A case study of Norway's beef trade from developing countries

Karl M. Rich (NUPI), Arne Melchior (NUPI),

Brian D. Perry (University of Edinburgh)

Norsk Utenrikspolitisk Institutt
Norwegian Institute of International Affairs

NUPI Working Paper 796

Department of International Economics

Publisher: Norwegian Institute of International Affairs

Visiting address: C.J. Hambros plass 2d
Address: P.O. Box 8159 Dep.
NO-0033 Oslo, Norway
Internet: www.nupi.no
E-mail: info@nupi.no
Fax: [+ 47] 22 36 21 82
Tel: [+ 47] 22 99 40 00

A case study of Norway's beef trade from developing countries

Karl M. Rich (NUPI), Arne Melchior (NUPI), Brian D. Perry (University of Edinburgh)

The paper has been prepared for the Norwegian Ministry of Foreign Affairs, as part of NUPI's project on GSP and developing country trade during 2011. Financial support from the MFA is gratefully acknowledged.

A case study of Norway's beef trade from developing countries

This section provides information on Norway's beef trade in the context of GSP. We limit our analysis solely to products found in 0201.30 and 0202.30 (fresh and frozen boneless beef, respectively) of the tariff schedule, as imports of carcasses and bone-in products (0201.10, 0201.20, 0202.10, 0202.20) from the developing world are limited by SPS regulations that prohibit bone-in imports to protect primarily against the entry of foot-and-mouth disease (FMD). The information generated in this report comes from a combination of public sources, economic literature, and informant interviews with beef importers in Norway.

An overview of Norwegian imports of beef

Norway is increasingly deficit in beef production. Data from SLF (2011) reveal that Norwegian production of meat has fallen from nearly 85,000 tons (in carcass equivalent) in 2008-09 to 83,400 tons in 2010-11. Demand, on the other hand, has been rising, with industry sources estimating consumption at 90,000-95,000 tons. Total imports of beef (in carcass equivalent) have fluctuated in recent years, from a high of 8,433 tons in 2008-2009 to a low of 6,241 tons the following year. Imports for 2010-2011 were reported at 7,137 tons (SLF 2011).

Imports of boneless beef currently fill a significant role in filling this deficit, although issues of data comparison make understanding the magnitude of this assessment a bit problematic. The official statistics of SLF are in carcass equivalent while import statistics for imported beef are defined by product. In addition, SLF provides statistics for the marketing year, while the import statistics are given in calendar year. For the duration of the analysis, we will use the trade statistics in our analysis, measuring imports at a product level.[1]

Total imports of beef are provided in table 1, as reported by SSB for all types of beef. As noted in the table, imports of bone-in beef and carcasses are rather erratic, fluctuating from a high of 6,166 tons in 2008 to a low of 12 tons in 2006. On the other hand, boneless beef imports are relatively stable at between 4,500-5,000 tons.

[1] Roughly speaking, one can convert carcass weight to boneless equivalent by multiplying by 0,6, but this does not solve the issue of bone-in imports, nor does it get at the comparability of marketing year vs. calendar year.

Tables 2-5 look more closely at boneless beef imports. The majority of imports of boneless beef into Norway (80-85 percent) are in the form of frozen imports. In table 2, data on imports of high-value chilled filets and tenderloins are provided (733 tons in 2010), with the table highlighting that the overwhelming share (typically 90 percent or more) of chilled filets comes from Namibia and Botswana, based on their preferential quota (discussed in more detail in the next section). At the same time, the share from Botswana has been erratic, with limited imports in 2008 due to FMD problems, which have closed their market for much of 2011 as well. Imports from South America are relatively small, though Uruguay, an ordinary GSP country, increased its share to 15 percent in 2010. Table 3 shows relatively small imports (generally under 100 tons) of other chilled boneless beef, much of which came from Uruguay in 2010. There is a wider diversity of suppliers for frozen beef, as illustrated in tables 4 and 5. Roughly one-third of frozen boneless beef imports are in the form of filets (table 4). In this market, a sizable share once came from Brazil in 2006-2007, though this has rapidly declined and been supplanted by imports from Uruguay since 2008. Part of this was due to the decertification of most export abattoirs in Brazil by the EU in 2008 over concerns about Brazil's traceability program.[2] One informant interview also noted dissatisfaction over the quality of meat compared to other regional suppliers such as Uruguay. The appreciation of the Brazilian Real against the Norwegian kroner of about 10-15 percent over the past 2-3 years has also made Brazilian products less competitive.[3] As Brazil has exited this market, there have also been increased frozen filet imports from Namibia since 2008. On the other hand, Namibia and Botswana play a larger role in the market for other frozen beef, with a combined 80-90 percent share of the market over 2006-2010. Imports from Swaziland have picked up since 2009, with 363 tons of imports registered in 2010 (table 5).

Overview of the import regime

Norway has traditionally operated a rather closed, managed market for beef importsnder WTO-auspices, Norway operates a tariff-rate quota (TRQ) for beef that allows the entry of a small amount of product at a relatively low tariff rate, with higher rates of duty imposed on imports over the quota. There are several different TRQs of relevance to boneless beef. The main quota is the WTO quota, which allows for the annual import of 1,084 tons of frozen beef at an in-quota duty rate of NOK 33,60/kg for boneless cuts. Countries with ordinary GSP access

2 An informant interview revealed that the number of certified abattoirs fell from over 9000 to around 100 in 2008, which has since increased to about 2000 at present.

3 Data from Norges Bank show that the Norwegian kroner has weakened against the Brazilian Real from 0.33 NOK:Real in Jan 2008 to 0.27-0.28 NOK:Real by mid-2010. It has since strengthened back to 0.3151 as of end-Sept. 2011.

receive a 30 percent discount on this duty, so that the in-quota GSP tariff is NOK 23,52/kg. The WTO quota is administered once per year by an auction system – table 6 provides a list of the prices and volumes for the 2011 WTO quota. For imports outside the WTO quota, the duty is 119,01 NOK/kg, with GSP countries paying 10 percent less at NOK 107,11/kg.

The WTO quota is not the only means by which imports are regulated into Norway. Norway also maintains a quota under its SACU free-trade agreement, in which 500 tons of imports from Botswana, Namibia, and Swaziland are allowed duty-free, with over-quota imports assessed a slightly lower duty rate vis-à-vis the MFN rate (NOK 101,16/kg). This quota is also administered by an annual auction.

Separate to this quota is an additional duty-free quota for Namibia and Botswana of 2,700 tons and Swaziland of 500 tons that was grandfathered from the previous GSP regime. The quota has been traditionally divided evenly between Namibia and Botswana (1,350 tons each). In Norway, this quota is allocated on a first-come, first-served basis, and is, not surprisingly, fiercely competed among importers. Indeed, the rapid filling of this quota (in 2010, the entire quota was filled within 5 minutes on 1st January) led to the Namibian government instituting a license system within Namibia to allocate the quota internally. This was somewhat controversial, as the Namibian government allocated the 2011 quota evenly between the two exporting entities in Namibia: MeatCo (a quasi-state managed cooperative) and Wittvlei, a private exporter, despite the fact that MeatCo's share of exports is considerably higher than Wittvlei.[4] Adding to the controversy is the ownership stake (30%) of a Norwegian firm (Notura) in Wittvlei. An additional aspect of this quota is its WTO-legality, as neither of the three countries subject to the quota are LDCs eligible for duty-free, quota-free access, nor have any transparent criteria been provided to single out these three countries as deeming a special quota. This issue will be discussed later in the report.

A final quota operated in Norway is a supplementary quota managed by SLF, based on a determination of the supply-demand situation for beef in the country. In 2011, a supplemental quota of 4,000 tons was allocated by auction. The supplemental quota at present is only open for carcasses (ostensibly to maintain throughput for processing firms in Norway), which limits sourcing to nearby countries (mainly Germany and neighboring Nordic countries) as the shelf-life of carcasses

[4] See http://www.namibian.com.na/index.php?id=28&tx_ttnews[tt_news]=66617&no_cache=1; http://www.observer.com.na/archives/150-witvlei-and-meatco-strike-deal-on-norwegian-quota; http://www.observer.com.na/component/content/article/1-national/189-beef-quota-split-irks-meatco .

is only around 4-5 days. Norwegian importers complain about the nature and allocation of this quota, as cuts of beef are not allowed to be imported through it, nor are such demands for quota increases communicated by SLF in a timely fashion. At the same time, the supplementary quota is a boon to processors such as Fatland, who benefit from the added processing business the quota entails.

The role of GSP in market access for beef imports into Norway

Countries under the LDC list are allowed duty-free, quota-free access for beef exports to Norway, but at present, no countries on that list currently supply to Norway. A major factor for this is strict SPS regulations that govern animal health in the beef trade, particularly as concerns FMD. Countries that wish to export beef are required to be certified by the OIE (World Animal Health Organization) as being free of FMD; specific, contiguous zones can also be specified as FMD-free as well. There is a further distinction on FMD status between those countries that vaccinate against FMD and those that do not. This distinction is made as tests for the presence of FMD typically do not distinguish between clinical FMD and those animals that have generated an immune response to the disease; some countries, notably Japan and Korea, use this as criteria to only accept meat from FMD-free without vaccination countries (Rich & Winter-Nelson, 2007). However, there has been an improvement in the diagnostic tests for FMD, rendering this distinction increasingly unnecessary. These strict barriers are imposed given the highly infectious nature of FMD, with countries that have eradicated the disease (i.e., countries in North America, Europe, Australia, and New Zealand) taking strong measures to keep the disease out through imports (Rich & Winter-Nelson, 2007). Indeed, infectious imports of contaminated feed and rubbish have been associated with recent outbreaks in South Africa (2000) and the United Kingdom (2001), with estimated costs of the latter outbreak exceeding £6 billion (Perry & Rich, 2007).

FMD-free developing country suppliers of beef fall into two categories. Exporting countries in South America are generally FMD-free with vaccination, with Paraguay, Argentina, Uruguay, and Brazil all following a vaccination policy. In the late 1990s, Uruguay and Argentina had achieved FMD-free without vaccination status, which was largely undone after a major outbreak of FMD in 2001 (Rich & Winter-Nelson, 2007). The state of Santa Catarina is Brazil has been certified as FMD-free without vaccination, as has the Patagonia region of Argentina. States in the North and far west of Brazil remain infected with FMD, though Brazil is undergoing a large campaign to be FMD-free nationwide over the next decade. Other potential exporting

countries in South America (Bolivia and Colombia) have zones that are FMD-free (with and without vaccination). In Africa, the main exporting countries (Namibia, Botswana, and Swaziland) are only allowed to export from FMD-free without vaccination zones; one rationale made for maintaining this added restriction vis-à-vis South America has been the different strains of FMD circulating in Africa (Thomson, et al., 2009)

With respect to other SPS regulations, Norway largely follows EU protocols, though imposes a stricter limit on salmonella than the EU. This regulation is a legacy of the Nordic country's EU accession negotiations in the early 1990s. With respect to residues, Norway has certified only a handful of importing countries with respect to beef. Table 7 provides a list of countries that both meet these residue threshold requirements and which are FMD-free, either with or without vaccination. As noted in the table, the only countries on the GSP list in this table are current suppliers: Argentina, Botswana, Brazil, Namibia, Swaziland, and Uruguay.

An important issue to consider in the context of the beef trade is the ability of countries to supply beef in the first place. For the most part, developing countries on the DFQF GSP list neither have the current means nor the potential to supply global markets for beef. Tables 8 and 9 are illustrative of this phenomenon. In Table 8, global export figures are given for the latest comparable year available (2008), based on export statistics from the Food and Agriculture Organization of the United Nations (FAO). Of these top suppliers, only two (Nicaragua in 11th place with nearly 52000 tons of exports, mainly to regional markets in Central America and Caribbean, as well as the United States, and Vanuatu in 30th place with just 618 tons of exports, mainly to Japan) are on Norway's DFQF list. A number of ordinary GSP suppliers are on the list of top suppliers, including India, which exports growing volumes of buffalo meat to markets in Africa and SE Asia (Rich, 2009). Table 8 further shows a bias in GSP exporters among Central and South American producers, most of which (save Nicaragua) are not on Norway's DFQF list.

Table 9 provides a very crude approximation of supply capacity for selected countries in Africa, Latin America, North America, and India, highlighting the number of animals in a country available per capita human population.[5] Major exporters of beef tend to have supply ratios over 1, with countries such as the United States and Canada making up for relatively low ratios with higher levels of offtakes and heavier slaughtered animals. India's figure is above 1 if one takes into account

5 This measure has been suggested by Jonathan Rushton at Royal Veterinary College in London as a crude measure of supply potential.

the non-Hindu population that could potentially consume beef. The figure indicates a number of countries in Africa with some potential for supplies (ratio between 0.5 and 1) such as Burkina Faso, Chad, Ethiopia, Mali, and Sudan, but low offtake rates (i.e., the number of animals marketed) and carcass weights limit this potential somewhat (table 9). Countries identified by informant interviews as potential supply bases, such as Madagascar, Uganda, and Zimbabwe fall somewhat below this potential group, although Zimbabwe was an important exporter 10-15 years ago. Moreover, as illustrated in Rich and Perry (2011), most countries in Africa (including Namibia and Botswana) are not competitive on price compared to major exporters such as Brazil, Argentina, and India – indeed, India typically exports to Africa at prices that are over 50 percent lower than present in domestic African markets, a reason why Indian exports to Africa have surged in the past 10 years. An important determinant of competitiveness in beef is scale, and with the exception of Sudan, Ethiopia, and possibly Tanzania, most countries in Africa do not have the animal resources necessary to compete on a large-scale. Even successful exports from Namibia and Botswana have been targeted at specific niches (EU and Norway) and are highly reliant on continued trade preferences – without such preferences, it is difficult to imagine that such trade would continue at current (Rich & Perry, 2011). The focus of development aid in the beef sector in Africa (see the Uganda case later as an example) is undoubtably a long-term investment with potentially limited returns, while other markets in Central America, South America, and India would likely bear more fruit, even if DFQF GSP (as currently fashioned) is not a factor in such markets.

SPS barriers are an important factor preventing market access, particularly with reference to not only FMD status, but other diseases endemic to the developing world (such as contagious bovine pleuropneumonia, or CBPP). However, an even larger constraint is the lack of capacity among component authorities in developing countries (Rich & Perry, 2012 (forthcoming)). Mechanisms are in place at an international level to improve capacity in this area. For instance, the OIE has an evaluation tool known as Performance of Veterinary Services (PVS) that assesses and identifies gaps in countries complying with OIE codes.[6] Further downstream, the EU funds the Better Training for Safer Food program that provides theoretical and practical training to food safety authorities in developing countries to comply with EU regulations. As many other developed countries have similar programs for improving capacity, coordinating activities, protocols, and resources may be one way to support improved SPS standards on beef in the developing world.

6 See http://www.oie.int/support-to-oie-members/pvs-evaluations/oie-pvs-tool/.

Much has been made recently on the role of changing regulations in a manner that might streamline exports of meat products from the developing world. Two such concepts include compartmentalization and commodity-based trade. A compartment is a set of biosecurity areas that ensure disease freedom throughout the supply chain, but do not necessitate disease freedom in a contiguous area (Zepeda & Salman, 2006). Commodity-based trade rests on the principle that the risk of FMD stems from the risk associated with the product exported, and that properly matured, deboned beef poses minimal to no risk for the spread of FMD irrespective of its origin (Rich and Perry 2011). Advocates suggest that commodity-based trade could enhance African trade in meat products (Thomson et al., 2009). A recent review of the concept suggested that the main beneficiaries of commodity-based trade would be producers with scale, namely Brazil, Argentina, and India, with smaller niche producers such as Namibia and Botswana gaining somewhat, but whose benefits stem largely from preferential access to European markets (Rich & Perry 2011).

At the end of the day, improving SPS standards would have important, positive impacts on the animal resources of developing countries, as well as ensure better food safety for developing country consumers. On the other hand, the impact on market access of such improvements on DFQF countries is likely very limited in the short- to medium-term.
Brief profiles of selected GSP exporters of beef: successes and failures

Namibia and Botswana: fragile success stories[7]

Namibia and Botswana are important suppliers of beef to Norway. As noted in tables 2-5 earlier, a significant share of Norwegian beef imports come from these two countries, owing to the shared 2,700 ton duty-free quota these countries receive. Swaziland has its own 500 ton quota, of which about 80 was filled in 2010 based on SSB statistics. Both countries also had preferential access to the European Market under the Cotonou agreement until 2008, which allowed for 13,000 tons of exports from Southern African countries (including Zimbabwe[8] and Swaziland) at sharp discounts (approximately 92 percent reduction in the MFN duty). These quotas to the EU, however, were never filled, and in most years exports from these Southern African countries were about 60-70 percent of the quota amount. The Cotonou agreement has since lapsed and currently these countries have market access secured through interim Economic Partnership Agreements, or EPAs. The South African market is also an important import market in the region, as it is increasingly deficit in domestic beef production.

7 Parts of this draw from Rich and Perry (2011), ODI (2007a, b), and unpublished reports.
8 Persistent problems with FMD since 2001 has compromised Zimbabwe's access to the EU, and they have not been a supplier since then.

Beef production in the region is primarily extensive in nature, with traditional marketing systems existing alongside large-scale commercial facilities. An important characteristic in both countries is the rigid segmentation of parts of the country into FMD-free and FMD-endemic zones to preserve exports from FMD-free areas. Zimbabwe formerly maintained similar FMD-free areas, but these have largely fallen under disrepair (Perry, et al., 2003)

In Namibia, the country is bisected in terms of its FMD status through a veterinary cordon fence (VCF, also called the "Red Line") that divides the Northern part of the country from the South. Production south of the VCF is a mix of traditional and commercial production, with exported production following strict traceability protocols to meet EU requirements. Roughly one-half of Namibia's animal stocks are on the northern side of the fence, which is predominately characterized by traditional and communal production, with very little in the way of marketed offtakes (less than 5 percent per year). Any exports of beef to South Africa require a 21-day pre- and post-slaughter quarantine period and must be frozen, and reports from industry sources suggest that exports to South Africa from north of the VCF have not occurred since 2007. Most production from north of the VCF is consumed in local markets, though small amounts of exports have been made to regional markets, such as Angola, Democratic Republic of Congo, Zambia, and Zimbabwe.

The dominant player in the Namibian market is MeatCo, a state-managed entity. MeatCo operates as a cooperative and its pricing scheme for animals (based largely on the South African market using a host of quality criteria) determines market prices. MeatCo has about an 80 percent share of the export market (based on its website http://www.meatco.com.na/about), producing roughly 27,000 tons of beef from 120,000 animals. Competition in the meat sector has recently emerged from Witvlei, a privately owned slaughterhouse, that primarily produces and exports for the South African and Norwegian market. Witvlei was formerly engaged in a partnership with two Norwegian entities, Fatland and Brødr. Michelsen, but this relationship broke apart over problems concerning export prices.[9] Fatland still has a minority share in Witvlei, but from March 2010, a 30 percent stake in Witvlei was sold to Notura, a major Norwegian processor.[10] According to numerous sources interviewed in Norway, there is a perception that Notura's aim with the Witvlei business is to raise prices in Namibia to near Norwegian prices in an attempt to squeeze importer margins.

9 http://www.namibian.com.na/index.php?id=28&tx_ttnews[tt_news]=67399&no_cache=1.
10 Ibid.

A significant source of tension in the MeatCo-Witvlei relationship is over the allocation of the 1,350 tons of the joint Namibia-Botswana quota. Previous to 2010, the quota was managed on a first-come, first-serve basis, and was typically filled minutes after the 1st of January (nicknamed the "New Year's Rally" by one importer). This dispute was recently arbitrated by the Namibian government, in which the quota is to be allocated on a 50:50 basis to each company.[11]

As with Namibia, Botswana has FMD-free and endemic zones, with about 7 percent of its cattle herd (about 180,000 animals of 2 million) found in FMD-endemic areas. In Botswana, trade is solely managed by the Botswana Meat Corporation (BMC), a parastatal. All meat destined for export markets must go through the BMC, while meat for domestic markets can be sold freely in open markets. Until recently, Botswana used its monopsony position to pay producers at prices less than export parity, which resulted in producers selling fewer animals to BMC-operated abattoirs, raising unit costs and excess capacity. This has since been improved, though Botswana has been largely out of the marketplace in 2011 on account of problems with FMD in its FMD-free area.[12]

For Namibia in particular, the Norwegian market is a lucrative one, as it allows MeatCo in particular to cross-subsidize its losses earned on its abattoirs north of the VCF (and exports to South Africa) from profits made in the EU and Norwegian markets. Indeed, a market feasibility study cited in Rich and Perry (2011) noted that returns in the Norwegian market alone are 5-6 times higher than those earned in the EU. MeatCo is currently working to improve marketing and production north of the VCF with Millennium Challenge Account (MCA) funds. Greater international adoption of burgeoning standards such as commodity-based trade could further open those markets north of the VCF for trade, although the costs of compliance with commodity-based trade protocols (or more basically, what those protocols would look like) are unknown.

While the meat trade has largely been successful in Namibia and Botswana, a few important points needed to be emphasized and weighed against. First, the meat sector in both countries has important development and livelihood considerations. According to ODI (2008b), the beef sector employs over 1,600 workers in abattoirs in Namibia, with over 3,000 communal farmers participating in sales to MeatCo and other operators. Given the local employment context in parts of Namibia (ODI (2007b) reports an unemployment rate of over 60 percent

11 http://www.observer.com.na/archives/150-witvlei-and-meatco-strike-deal-on-norwegian-quota.

12 http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/fmd-botswana-020611.pdf.

in some Northern areas) and Botswana, maintenance of the beef sector as a source of income generation is a key priority. However, this has to be weighed against the distortions that trade preferences have generated in both countries. Without trade preferences to both the EU and Norway, the export industry would struggle to survive, as production and processing costs compared to Latin American competitors have historically been higher (ODI 2007b). A further concern is the reported strategy of Notura to raise Namibian prices to near-Norwegian levels. Such a development is potentially dangerous by locking Namibia into an exclusive relationship with Norway and limiting the scope of alternative markets in which Namibia could be competitive, particularly if SPS or other market access barriers arose in the Namibian market that closed the Norwegian market to its exports.

Of course, an important aspect of trade preferences is whether they are used in a manner to improve the competitive position of the recipient country, and here, the evidence is mixed depending on the context. Namibia has been working hard over the past couple of years in branding its products on overseas markets. It established the Farm Assured Namibia program in South African markets a few years ago, and starting in 2008 established its Nature's Reserve brand that has targeted European markets.[13] Discussions with industry sources suggest that Namibia is becoming increasingly consumer-oriented and quite a bit of joint promotion efforts with Norwegian firms have been (and are being) planned. By contrast, one informant interview noted that Botswana is primarily a commodity-oriented supplier of beef, while another noting that BMC marketing efforts in Europe have been scaled down. In this lens, Namibia appears to be moving up the value chain and using its trade preferences in a more business-oriented fashion as a branded supplier. Botswana, by contrast, beset by recent issues with FMD, has not taken as innovative an approach.

A final issue to consider in this context is the nature of the preferences received. As noted earlier, it is not clear whether the joint 2,700 ton quota shared by Namibia and Botswana is WTO-compliant, as it fails to administer this preferential treatment with any clear, objective criteria as done with GSP country lists, for example. A more WTO-compliant mode of administering this quota would be to subsume it as part of the SACU quota, the latter negotiated as a free-trade agreement and not a special arrangement. An alternative mode of administration would be to open up a middle-income category under GSP, though this would disadvantage Botswana and Namibia (both upper-middle income countries, see table 10) relative to lower-middle the income country of Swaziland. In any case, consideration should be made to

13 See http://www.meatco.com.na/news/meatco-namibia-launches-its-flagship-beef-brand-natures-reserve and http://www.natures-reserve.co.uk/news.asp.

balance not overly disadvantaging current market access with GSP rules that are more transparent.

Uganda: a failure of over-ambition

The case of Uganda stands out as an important failure (to date) of trying to utilize GSP for expanding market access of beef into the Norwegian market. While Uganda has the tenth largest cattle herd in Africa (7.2 million head of animals in 2008, based on FAO statistics in Rich and Perry (2011)), it has a growing human population of over 30 million people and situated in an area in East Africa where demand for beef is growing (particularly in South Sudan). It is also a country that has been beset by a host of endemic transboundary animal diseases, such as FMD and CBPP (Rich and Perry 2012). Capacity in veterinary services in the country is relatively limited, and infrastructure to maintain movement controls and other protocols to prevent disease incursion is modest at best.

Uganda was targeted by Notura as a potential supply platform to export beef from Africa using Norway's DFQF program.[14] Notura contracted a private consulting firm to conduct a feasibility operation of its initiative, which included the zonation of disease-free areas through the use of cordoned fences (as in Botswana and Namibia), the construction of export-oriented abattoirs, organization of a producer cooperative, creating an export company, and training of stakeholders in animal health and hygiene.[15] The feasibility analysis suggested low returns in local and regional markets, but the potential for high profits in EU and EFTA markets. Notura estimated the cost of the project at nearly US$53 million, with roughly two-thirds of the funds to come from donor sources (Notura, 2007). NORAD provided some initial seed money (about NOK 20 million) that was used for capacity building and protocol development during 2009-2010. However, our discussions with Notura revealed that, as of 2011, the ambitions for the project might have been too great, given the capacity for veterinary services and institutions to deliver on the promise of the project. Notura is still pushing ahead with their program in Uganda, re-focusing instead on developing institutional capacity to meet EU standards, and with a focus on Middle Eastern markets in the medium-term.

14 Interviews with Notura revealed that Madagascar was the first choice of the company, but Norwegian development aid priorities were not aligned in this fashion, dampening the enthusiasm of partners in government to work with the company.

15 See Notura 2008, Developing An Export-Oriented Meat Industry in Uganda, Unpublished document, 11 June 2008.

Ethiopia: a potential African success story in the future?[16]

Ethiopia maintains the second largest cattle herd in Africa, with over 40 million head of animals. Exports of beef, however, remain relatively low, constrained by market access issues due to animal health considerations (FMD, CBPP, Rift Valley Fever, etc.). Live animal exports to the Middle East, mainly of sheep and goats, are more common, though much of this trade is informal, as a large proportion of Somali exports of animals to the Arabian Peninsula are of Ethiopian origin (Nin Pratt, et al., 2005).

At the same time, the Ethiopian government has prioritized the livestock sector as a source of foreign exchange, setting a target in 2004 that Ethiopia should export 30,000 tons of meat by 2008. This target was not met, as there are limited supplies of sheep and goats to reach this goal, while the beef export sector is not yet well developed for such large-scale exports. In light of this, the U.S. Agency for International Development (USAID) provided funding for the SPS-LMM program to enhance Ethiopia's meat export sector (http://www.spslmm.org/). The aims of the project are to improve Ethiopia's capacity in exporting meat, through training, market research, and development of SPS and quality certification protocols and infrastructure. Part of the program further conceived the development of a two-phase quarantine system that would ensure disease freedom along the supply chain (akin to a compartment). The focus of the project was on exports to the Middle East, with an eye towards developed country markets in the future. An evaluation of this system in Rich et al., (2009) found that while the costs of compliance with SPS added only about 5 percent to the costs of production, the need to utilize an intensive feedlot system could render the proposed protocol uncompetitive without improvements in sourcing adequate feeding resources.

Nonetheless, the SPS-LMM program has made some progress since its inception, although it has mainly focused on exports of sheep and goat meat rather than beef. Recent figures from 2010 show that total exports of meat modestly increased from 7,917 tons at project inception in 2005-06 to 10,183 tons in 2009-10.[17] Exports of beef were estimated at 780 tons, with most products destined for markets in the Middle East and Central Africa (e.g., Congo). Despite these modest figures, there is scope to scale up this program and develop regional export markets further, although improvements in veterinary services and acceptance of compartmentalization and commodity-based trade protocols will likely be needed to develop the sector further. Moreo-

16 Much of this draws from Rich et al., (2009).
17 B. Hurrissa and D. Dirbaba, 2011. A Rise in Live Animals and Meat Export from Ethiopia: Empirical Evidences of 10 years Trend Analysis. Unpublished report, SPS-LMM program, Addis Ababa.

ver, Ethiopian exports of beef face the challenge of competition with domestic markets, which are growing rapidly.

Vanuatu: a missed opportunity for the EU and Norway?[18]

Vanuatu is an intriguing case in the global beef sector. Situated as a set of islands in the South Pacific, Vanuatu is home to a cattle herd of 179,000 animals, based on FAO statistics from 2009. Of these stocks, roughly 13000 animals are slaughtered each year, with 6000 sold for domestic consumption and the rest for export. Vanuatu is classified by the OIE as FMD free without vaccination, and its SPS standards at two slaughterhouses have been certified to allow it to export to developed country markets with extremely high SPS standards, including Australia, New Zealand, and Japan. The quality of the beef has also been renowned.[19] Japan is the largest market for Vanuatu, with imports of just over 313 tons of frozen, boneless beef in 2010.[20] A manager at one of the export slaughterhouses noted that export sales for the next five years have already been pre-booked!

Vanuatu has DFQF GSP access to the Norwegian market, but this access has not been formally registered with the Norwegian authorities. Moreover, while Vanuatu has access to high-quality markets in Oceania and Asia, it does not have EU SPS certification. According to informant discussions, Vanuatu applied for EU certification in 2001 and was told that it would need to conduct a 3-year residue sampling process. Such a nationally funded protocol does not exist on Vanuatu, and donor funds were sought to achieve this, but were only enough for 2 years of funds. Since then, the focus of the industry has been towards Asian markets and away from the EU.

There is scope to expand exports from Vanuatu – offtakes are relatively low and fragmentation exists between smallholder suppliers and export supply chains that limit the amount available for export procurement, though this will take time in terms of supply chain development. Furthermore, with DFQF access, meat from Vanuatu would likely be highly competitive in the Norwegian market as a niche product, even after accounting for high transport costs (estimated at US$6000 per container) to Europe. As a reference point, import unit values of Vanuatu beef in Japan range from US$3.80-US$8.44 per kilogram, for frozen, boneless beef depending on the cut, while in Norway, these average US$6.22/kg for other frozen boneless beef and US$11.42/kg for frozen filets.

---

18 This is based on email correspondence with industry and government representatives in Vanuatu during Aug. 2011.

19 See e.g. http://www.greatreporter.com/content/vanuatu-beef-organic-market-0 and http://vanuatu.travel/news/vanuatu-tourism-office/vanuatu-organic-beef-stars-in-national-nz-cooking-contest.html.

20 Statistics from http://www.customs.go.jp/toukei/srch/indexe.htm.

Nicaragua: will past and current North American market access translate into European success?

Nicaragua is a particularly interesting case in the beef sector for a variety of reasons. As shown in table 8, it is only one of two top 30 global exporters on Norway's DFQF GSP list. Unlike most African countries, Nicaragua has been free of FMD for several decades (as is the whole of Central America), and its animal health and food safety standards have enabled it to achieve market access into the United States. According to UN COMTRADE statistics, in 2010, Nicaragua exported 16,959 tons of chilled boneless beef, of which 5,710 tons (nearly 34 percent) went to the United States, and 63,241 tons of frozen boneless beef, of which 28,544 tons (45 percent) went to the United States. Exports in general are growing at rapid rates, with 2011 looking to be a record year for exports and capacity in processing growing by nearly 40 percent in the next three years.[21] Perry et al., (2005) had flagged it as a country with significant comparative advantage for export, and the International Livestock Research Institute conducted research on the sector in 2004-2007 to highlight improvements in the value chain in terms of beef productivity, quality, and safety standards (Piñeiro, 2006)

In May 2011, the EU and Central American countries concluded free trade negotiations that will give Nicaragua an exclusive 500 ton duty-free quota that increases by 25 tons per year in subsequent years, and the region a duty-free quota of 9,500 tons that rises by 475 tons per year.[22] There have been tensions about how the general quota will be administered internally within Central America, as initial suggestions to split it evenly were rejected by Nicaragua; the eventual settlement allocates the quota to the country that can comply with EU protocols first.[23]

Interestingly, while much of the attention on supply bases has focused on African markets, Nicaragua could represent a potential area for increased exports for Norway once EU compliance is met. However, only one of the interviewers mentioned Nicaragua in passing as a supply base, and there was some reluctance as to whether the U.S.-market focus of Nicaragua could be overcome.

---

21 http://www.centralamericadata.com/en/article/business_commerce/Export_Record_for_Nicaraguan_Beef and http://en.centralamericadata.com/en/article/home/Nicaragua_Expects_38_Growth_in_Meat_Industry.

22 http://trade.ec.europa.eu/doclib/docs/2011/march/tradoc_147668.pdf

23 http://centralamericadata.biz/en/article/home/Central_America_Splits_EU_Beef_Quota_in_Equal_Parts and http://centralamericadata.biz/en/article/home/Cattle_Ranchers_Agree_on_EU_Quotas.

Rerferences

Nin Pratt, A. et al., 2005. *Benefits and costs of compliance of sanitary regulations in livestock markets: The case of Rift Valley fever in the Somali Region of Ethiopia*, Nairobi: International Livestock Research Institute.

Notura, 2007. *Developing an Export Oriented Meat Industry in Uganda Feasibility Study: Final Report*, Oslo: Nortura.

Overseas Development Institute (ODI), 2007a. Analysis of the Economic and Social Effects of Botswana's Loss of Preferential Market Access for Beef Exports to the European Union. Final Study, August 2007, London: Overseas Development Institute.

Overseas Development Institute (ODI), 2007b. Analysis of the Economic and Social Effects of Namibia's Potential Loss of Current Preference to the European Union. Final Study, May 2007, London: Overseas Development Institute.

Perry, B.D., Nin Pratt, A., Sones, K., Stevens, C., 2005. An appropriate level of risk: balancing the need for safe livestock products with fair market access for the poor. Pro-Poor Livestock Policy Initiative Working Paper No. 23, Food and Agriculture Organisation (FAO) on the United Nations, Rome.

Perry, B. D. & Rich, K. M., 2007. The poverty impacts of foot and mouth disease and the poverty reduction implications of its control. *Veterinary Record*, Volum 160, pp. 238-241.

Perry, B. et al., 2003. *The impact and poverty reduction implications of foot and mouth disease control in southern Africa, with special reference to Zimbabwe*. Nairobi: International Livestock Research Institute.

Rich, K. M., 2009. What can Africa contribute to global meat demand: Opportunities and constraints. *Outlook on Agriculture*, 38(3), pp. 223-233.

Rich, K.M., Perry, B.D., Kaitibie, S., 2009. Commodity-based trade and market access for developing country livestock products: the case of beef exports from Ethiopia. *International Food and Agribusiness Management Review*, 12 (3), pp 1-22.

Rich, K. M. & Perry, B. D., 2011. Whither Commodity Based Trade. *Development Policy Review*, 29(3), pp. 331-357.

Rich, K. M. & Perry, B. D., 2012 (forthcoming). Controlling Animal Disease in Africa. I: D. Zilberman, J. Otte, D. Roland-Holst & D. Pfeiffer, red. *Human and Environmental Health and the Future of Animal Agriculture in Developing Countries*. s.l.:Springer.

Rich, K. M. & Winter-Nelson, A., 2007. An Integrated Epidemiological-Economic Analysis of Foot and Mouth Disease:

Applications to the Southern Cone of South America. *American Journal of Agricultural Economics*, 89(3), pp. 682-697.

Thomson, G., Leyland, T. & Donaldson, A., 2009. De-Boned Beef – An Example of a Commodity for which Specific Standards could be Developed to Ensure an Appropriate Level of Protection for International Trade. *Transboundary and Emerging Diseases*, 56(1-2), pp. 9-17.

Zepeda, C. & Salman, M., 2006. *An approach for the implementation of compartmentalization for international trade*. Durban, International Society for Veterinary Epidemiology and Economics.

Table 1: Total imports of beef in Norway by product type (tons)					
	2006	**2007**	**2008**	**2009**	**2010**
Bone-in imports	12	4833	6167	2985	362
Boneless imports	4926	4599	4528	4466	4986
TOTAL	4938	9432	10695	7451	5348
Source: SSB					

Table 2: Imports of chilled, boneless filets (HS 02013001)										
	2006		**2007**		**2008**		**2009**		**2010**	
Country	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**
Australia	0	0 %	0	0 %	0	0 %	0	0 %	1	0 %
Botswana	269	39 %	201	34 %	36	5 %	168	23 %	207	28 %
Brazil	0	0 %	48	8 %	0	0 %	30	4 %	12	2 %
Denmark	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Finland	2	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Ireland	0	0 %	0	0 %	0	0 %	0	0 %	1	0 %
Italy	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Japan	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Namibia	412	60 %	339	57 %	737	95 %	511	70 %	391	53 %
Netherlands	0	0 %	0	0 %	0	0 %	1	0 %	1	0 %
New Zealand	0	0 %	1	0 %	1	0 %	1	0 %	1	0 %
Romania	7	1 %	0	0 %	0	0 %	0	0 %	1	0 %
Sweden	0	0 %	0	0 %	0	0 %	2	0 %	9	1 %
Uruguay	0	0 %	1	0 %	0	0 %	15	2 %	110	15 %
United States	2	0 %	1	0 %	0	0 %	0	0 %	0	0 %
TOTAL	**693**		**591**		**773**		**727**		**733**	
Source: SSB										

Table 3: Imports of other chilled, boneless beef (HS 02013009)

	2006		2007		2008		2009		2010	
Country	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**
Botswana	0	0 %	124	44 %	0	0 %	0	0 %	0	0 %
Brazil	0	0 %	0	0 %	0	0 %	14	93 %	0	0 %
Denmark	39	64 %	1	0 %	1	1 %	1	7 %	1	2 %
Namibia	22	36 %	158	56 %	89	99 %	0	0 %	0	0 %
Sweden	0	0 %	0	0 %	0	0 %	0	0 %	14	34 %
Uruguay	0	0 %	0	0 %	0	0 %	0	0 %	27	64 %
TOTAL	**60**		**283**		**90**		**14**		**42**	

Source: SSB

Table 4: Imports of frozen, boneless filets (HS 02023001)

	2006		2007		2008		2009		2010	
Country	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**
Argentina	0	0 %	33	3 %	203	21 %	209	22 %	17	1 %
Australia	22	2 %	2	0 %	0	0 %	0	0 %	0	0 %
Belgium	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Botswana	44	3 %	21	2 %	41	4 %	68	7 %	0	0 %
Brazil	496	34 %	584	48 %	151	15 %	107	11 %	33	2 %
Denmark	223	15 %	16	1 %	13	1 %	9	1 %	1	0 %
France	1	0 %	1	0 %	0	0 %	1	0 %	0	0 %
Ireland	0	0 %	0	0 %	0	0 %	0	0 %	2	0 %
Italy	0	0 %	0	0 %	0	0 %	1	0 %	2	0 %
Namibia	109	7 %	43	4 %	132	13 %	19	2 %	248	18 %
Netherlands	27	2 %	41	3 %	29	3 %	37	4 %	36	3 %
New Zealand	17	1 %	14	1 %	46	5 %	83	9 %	176	13 %
Paraguay	0	0 %	0	0 %	0	0 %	1	0 %	0	0 %
Poland	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Romania	12	1 %	0	0 %	0	0 %	0	0 %	10	1 %
Russia	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Spain	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
United Kingdom	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Sweden	38	3 %	44	4 %	2	0 %	22	2 %	17	1 %
Swaziland	0	0 %	0	0 %	0	0 %	1	0 %	32	2 %
Germany	1	0 %	1	0 %	0	0 %	0	0 %	0	0 %
Uruguay	480	33 %	407	34 %	366	37 %	399	42 %	766	57 %
United States	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
TOTAL	**1472**		**1209**		**983**		**958**		**1340**	

Source: SSB

Table 5: Imports of other frozen, boneless beef (HS 02023009)

	2006		2007		2008		2009		2010	
Country	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**	**tons**	**share**
Argentina	26	1 %	0	0 %	7	0 %	0	0 %	0	0 %
Australia	0	0 %	0	0 %	15	1 %	0	0 %	0	0 %
Belgium	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Botswana	1352	50 %	1193	47 %	1036	39 %	1056	38 %	1366	48 %
Brazil	207	8 %	187	7 %	99	4 %	122	4 %	32	1 %
Denmark	86	3 %	11	0 %	13	0 %	5	0 %	7	0 %
France	1	0 %	1	0 %	1	0 %	0	0 %	1	0 %
Ireland	256	9 %	316	13 %	59	2 %	0	0 %	0	0 %
Italy	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Namibia	424	16 %	618	25 %	1116	42 %	1376	50 %	996	35 %
Netherlands	0	0 %	0	0 %	9	0 %	1	0 %	1	0 %
New Zealand	35	1 %	33	1 %	98	4 %	77	3 %	34	1 %
Poland	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Russia	0	0 %	0	0 %	0	0 %	0	0 %	12	0 %
United Kingdom	0	0 %	40	2 %	79	3 %	0	0 %	0	0 %
Sweden	314	12 %	115	5 %	52	2 %	10	0 %	0	0 %
Swaziland	0	0 %	0	0 %	0	0 %	62	2 %	363	13 %
Germany	1	0 %	0	0 %	1	0 %	0	0 %	0	0 %
Uruguay	0	0 %	0	0 %	96	4 %	56	2 %	59	2 %
TOTAL	**2701**		**2515**		**2681**		**2767**		**2871**	

Source: SSB

Table 6: Allocation of different beef quotas by type of quota, 2010 and 2011
SACU quota

Rapport for: SACU 2011 Storfekjøtt		
Totalkvantum	500 000	
Minste kvantum	2 000	
Største kvantum	500 000	
Minstepris	0,05	
Budøkning	0,01	
Auksjonen startet	15.11.2010 09:00	
Starttid	16.11.2010 13:00	
Sluttid	16.11.2010 13:13	
Firma	**Tildelt kvantum**	**enhet**
NORTURA SA	125000	1,00
REMA TRADING AS	15000	0,06
NORSK KJØTTHANDEL AS	40000	0,06
NOR-FROST AS	5000	0,06
ULTIMAT AS	20000	0,06
JTS GOURMET AS	368	0,05
Kon-Tiki Foods AS	92072	0,05
NORSK POLAR AS	18414	0,05
FOOD RESTRUCTURING AS	92072	0,05
Purchase & Meat Group A/S	92072	0,05
Totalt tildelt kvantum:	499998	

Botswana/Namibia quota

Rapport for: BW/NA 2010 Storfekjøtt		
Totalkvantum	500 000	
Minste kvantum	2 000	
Største kvantum	500 000	
Minstepris	16,00	
Budøkning	0,01	
Auksjonen startet	09.11.2009 09:00	
Starttid	10.11.2009 12:00	
Sluttid	10.11.2009 13:43	

Firma	Tildelt kvantum	Bud pr. enhet
NORTURA SA	80000	16,01
Kon-Tiki Foods AS	80000	16,01
Johannessens import og investering	10000	16,01
A LA CARTE PRODUKTER AS	572	16,00
HOLST FOODS AS	143229	16,00
FOOD RESTRUCTURING AS	143229	16,00
Fatland Jæren AS	42968	16,00
QUALITY FOOD AS	0	10,54
BRØDR MICHELSEN AS KJØTT OG PØLSEVARER	0	5,00
NORSK KJØTTHANDEL AS	0	4,50
RIEBER & SØN ASA	0	0,01
ULTIMAT AS	0	0,01
NORSK POLAR AS	0	0,01
Kulinar Invest AS	0	0,01
Totalt tildelt kvantum:	499998	

WTO Quota

Rapport for: WTO 2011 Storfekjøtt, fryst		
Totalkvantum	1 084 000	
Minste kvantum	2 000	
Største kvantum	1 084 000	
Minstepris	47,05	
Budøkning	0,01	
Auksjonen startet	15.11.2010 09:00	
Starttid	18.11.2010 10:00	
Sluttid	18.11.2010 17:29	
Firma	**Tildelt kvantum**	**Bud pr. enhet**
NORSK POLAR AS	170000	47,08
COOP NORGE HANDEL AS	150000	47,06
HOLST FOODS AS	200000	47,06
NORTURA SA	40000	47,06
A LA CARTE PRODUKTER A	2000	47,06
FOOD RESTRUCTURING AS	200000	47,06
REMA TRADING AS	150000	47,06
Kon-Tiki Foods AS	47448	47,05
NOR-FROST AS	35586	47,05
ULTIMAT AS	88965	47,05
Johannessens import og inv	0	39,00
United Wineries AS	0	30,00
BRØDR MICHELSEN AS KJØ	0	16,15
JTS GOURMET AS	0	2,05
NORSK KJØTTHANDEL AS	0	0,01
W. Køltzow AS	0	0,01

Table 7: List of countries both certified as FMD-free (with vaccination [V] or without vaccination [N]) and as complying with Norwegian residue requirements

Country
Argentina (V)*
Australia (N)
Brazil (V) * **
Botswana (N) **
Canada (N)
Chile (N)
Croatia (N)
Iceland (N)
Macedonia (N)
Montenegro (N)
Namibia (N) **
New Calendonia (N)
New Zealand (N)
Serbia (N)
Singapore (N)
Swaziland (N)
Switzerland (N)
USA (N)
Uruguay (V)

Source: Norsk Lovtidend FOR2011-06-24-789 and OIE, found at http://www.oie.int/en/animal-health-in-the-world/official-disease-status/fmd/list-of-fmd-free-members/. Note: bold countries are those with GSP access. Countries with a (*) are those in which the country has different zones that are FMD-free with and without vaccination. Countries with a (**) are those in which the country has zones that are FMD free (without vaccination) and those that are not FMD-free. Countries with a (***) are those with a mix of zones (FMD-free with vaccination, without vaccination, and not FMD-free). Paraguay was on this list until Sept. 2011, when FMD was discovered there.

Table 8: Top 30 exporters of beef in 2008

Countries	Exports in 2008 (tons)	GSP status
European Union (combined)	1094107	None
Brazil	1017860	Ordinary
Australia	939356	None
United States of America	527703	None
India	459822	Ordinary
Canada	318281	None
New Zealand	311901	None
Uruguay	238584	Ordinary
Argentina	214205	Ordinary
Paraguay	163134	Ordinary
Nicaragua	51822	DFQF
Colombia	26632	Ordinary
China	22728	Ordinary
Botswana	18508	Special quota
Mexico	17361	Ordinary
Costa Rica	13943	Ordinary
Namibia	8417	Special quota
Chile	4179	Ordinary
Honduras	3456	Ordinary
Singapore	2941	None
Panama	2822	Ordinary
Jordan	2334	Ordinary
Malaysia	2255	Ordinary
South Africa	2029	Ordinary
United Arab Emirates	1702	None
Belarus	1253	Ordinary
Guatemala	1193	Ordinary
Saudi Arabia	766	None
Vanuatu	618	DFQF

Source: FAOSTAT. Note figures for India are for buffalo meat

Table 9: Animal stock per capita ratios for selected countries

Countries	Stocks in 2009 (head)	Human population in 2009 (number)	Stock to population ratio	Offtakes in 2009 (head)	Offtake %	Carcass weight (kg)
African countries						
Angola	5 030 910	18 555 000	0.27	614000	12.20 %	170
Botswana	2 467 260	1 982 000	1.24	180000	7.30 %	200
Burkina Faso	9 500 000	15 984 000	0.59	1051700	11.07 %	110
Cameroon	6 000 000	19 175 000	0.31	650000	10.83 %	155.1
Chad	7 245 230	10 937 000	0.66	759500	10.48 %	120
Ethiopia	50 884 000	81 188 000	0.63	3600000	7.07 %	108.3
Guinea	4 651 500	9 761 000	0.48	529075	11.37 %	93.5
Kenya	12 490 100	39 462 000	0.32	2640000	21.14 %	150
Madagascar	9 800 000	20 124 000	0.49	1180000	12.04 %	127.5
Mali	8 737 500	14 910 000	0.59	1048500	12.00 %	130
Namibia *	2 500 000	2 242 000	1.12	145790	5.83 %	246.9
Niger	9 261 640	14 972 000	0.62	1750000	18.90 %	125.7
Nigeria	16 400 000	154 488 000	0.11	2295000	13.99 %	130
Somalia	5 350 000	9 120 000	0.59	600000	11.21 %	110
South Africa	13 761 200	49 752 000	0.28	2989000	21.72 %	260
Sudan	41 563 000	42 478 000	0.98	2800000	6.74 %	121.4
Swaziland	585 000	1 168 000	0.5	68000	11.62 %	263.1
Uganda	7 620 000	32 368 000	0.24	707000	9.28 %	174.6
United Republic of Tanzania	19 100 000	43 525 000	0.44	2300000	12.04 %	109.6
Zambia	2 850 000	12 724 000	0.22	365000	12.81 %	164.4
Zimbabwe	5 030 000	12 474 000	0.4	462750	9.20 %	225
Latin American countries						
Argentina	50 750 000	40 062 000	1.27	16053000	31.63 %	210.4
Bolivia (Plurinational State of)	8 079 580	9 773 000	0.83	1520000	18.81 %	167.5
Brazil	205 292 000	193 247 000	1.06	42700000	20.80 %	220
Chile	3 900 000	16 956 000	0.23	867220	22.24 %	242
Colombia	27 359 300	45 654 000	0.6	4350000	15.90 %	215.2
Costa Rica	1 287 100	4 591 000	0.28	409242	31.80 %	226.5
Ecuador	5 194 730	14 262 000	0.36	1200000	23.10 %	204
El Salvador	1 342 510	6 160 000	0.22	187951	14.00 %	165.5
Guatemala	3 061 000	14 034 000	0.22	420000	13.72 %	178.6
Honduras	2 697 580	7 450 000	0.36	375000	13.90 %	170.4
Mexico	32 000 000	112 033 000	0.29	8276750	25.86 %	206
Nicaragua	3 600 000	5 710 000	0.63	664539	18.46 %	161.9
Panama	1 614 100	3 462 000	0.47	313246	19.41 %	238
Paraguay	11 643 400	6 342 000	1.84	1228600	10.55 %	256.6
Peru	5 459 440	28 765 000	0.19	1168500	21.40 %	141
Uruguay	12 490 000	3 357 000	3.72	2092940	16.76 %	234.7
Venezuela (Bolivarian Republic of)	16 900 000	28 520 000	0.59	2100000	12.43 %	228.6
Others						
Australia	27 906 800	21 902 300	1.27	8702490	31.18 %	246.8
Canada	13 180 000	33 675 000	0.39	3843900	29.16 %	326.5
New Zealand	9 961 490	4 322 628	2.3	3875080	38.90 %	164.4
USA	94 521 000	307 686 729	0.31	33487800	35.43 %	355.1
Vanuatu	170 000	234 000	0.73	12614	7.42 %	202.9
India *	279 081 000	241 548 082	1.16	18944000	6.79 %	138
Source: FAOSTAT						
* Note: Population adjusted for consumers of meat in India: USDA-FAS 2008 reports 80 % population not consume beef						

Table 10: List of OECD DAC countries (2010)

Least Developed Countries	Other Low Income Countries (GNI < US$1005 in 2010)	Lower Middle Income Countries (per capita GNI US$1006-US$3975 in 2010)	Upper Middle Income Countries and Territories (per capita GNI US$3976-US$12275 in 2010)
Afghanistan	Kenya	Armenia	Albania
Angola	Korea, Dem. Rep.	Belize	Algeria
Bangladesh	Kyrgyz Rep.	Bolivia	*Anguilla
Benin	South Sudan	Cameroon	Antigua and Barbuda (1)
Bhutan	Tajikistan	Cape Verde	Argentina
Burkina Faso	Zimbabwe	Congo, Rep.	Azerbaijan
Burundi		Côte d'Ivoire	Belarus
Cambodia		Egypt	Bosnia and Herzegovina
Central African Rep.		El Salvador	Botswana
Chad		Fiji	Brazil
Comoros		Georgia	Chile
Congo, Dem. Rep.		Ghana	China
Djibouti		Guatemala	Colombia
Equatorial Guinea		Guyana	Cook Islands
Eritrea		Honduras	Costa Rica
Ethiopia		India	Cuba
Gambia		Indonesia	Dominica
Guinea		Iraq	Dominican Republic
Guinea-Bissau		Kosovo	Ecuador
Haiti		Marshall Islands	Former Yugoslav Republic of Macedonia
Kiribati		Micronesia, Federated States	Gabon
Laos		Moldova	Grenada
Lesotho		Mongolia	Iran
Liberia		Morocco	Jamaica
Madagascar		Nicaragua	Jordan
Malawi		Nigeria	Kazakhstan
Mali		Pakistan	Lebanon
Mauritania		Papua New Guinea	Libya
Mozambique		Paraguay	Malaysia
Myanmar		Philippines	Maldives
Nepal		Sri Lanka	Mauritius
Niger		Swaziland	Mexico
Rwanda		Syria	Montenegro
Samoa		*Tokelau	*Montserrat
São Tomé and Príncipe		Tonga	Namibia
Senegal		Turkmenistan	Nauru
Sierra Leone		Ukraine	Niue
Solomon Islands		Uzbekistan	Palau
Somalia		Viet Nam	Panama
Sudan		West Bank and Gaza Strip	Peru
Tanzania			Serbia
Timor-Leste			Seychelles
Togo			South Africa
Tuvalu			*St. Helena
Uganda			St. Kitts-Nevis
Vanuatu			St. Lucia
Yemen			St. Vincent and Grenadines
Zambia			Suriname
			Thailand
			Tunisia
			Turkey
			Uruguay
			Venezuela
			*Wallis and Futuna

NOTES:

* denotes territory.

Source: http://www.oecd.org/dataoecd/9/50/48858205.pdf