

The Origins and Continuation of First World Import Dependence on Developing Countries for Agricultural Products

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Abstract

This article puts forward two main propositions which have been discussed at length in earlier papers and supports these with historical and current data, which have not been presented before. The first proposition is that the origins of Third World food dependence lie in the First World's dependence on developing countries for both food and non-food imports. The second is that the advanced countries' dependence has not declined, on the contrary the list of products imported from developing countries has become much longer in recent years, since air-freighting has permitted imports of highly perishable products, not possible earlier.

Keywords

northern agriculture, Industrial Revolution, colonial trade, food dependence, agri-business

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Introduction

Periodically the question 'who will feed China' is raised in the literature relating to global foodgrain production; 'The origins of Third World food dependence' was the title of a well researched paper some years ago (Brown 1995; Friedman 1990). The generally prevalent impression among academics in Northern institutions is that the developing countries of the global South have serious problems in feeding their own populations. Interestingly, the converse question is never posed: what is the origin of today's industrially advanced countries' heavy dependence on agricultural imports from the countries of the global South? After all, this dependence historically predates by centuries Third World food dependence, and it continues in present times. Nor is the question asked: might there be a close connection between advanced countries' dependence on tropical agriculture and the relatively recent dependence of some developing countries on food imports from the developed world?

This article puts forward in brief, two main propositions which have been discussed at length in earlier papers by this author (Patnaik 1996, 2003, 2007) and supports these propositions with some historical and current data which have not been presented before. First, the 'origins of third world food dependence' lie in the First World's dependence on developing countries for both food and non-food imports. Developing countries were perfectly capable of feeding their own populations in the past and this remains true today, but they are continuously pressurized and obliged to devote an increasing part of their land and resources to feeding advanced country populations the goods their own cold countries cannot ever produce. These goods include today those perishable vegetables and fruits which cold temperate lands can grow only in their summer but not in their winter, necessitating imports to avoid seasonality of supply.

Historically, a pattern of global specialization was initiated and forcibly imposed by today's advanced countries under colonial systems, which entailed their increasing dependence on primary imports from tropical countries. Those smaller Northern countries which had no colonies sourced their tropical goods requirements from the major powers. The basic reason for imposing such a pattern of specialization lay in their cold countries' permanently poor range of crop production dictated by climate, which no degree of technical progress can alter, at least up to the present, compared to the highly diversified productive capacity of tropical lands. This is a very important material reality which is never taken into account in economic theory which on the contrary tries to hide this

reality by assuming, as in the pure theory of trade, that all countries can produce all goods. (For a critique of this assumption which renders incorrect Ricardo's theory of comparative advantage by introducing a material and logical fallacy, see Patnaik 2005).

Second, the advanced countries' dependence has not declined, on the contrary the list of products imported from developing countries has become much longer in recent years, since air-freighting has permitted imports of highly perishable products, not possible earlier. The method employed to secure the products the Northern countries want has necessarily changed however, to the exercise of pressure on developing countries both directly and through international organizations, urging them to remove all protection to their producers and engage in free trade. The object is to alter the product-mix towards exports, mainly via systems of contracting with local farmers by the international food business corporations. The cost to developing country populations is heavy: as scarce tropical land is diverted to export crops, they suffer falling grain output per capita and falling nutritional levels. Advanced countries urge developing countries to give up domestic food security systems and import food grains from them. Food imports may not actually take place to compensate for falling domestic output however, for it depends on whether domestic demand is permitted to grow through expansionary public policies, or constrained by the deflationary macro-economic policies so universally implemented in this neoliberal era.

If we study closely the historical origins of the First World's food dependence on today's developing countries, several interesting facts emerge. First, agricultural productivity in medieval Europe was clearly extremely low compared to Asia at the same period, owing to a combination of factors detailed in Slicher van Bath's magisterial *Agrarian History of Western Europe AD 600 to 1850*: a single growing season in the year with land too frozen to grow anything in winter; a high seed to yield ratio ranging from one-third to two-fifths, which correspondingly lowered the net grain output; a high rate of fallowing, with one-third to half the arable left uncultivated to restore fertility; a resulting 'atrocious competition' between humans and animals over sharing the inadequate grain output as food and feed. When crops failed badly leading to famine, as in the fourteenth century, cases of collective cannibalism—albeit very rare—documented in the chronicles, are referred to by the author when he diplomatically says that 'people did not shrink from appeasing their hunger in strange fashions' (Slicher van Bath 1963: 83).

In tropical lands at least two and up to three crops can be grown in a year; the range of crops produced is much greater. Not only are the

typical monsoonal crops grown (which cannot grow at all in any season in cold temperate lands), additionally all the temperate land crops can be grown as well in the larger developing countries of the global South in the winter season, from October to March. Many elements of earlier low productivity have been successfully overcome in modern agriculture in the North: the seed fraction of yield has been lowered greatly, artificial fertilizing permits nearly all arable to be cultivated, grain is now produced far in excess of domestic absorption needs as food and feed—but over much of the North, single-cropping is imposed by climatic constraints and cannot be overcome. This means that even the limited range of crops, especially the perishable ones which are produced in summer, are neither producible nor available through storage in winter, and domestic demand cannot be satisfied without imports from warmer lands.

It is surprising that despite hailing from the Caribbean, W. Arthur Lewis (1979) made factually incorrect statements regarding agricultural productivity in tropical lands compared to temperate lands, in his *Evolution of the International Economic Order* (1979). The Indian farmer's wheat yield per acre of 700 lbs. in 1900 is compared unfavourably by Lewis with the European farmer's wheat yield of 1600 lbs, and this allegedly lower Asian land productivity is made the basis for arguing that emigrating Indians and Chinese accepted a low 'product wage', ending up as 'coolies' working for the migrating Europeans who, given the higher 'product wage', would not accept anything but a higher living standard.

But there is an incorrect statement of fact, hence a material fallacy in Lewis's argument, since Asian land productivity was not lower, but was considerably higher than European land productivity. The period of production for measuring output has to be the same, and we cannot, as Lewis does, validly compare output that the European farmer produced over an entire year, with output that the Indian farmer produced in only four months. (Making such a comparison means succumbing to a variant of the 'fallacy of composition', since the part, in one case, is taken as equivalent to the whole, in the other). Over the entire year, the Asian farmer produced on the same acre of land, not only wheat but a second crop (another foodgrain, or cotton) and often a third crop of a pulse, gram, or groundnut. The fact that nineteenth-century emigrant Europeans had a high income had nothing to do with any allegedly higher 'product wage' in their home country, since no such higher annual yield in fact existed on their cold, single-crop lands. It had much to do with their successful decimation of indigenous populations in the

Americas, Australia and so on, and their seizure of rich resources—land, timber, water, minerals—to a far greater extent than they commanded in their home countries. The fact that migrant Indians and Chinese served as ‘coolies’ had nothing to do with any allegedly lower ‘product wage’, since annual yields in their home countries were in fact higher than in Europe; their ‘coolie’ status was the outcome of their pauperization under colonial or semi-colonial exploitation, as indeed was the starvation status of Irish peasants who emigrated to the tune of a million persons in a single year after one-eighth of the population perished in the great famine of 1846–47, while wheat exports to Britain continued. In Lewis’s exposition; however, colonial subjugation by some European nations of other nations never existed, or if it did, played no role considered to be worth mentioning in explaining the increasing economic distance between nations.

As Table 1 shows, to this day the *total output per hectare in physical units taking all food crop groups* in China is more than two and a half times the level in the United States, while in India, too, it is 52 per cent more than in the United States. No amount of technological change under capitalism in its most advanced centre is able to negate the effects of the more favourable natural conditions under which farmers in the global South operate, or the efficacy of their cultivation practices tested over centuries.

Table 1. Annual Food Crops Output per Hectare in China, India and the USA, 2011

Country	Arable & Permanent Crop Area (million ha)	Food Output (million ton)	Output per ha (ton)	Index A	Index B	Index C
USA	166.93	645.778	3.87	100	65.7	38.2
India	157.4	927.911	5.89	152	100	58.1
China	152.83	1549.879	10.14	262	172.2	100

Source: Output calculated from FAO Food Balance Sheets, available at faostat3.fao.org/faostat-gateway/go/to/download/F/FO/E, accessed 20 December 2014; and area from official government data on land use of the respective countries.

Note: ‘Food output’ includes the vegetal food groups but not foods of animal origin. Area total above includes the area under fiber crops (cotton, jute, etc.) and rubber, but output does not include these. Actual yield per hectare is; therefore, higher than shown, and Index for India and China understates the difference with the USA.

The first industrial nation, Britain, as well as some later industrializing European nations, became food and energy deficient as they developed in the eighteenth and nineteenth centuries, and depended heavily on imports. The imported goods from their colonies were purchased out of taxes raised from the local population and so were costless, to the extent of the excess of these imports over any exports. Most colonies after 1800 were tropical, the only exception being Ireland, which was the sole temperate colony effectively remaining as such into the twentieth century. Where production was by pauperized tenants, as in Ireland, or by slaves, as in the W. Indies, the export goods to the metropolis were the commodity form of surplus produce extracted as land-rents and slave-rents. Further, a part of imports from colonies was re-exported to exchange for food from sovereign temperate lands. Without these large tax- and rent-financed transfers of foodstuffs and raw materials from the colonies, it is doubtful whether the Industrial Revolution could have taken place at all, as I have argued elsewhere (Patnaik 2006).

The next section presents some historical data showing the importance of food and raw material imports in general, and from the colonies in particular, by the first industrial nation, Britain. The last section discusses the import dependence of advanced countries in present times.

Pattern of Trade of Britain with Colonized Regions, 1784 to 1856

The English customs-house records have been painstakingly compiled by Ralph Davis to present the commodity structure, the source and destination of exports and imports of Britain over the period 1784 to 1856, in the Appendix to his study titled *The Industrial Revolution and British Overseas Trade* (1979). Davis gave three years' figures of current value trade centred on mid-decades, from which this author has re-arranged and obtained the values presented in Tables 2–4. This is a very crucial period of the Industrial Revolution and the consolidation of empire by Britain, which laid the foundations of the modern industrial capitalist world. The part the colonies were made to play in the story finds little or no mention to this day in the standard historical accounts, which are more in the nature of rosy fiction than hard fact.

Table 2 shows the commodity composition of Britain's total imports from the world. Foodstuffs, making up 42 per cent of total imports in the

Table 2. Structure by Commodity Groups of Britain's Total Imports, 1784–86 to 1824–26 and Share of Colonies (Current Values)

Period	Manufactures, MF (%)	Food Stuffs, FS (%)	Raw Materials, RM (%)	All	Total Value of M (£ mn.)	Share of Colonies in Total (%)
1784–86	14.2	42.2	43.6	100	22.76	52.3
1794–96	10.7	48	41.3	100	37.92	51.5
1804–06	6.8	43.1	50.1	100	55.56	45.6
1814–16	3.8	44.6	51.6	100	71.8	49.5
1824–26	5.9	39.7	54.4	100	66.39	43.7

Source: Calculated from Davies (1979), Appendix Tables. Colonies are Asia, West Indies and Ireland.

Table 3. Commodity Structure of Imports from Asia and West Indies (Current Values), 1784–86 to 1854–56

Period	Manufactures, MF (%)	Food Stuffs, FS (%)	Raw Materials, RM (%)	All	Index of total M
1784–86	14.4	63.3	22.3	100	100
1794–96	10.7	66.4	22.9	100	167
1804–06	4	70.2	25.8	100	214
1814–16	1.8	72.7	25.5	100	299
1824–26	2	65.8	32.2	100	206
1834–36	2.3	62.7	35	100	205
1844–46	3.2	56.1	40.7	100	211
1854–56	1.9	51.8	46.3	100	361

Source: Calculated from Davies (1979), Appendix Tables.

initial period of the Industrial Revolution, remained almost the same, 40 per cent, four decades later, while raw materials rose from 44 per cent to 54 per cent. The combination of food and raw materials thus rose from 86 to 94 per cent of total imports. The eighteenth-century enclosures and capitalist transformation which is supposed to have raised agricultural productivity in Britain, in fact saw actual *decline in per capita corn (wheat) output*,

Table 4. Britain's Trade Deficit with Asia and West Indies

Period	Total Exports, TX (£ mn.)	Total Imports, TM (£ mn.)	Balance, TX-TM (£ mn.)	GDP (£ mn.)	Balance/GDP (%)
1784-86	3.45	9.52	-6.07	106	-5.7
1794-96	8.66	15.93	-7.27	156	-4.7
1804-06	10.82	20.41	-9.59	250	-3.8
1814-16	10.47	28.45	-17.98	288	-6.2
1824-26	8.74	19.6	-10.86	300	-3.6
1834-36	9.83	19.48	-9.65	380	-2.6
1844-46	14.7	20.06	-5.36	465	-1.2
1854-56	18.26	34.41	-16.15	558	-2.9

Source: Calculated from Davies (1979), Appendix Tables.

as argued earlier by this author on the basis of the data in Chambers and Mingay (1966). This conclusion is confirmed when we study subsequent detailed empirical research by a number of economic historians of British agriculture (the relevant references are available in Patnaik 2011). There was no real 'agricultural revolution' in the sense of adequate rise in domestic productivity. The most prolonged—from the 1790s to the 1840s—agitation ever seen in European history on a political economy issue, for more grain imports and against the Corn Laws in Britain, underscores the increasing food deficiency from its agriculture. This is why foodstuffs imports remained so important, and would have been even higher without the restrictions of the Corn Laws. A large part of imports of grain from temperate lands were paid for through re-exports of tropical goods.

The major colonized regions contributed slightly over half of Britain's total imports in the first two periods centred on 1785 and 1795, and never accounted for less than two-fifths after that (Table 2). The commodity composition of Britain's imports from Asia and the West Indies shows that nearly two-thirds comprised foodstuffs at the end of the eighteenth century, and this share rose further to 73 per cent by 1815, before declining to over three-fifths in the next two decades. Raw materials rose from just over one-fifth to more than two-fifths by 1854-56, but still remained below the 52 per cent share of foodstuffs.

Foodstuffs from Asia and the West Indies combined, averaged as much as 32 per cent of the total of 'all' imports into Britain during the two triennia of the early Industrial Revolution, 1784–86 and 1794–96. The most important items accounting for not less than 85 per cent of the total value were cane sugar, coffee and tea. The remainder consisted mainly of tropical cereals and spices. Imports from the tropical colonies were re-exported to pay for a third of Britain's imports of wheat and other foodstuffs from Continental Europe. The consumption basket of the population was already improving fast. There must have been appreciable reduction in diurnal drunkenness and better labour productivity owing to the rising availability of the non-alcoholic beverages. Over the three decades 1785 to 1815, the current value imports from both the tropical colonies and Ireland, trebled (an annual growth rate of 3.7 per cent). By 1854–56, the value of imported primary products retained within the country was more than Britain's domestic primary sector output value (Davis 1979, Table 3).

Britain could not have afforded to undertake such massive imports had they been from free, sovereign countries, because it lacked the ability to pay for them. The trade deficit with Asia and the West Indies combined, ranged from nearly four to over six per cent of Britain's GDP during the period of the Industrial Revolution (Table 4), and adding the trade deficit with Continental Europe raises the deficit to 7 to 10 per cent of GDP. After the mid-nineteenth century, Britain also ran trade deficits with North America. But the trade deficit with the colonies was qualitatively different, it created no external liability for Britain since the producers of colonial export goods were not actually paid—the money they got came out of taxes they themselves had to hand over to the colonial state. This feature is, of course, absent in modern times, since there is no political control enabling such direct surplus appropriation. But getting at least a part of import goods effectively without payment is sought to be secured by repeated pressure for devaluation of the developing countries' already undervalued currencies, so that imports are continuously cheapened for the advanced world. This is related to but not the same as decline in the terms of trade, on which there is a large literature in development economics. What we see is absolute decline in dollar unit prices of a range of exported goods from the global South. A backward-sloping supply curve is urged upon developing countries, by international institutions which say that, as it is imperative for them to maintain exchange earnings, more volumes should be exported at falling unit prices.

Present-day Import Dependence of the Industrial North on Developing Countries' Agriculture

Technological advances in the capitalist world and changes in taste have led to some degree of import substitution with regard to traditional items of sub-tropical and tropical goods. Fibres like jute and cotton have been partly replaced with synthetic fibres but for garments, a rising demand for raw cotton and cotton yarn, remains for use in pure form or mixed with synthetic fibres. Cane sugar has been substituted partly by sweeteners derived from corn. There are synthetic substitutes for organic fabric dyes and for flavouring agents like vanilla, but rich consumers still demand the natural products for food use. On the other hand, both rising income and greater knowledge of health issues has raised the demand of advanced country populations for many primary consumption goods not imported earlier, producible only in warm lands in the winter season when nothing can grow in cold temperate lands. These include some types of vegetable oils which have increasingly replaced traditional use of animal fat as a cooking medium. Perishable fresh fruits and vegetables are air-freighted in winter from distant developing countries, more fish and sea food imports take place as a high level of red meat consumption is contra-indicated for health reasons.

From the early 1970s the large agri-business corporations emerged, and a process of vertical integration over time is seen in which the same entity sources the primary crops, processes and packages, and runs large supermarkets in advanced countries, which have increasingly replaced small family-run stores. The corporations which source products through contracting with local farmers also often provide specific types of genetically modified seeds, which is one element of tying the producer to the specific company. By making available a large range of agricultural products sourced from tropical lands to advanced country populations, the agri-business corporations and large-scale retail outlets have played a major role in making seasonality of supply a memory of the past, in cheapening products hitherto considered exotic, and have promoted changes towards more diversified and sophisticated consumption patterns, which are becoming generalized from a rich minority to the middle classes.

We require a complete matrix of world trade to establish sources and destinations of the major traded primary goods, but such a matrix is not available at present. Using the data on production and trade from the database of the United Nations Food and Agriculture Organization (FAO), at least a partial picture can be obtained of the comparative

import dependence of developed and developing countries. From Table 5 covering a total of 20 food groups, we see that for advanced industrial countries like Germany and the United Kingdom, for at least three food groups there is zero domestic output, hence import dependence approaches infinity, as has been the case always for two of these groups, namely, the stimulants (coffee, tea, cocoa and so on) and spices. For six more food groups in Germany and four more in the United Kingdom, imports exceed domestic output, in some cases amounting to a multiple of home output. These food groups include sugars and sweeteners, fruits and vegetables, oil crops and vegetable oils, fish and seafood. It is interesting to find that Germany exports spices and stimulants to a substantial extent, though it produces none at all: it re-exports one-third of its spices imports and two-thirds of its stimulants imports, possibly to Scandinavian and East European countries. Germany imports three times more fruit than it produces and its exports are more than its own production, again indicating re-exports.

Even a warm temperate Mediterranean country like Italy, endowed with the gifts of the olive and the vine, is very substantially import dependent. As in cold temperate countries, its output of stimulants and spices is zero, so import dependence tends to infinity. For six food groups, it imports more than its domestic output. Despite an extensive coastline, it imports more than four times the fish and seafood that it produces domestically. Additionally, for cereals, starchy roots and milk, its imports exceed 60 per cent of domestic output.

The United States, a country of continental dimensions with some sub-tropical land, and with the largest arable area under cultivation of any country in the world, is less import dependent than the European countries. Despite its very large and relatively more varied output; however, it is a net importer for ten out of the twenty food groups, and for eleven groups it imports more than one-fifth of domestic output. It imports to the extent of more than 30 per cent of domestic output in the case of vegetable oils, fruits, fish and sea-food, aquatic products and tree nuts. It imports nearly one thousand times the stimulants and over three hundred times the spices that it produces and engages in re-export of these items. It is also a substantial importer, to the extent of between 20 and 30 per cent of domestic output, of pulses, sugar and sweeteners, vegetables and alcoholic beverages. For many products, although the import ratio to domestic output in the United States is small compared to the largest individual European country, Germany, the absolute import volumes for the United States are close to, or more than, double

Table 5. Imports as a Percentage of Domestic Production for all Food Groups, Selected High Income Countries and Regions, 2011

Food Group	Imports/Production (M/Q)							
	Germany	United Kingdom	Italy	USA	European Union	Russian Federation	Japan	W. Asia
Cereals	27.2	19.3	63.2	2.3	28.6	1.5	390.3	86.1
Pulses	63.5	31.6	203.5	22.4	43.9	1.7	209.9	73.4
Starchy roots	11.9	29.2	99.2	18.1	25.6	5.5	40.7	13.9
Sugar crops	0.9	0.1	0	0.4	0.7	0	0	0
Sugar & sweeteners	40.7	108.3	261.1	22.8	73.9	46.9	87.2	279.2
Oilcrops	183.8	44.3	44.4	2.2	72	9.6	2363	78.6
Vegetable oils	111.4	172.1	225.3	39.5	132.1	33.6	64.1	175.5
Vegetables	172.6	159.2	13.9	24.1	42	22.8	26.1	8.4
Fruits	338.1	1882.8	15.7	30.9	89.9	282.1	150.2	22.7
Stimulants	→ ∞	→ ∞	→ ∞	98200	→ ∞	→ ∞	854.9	332.2
Spices	→ ∞	→ ∞	→ ∞	31600	339.2	200	194.4	123.2
Alcoholic beverages	35.7	45.1	19.2	22.8	27.3	11.5	24.9	35.3
Meat	31.6	69.7	43.1	3.7	36	28.1	100.8	43.4
Offals	18.4	42.4	20.1	3.3	27.6	58.2	24.6	6.8
Animal fats	23.4	60.2	48.4	1.8	39.3	35.9	36.8	84.6

Eggs	65.2	12.7	5.2	0.1	19.7	1.2	2	15.4
Milk	25.4	39.5	71.7	4.3	33	7.1	25	24.4
Fish & seafood	1128.5	47.6	417.6	90.3	275.7	31.7	95.6	121.3
Aquatic products, other	→ ∞	→ ∞	3100	180	310.7	100	15.6	100
Treenuts	4446.7	→ ∞	106.7	40.7	320.4	1246.2	1094.7	45.7

Source: Calculated from the data base of Food and Agriculture Organisation, atfaostat3.fao.org/faostat-gateway/go/to/download/F/FO/E, accessed 20 December 2014.

Note: Where a country's output for a particular food group is zero and there are imports, the import to output ratio is shown as tending to infinity using the symbols '→ ∞'.

(sugars and sweeteners, vegetables and fruit, alcoholic beverages, fish and seafood). It seems *prima facie* surprising that, in spite of its extensive coastline, the United States imports fish and seafood to the extent of 90 per cent of its domestic production, evidently mainly from tropical lands.

Japan, the first Asian industrial nation with an even greater land constraint than Britain, like that country became food-deficient during its transition period, by the turn of the nineteenth–twentieth centuries and relied heavily on tax-financed rice imports from its colonies—Korea and Taiwan—in the interwar period. Unlike the Northern industrial nations, it remains today a large importer of foodgrains, four times and double its domestic output for cereals and pulses, respectively. For another seven food groups, it imports more than its domestic output.

We have included in Table 5 another newer import dependent region, the oil-rich countries of West Asia with medium-high per capita income, many of which face climatic constraints on production. This region, too, is substantially dependent on foodgrains import, apart from higher import volumes than domestic production for sugars and sweeteners, vegetable oils, fish and seafood.

Import Dependence of Regions/Countries of the Global South

As soon as we compare the import dependence of regions and countries of the global South, we see a very striking difference, namely, that only for one or two food groups is there any substantial import, and even for these groups import is never more than domestic output (Table 6). For 13 out of the 20 food groups, India imports zero or one-half per cent and less of domestic output, for another three groups its import dependence is below 5 per cent. Only for three groups—pulses, vegetable oils and tree nuts—is the import to output ratio high, for pulses nearly one-fifth, and for tree nuts and vegetable oils above four-fifths. Of these, tree nuts import is of small importance in absolute terms, but imports of edible oils, mainly palm oil from Southeast Asia, have increased fast in recent years, to reach nearly nine-tenths of output.

China, after three decades of trade liberalization, shows higher import ratios than India, but much lower than the advanced countries. Import dependence is below 5 per cent for ten food groups, and for another four groups it is below one-fifth. The most important import is of oil crop

Table 6. Imports as a Percentage of Domestic Production for all Food Groups, Selected Low and Medium Income Countries and Regions, 2011

Food Group	Imports/Production (M/Q)									
	India	China	Indonesia	S.E. Asia	Least Developed	Africa	Brazil	South America		
Cereals	0.04	1.2	20.9	17.1	18.1	47.5	12.9	19		
Pulses	18.3	18.8		5.2	5.5	9.9	7.8	14.1		
Starchy roots	0.16	11.5	8.7	7.2	0.6	0.44	1.91	2.3		
Sugar crops	0	neg.	0	0	0	0	0	0		
Sugar & sweeteners	0.48	27.9	121.4	33	116.1	104.7	0.01	5.1		
Oilcrops	0.13	96.9	9.4	13.4	4.3	11.9	0.28	0.78		
Vegetable oils	86.8	47.2	0.4	9.9	167.2	116.8	6.6	12.9		
Vegetables	0.01	0.3	8.1	7.6	5.2	4.4	5	6		
Fruits	0.88	4.2	5.3	5.7	3.7	3.4	1.9	3.2		
Stimulants	9.4	21.2	9.1	34	22.4	19.6	2.5	9.4		
Spices	2.3	3.4	23.1	27	1.3	14.4	33.3	14.3		
Alcoholic beverages	1.4	1.5	0.3	7.1	4.7	3.6	4.1	4.2		
Meat	0.03	4.9	2.9	10.6	9.5	11.6	0.18	2.4		
Offals	0	4.4	8.1	15.2	1.3	13.4	0.6	1.8		
Animal fats	0.05	24.2	27.2	37	21.6	48.8	3.9	20		

(Table 6 continued)

(Table 6 continued)

Food Group	Imports/Production (M/Q)							
	India	China	Indonesia	S.E. Asia	Least Developed	Africa	Brazil	South America
Eggs	0	0.4	0.4	0.3	5.9	2.6	0	0.3
Milk	0.04	13.4	165	165.5	9	20.1	3.4	5.1
Fish & seafood	0.06	20.9	8.5	15.8	5.5	63	53.5	17
Aquatic products	0	0.2	0	0.1	0	0	150	1.9
Tree nuts	83.1	14.1	2.7	6.3	18.3	5.7	23	23

Source: Calculated from data base of FAO Food Balance Sheets, faostat3.fao.org/faostat-gateway/go/to/download/F/FO/E, accessed 20 December 2014.

Note: Where import was zero for any food group, the percentage of import to domestic output is shown as zero.

which almost equals domestic output, and vegetable oils at nearly half of output, but a substantial part is imported from neighbouring Southeast Asian countries.

Africa and the least developed countries show high import dependence only for sweeteners and edible oils. With falling per capita cereals output, as exportable crops rose under the debt-conditional trade liberalization regime of the early 1980s onwards, Africa has become heavily cereals dependent, relying on imports at present to the extent of nearly half of domestic output.¹ South America shows consistently low import dependence in all food groups compared to the advanced countries, below 5.1 per cent of domestic output for 11 groups, and its highest ratio does not exceed one-fifth (for animal fats, of no great absolute magnitude).

It is needless to reiterate the point that the advanced countries' import dependence is far greater than that of developing countries. Not only does dependence for the traditional non-perishable goods continue (stimulants, spices, sweeteners); rich populations have become now habituated to a year-round supply of perishable crops, fish and seafood. But without imports from the global South, consuming these items becomes impossible for them, since domestic production does not exist in winter, and their supermarket shelves would be bare. Without intensive trade with the South, the standard of living of populations in the North would collapse, to levels certainly better than in late medieval times since foodgrain supply is not a constraint, but their consumption basket would become extremely limited and monotonous. The incessant pressure on developing countries to 'open up' to the pull of global (read: advanced country) demand is the outcome of this material reality of asymmetric production capacities.

The question may be asked: why should there be any problem with international specialization such that the countries of the global South produce the goods only their warm lands can produce, which advanced country populations wish to consume, and export to the North in exchange for the foodgrains and dairy products of which these countries have a surplus? There is a serious problem with such specialization and exchange however, which is completely ignored in mainstream economic literature, primarily because the problem with its manifold dimensions affects the South and not the North. First, food dependence has been used almost invariably to gain political leverage by the dominant exporting countries, as Teresa Hayter (1971) had documented long ago. Second, and most important, tropical arable land is more limited in supply than temperate lands, and both in history and at present, we find an *inverse relation between exports and domestic food availability*, as

land has been diverted away from crops meeting the food needs of local population, or in some case foodgrains themselves have been exported to metropolitan centres.

In India during the period 1900 to 1941, there was a 29 per cent decline in foodgrains output per capita, while export crops grew ten times faster than food grains. Java under the Netherlands saw a similar order of decline in rice output per head over same period, while sugarcane and rubber output were promoted. After Independence from colonial rule, substantial improvements in food availability were registered as government's privileged domestic food security over exports. In the present era of neoliberal reform and trade liberalization, the process has been reversed, and we see the structural features of the colonial period re-emerging. From the 1980s, many countries in Latin America, the whole of sub-Saharan Africa, and India from the 1990s, have seen declining grain output per head.

Food imports have not compensated for the decline, because whether imports take place to the required extent at all depends on whether the purchasing power of poor populations is maintained. If purchasing power is curtailed, then grain exports may take place even while the population is more hungry: the market responds not to hunger but to purchasing capacity. In the main, neoliberal policies involve not only free trade but also tight money and fiscal contraction, hence there is mass income deflation. We see decline in purchasing capacities, decline in food availability and worsening nutritional levels. The statistical evidence for these results has been presented at length by this author earlier in *The Republic of Hunger and other Essays* (Patnaik 2007). The nature of growth itself determines distribution: the period of the most rapid average income growth in India, for example, has seen such serious contraction in mass purchasing power that per capita grain availability has fallen steeply, reducing average nutritional standards and producing rise in poverty, as this author has shown in 'Capitalism and the Production of Poverty' (Patnaik 2012). The recent massive exports of grain from India during 2013 and 2014, totalling 42 million tons, reflect not a surplus of output over normally growing demand, but contracting market demand. By 2011, the country was down to the lowest level of grain consumption for all uses, in the entire world (Table 7) —lower than the average for Africa and the Least Developed Countries—and the situation at present is no better.

Third, basic food staples supply is too important to be left to the vagaries of the global market which may see sudden tightness of supply from the major sources. Having induced many developing countries to

Table 7. Cereals Supply/Demand per Capita and Utilization, for Selected Countries and Regions, for Year 2011 (unless specified otherwise)

Country/Region	Population (million)	Total Production (kg)	Total Supply, Demand (kg)	Per capita in kg per annum		
				Food (kg)	Feed (kg)	Other Use & Food Man. (kg)
India	1221.2	192.7	176.5	152.1	9	0.42
(India, 2001)	1059.5	185.3	175.9	156	6.8	0.42
Least Dev. Countries	773.5	197	216.2	148.4	26.9	19.5
Africa	971.2	158.3	225.7	150.5	40.5	12.6
China	1368.4	330.2	330.7	152.5	121.7	34.3
West Asia	230.3	217.5	351.6	178.4	119	16.3
Russian Federation	143.4	637.5	514.1	149.5	254.7	31
European Union	507.4	577.6	549.1	124.9	330.5	61.6
USA	314.9	1219.5	1032.9	105.8	396.3	521.4
(USA, 2001)	287.5	1118.9	877.9	112.7	571.4	179.1
World	6887.31	340.6	336.6	147.2	118.9	46.1
(World, 2001)	6122.51	311.5	313.2	148.7	117.8	22.1

Source: FAO, faostat3.fao.org/faostat-gateway/go/to/download/F/FO/E, accessed 20 December 2014.

Note: 'Supply' which is identical to actual demand for all purposes, is obtained by FAO by adjusting the output figure for net import and change in stockholding. The last column adds food manufacture and other uses including conversion to fuel. Use of cereal as seed and waste is not shown but can be obtained as a residual.

wind up their own food grain procurement and distribution systems on the argument routed via the Bretton Woods Institutions that it was more rational to import from Northern countries which had a surplus, the United States and European countries then started diverting their grain to ethanol production. The US has reduced its absolute grain exports substantially over the last decade by about 50 million tons, and raised four-fold the domestic conversion of grain to fuel—two-fifths of its entire domestic grain supply now goes into fuel production (Table 7).² The risks to developing countries of relying on advanced countries' specious promises have been driven home with the food crisis from the end of 2007 onwards, which sharply raised the cost of food grains for developing countries induced into food import dependency, led to food riots and lowered the nutritional status of the poorer majority of populations.

The danger to food security from unrestricted exports to the North and from the new trade discipline seeking to constrain grain stocking for operating a public distribution system, are much better understood today in developing countries than was the case a decade earlier. Much damage has been done already, and public food security systems which have been undermined, need to be revived. The positive feature is that there is a new resistance from the global South today in international trade negotiations to the continuing attempt to prise open their lands for filling supermarket shelves in the North, without regard for the food security consequences for poor populations.

Notes

1. For a calculation from UN data of the extent of sub-Saharan Africa's food staples decline, see 'The loss of food security in sub-Saharan Africa' in Patnaik (2007).
2. For the USA in 2011, in the last column of Table 7, food manufacture is one-tenth of supply, while ethanol conversion is four-tenths.

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