	2881
Sri Lanka	22.6	0.2	0.3	23.0	4.0	0.25	4.26	27.3	1423
Sudan	85.6	0.2	1.0	86.8	0.9	0.08	0.98	87.8	2526
Swaziland	0.6	0.0	0.0	0.7	0.5	0.05	0.58	1.3	1162
Sweden	7.1	1.2	1.1	9.4	6.0	3.14	9.10	18.5	2073
Switzerland	3.7	1.1	0.5	5.3	6.8	4.05	10.85	16.1	2212
Syria	40.0	0.3	0.6	40.9	4.8	0.18	5.01	45.9	2633
Tajikistan	14.6	0.5	0.4	15.6				15.6	2471
Tanzania	45.3	0.0	0.1	45.4	2.2	0.09	2.26	47.7	1338
Thailand	135.6	1.3	1.9	138.7	6.6	2.54	9.16	147.9	2399
Togo	3.1	0.0	0.1	3.2	0.3	0.04	0.38	3.6	619
Trinidad & Tobago	0.6	0.1	0.2	0.9	0.4	0.14	0.56	1.4	1091
Tunisia	19.1	0.1	0.4	19.6	4.6	0.47	5.08	24.6	2525
Turkey	89.2	2.8	5.6	97.6	17.9	2.20	20.07	117.7	1694
Turkmenistan	11.1	0.1	0.4	11.6	0.1	0.07	0.18	11.8	2541
Uganda	53.1	0.0	0.1	53.2	1.0	0.11	1.09	54.3	2064
Ukraine	58.7	3.7	4.6	67.0	1.5	0.26	1.76	68.7	1424
UAE	3.4	0.2	0.7	4.3		1.98	1.98	6.2	1733
UK	28.4	6.9	3.3	38.6	46.4	17.20	63.60	102.2	1695
USA	450.6	175.4	62.5	688.5	88.5	56.80	145.28	833.8	2895
Uruguay	5.8	0.0	0.1	5.8	0.5	0.20	0.75	6.6	1993
Uzbekistan	26.6	1.2	2.8	30.6		0.24	0.24	30.8	1219
Venezuela	29.5	0.4	2.8	32.7	5.6	0.71	6.29	39.0	1603
Vietnam	107.8	11.5	3.9	123.2		0.87	0.87	124.1	1555
Yemen	11.3	0.0	0.3	11.6	2.2	0.15	2.37	13.9	722
Zambia	8.2	0.1	0.3	8.6	0.5	0.03	0.49	9.0	833
Zimbabwe	9.9	0.1	0.2	10.2	0.4	0.12	0.52	10.7	831
World	7076	489	355	7920	1466	247	1713	9633	1564

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