

Contents

Climate change and trade at Bali and beyond	1
Trade in environmental goods: A reality check	3
Europe spells out climate strategy	5
US live animal trade: Scope, risk and need for better regulation	6
Clones judged 'safe' to eat in the US	8
BioRes interview. Cloned food and global trade	9
Brazil Tyres: Policy space confirmed under GATT Article XX	10
Biodiversity and FTAs: Implications for access and benefit-sharing negotiations	13
Upcoming events & resources	16

Climate change and trade at Bali and beyond

Like it or not, the climate change meeting in Bali, Indonesia in December 2007 propelled the trade and climate interface onto a higher level of political interest. For the first time, trade ministers were present at a UN Framework Convention on Climate Change (UNFCCC) Conference of the Parties, even if only at the sidelines. The talks covered a range of issues and perspectives, including suggested 'win-win' solutions for the trade and climate regimes, such as the liberalisation of environmental goods and services.

There was also pointed debate centred on fears that energy-intensive industries in countries taking on significant commitments in the realm of climate change would face competitiveness losses in their trade with countries taking on lower levels of commitment. These concerns have significant implications for the future of the climate regime, and they are now openly acknowledged - although countries, and different constituencies within countries, certainly disagree on the extent to which competitiveness concerns are warranted and how to address them.

The constraints of time

Following the adoption of the Bali Action Plan, a period of intensive negotiations to put in place a new and comprehensive climate regime after 2012 has begun. With UNFCCC COP-15 in Copenhagen at the end of 2009 representing a key deadline, time is of the essence.

In terms of the Doha round of trade negotiations, time has run out - over and over again. Launched in 2001, the round has been dogged by missed deadlines and slow progress. The current deadline for agreement on modalities in

key areas such as agriculture and non-agricultural market access is coming up within the next few months, with some key members insinuating that unless there is progress soon, the round may be quietly left behind. On the other hand, the successful conclusion of the round could deliver climate benefits in the area of environmental goods and services.

A number of parallel national and regional developments are closely intertwined with the fate of the UNFCCC negotiations. Among these, the EU climate and energy package launched on 23 January outlined the Union's commitments in terms of reductions in greenhouse gases, increases in the use of renewable energy and support for new technologies such as carbon capture and storage. The draft legislation also spelled out the future of the European Emissions Trading Scheme (ETS).

Border measures creep in

During the drafting process of the new EU climate and energy package, competitiveness fears and concerns related to 'leakage' of carbon emissions to less efficient industries in other countries and regions were taken



onboard. Although provisions - such as instituting border tax adjustments or requiring exporters to the EU to buy emissions allowances under the ETS - were not included for the time being, the door was left open for countries to do so in the future.

Meanwhile, there are two draft climate change bills in the US Congress, and both of these also contain measures to deal with competitiveness and leakage concerns. Although it will take time for any new US climate change legislation to come into affect, competitiveness effects are very much part of the debate and considered in the drafting process.

Now that potential trade-related border measures are squarely on the table (and out of the closet) some key developing country concerns should be kept in mind.

The proliferation of non-tariff barriers?

The overall uneasiness that countries are feeling with regard to the Doha round is coupled with a widely prevailing sentiment that even as, and if, tariffs were to be lowered, new types of barriers are arising. Developing countries in particular are suspicious with regard to non-tariff barriers, such as new standards and product requirements for their exports, especially those set by the private sector. Given the control of private entities in the upper end of supply chains, private sector standards - even though not mandatory in the sense of technical regulations - often condition what and how goods are produced by suppliers and determine which products make it to the market place.

There are ongoing discussions within the WTO Committee on Non-agricultural Market Access and the Committee on Sanitary and Phytosanitary Measures on non-tariff barriers. Developing countries have presented many concrete examples of how their exports and opportunities for trade-led growth have been hit by non-tariff barriers, which often are considered to lack transparency and to constitute a moving target.

Environmental standards and requirements in particular are seen as potential hidden protectionist tools. Schemes such as border tax adjustments or obligatory participation in emissions trading schemes in export markets could be considered as very representative of the market barriers of the future.

Carrots or sticks?

The rhetoric around border tax adjustments that makes its way to Geneva is confused, and one of mixed messages. While the trade chiefs and trade experts sing one song denouncing the use of restrictive trade tools in the name of climate protection, some heads of state and parliamentarians are vocally supporting them. Meanwhile, draft legislation containing border measures are emerging on both sides of the Atlantic.

The perception among developing country trade negotiators regarding border tax adjustments is clearly negative. They are considered to be pushed by special interest or vocal environmental groups. In addition, the legality of climate-related border tax adjustments is

widely disputed and has not yet been tested through the WTO dispute settlement mechanism.

Many trade negotiators and policy-makers believe that in order to get a solid commitment to climate efforts, carrots such as technology transfer and assistance would be much preferred; efforts to show that developing country voices are being heard and respected. Building in principles of common but differentiated responsibilities or earmarking part of the proceeds from potential border measures or a broader emissions trading scheme for adaptation and assistance to the most vulnerable countries might help. The latter option is in fact considered in the proposed Lieberman-Warner bill in the US, which would allocate a certain portion of the revenues from emissions allowances to support adaptation efforts in developing countries. A potential solution could build on incentive measures combined with border measures of some form. However, keeping sticks in one hand does not build trust.

Double standards

Further lowering the morale is a wide perception that trade partners promoting border tax adjustments in the name of climate are looking no further than to their own interest. In other realms of trade, obstacles remain: Europe will keep anti-dumping duties on Chinese energy-efficient light bulbs in place until 2009. Brazil has had a negative response from its developed-country trade partners with regard to its suggestion to include ethanol among environmental goods slated for tariff cuts.

In addition, if border measures were put into place, would these in any way reflect the per capita and historic emissions of different countries?

Beyond China...

Another aspect of any potential border measures to take into account would be how they might affect countries beyond China, and beyond other large and emerging developing countries such as Brazil, India, South African and Mexico.

For example, Europe has recently agreed preliminary Economic Partnership Agreements with most African, Caribbean and Pacific (ACP) countries, guaranteeing them tariff and quota-free market access. While these countries currently do not have much in the way of export industries in the energy-intensive sectors affected by potential border tax adjustments, their situation should be considered more carefully. A perception of Europe giving with one hand and taking back with the other would leave a bad aftertaste - and perhaps trigger a heightened fear of non-tariff barriers. Some ACP countries already feel uneasy with regard to Europe's climate measures, as they have been at the centre of the food miles debate.

Climate change will affect all countries, and efforts to mitigate and adapt are needed on all fronts. However, when it comes to using trade measures, great care needs to be taken in order to take onboard the need to leave developing countries the option to harness opportunities for trade-led growth.

Trade in environmental goods: A reality check

By Veena Jha

The growing importance of environmental issues has generated a parallel interest in evaluating the opportunity for trade in environmental goods and services (EGS). Sustainable development strategies worldwide have contributed to the overall growth of the global environment industry, which is currently estimated at over US\$650 billion. However, trade in EGS is estimated to be only a tenth of that amount.

In theory, liberalising trade in EGS can help developing countries build more environmentally sustainable economies. Continued trade growth in these sectors depends, however, not only on policies supportive of their freer trade, but also on viable domestic consumer markets. Our study shows that trade in EGS is restricted to only a handful of countries. Thus not all environmental hotspots are serviced by trade in EGs (environmental goods). The main reason behind this is the absence of viable markets.

Environmental goods not reaching all potential users

Our study analysed trade flows for products on the so called '153 list' (WTO JOB(07) 54), which is a consolidated list of products proposed by a group of countries pushing for environmental goods liberalisation at the WTO. The study shows that the products on the list do not necessarily end up in the areas that most need them. For example, environmental problems in Africa have reached critical levels, yet African countries import minimal amounts of EGs. This is because effective markets and paying capacity exist only in middle-income countries, which have seen a dramatic rise in imports of EGs. In addition, technical assistance or tied aid projects appear to be directed to countries with relevant purchasing power. Bilateral and multilateral donor assistance in this area has focused on relatively high-income developing countries, notably China, South Korea, Brazil or Mexico. The gap in EG imports points to the need for technical assistance projects in poor countries, especially in Africa.

The scope for addressing environmental problems by changing the set of EGs to be liberalised is limited. Further, there is no direct link between the list currently discussed at the WTO and environmental problems as identified, for example, in the UN Environment Programme Global Environment Outlook (GEO) assessments. The picture is further complicated by the dual and often multiple uses of environmental goods. For example, while analysts at Environmental Business International have set a market value of over US\$650 billion for EGS, their review states that only about 15 percent of that value may be traded. The value of traded EGs on the WTO '153' list is about US\$430 billion. Thus, there are several multiple use products on the '153' list. This points to the need to further restrict the scope of EGs.

Restricting the scope of EGs

One way forward would be to initially liberalise only products that have an environmental end use. Our study

shows that using environmental performance indicators as indicators of environmental end use would restrict EGs to only a few categories of products from the WTO '153' list of products. These categories would include environmentally preferable products (EPPs), natural risk management, renewable energy, solid and hazardous waste management, clean up or remediation, and waste water and potable water treatment products. This list would also cover the category of products that have shown particular tariff sensitivity.

How important are tariffs?

Our study found tariffs to be important in explaining imports of EGs into developing countries in only one category of products, namely heat and energy management products. Trade in renewable energy products was also sensitive to reduction in tariffs at the five percent level. It is possible that products in these two categories are high-technology products, which are mostly imported into developing countries. Thus the initial list of EGs could be further narrowed to include only these sub items for the initial round of liberalisation. It should, however, be noted that the elasticity with respect to tariffs is low, with a one percent reduction in tariff leading to only a 0.15 percent increase in trade.

For two other categories, the tariff response of trade in EGs is in the opposite direction. For both environmentally preferable products and natural resource protection products, the higher the tariff, the higher the trade. This could be attributed to the fact that trade in these products may be linked more directly to incomes than tariffs. Thus, as incomes rise, trade in these categories increase - irrespective of higher tariffs.

What happens with increasing GDP?

Trade in almost all categories of EGs is found to be highly sensitive to GDP. Trade in air pollution equipment, environmentally preferable products, and products aimed at addressing natural risk increases as GDP increases. The environmental performance index (EPI) surveys show that with an increase in GDP, air pollution levels are the first to rise. As GDP increases, legislation to combat air pollution usually follows, which could account for the increase in trade in this category of products. Natural disaster mitigation also becomes a high priority when GDP rises - hence an increase in trade in EGs in this category. As explained above, even amongst developing countries the preference for environmentally preferable products rises as incomes rise.

Trade in products used for management of solid and hazardous wastes, clean up and remediation, renewable energy products, and products for natural resource protection show a significant negative correlation with GDP. While the generation of waste increases significantly with GDP, middle income countries have been proactive in developing their own waste management systems. Equipment import has generally been low, except in a few Southeast Asian countries. India and a number of other countries have, for example, relied mostly on indigenous solar and wind turbines. The increase in GDP provides them with the resources, often coupled with high levels of foreign direct investment (FDI).

Environmental performance and trade in EGs

The most important justification for liberalising trade in EGs is the improvement in developing country environmental performance. For three categories of EGs, the correlation between the relevant environmental performance index and trade is significant at the one percent level. These are the products covered under the categories of clean up or remediation of soil and water, renewable energy, and heat and energy management, and account for about 40 tariff lines. This high correlation could therefore be interpreted to imply that goods in these categories probably are being put to some environmental end use.

FDI growth correlates with trade in environmental goods

A robust correlation is shown between trade in environmental goods and FDI. As FDI increases, trade in air pollution control products, management of solid and hazardous waste and recycling systems, clean up or remediation products, renewable energy, natural risk management, and noise and vibration abatement equipment covered by the WTO list increases. The high correlation can be explained by the fact that most of these products have dual uses. Another explanation could be that higher levels of FDI are associated with better environmental practices, which necessitates the import of a wide range of environmental goods. Yet another reason could be that the delivery of environmental services in these categories necessitates the import of these EGs. However, as the variable used is overall FDI, rather than FDI in specific categories of EGs, the most likely explanation is the first one. A counterintuitive result is seen in the category of environmentally preferable products, where the lower the FDI, the higher their trade. This result can be explained by the fact that the top exporters of environmentally preferable products are low-income Asian and African countries that have not attracted significant levels of FDI.

The importance of technical assistance

The most direct, significant and positive correlation is found with respect to technical assistance projects. This correlation is robust and positive for eight of the ten categories of EGs. In most cases the elasticities are also very high, significantly over one, indicating the crucial role of technical assistance projects in explaining trade in EGs. The profiles of these projects indicate that tied aid may be important in explaining trade in EGs to developing countries. The lack of trade with low-income African countries is also explained by the fact that there are very few technical

assistance projects with African countries. Increasing EG trade with Africa would therefore require the development of such projects.

Developing country negotiating strategies

An analysis of factors influencing the trade in EGs shows that while lowering tariffs may increase imports, several other factors may play a more decisive role. In the trade context, supportive policies that improve the general competitiveness of exports is also likely to improve trade in EGs. Developing countries would not necessarily benefit in either environmental or trade terms from fast-track liberalisation of environmental goods.

Dynamic comparative advantage appears to be shifting in favour of developing countries for a number of categories of goods identified in the '153' list. In the medium to long term, developing countries are likely to benefit from tariff liberalisation. However, as developed countries already have low tariffs, developing countries may find it more beneficial to focus on non-tariff barriers. Given their growing comparative advantage, it will be in developing countries' interest to examine the role that non-tariff barriers play in their export markets.

The fact that only a handful of developing countries feature within the top ten importers and exporters of EGs also indicates that they could usefully engage in a request-offer approach to ensure trade wins. In this way, while the benefits may be multilateralised, the cost of liberalisation would be borne only by a few players. These would be the very players that have a lot more to gain through liberalisation.

On environmental services

The link between trade in EGs and environmental services (ES) has been widely acclaimed. For negotiating purposes, it is important to pursue liberalisation in EGs and ES separately. The link should not be used to drag liberalisation in either of the sectors.

Liberalisation of ES in public utilities needs further evaluation. Experience with privatisation has been mixed. In many cases, the delivery of public services has not improved with privatisation and has exacerbated social exclusion.

These caveats do not imply that trade liberalisation in ES should be restricted, but rather that liberalisation will not deliver the expected benefit unless supportive infrastructure in terms of regulation, community participation etc is in place. The supportive infrastructure would be equally important for absorbing and disseminating environmentally sound technologies.

Another little explored area of ES is that of outsourcing environmental consultancy services. The comparative advantage of developing countries in this area needs to be carefully examined.

Dr. Veena Jha is Visiting Professorial Fellow, University of Warwick, UK and Executive Director, Maguru Consultants Limited

The full study that this article is based on, 'Environmental Priorities and Trade Policy in Environmental Goods: A Reality Check' will be available shortly on the ICTSD website, <http://www.ictsd.org>

Europe spells out climate strategy

A year ago, Europe agreed to make a 20 percent cut in greenhouse gas emissions by 2020 as compared to 1990 levels - a percentage it would increase to 30 if other countries followed suit. A legislative draft released on 23 January spells out the implementation of the strategy, including through burden-sharing among EU members states, the expansion and tightening of the European emissions trading scheme and a mandatory expansion of renewable energy production. It includes a controversial target for increasing the use of biofuels to ten percent of transport fuels, coupled with a new set of conditions to ensure their sustainability.

Border measures an option

The 20 percent greenhouse gas reduction target has now been broken down among EU member states, with some taking on more stringent targets, and those less developed facing less steep targets. The European emissions trading scheme will be a key tool in achieving the goal, and will be expanded to cover additional greenhouse gases beyond carbon dioxide, and additional sectors, such as oil refineries and airlines, chemical and aluminium production. Energy-intensive industries such as steel, cement and aluminium will likely get their emissions permits under the European emission trading scheme for free after 2013, when the new, tighter regime comes into place, in order to allay competitiveness concerns. Power utilities, which are to a great extent shielded from international competition due to their physical proximity to the consumers, will have to pay for all their permits starting in 2013.

Representatives of energy-intensive industries voiced major concern over potential competitiveness losses with regard to emerging giants like China and India, where industry faces less stringent climate requirements. Philippe Varin, president of the European Confederation of Iron and Steel Industries, used the so call 'leakage' argument, warning that "if we were to relocate our industries outside Europe [because of steel production becoming unviable due to climate costs] we would then have to transport steel to Europe, adding emissions."

In addition to possibly giving emission permits for free to energy-intensive industries, the draft climate legislation leaves the door open to border measures to address competitiveness concerns. José Manuel Barroso, President of the European Commission, said "if our expectations about an international agreement are not met, we will look at other options such as requiring importers to obtain allowances alongside European competitors, as long as such a system is compatible with WTO requirements."

Other players cautioned against a system setting up carbon barriers. European Trade Commissioner Peter Mandelson said "I don't believe that trade restrictions are the way forward for combating climate change." A Chinese trade official voiced a common developing country concern when commenting that "I doubt whether the measures taken in the name of the environment will always be applied to protect the environment and not to protect domestic industries."

Checks on biofuel production

EU member states will be obliged to derive 20 percent of their energy from renewable sources. This target has been divided among individual member states, with some countries set to take on significantly higher proportions of renewables in the energy mix. States will also be able to purchase renewables certificates from other countries.

The Commission also proposed increasing the use of biofuels in vehicle fuel, subject to compatibility with environmental sustainability requirements.

Under the new directive, member states are to ensure that ten percent of vehicle fuel comes from biofuels by 2020. Reacting to earlier drafts of the directive, various groups criticised the requirement for its potential knock-on effects, such as increasing food and feed prices, aggravating water scarcity, as well as threatening various ecosystems and human rights in certain contexts.

In response to such criticisms and a general backlash against biofuels, the Commission set new environmental sustainability requirements. The biofuels must achieve greenhouse gas emissions savings of at least 35 percent and they cannot be produced from raw materials obtained from lands with high biodiversity value or high carbon stock. Domestic agricultural raw materials would also have to comply with environmental requirements for agriculture.

Exporters take

An expanding biofuels market would provide an opportunity for a number of countries, particularly developing countries that are well placed for the production of biofuel feedstocks, to develop and expand their export markets.

Brazil sugarcane producers for example, are "very positive because it will allow the development and consolidation of the European biofuel market, which was in doubt," said Geraldine Kutas, advisor to the Brazilian Sugarcane Industry Association. However, Kutas also said growth of exports to the EU could be limited by high tariffs on Brazilian ethanol. It could also be limited by Brazilian demand for biofuels, said Plinio Nastari, head of analysis firm Datagro.

The environmental sustainability requirements might also prevent imports of some biofuels, particularly those made from soy and palm oil. Zainuddin Hassan of the Malaysian Palm Oil Council said "the Malaysian government is very concerned about the EU scheme for sustainability." He noted it might pose a non-tariff barriers to trade.

US live animal trade: Scope, risk and need for better regulation

By Katherine F. Smith

The scale of the global wildlife trade is extraordinary. Estimates suggest many billions of live animals and products are legally traded around the world each year, generating commodities totaling in the hundred-billions of dollars.

The scope and scale of the wildlife trade can have broad impacts around the world. Unregulated, live animal commerce can facilitate the introduction of exotic species to new regions where they can damage infrastructure, destroy crops, prey on or compete with native species for resources, alter ecosystem services, and introduce infectious agents that threaten agricultural and livestock production, biological diversity, and public health. Conservation biologists have long focused on the wildlife trade for its potential impact on endangered species populations. However, in the wake of SARS, the 1999 introduction of West Nile virus to the US, and amid anxiety surrounding H5N1 Avian Influenza virus, many agree that the wildlife trade is understudied and lacking in regulation, particularly from the standpoint of health. This is a serious concern as the scope, scale and speed of the wildlife trade poses a significant risk for cross-species transmission of the infectious agents that animals naturally host. The following examples demonstrate this risk.

- In the spring of 2003, African monkey pox virus was introduced to the US with a shipment of Gambian giant rats intended for the pet trade. Upon arrival, the rodents were housed in close proximity to native prairie dogs that became infected with the virus and which were subsequently sold to private individuals. Within months families in six states were infected with monkey pox virus. The virus was ultimately eradicated by federal and state health agencies, but the outbreak demonstrates the ease with which infectious agents may spread from imported animals to native species and humans.
- In 1998, researchers identified a novel fungal pathogen of amphibians, *Batrachochytrium dendrobatidis* (*B.d.*) that has since been linked to declines and extinctions of frog populations worldwide. The international trade in amphibians is believed responsible for the global distribution of the disease. Indeed, amphibians – a popular pet choice in the US – that are infected and escape or are released into the natural environment can introduce *B.d.* to native species and subsequently drive them to extinction. The American Bullfrog is farmed and transported worldwide for human consumption as frog legs and as classroom or household pets. This species is resistant to the adverse effects of infection from *B.d.* and is therefore an efficient carrier host. Several studies document the presence of *B.d.* in frogs farmed for the trade.

- African Spurred Tortoises (*Geochelone sulcata*), a popular imported pet, often carry tropical Bont Ticks (southern African tick of the genus *Amblyomma*) that bear the rickettsial bacterium *Cowdria ruminantium* – the causal agent of heartwater disease. Heartwater is an acute tick-borne disease of domestic and wild ruminants, including cattle, sheep, goats, deer and antelope. The virus is a serious concern for cattlemen in the US and the driving force behind the National Reptile Improvement Plan – a Pet Industry Joint Advisory Council (PIJAC) initiated program to monitor reptile imports, with the specific goal of tick inspection, collection, and transmission to the relevant authorities for analysis and reporting.

The Convention on Biological Diversity identified wildlife trade as the most glaring gap in the international legal system related to trade and invasive species. US regulation of the trade is no exception. Indeed, the United States is one of the world's largest importers of live animals. Since 2000, the US imported >1 billion and exported >198 million live animals. This does not include the hundreds of millions more traded in product form. Fifty-five percent of live animal imports contained wild caught individuals and 99 percent were intended for commercial sale. Only 13 percent of live animal shipments imported in 2005 were identified to the species level, making it impossible to fully discern the diversity of animals brought into the US.

Nearly all US government initiatives implemented to mitigate negative outcomes of wildlife import have been reactionary, not precautionary. There is no single organization or set of rules that control the movement of wildlife across US borders. Instead, numerous national and international agencies and enactments institute requirements, restrictions and prohibitions that collectively govern the nation's trade in wildlife in a convoluted web. To uphold these provisions, wildlife import and export is monitored through a system of national ports designated and managed by the US Fish and Wildlife Service (USFWS) Office of Law Enforcement (OLE), the US Department of Agriculture (USDA) Animal and Plant Inspection Service (APHIS), and US Customs Service (USCS). The majority of effort that goes into monitoring and regulation at these ports concerns the trade in livestock, companion animals, CITES species, and a few additional species that fall within the purview of the relevant laws.

Before a country can export live animals to the US, the USDA Veterinary Services evaluates the animal-disease status of the region of export and the risk of introducing zoonotic infectious diseases (animal-borne infectious agents that spread to humans). This process provides a systematic method for assessing the likelihood of introducing new zoonoses through trade. USDA APHIS prohibits the importation of several vertebrate species that may carry infectious agents harmful to livestock, and US Public Health Service prohibits importation of vertebrate species that may carry zoonoses. However, USFWS is the primary agency responsible for regulating importation and interstate movement of non-livestock wildlife. The Lacey Act (1900) is the primary statute by which USFWS restricts the entry of fish or wildlife that threaten humans, agriculture, horticulture, forestry, or wildlife. However, the listing of a species under the Lacey Act (~35 species are currently listed) can take years and is largely based on submitted proposals and petitioning. USFWS simply does not have the resources to proactively apply the Lacey Act to species not yet introduced to the country. Indeed, the majority of species deemed injurious were already present in the US when listed. There is an obvious lack of prevention at the border.

Regulation at the international scale is no less complicated. The US is a signatory country of the World Trade Organization (WTO) and is obligated to comply with the WTO's Agreement on Sanitary and Phytosanitary Measures (SPS Agreement). The SPS Agreement facilitates trade while recognizing a nation's right to protect human, animal, and plant health. To prevent the use of SPS measures as unjustified trade barriers, the SPS Agreement requires that all protective measures be scientifically based and not unnecessarily restrictive. The WTO recognizes the World Organization for Animal Health (OIE) as the international standard-setting body for developing health-related guidelines, standards and recommendations for animal health in member countries. This agency (the OIE) is responsible for listing diseases as 'notifiable' so that surveillance and control of spread through trade can be enhanced. Currently there are few diseases listed as notifiable in wildlife entering the US. This is partly because the OIE has long focused on infectious agents of livestock, even though wildlife diseases are covered by its authority. While the threat of introducing species through live animal importation has been the subject of a series of policy measures, there is a lack of clarity on where legislative authority on the public and ecosystem health impacts of the wildlife trade lies.

Prevention is the most effective approach for mitigating negative outcomes of non-native species introductions. Successful prevention requires two capabilities. Foremost, is the ability to assess which non-native species are likely to invade and where. Unfortunately, this is exceptionally difficult to assess for the US given the substantial fraction of imports that are undistinguishable to the species level (>87 percent in 2005). The screening process clearly needs improvement. Second, is the ability to quickly develop, authorize and implement prevention programs. The current political construct surrounding US wildlife importation makes this very difficult. Legislation on the issue is outdated and slow to pass, regulatory agencies lack sufficient resources, and the US, as a member of the WTO, must adhere to international standards when developing

import policies. Because economic and personal benefits are also associated with live animal imports, the challenge is to promote new regulation with the backing of multi-stakeholder groups. A recent report by environmental group Defenders of Wildlife, '*Broken Screens: The Regulation of Live Animal Imports in the United States*,' details the most current and plausible solutions for preventing harmful outcomes of animal importation at both the international and national level.

Katherine F. Smith is Adjunct Assistant Professor, Ecology and Evolutionary Biology, Brown University.

"Broken Screens: The Regulation of Live Animal Imports in the United States" by Defenders of Wildlife is available at http://www.defenders.org/programs_and_policy/international_conservation/u.s._imports_of_live_animals/broken_screens.php

REFERENCES

- Berger L., Speare R., Daszak P., Green D.E., Cunningham A.A., Goggin C.L., Slocumbe R., Ragan M.A., Hyatt A.D., McDonald K.R., Hines H.B., Lips K.R., Marantelli G., Parkes H., 1998. Chytridiomycosis causes amphibian mortality associated with population declines in the rain forests of Australia and Central America. *Proceedings of the National Academy of Sciences of the United States of America* 95: 9031-9036.
- Burridge M.J., Simmons L.A., Allan S.A. 2000. Introduction of potential heartwater vectors and other exotic ticks into Florida on imported reptiles. *Journal of Parasitology* 86: 700-704.
- Center for Emerging Issues. 2003. Summary of Selected Disease Events January - June 2003. Accessed Dec 06. Available from http://www.aphis.usda.gov/vs/ceah/cei/taf/iw_2003_files/summary2003/summary_1_to_6_2003_files/disease_summary010603.htm.
- Cooper M.E., Rosser A.M. 2002. International regulation of wildlife trade: relevant legislation and organizations. *Rev. Sci. Tech. Off. Int. Epiz.* 21: 103-123.
- Daszak P., Berger L., Cunningham A.A., Hyatt A.D., Green D.E., Speare R. 1999. Emerging infectious diseases and amphibian population declines. *Emerging Infectious Diseases* 5: 735-748.
- Daszak P., Cunningham A.A., Hyatt A.D. 2000. *Science* 287: 443.
- Daszak P., Strieby A., Cunningham A.A., Longcore J.E., Brown C., Porter D., 2004. Experimental evidence that the bullfrog (*Rana catesbeiana*) is a potential carrier of chytridiomycosis, an emerging fungal disease of amphibians. *Herpetological Journal* 14: 201-107.
- Defenders of Wildlife. 2007. *Broken Screens: The Regulation of Live Animal Imports in the United States*. Washington, DC. 56pp.
- Karesh W., Cook R., Bennett E., Newcom J. 2005. Wildlife trade and global disease emergence. *Emerging Infectious Disease* 11: 1000-1002.
- Vitousek P.M., D'Antonio C.M., Loope L.L., Westbrooks R. 1996. Introduced species: A significant component of human-caused global change. *American Scientist* 84:468.
- World Health Organization - Summary of probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003, online at: www.who.int/csr/sars/country/table2004_04_21/en/index.html

Clones judged 'safe' to eat in the US

After six years of research, the US Food and Drug Administration (FDA) announced in January that food products from cloned pigs, cows, goats and their offspring are as safe as food produced from traditionally-bred animals. As WTO Members around the world begin to assess and implement strategies regarding food products based on clones, they may be going down different paths - leading to potential trade complications.

According to the FDA, there is "nothing in the food [from clones] that could potentially be hazardous." The US National Academy of Sciences came to the same conclusion. The conclusion is not unchallenged, however. The US Congress recently passed legislation requesting the FDA to further study the safety of food products from cloned animals, and many consumer and animal rights groups are opposed to cloning.

Clones are very expensive to produce, ranging from US\$10,000 to US\$20,000 per cloned cow, compared to just US\$1,000 for an ordinary cow. For the time being, there are only few cloned animals on the market and consumers are unlikely to encounter products made from clones. Agricultural companies would more likely use the clones for breeding purposes, only introducing their offspring into the food chain. The USDA has requested that companies voluntarily keep milk and food products from cloned animals from distribution, especially to give time to government officials to disseminate their findings to foreign trade partners and food companies. This voluntary moratorium is not applicable to the cloned animals' offspring.

The FDA is not planning to require the meat or milk products from cloned animals or their offspring to be labelled.

Consumer groups opposed, industry in favour

Consumer groups claim that the data used by the FDA does not sufficiently establish that foods from cloned animals and their offspring are safe and say there is no data to suggest any consumer demand for such products. Animal rights groups strongly oppose cloning, arguing that the process itself is "stressful to the animals involved."

Support for the FDA announcement has come primarily from the biotechnology industry. David Faber, President of Trans Ova, a genetics company specialising in reproductive technologies, stated that their "farmer and rancher clients are pleased [with the decision] because it provide[s] them with another reproductive tool." The company announced that they would track the food products through a Supply

Andrew Kimbrell of the Center for Food Safety said the FDA decision was based on an "incomplete and flawed review that relies on studies supplied by the cloning companies that want to force cloning technology on American consumers."

Chain Management Program to aid "food processors wishing to identify food products from [cloned] animals."

The European Food Safety Authority seeks comments on clones

Meanwhile, the European Food Safety Authority (EFSA) published a draft scientific report in January, reaching a conclusion similar to that of the FDA: food products from cloned cows and pigs are the same as those from traditionally bred cows and pigs. However, the EFSA cautioned that there was 'only limited data available' and opened the draft scientific opinion to public comment.

The European Commission's Group on Ethics for science and new technologies (EGE) opposed cloning animals. The group stated that "considering the current level of suffering and health problems of surrogates and animal clones, the EGE has doubts as to whether cloning animals for food supply is ethically justified" and that more research was needed on their offspring. The EGE also recommended that more studies be conducted on the long-term health impacts of cloned animals and their offspring and called for public debate on "the impact of...cloning on agriculture and the environment, on the society impact of increasing meat consumption...[and] the fair distribution of food resources."

The EFSA plans on issuing its final report in May. If the EFSA authorises the sale of food products from cloned animals, "the EU has indicated [they would have to be labelled]."

Like in the US, the announcement was met with great resistance by various groups. According to a survey conducted by the International Food Information Council, less than half of all consumers were likely to buy food products made from cloned animals.

Australia, New Zealand, Japan and Canada are also evaluating the safety, health and environmental issues associated with animal cloning.

What are the trade implications?

Although the EU EFSA has tentatively reached the same conclusion as the US FDA, they may take different final decisions, complicating trade in meat and dairy between the two trade blocs. Potential differences with regard to labelling requirements could also complicate trade. The EU has previously rejected hormone-treated beef imports from the US, and takes a much stricter approach to genetically-modified foods than the US. These differences between the trade partners have already led to two major dispute cases at the WTO.

Cloned food and global trade

The US Food and Drug Administration (FDA) announced on 15 January that food products from cattle, swine, and goat clones are safe to eat. BioRes has spoken to Gretchen Hamel, Deputy Assistant for Public and Media Affairs, Office of the US Trade Representative, to get a sense of what the implications of this decision might be for international trade.

BioRes: To what extent have food products from cloned animals and their offspring entered the food supply? Are they being internationally traded?

Gretchen Hamel: FDA has determined through its risk assessment that food from clones and all offspring of clones are as safe as food from conventionally bred animals. We are not aware of any specific cases where a product from an animal clone or its offspring has entered the food supply or export channels.

There are only a very small number of animal clones in the US at present - around 500. Those animals that are not purely experimental are intended for use as breeding stock and are too valuable to be used directly for meat production. We understand it is unlikely that products from these animals would enter the meat supply for several years. Industry officials have already indicated that this will be a slow process.

BioRes: Are international standards being developed? If not developed under the Codex Alimentarius, are there initiatives from the business sector to address the issue?

Gretchen Hamel: While we are not aware that the Codex Alimentarius has undertaken a safety assessment for animal clones, there is widespread science to support the safety of animal clones and their offspring. The United States joins a number of other countries that have developed or are developing animal clone risk assessments, all of which lead to the same safety conclusion as FDA. In fact, the European Union's Food Safety Authority (EFSA) published its clone draft risk assessment January 11 stating that there are no significant risks associated with clones or their offspring. New Zealand, Japan, Argentina, and Canada have each been developing risk assessments for clones with initial findings indicating the same positive conclusion as FDA and EFSA.

BioRes: What role do you think public opinion plays in shaping domestic and international policy on food products from cloned animals and their offspring?

Gretchen Hamel: Ultimately, consumers will decide if there is a market for animal clones and their offspring. While it is still unknown how the public and markets will react to FDA's final risk assessment, the available science indicates that food derived from cattle, swine, and goat clones and the offspring of any clones poses

no safety concerns and is no different from food from conventionally bred animals.

BioRes: Could the course of trade dealings between the US and EU follow a similar path as that for GMOs and hormone-treated beef imports?

Scenario A: If the EU does not approve food products from cloned animals or their offspring.

Scenario B: If the EU rules that clones are safe, but restricts trade based on animal welfare concerns.

Scenario C: If the EU approves the products for import, but requires the products to be labeled.

Gretchen Hamel: On January 11, the European Union's Food Safety Authority (EFSA) published its clone draft risk assessment which reached the same safety conclusion as FDA stating that there are no significant risks associated with clones or their offspring. The United States will encourage the EU to base its policy on EFSA's safety conclusion.

BioRes: What influence could US and EU decisions on food products from cloned animals and their offspring have for the global trade of those products, particularly for developing countries?

Gretchen Hamel: While the United States and Europe were among the first to announce risk assessments concluding the safety of animal clones, many countries are developing animal clone risk assessments, all of which lead to the same safety conclusion as FDA and EFSA. While it may take somewhat longer for these safety authorities to finalize their assessments, initial findings indicate the same positive conclusion that there are no significant risks associated with clones or their offspring. The science should continue to speak for itself.

Cloning is the process by which biological material is duplicated. Reproductive cloning is associated with animal cloning, which gained widespread attention after the successful cloning of Dolly the sheep in 1997. It is the process by which scientists "transfer genetic material from the nucleus of a donor adult cell to an egg whose nucleus, and thus its genetic material, has been removed." Scientists then stimulate cell division and transfer the resulting embryo into the uterus of a surrogate until birth.

Brazil Tyres: Policy space confirmed under GATT Article XX

By Hannes Schloemann

Health and environment policies, even those including import bans, can be accepted under the WTO - unless they discriminate without a suitable reason. A precedent-setting recent ruling regarding Brazil's import ban on used tyres may make it easier to defend the 'necessity' of measures, but harder to fit them into regional trade agreements and other preferential arrangements.

Exactly three months after the European Union's notice of appeal, the Appellate Body on 3 December 2007 issued its report on *Brazil - Measures Affecting Imports of Retreaded Tyres*. Like the panel, the Appellate Body found Brazil's import ban on retreaded tyres to be in principle justified under Members' right to protect human, animal or plant life or health, embodied in GATT Article XX (b), but discriminatory in its application, and hence not covered by the provision's *chapeau*.

Notwithstanding Brazil's loss on points, the decision is no less than a slam dunk victory for Members' environmental and health policies vis-à-vis trade disciplines. The Appellate Body's message to WTO Members, not for the first time, is (almost) straightforward: if your objectives are legitimate and your measures reasonable, don't worry too much about technicalities; the system is with you. But do worry about discrimination - we won't tolerate that, unless it is a logical part of your protective policy.

A special additional message goes to developing country governments with limited resources at their disposal: there is no obligation to come up with costly and difficult in-depth analyses, in particular quantitative economic projections and the like (even though they remain welcome), when establishing 'necessity'. Qualitative, inductive and logical reasoning based on available science and other information will normally be quite sufficient to provide cover.

Mixed reactions likely

Environmental NGOs had strongly criticised the EU for its decision to go after the Brazilian ban in the first place, and even more for its decision to appeal. Perhaps they should send flowers to Brussels now - for the EU provoked a decision that widens and cements the policy space for environmental and health measures. The much-feared 'trade bias' of the WTO dispute settlement system, in this decision at least, seems to have been turned on its head. The Appellate Body's and the panel's rather explicit sympathy for a preventive environmental policy, namely the avoidance of tyre waste rather than its management and disposal (alternatives the EU had proposed), appears to have easily eclipsed their concern about this policy's tough trade effect.

The Case

The EU had challenged Brazil's ban on imports of retreaded tyres. These are used tyres that are refitted by replacing the old tread (the rubber) with a new one. Unfortunately, this cannot be done infinitely with the same tyre - in most cases only once - before it turns into waste.

Waste tyres carry two significant risks: they provide ideal breeding ground for mosquitoes carrying dangerous diseases (malaria, dengue). And tyre fires generate nasty toxins and are very difficult to put out.

In order to reduce these risks, Brazil - in conjunction with other measures - banned imports of retreaded tyres, because they have a shorter overall lifetime left than new ones and thus turn into waste after fewer kilometres performed in Brazil. Logically, Brazil also prohibited the importation of used (i.e. not yet retreaded) tyres.

Two caveats apply, however. First, following a Mercosur tribunal ruling in 2002, Brazil now allows imports of certain retreaded tyres from Mercosur countries. Second, despite the ban on imports of used tyres, Brazilian retreaders, citing violations of their fundamental rights, have managed to obtain numerous temporary court injunctions to allow imports.

The EU claimed (among other things) that the ban itself was not "necessary to protect human, animal or plant life or health," in particular because less restrictive alternative measures, namely better waste management and disposal, were available. The EU further claimed that the ban was applied in a discriminatory manner in violation of Article XX's *chapeau*, because Brazil allowed retreaded tyres from Mercosur (under the law) and used tyres from everywhere (under the court injunctions) to be imported.

Lawyers' views will be divided. Purists may be frustrated, pragmatists more or less satisfied, litigators delighted. The 'necessity' analysis remains a rather flexible catch-all (or catch-nothing) piece of wax in the hands of the Appellate Body. The 'weighing and balancing' test in particular is a thinly veiled proportionality test, miraculously operating rather well without an agreed value system (constitution) to rely on - probably because it comes along with utmost judicial restraint, if not deference to national policy choices. Perhaps 'disproportionality' test would therefore be a better word for it. The *chapeau*, never mind its embellishing adjectives ('arbitrary', 'unjustifiable' and 'disguised'), operates as a general check against abuse - but a very sharp one when it comes to discriminations: only those that are justified by the same protective rationale as the measure itself will pass.

Trade policy observers will equally have mixed perspectives. While trade can and will be unequivocally trumped by good faith non-trade policy measures, at least those catering to key societal interests such as health and the environment (trade seems a distant second), this must happen without discrimination and must not otherwise be abused as a trade policy measure (trade catches up). Since this balance is probably the only workable one for an institution without either central authority or a comprehensive constitution, however, true friends of the WTO system are likely to sympathise with (most of) this Appellate Body decision.

The Panel and Appellate Body decisions

The Appellate Body and the panel rejected the EU's attack on the 'necessity' of the import ban. The Appellate Body accepted the panel's 'weighing and balancing' of factors and, like the panel, did not find any of the alternatives proposed by the EU to be both suitable and readily available to Brazil. Both therefore found the ban provisionally justified under Article XX (b).

The two bodies, however, disagreed with respect to the *chapeau* of Article XX. The panel found that both the Mercosur exception and the court injunctions did indeed lead to discrimination. It found, however, that neither one of them was 'arbitrary,' because both constituted implementations of court decisions by administrations and legislators, their action thus being neither 'capricious' nor 'unpredictable' nor 'random' (elements of a dictionary definition of 'arbitrary'). The result was different for 'unjustifiable discrimination'.

The panel looked at the quantitative impacts, and found the Mercosur exemption not to generate sufficiently significant actual imports of retreaded tyres to counteract the purpose of the ban. The same, it determined, was not true for the imports of used tyres under the court injunctions, which for this reason (to the extent that they crossed that threshold) acted as an 'unjustifiable discrimination'. For the same reason the panel found the court injunctions, but not the Mercosur exemption, to operate as 'disguised restrictions'.

The Appellate Body rejected this quantitative caveat and found both to be 'arbitrary or unjustifiable' discriminations, because neither had a basis in the rationale of the ban itself - defining this as the only criterion that mattered.

A lot could - and should - be said about the details of this case, including the new 'contribution' standard (too lenient?), the test for 'alternatives' a Member would have to accept (not many), and the potential pitfalls of the strict discrimination check under the *chapeau* (probably no special and differential treatment, and regional policies difficult to justify). Since that would require much more space than we have here, here's a checklist for post-Brazil-Tyres users of Article XX (b) instead.

Checklist - Where is the Policy Space?

✓ **Is my objective one of those listed in the paragraphs of Article XX?** This is a more or less objective test (with some margins of appreciation), which can and will be reviewed by panels and the Appellate Body. However, the coverage is very broad, so the actual policy space is vast. The "protect[ion] of human, animal and plant life or health," for instance, covers comfortably virtually anything related to health, and many things considered 'environmental' (the rest falls under paragraph (g)). Absent labelling fraud, Members will be left undisturbed by the WTO system at this stage (but mind the 'disguised restriction on trade' test under the *chapeau*).

✓ **What is my desired 'level of protection'?** Here Members are entirely free to set their goals, says the Appellate Body, and so far no-one publicly disagrees. But it gets even more dynamic: Brazil in this case, supported by the panel and the Appellate Body, defined its level of protection as "*the reduction of the risk of waste tyre accumulation to the extent possible.*" This means that anything short of a complete eradication of those risks (dengue, malaria transmitted by mosquitoes that may have bread in tyres; poisoning from tyre fires) will not satisfy as long as there is anything that can be done against it. A dynamic 'as much as possible' goal has two effects.

First, it is likely to spill over into the 'contribution' analysis. Second, it puts all potential alternatives strongly on the defensive, especially since there is no grand net calculation of costs and benefits, because alternatives may work differently than the original measure. If the target is not defined in a static way (X number of malaria cases avoided), more complex alternatives proposed by claimants stand little chance. This is what happened here. The panel and the Appellate Body rather quickly bought Brazil's (probably correct) argument that tyre waste avoidance is in fact by definition superior to waste management. While technically a separate analysis, the intuitive conclusion is hard to reject if 'as much as possible' is the target, absent quantifications of actual results. The problem from a trade perspective is that this approach may result in a rather powerful anti-trade bias, because saying no (e.g. in the form of an import ban) tends to be much easier than saying "yes, but...". Be that as it may: the policy space here is vast, as only the sky (the ideal situation, e.g. perfect public health) is the true limit.

✓ **Is the measure 'necessary' to achieve this level of protection?** This is where it gets complicated. The sub-checklist after Brazil-Tyres looks as follows:

- **Does the measure 'contribute' to the achievement of the protection and, if so, to what extent?** Here two things matter, namely the degree and the actual occurrence of the contribution required. The second aspect is where the Appellate Body, despite denials, arguably softened its scrutiny vis-à-vis its demand in *Korea-Beef* that the 'extent' of the contribution be examined as a component for the 'weighing and balancing'. Brazil had not provided any quantitative analysis, but the panel had been satisfied with the conclusion that the ban was capable of making that contribution. The Appellate Body, agreeing in principle (and graciously overlooking the gradual divergences with the panel's conclusions), phrased its test as follows: is the measure *apt* to advance the goal and is it *likely* to make a *material contribution* to the goal? Importantly, 'aptitude' and likelihood do *not* require hard quantitative projections based on sound (expensive, difficult) economic analysis. A more abstract, lawyerly, inductive perspective looking at the assumed logic of cause and effect is acceptable (quantitative analyses remain welcome for support). This 'qualitative' analysis significantly lightens the burden on user Members to substantiate their 'necessity' claim - leaving significant policy space.
- **How important is the protected value?** The basis for this value judgment by WTO bodies is not clear, because there is no comprehensive value system to rely on - common sense, bolstered with evidence of what the WTO and wider international community currently thinks, seems to be the best guide for predicting the Appellate Body's reaction. Since in reality it performs a negative test (can we tell the Member that this value is not as important as it thinks?), the policy space resulting from *de facto* deference may be significant.
- **How trade-restrictive is the measure?** This is a technical task, fully reviewable by panels and the Appellate Body - after all this is their core area of expertise. No policy space here.

Are equally effective but less trade-restrictive alternatives readily available?

'Equally effective' is a technical test. Importantly, there is no offsetting of costs. 'Readily available' implies a value judgment - what can Members be asked to take on by way of costs, risks, difficulties, hassle? In *Brazil-Tyres* the Appellate Body and the panel took a very restrained view of the multiple alternatives proposed by the EU. Potential risks and 'high' costs ('prohibitive' is not the measure) easily eliminated proposed alternatives from the game, leaving a significant policy space to Brazil. 'Less trade restrictive', again, is a technical test, fully subject to revision. It may be tricky if various trade interests pull in different directions, but so far that has not been a major issue.

Weigh and balance all that

It is in fact not entirely clear when and where exactly this is supposed to happen - among the three factors, together with the alternatives, or both. Be it as it may: the Appellate Body stresses that this is a flexible, 'holistic' exercise, to

be performed on a case by case basis. What does this mean for user Members? Some legal insecurity (ticking boxes won't do), but in the end a significant margin of both appreciation (risks, projections) and discretion (choice of tools). The approach is really a general proportionality test with important value judgments to be performed, a questionable exercise in the absence of a comprehensive constitution. Thanks to the restraint commonly exercised by panels and the Appellate Body, however, it acts more as a 'disproportionality test' - and arguably works quite well.

Is the result 'arbitrary or unjustifiable discrimination'?

Is there discrimination? What is discrimination will in most cases be relatively clear. Note that 'likeness' is not part of the analysis - the scope is wider. No policy space here - the test is technical, subject to full review.

Is the discrimination 'arbitrary or unjustifiable'? 'Arbitrary and unjustifiable' are - and this is a key result of *Brazil-Tyres* - not too important as terms of law; what they mean is one thing: is the discrimination based on the very same rationale that the protection measure itself relies on? All other justifications are irrelevant. This includes regional trade agreement constraints (such as the Mercosur ruling Brazil had invoked in this case) and other considerations, including, it would seem, benevolent ones like special and differential treatment. This is a very strict and very legal test. The discrimination hurdle is thus a very high one, with little room for manoeuvre. This is not entirely new - the US experience in *US-Gasoline* and *US-Shrimp* was not dissimilar to Brazil's here.

Does the application operate as a 'disguised restriction on trade'?

Again, this test is technical - except that the purity of the non-trade motivation behind the measure (the 'disguised' criterion) may be looked at. Panels and the Appellate Body, however, are not keen on rejecting a Member's claimed motivation and accuse it of hidden trade interests, absent a smoking gun. Trade protection benefits that happen to arise out of health and/or environment measures are not a problem per se - in *Brazil-Tyres* they were even part and parcel of the mechanism.

All in all, there is very significant policy space within Article XX. Importantly, the 'necessity' test at issue here is supposed to be the strictest of all tests under that provision. *Brazil-Tyres*, however, was also about obviously rather nasty risks to human health that everyone can sympathise with. This may have helped to shape the legal conclusions. No sympathy (and no flexibility) can be expected for discriminations - an important point to remember for policymakers who are tempted to settle other accounts, help their friends or do other things when the spirit moves them.

Hannes Schloemann is Director of WTI Advisors Ltd., a trade policy consultancy, and a partner with MSBH Rechtsanwälte, a law firm. He is based in Geneva.

Access and benefit-sharing talks under the Convention on Biological Diversity

Access and benefit sharing (ABS) remains one of the most complex issues under the Convention on Biological Diversity (CBD), and a priority for many developing countries. These countries are concerned over "bio piracy," which refers to the misappropriation - generally by means of patents - of indigenous or traditional knowledge by foreign entities without compensatory payment. A Working Group under the CBD has been tasked with negotiating an international regime on ABS by 2010. Countries take different viewpoints on how rules for ABS should be implemented, however, and negotiations have been sluggish. Many developing countries support the development of an international treaty. Meanwhile, several developed countries have long opposed or dragged their feet with regard to negotiating text for an international regime on ABS.

The sixth meeting of the ad hoc open-ended Working Group on access and benefit-sharing of the CBD was held from 21 to 25 January 2008 in Geneva. It concluded on a positive note, with countries agreeing on a new structure to advance more detailed negotiations. Some observers noted that even traditionally critical countries seemed to have moved beyond questioning the need for an international regime of some sort. The active and informed engagement of regional groups, particularly the African Group, was also highlighted. Other participants expressed concern, however, that the parties still were engaging in negotiation tactics rather than coming forth with fully developed positions. Others noted that the need for further technical work on the various aspects of the international regime still was immense.

The major outcome of the meeting, a new working document on the international ABS regime was forwarded to the upcoming ninth Conference of the Parties (COP-9) of the CBD, set to take place in Bonn from 19-30 May this year. This may offer - for the first time in these negotiations - a solid basis for further discussions.

Biodiversity and FTAs: Implications for access and benefit-sharing negotiations

By Jorge Cabrera Medaglia

A growing number of bilateral and regional free trade agreements (FTAs) incorporate provisions relevant to biodiversity. Meanwhile, there are ongoing negotiations on an international regime governing access to and the equitable sharing of benefits from genetic resources derived from biodiversity under the Convention on Biological Diversity (CBD).

While there are clear linkages between the two sets of regimes, scant research has been conducted on the implications - both positive and negative - of the trade and intellectual property provisions included in FTAs on the international regime for access and benefit-sharing (ABS). Of the analysis undertaken so far, most has focused on the issue of disclosure requirements.

This article highlights the potential relationship between FTAs and the negotiations on an international regime for access and benefit-sharing within the context of the CBD, and identifies some questions requiring further scrutiny.

Disclosure of origin: Are FTAs restrictive or supportive?

Rules governing access and benefit-sharing are linked to intellectual property rules in several ways, among these:

- ABS rules may pose restrictions on intellectual property right (IPR) applications for inventions derived from genetic resources for which an access permit was granted. For example, the Biodiversity Law of Bhutan requires prior notification, and India's Biodiversity Law requires prior written authorisation.
- ABS-related rules may require the disclosure of the origin of the materials in an IPR application that concerns or makes use of accessed materials in an invention (incorporated in ABS or Biodiversity Laws, for instance in the Andean Pact Decisions 391 and 486; the Costa Rica Biodiversity Law; the Provisional Measure of Brazil).

One of the first measures suggested to achieve a synergistic relationship between the CBD and intellectual property systems - in particular the WTO Trade-related Intellectual Property Rights Agreement - was a disclosure of origin requirement with regard to genetic resources or associated traditional knowledge in intellectual property right applications, particularly in patents. At various forums at the international level - including the CBD, the WTO, and the World Intellectual Property Organisation - developing countries have stressed the need to require disclosure of origin in IPR applications. Many countries have incorporated different forms of such requirements into national legislation.

With regard to free trade agreements, concerns have been raised that in some cases their IP provisions may limit or preclude the opportunities to introduce disclosure of origin requirements. For example, the language used in the US-Central American Free Trade Agreement (CAFTA), states that "Each party shall provide that a disclosure of a claimed invention shall be considered to be sufficiently clear and complete if it provides information that allows the invention to be made and used by a person skilled in the art, without undue experimentation, as of the filing" (article 15.9.9). Doubts have been raised as to whether this text implies a restriction on additional information being requested when the patent

is disclosed. The author - for legal and technical reasons - does not agree with this interpretation. However, it deserves mention as a potential implication of FTAs on disclosure requirements.

FTAs have generally not incorporated a mandatory requirement for the disclosure of origin in the substantive IPR Chapter. However, the issue has sometimes been addressed elsewhere. For instance, in the case of the US-Peru FTA, the following elements have been agreed in a side letter:

- a) Recognition of the importance of traditional knowledge (TK) and biodiversity, as well as their contribution to development.
- b) Recognition of the importance of i) prior informed consent from the appropriate authority; ii) equitable sharing of benefits from the use of TK and genetic resources; iii) promoting quality patent examination to ensure the conditions of patentability are satisfied.
- c) Recognition of the fact that access and benefit sharing can be adequately addressed by contracts.

Despite the recognition of the issues in the side letter, the text agreed is essentially on uncontroversial matters (e.g the importance of TK). In other words, the side letter does not address or respond to the more controversial aspects of disclosure of origin. Therefore, these provisions may not have an impact on critical issues discussed in the negotiations on an international regime.

ABS and services and investment disciplines

The relationship between ABS and services and investment rules in FTAs is also of interest. For example, research services - including biodiversity-related research - is mentioned in the services chapter of CAFTA.

There may be legal implications of considering bioprospecting as a service, and investment disciplines in FTAs may also be applicable. A common discipline in investment provisions is the prohibition (or restriction) of "performance" and other requirements placed on the investor and the investment. Arguably, such restrictions could limit the rights of countries to require, as part of ABS rules or procedures, technology transfer from the potential user of the genetic resources. Such technology transfer has been noted as an important benefit in the biodiversity context. Whether in fact this mandatory requirement for a foreign company imposed in the context of an ABS permit would constitute a violation of the investment disciplines remains unclear.

Nevertheless, a common feature of FTAs is a provision providing that, in case of contradiction between the investment chapter and other chapters, the latter prevail. Thus, the environmental chapter, which requires compliance with environmental laws in the country - including any access law or biodiversity law - would prevail over conflicting investment disciplines. A potential solution would be to require the investor/access applicant to comply with any technology transfer or other benefit sharing provisions in the context of the ABS permit. Any condition imposed on the applicant/investor would thus have its legal basis in the CBD and domestic environmental law.

Certificate of origin and commercial rules

In order to respond to the call for user country measures,

and to contribute to solving problems related to the monitoring and traceability of genetic resources, ABS negotiations have focused on developing some form of certificate of origin/source/legal provenance - more recently named 'certificate of compliance'.

Differing views on the design options for the certificate and on its features and utility for the purposes of the international regime exist. However, the basic idea of the certificate is to prevent or minimise problems generated by the existence of two different jurisdictions for ABS arrangements - one where the material is collected and another where research and development activities are carried out.

An internationally recognised document would make it possible to check the legality of access at the point where the activity (patent, product approval, etc.) generates value, and to follow the subsequent use of the resources and the origin of the corresponding benefit-sharing. In this way, monitoring and regulation would be less strict during the access phase and stricter during the research and development phase, where control or check points would be established. This implies that the documentation would need to pass through the various buyers, but the monitoring points would be reserved only for certain milestones in the research and development process, such as those related to product approval, IPR applications, publications, or the presentation of funding proposals.

Depending on the certificate's final design, some rules of the trade system (WTO or FTA) might apply to it, especially those related to technical barriers to trade. For instance, this may be the case if the certificate is checked at customs, and the legal consequence of not showing the certificate is the prohibition of entry of the genetic resources. However, the potential implications of such rules on the certificate need to be better understood.

Capacity building

Studies on the implementation of national ABS laws confirm the difficulties provider countries face in adequately complying with their current legislation. In the opinion of the author, in order to achieve CBD objectives, the importance of national frameworks and their application should not be neglected. This topic is closely related to capacity building. From this perspective, the international regime should contribute decisively to ensure the best possible application of existing legal frameworks on ABS, the strengthening of legal certainty and the creation of national capacities for that purpose.

FTAs often contain provisions on environmental cooperation (including capacity building activities) either in an Environment Chapter and/or in an Environmental Cooperation Agreement to be ratified separately. In each case, preliminary priorities have been set out for cooperation and capacity development in different areas. ABS could be considered one of these and receive financial and other support from trade partners. These programmes could support capacity building activities under the international regime.

Some concluding remarks

This article has highlighted a number of links between FTAs and the international regime for ABS that is currently being negotiated under the CBD (see Box 1). Despite the

Box I: Links between the International Regime on ABS and FTAs

IR component	FTA Implications
Elements/components: <ul style="list-style-type: none"> Benefit-sharing/TK 	<ul style="list-style-type: none"> Promotion of mechanisms to support/ recognise the importance of benefit-sharing (Side Letters addressing the issue) Side Letters and other relevant provisions reaffirming the importance of TK and biodiversity for development Potential restrictions on disclosure included in IPR Chapters (according to some commentators) Restrictions on the type and modalities of benefit-sharing requirements imposed on bioprospecting (investment disciplines and their applicability with regard to ABS activities). However, the primacy of the Environment Chapter of FTAs could resolve these restrictions, allowing requirements on investors (e.g. tech transfer) in the light of the obligation to enforce environmental laws (in this case, biodiversity-related laws)
<ul style="list-style-type: none"> Access 	<ul style="list-style-type: none"> Promotion of mechanisms to support/ recognise the importance of PIC from the competent authority (Side Letters addressing the issue). Prohibition of discrimination between foreigners and nationals (ABS activities considered as services or investments¹).
<ul style="list-style-type: none"> Compliance with Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) of provider countries 	<ul style="list-style-type: none"> Technical Barriers to Trade rules (or the reaffirmation of the WTO disciplines found in FTA) and their impact on a potential certificate of origin/compliance (depending on its final structure; design; check points; legal consequences of non presentation of the certificate, etc) Disclosure of origin restrictions (according to some commentators). However, the primacy of the Environment Chapter of FTAs and recourse to other Treaty provisions and exceptions could solve the restrictions.
<ul style="list-style-type: none"> Capacity Building 	<ul style="list-style-type: none"> Environmental Cooperation Agreements and capacity building in priority areas, including potential activities in ABS-related areas.

¹ Some ABS laws provide more favourable treatment to nationals in the granting of ABS permits.

theoretical speculations, it is still uncertain if and how FTAs might have an impact on the negotiating dynamics and country positions with regard to the international regime. So far, this has not seemed to be the case. With regard to the substantive content of the proposals submitted by the different countries or by regional groups in the negotiations, it is difficult to link the modifications of recent country proposals to the content of their FTAs (especially because the proposals do not include specific negotiating language).

More time and analysis will thus be needed in order to identify the potential impact of FTAs on the negotiations and final outcome of an international regime for ABS.

Jorge Cabrera Medaglia is Legal Adviser INBio/Professor of Environmental Law at the University of Costa Rica. The opinions expressed are of a personal nature

Bridges Trade BioRes Review

Published by:

The International Centre for Trade and Sustainable Development

Chief Executive:
Ricardo Meléndez-Ortiz

Editor: Malena Sell
Address: 7 Chemin de Ballexert
1219 Geneva, Switzerland
Tel: (41-22) 917-8492
Fax: (41-22) 917-8093
Email: msell@ictsd.ch
Web: www.ictsd.org

Editorial team:
Deborah Vorhies
Moustapha Kamal Gueye
Marie Chamay
Fleur Claessens

Support from
Alicia Handy

This publication is made possible through the financial contribution of the Government of the United Kingdom (DFID) and the Dutch Ministry of Foreign affairs (DGIS).

The opinions expressed in the signed contributions to the BioRes Review are the authors' and do not necessarily reflect the views of ICTSD. Manuscripts offered for publication are expected to respect good journalistic practice and be compatible with our mission. Guidelines for contributors are available on request.

Material from the BioRes Review can be used in other publications with full academic citation.

ISSN 1996-9198

Bridges BioRes

Upcoming events & resources

UPCOMING EVENTS

MARCH

- 3-7 UNDERUTILISED PLANTS FOR FOOD, NUTRITION, INCOME AND SUSTAINABLE DEVELOPMENT. Arusha, Tanzania.
<http://www.icuc-iwmi.org/Symposium2008/>
- 4-6 WASHINGTON INTERNATIONAL RENEWABLE ENERGY CONFERENCE (WIREC) 2008. Washington, D.C., United States.
<http://www.wirec2008.org/>
- 10-14 FOURTH SESSION OF THE CHEMICAL REVIEW COMMITTEE. Geneva, Switzerland. <http://www.fao.org/events/index.asp>.
Contact: Gerold Wyrwal.
- 14-16 GLENEAGLES DIALOGUE ON CLIMATE CHANGE, CLEAN ENERGY AND SUSTAINABLE DEVELOPMENT. Chiba, Japan.
<http://www.do-summit.jp/en/about/summary02.php>
- 25-28 OPPORTUNITIES AND CHALLENGES OF RESPONSES TO CLIMATE CHANGE FOR INDIGENOUS AND LOCAL COMMUNITIES, THEIR TRADITIONAL KNOWLEDGE AND BIOLOGICAL DIVERSITY. Helsinki, Finland. <http://www.cbd.int/meetings/>
- 28 MEETING OF THE EMERGING MARKETS NETWORK.
http://www.oecd.org/document/4/0,3343,en_2649_201185_35567812_1_1_1_1,00.html

APRIL

- 2-4 WTO: TRADE POLICY REVIEW BODY - MADAGASCAR. Geneva, Switzerland. http://www.wto.org/english/news_e/events_e/events_e.htm
- 7-11 CODEX COMMISSION ON PHYTOSANITARY MEASURES (3RD SESSION). Rome, Italy. <http://www.fao.org/events/index.asp>.
Contact: Peter Kenmore.
- 7-12 INTERNATIONAL ASSESSMENT OF AGRICULTURAL SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (IAASTD) INTERGOVERNMENTAL PLENARY. Johannesburg, South Africa.
<http://www.agassessment.org/>
- 8-11 GLOBAL AGRO-INDUSTRIES FORUM: IMPROVING COMPETITIVENESS AND DEVELOPMENT IMPACT. New Delhi, India. <http://www.fao.org/events/index.asp>.
Contact: Geoffrey C. Mrema.
- 13-16 GRADUATE COURSE IN INTELLECTUAL PROPERTY RIGHTS AND TECHNOLOGY TRANSFER. Ooty, India.
<http://www.stemglobal.org/events2008.html>
- 16 THE ROLE OF CHINA IN LATIN AMERICA. Cancun, Mexico.
http://www.oecd.org/document/4/0,3343,en_2649_201185_35567812_1_1_1_1,00.html
- 16-18 INTERNATIONAL RENEWABLE ENERGY CONFERENCE IN AFRICA. Dakar, Senegal. <http://www.unido.org/en/doc/76539>
- 20-25 TWELFTH SESSION OF THE UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD XII). Accra, Ghana.
<http://www.unctadxi.org/en/>
- 23-25 WTO: TRADE POLICY REVIEW BODY - MAURITIUS. Geneva, Switzerland. http://www.wto.org/english/news_e/events_e/events_e.htm
- 28-02 CODEX COMMITTEE ON FOOD LABELLING. Ottawa, Canada.
<http://www.codexalimentarius.net/web/current.jsp?lang=en>

MAY

- 5-9 CODEX STANDARDS COMMITTEE (12TH SESSION). Rome, Italy.
<http://www.fao.org/events/index.asp>. Contact: Peter Kenmore.
- 5-16 UNITED NATIONS COMMISSION ON SUSTAINABLE DEVELOPMENT (CSD-16). New York, United States.
<http://www.un.org/esa/sustdev/csd/review.htm>
- 12-16 4TH MEETING OF THE CONFERENCE OF THE PARTIES SERVING AS THE MEETING OF THE PARTIES TO THE CARTAGENA PROTOCOL ON BIOSAFETY (COP-MOP 4). Bonn, Germany.
<http://www.cbd.int/mop4/>
- 12-16 PLANT DIVERSITY - WORLD CONGRESS ON THE FUTURE OF FOOD AND AGRICULTURE. Bonn, Germany.
<http://www.planet-diversity.org/registration.html>
- 19-30 NINTH MEETING OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON BIOLOGICAL DIVERSITY (COP-9). Bonn, Germany.
<http://www.cbd.int/cop9/>

RESOURCES

ICTSD Resources

INTELLECTUAL PROPERTY AND ACCESS TO CLEAN ENERGY TECHNOLOGIES IN DEVELOPING COUNTRIES AN ANALYSIS OF SOLAR PHOTOVOLTAIC, BIOFUEL AND WIND TECHNOLOGIES. By John Barton. ICTSD Trade and Sustainable Energy Series Issue Paper No.2 (December 2007). http://www.trade-environment.org/page/ictsd/projects/BARTON_DEC_2007.pdf

TRADE IN ENVIRONMENTAL GOODS AND SERVICES AND SUSTAINABLE DEVELOPMENT: DOMESTIC CONSIDERATIONS AND STRATEGIES FOR WTO NEGOTIATIONS. ICTSD Environmental Goods and Services Series, Policy Discussion Paper (December 2007). http://www.trade-environment.org/page/outputs/egs/compendium_dec_2007.pdf

CLIMATE, EQUITY, AND GLOBAL TRADE. ICTSD Trade and Sustainable Energy Series, Selected Issue Briefs No. 2 (December 2007). http://www.trade-environment.org/page/ictsd/projects/Bali_Climate_Equity_and_Global_Trade_Dec07.pdf

Other Resources

TRADE-RELATED MEASURES AND MULTILATERAL ENVIRONMENTAL AGREEMENTS. United Nations Environment Programme (2007). http://www.unep.ch/etb/areas/pdf/MEA%20Papers/TradeRelated_MeasuresPaper.pdf

A PRELIMINARY ANALYSIS OF MEA EXPERIENCES IN IDENTIFYING AND FACILITATING THE TRANSFER OF TECHNOLOGY - WHAT INSIGHTS CAN BE DRAWN FOR THE WTO EGS NEGOTIATIONS? United Nations Environment Programme and United Nations Conference on Trade and Development (2007). http://www.unep.ch/etb/areas/pdf/MEA%20Papers/MEA_EGS%20Paper.pdf

TRADE AND CLIMATE CHANGE LINKAGES. Aaron Cosbey (International Institute for Sustainable Development, December 2007). http://www.iisd.org/pdf/2007/trade_climate_linkages.pdf

TRADE POLICY TOOLS AND INSTRUMENTS FOR ADDRESSING CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT. Aaron Cosbey (International Institute for Sustainable Development, December 2007). http://www.iisd.org/pdf/2007/trade_tools_climate_sd.pdf

THE FUTURE CONTROL OF FOOD: A GUIDE TO INTERNATIONAL NEGOTIATIONS AND RULES ON INTELLECTUAL PROPERTY, BIODIVERSITY AND FOOD SECURITY. Edited by Geoff Tansey and Tasmin Rajotte (Earthscan, 2008). <http://shop.earthscan.co.uk/ProductDetails/mcs/productID/776/>

GENETICALLY MODIFIED FOOD AND INTERNATIONAL TRADE: THE CASE OF INDIA, BANGLADESH, INDONESIA, AND THE PHILIPPINES. International Food Policy Research Institute (December 2007). <http://www.ifpri.org/pubs/dp/ifpridp00740.asp>

GMOS IN AFRICA: FOOD AND AGRICULTURE STATUS REPORT 2007. By Shenaz Moola and Victor Munnik (African Centre for Biosafety, December 2007). http://www.biosafetyafrica.net/portal/images/ACB/gmos_in_africa.pdf

BIO-PIRACY: IMITATIONS NOT INNOVATIONS. By Suman Sahai, Prasmi Pavithran and Indrani Barpujari (Gene Campaign, New Delhi, 2007). <http://www.genecampaign.org/Publication/FreePublication/Biopiracy-imitations-not-innovations2.pdf>

CO2 EMBODIED IN INTERNATIONAL TRADE WITH IMPLICATIONS FOR GLOBAL CLIMATE POLICY. Environmental Science & Technology (2008). <http://pubs.acs.org/cgi-bin/download.pl?es072023k/V6yi>

NORWEGIAN CONSUMPTION, CHINESE POLLUTION. Glen Peters and Rasmus Reinvang (IndEcol and WWF Norway, January 2008). http://www.ntnu.no/eksternweb/multimedia/archive/00030/Norwegian_Consumptio_30439a.pdf

POLICY BRIEF: PROTECTING FARMERS' RIGHTS IN THE GLOBAL IPR REGIME: CHALLENGES AND OPTIONS FOR DEVELOPING COUNTRIES. Regine Andersen (2007). <http://www.sawtee.org/>

PATENTS: TAKEN FOR GRANTED IN PLANS FOR A GLOBAL BIOFUELS MARKET. Steve Suppan (Institute for Agriculture and Trade Policy, 2007). <http://www.iatp.org/iatp/publications.cfm?refid=100449>