

Liberalization of Environmental Goods and Services South Asian LDC Issues

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In view of their expected role in protecting the environment while boosting international trade, environmental goods and services (EGS) have become part of the trade liberalization negotiations at the World Trade Organization (WTO). Paragraph 31 (iii) of the Doha Ministerial Declaration has mandated negotiations on “the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services” as part of the single undertaking.¹

Though EGS liberalization is part of the single undertaking of the Doha Round of WTO negotiations, there is a dearth of capacity in least-developed countries (LDCs) in terms of general awareness as well as understanding of the issues on EGS negotiations. Under the Doha Round, although LDCs are not expected to make any tariff reduction commitments, negotiations on EGS may have an impact on these countries in several ways.

This paper highlights the state of play of the ongoing negotiations on EGS at the WTO; discusses the performance of LDCs, including South Asian LDCs, in global trade in environmental goods (EGs); identifies the major opportunities and challenges presented by the Doha Round negotiations on EGS liberalization to South Asian LDCs, and the strategies these countries should take during EGS negotiations.

Since data on environmental services (ES) for LDCs are not available, this paper presents only a qualitative discussion on ES negotiations. Further, although Afghanistan, Bangladesh, Bhutan, the Maldives and Nepal are the five LDCs of South Asia, the focus of the paper is on Bangladesh and Nepal for two reasons: first, Afghanistan and Bhutan are not WTO members; and second, data for the Maldives on EG trade are not adequate for any meaningful analysis.

Current state of play

Currently, there is no international consensus on the definition of EGS. In the Committee on Trade and Environment in Special Session (CTESS) of the WTO, a number of members have referred to the work done by the Organisation for Economic Co-operation and Development (OECD) and the Asia-Pacific Economic Cooperation (APEC) on EGS.

In addition, several countries have been putting forth their own list of EGS based on their interests. Of late, the WTO '153' list has been at the centre of discussions on EGs at the CTESS. The list was submitted by the "Friends of EGs"—a group of countries including Canada, the European Communities, Japan, Korea, New Zealand, Norway, the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, Switzerland, and the United States (US).

The OECD and the APEC have identified the scope of EGs and developed two separate lists of environmental products. In 1992, the OECD started to identify EGS as part of its work on the role of environmental policy and industrial competitiveness. The OECD classification of EGs includes three broad groups with different categories and sub-categories. A total of 164 environmental products are listed under the sub-categories.

The APEC list resulted from policy discussions directed towards anticipated changes in tariffs and was

the direct result of negotiated offers in the context of a trade-liberalization initiative. The APEC list includes 109 items within 10 broad categories.

The '153' list of the "Friends of EGs" comprises 12 broad categories of products: air pollution control; management of solid and hazardous waste and recycling system; clean-up or remedial of soil and water; renewable energy plant; heat and energy management; waste water management and potable water treatment; environmentally preferable products, based on end-use or disposable characteristics; cleaner or more resource-efficient technologies and products; natural risk management; natural resources protection; noise and vibration abatement; and environmental monitoring, analysis and assessment.

Several approaches have been proposed for EG liberalization in WTO negotiations. Developed countries are advocating a "list-based approach" for identifying specific EGs for further liberalization while developing countries are advocating alternative approaches, particularly those that would tie liberalization with EGs associated with a specific environmental project. The list-based approach has been criticized on the ground that it may lead to the liberalization of goods that have both environmental and non-environmental end uses.

Under the "project approach" advocated by India, imports of goods and services at concessional terms would be allowed for environmental projects

Table 1 LDCs' EG trade according to broad product category, 2007 (US\$ million)

Product category	Exports		Imports	
	All LDCs	Asian LDCs	All LDCs	Asian LDCs
Air pollution control	7.07	2.47	416.77	156.84
Management of solid and hazardous waste and recycling systems	42.29	17.49	1083.13	247.51
Clean up for remediation of soil and water	39.84	10.64	42.91	11.54
Renewable energy plant	64.80	33.96	1629.31	530.10
Heat and energy management	1.67	0.52	121.89	36.94
Waste water management and potable water treatment	78.52	27.69	1810.00	403.38
Environmentally preferable products, based on end use or disposal characteristics	327.85	308.90	21.08	3.66
Cleaner or more resource efficient technologies and products	2.10	0.64	123.96	16.52
Natural risk management	23.55	2.02	214.10	24.01
Natural resources protection	13.84	9.53	62.40	31.24
Noise and vibration abatement	11.34	7.47	313.63	112.41
Environmental monitoring, analysis and assessment equipment	18.23	6.67	341.49	86.43
Total	631.10	427.99	6180.66	1660.59

Source: ITC Trade Map and WITS database.

approved by a designated national authority based on criteria developed by the WTO's Committee on Trade and Environment. This approach has been criticized by developed countries, however, for failing to provide predictable, binding and permanent trade concessions, questioning its consistency with WTO rules.

Another alternative is an integrated approach requiring the CTESS to multilaterally pre-identify categories of environmental projects such that EGs used under the projects would benefit from concessions on tariffs and not face non-tariff barriers (NTBs). Yet another option is a "request-and-offer approach" which would allow each country to propose goods it believes contribute to the environment and also goods for which it is prepared to assume liberalization commitments.

In the context of ES negotiations, WTO members have proposed to categorize ES using a "core and cluster approach". The European Union (EU) has proposed, for instance, a classification of "core" services which encompasses those that can undisputedly be classified as "purely" environmental. Such services can further be categorized according to the environmental media, i.e. water, noise, solid and hazardous waste, etc. The EU has also proposed that services that can be termed conceptual services—such as design, engineering, research and development, and consulting services—be considered as a special cluster since they have environmental end use.

South Asian LDCs in EG trade

With a combined share of 85 percent, the EU, the US and Japan dominate the global market for EGs.² Developing countries such as Brazil, China, India and Mexico are emerging as major exporters and importers of EGs. Market growth in developed countries has reached a saturation point, at 3–5 percent per year, while developing-country markets are expected to grow at a rate of 8–12 percent per annum.³ But LDCs have been lagging behind in EG trade.

Based on data of the Trade Map of the International Trade Centre, UN Comtrade and the World Integrated Trade Solution, it is estimated that total global exports and imports of EGs—as defined in the WTO '153' list at the six-digit level of the Harmonized Commodity Description and Coding System (HS)—stood at US\$783.2 billion and US\$753.8 billion, respectively, in 2007. These figures represent a significant increase over 2001, when total exports and imports of EGs were US\$323 billion and US\$333.8 billion, respectively.

In 2007, the share of LDC exports of EGs in total global EG exports was 0.08 percent and the share of LDC imports of EGs in total global EG imports was 0.82 percent. Asian LDCs accounted for 67.8 percent of total EG exports of LDCs while African LDCs accounted for 32 percent of total EG exports of LDCs. Regarding imports, Asian and African LDCs accounted for 26.9 percent and 72.22 percent of total LDC imports of EGs, respectively.

An investigation into the trade pattern of countries by product category of the '153' list shows that Asian LDCs have a comparative advantage in environmentally preferred products (EPPs), which make up a lion's share of their EG exports (72.17 percent in 2007). EPPs in Asian LDCs include jute and other textile fibres, sacks and bags made of jute or of other textile fibres for packaging of goods, twine, cordage, ropes, and cables made of jute or other textile fibres.

On the other hand, renewable energy plant, and waste water management and potable water treatment are the major import items of Asian LDCs (Table 1). This import pattern reflects that these LDCs suffer from a lack of safe water and waste management system, and an acute energy crisis. Therefore, a reduction in import tariffs on these products is expected to benefit these countries in terms of better availability of these resources through reduced prices.

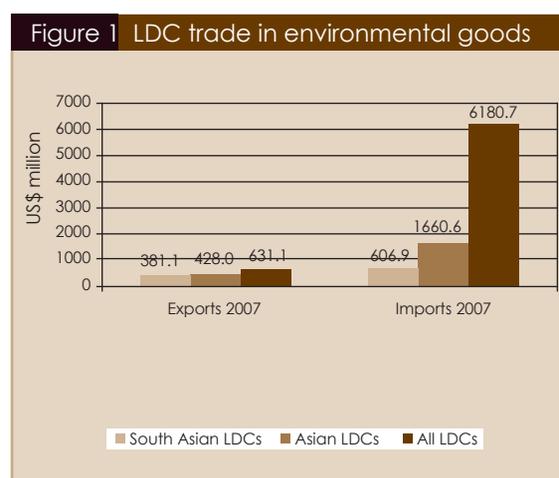
South Asian LDCs account for a whopping 89.03 percent of total EG exports of Asian LDCs, and 36.55 percent of EG imports of the same group (Table 2 and Figure 1). Among South Asian LDCs, Bangladesh dominates both EG exports and imports. For example, in 2007, its share was 29.38 percent and 82.03 percent of total EG exports and imports of Asian LDCs, respectively.

While jute and other textile fibres comprise 54.16 percent of Bangladesh's EG export basket, they do not feature in Nepal's top 10 EG exports. With a share of 45.68 percent in the country's total EG exports, tubes, pipes and hollow profiles and iron are the dominant EG exports of Nepal. However, sacks and bags for packaging of goods, of jute or of other textile fibres, are the second important EG exports of both Bangladesh (23.44 percent) and Nepal (30.03 percent).

The top 10 EG exports contribute almost 95 percent of total EG exports of Bangladesh and 97.63 percent of total EG exports of Nepal, implying that these countries export only a few items on the '153' list and their export

Country	Exports (US\$ million)		Imports (US\$ million)	
	2001	2007	2001	2007
Bangladesh	137.29	351.10	297.31	488.00
Maldives	0.10	n/a	24.06	68.76
Nepal	n/a	29.95	0.01	50.17
Asian LDCs		427.99		1660.59
Share of South Asian LDCs in Asian LDCs		89.03 %		36.55%
Share of South Asian LDCs in all LDCs		67.82%		26.87%

Source: UN Comtrade and ITC Trade Map.



Source: Based on UN Comtrade and ITC Trade Map.

baskets are relatively small. Three items—sacks and bags, for packaging of goods, of jute or of other textile fibres; machines and mechanical appliances having individual functions; and articles of iron or steel—are common to the major EG export baskets of both countries (Tables 3 and 4).

On the import front, machinery and mechanical appliances having individual functions, parts of electric motors, laboratory equipment, static converters, air or gas compressors, parts for diesel and semi-diesel engines, filtering or purifying machinery and apparatus for water, and primary cells and primary batteries, etc. dominate EG imports of South Asian LDCs. Compared to exports, the import basket of Bangladesh and Nepal is more diversified, as reflected by the share of the top 10 EG imports of these countries in their total EG imports.

For Bangladesh, the top 10 EG imports comprise 45.51 percent of its total EG imports, and the share is

53.78 percent in the case of Nepal. Three EG imports are common to both countries' lists: machines and mechanical appliances having individual functions; static converters; and parts of electric motors, generators, generating sets and rotary converters (Tables 5 and 6).

Tariff analysis shows that the effective applied tariffs in high-income countries on EGs that are on the list of the top 10 EG exports of South Asian LDCs are in the range of 0–2 percent, except for twine, cordage, ropes and cables, of jute or other textile fibres, which face an effective tariff of 9.47 percent (Table 7). Though tariffs on EGs in developed countries are very low, South Asian LDCs will benefit from EG liberalization since their EG exports are destined to a number of developing countries where they face high import duties.

In developing countries such as China, India, Mexico, Syria and the United Arab Emirates, the major EG

Product description and HS code	Export value (US\$ million)	Share in total EG exports (%)
Jute and other textile bast fibres, raw or retted (530310)	190.17	54.16
Sacks & bags for packaging of goods, of jute or of other textile bast fibres (630510)	82.30	23.44
Twine, cordage, ropes and cables, of jute or other textile bast fibres (560710)	25.67	7.31
Knotted netting of twine/cordage/rope, and made up nets of other tex mat (560890)	9.38	2.67
Machines & mechanical appliances having individual functions (847989)	5.68	1.62
Parts for diesel and semi-diesel engines (840999)	5.53	1.58
Parts of dish washing, cleaning or drying container, packing or wrapping machine (842290)	5.36	1.53
Turbines output >40 MW (840681)	4.73	1.35
Tamping machines and road rollers, self propelled (842940)	2.39	0.68
Articles of iron or steel (732690)	2.22	0.63
Total	333.43	94.97

Source: UN Comtrade and ITC Trade Map.

Table 4 Top ten EG exports from Nepal, 2007

Product description and HS code	Export value (US\$ million)	Share in total EG exports (%)
Tubes, pipe & hollow profiles, iron, welded, of circ cross sect (730630)	13.68	45.68
Sacks & bags, for packg of goods, of jute or of other textile bast fibres (630510)	9.00	30.03
Tubes, pipe & hollow profiles, iron or steel, welded (730690)	3.44	11.47
Film and sheet etc, non-cellular etc, of polymers of ethylene (392010)	1.01	3.37
Parts & accessories for measuring or checking inst, appl & machines (903190)	0.57	1.91
Gas turbines of a power not exceeding 5000 KW (841181)	0.51	1.69
Machines & mechanical appliances having individual functions (847989)	0.48	1.59
Tubes, pipes and hollow profiles of cast iron (730300)	0.24	0.78
Instruments and apparatus for physical or chemical analysis (902780)	0.17	0.58
Articles of iron or steel (732690)	0.16	0.53
Total	29.26	97.63

Source: UN Comtrade and ITC Trade Map.

exports of Bangladesh and Nepal face tariffs in the range of 4.7–30.3 percent. On the other hand, import tariffs in Bangladesh and Nepal are also not insignificant. Their top five EG imports face tariffs ranging from 1.67 percent to 9.13 percent (Table 8). This implies that reductions in import tariffs on EGs in South Asian LDCs would be beneficial for them.

South Asian LDCs and EGS negotiations

The underlying objective of EGS negotiations is to generate economic gains through reduced tariffs resulting in lower import costs of clean technology. Countries, including LDCs, can benefit from improved environmental conditions and resource management, and strengthened capacity to comply with environmental requirements as per the demands of importing countries. In many LDCs, where the majority of citizens reside in rural areas, it is crucial to expand outreach in terms of the provision of environmental

technologies and products, and education services on how to utilize the same for pollution abatement.

In such cases, going beyond manufacturing industries into more service-oriented sectors at lower costs, liberalization of EGS markets will produce environmental benefits to improve the quality of life and standard of living of the people via a cleaner environment. Moreover, as barriers to products in which LDCs have a competitive advantage are removed, these countries can realize economic growth and development patterns that are more environmentally sustainable over time.

However, liberalization of EGS may not increase the volume of EGS trade of LDCs unless several other issues are not addressed simultaneously both at the domestic and global levels. These include domestic regulatory mechanisms and appropriate price incentives so that markets are not distorted and resources are not

Table 5 Top 10 EG imports of Bangladesh, 2007

Product description and HS code	Imports (US\$ million)	Share in total EG imports (%)
Machines & mechanical appliances having individual functions (847989)	62.78	12.87
Static converters (850440)	25.29	5.18
Boards, panels, including numerical control panels, or a voltage <=1000 V (853710)	22.73	4.66
Air or gas compressors, hoods (841480)	22.51	4.61
Parts for diesel and semi-diesel engines (840999)	16.88	3.46
Industrial & laboratory electric resistance heated furnaces & ovens (854140)	16.61	3.40
Towers and lattice masts, iron or steel (730820)	15.45	3.17
Parts of electric motors, generators, generatg sets & rotary converters (850300)	13.70	2.81
Filtering or purifying machinery and apparatus for water (842121)	13.25	2.71
Machinery, plant/laboratory equip for treat of mat by change of temp (841989)	12.87	2.64
Total	222.07	45.51

Source: UN Comtrade and ITC Trade Map.

Table 6 Top 10 EG imports of Nepal, 2007

Product description and HS code	Imports (US\$ million)	Share in total EG imports (%)
Parts of hydraulic turbines & water wheels including regulators (841090)	4.45	8.87
Parts of machines & mechanical appliances having individual functions (847990)	4.26	8.49
Machines & mechanical appliances having individual functions (847989)	4.09	8.15
Static converters (850440)	3.50	6.97
Parts of electric motors, generators, generatg sets & rotary converters (850300)	3.30	6.57
Articles of iron or steel (732690)	2.32	4.63
Photosensitive semiconduct device, photovoltaic cells & light emit diodes (854140)	1.48	2.95
Centrifugal pumps (841370)	1.27	2.54
Taps, cocks, valves and similar appliances (848180)	1.16	2.32
Primary cells & primary batteries (850680)	1.15	2.29
Total	26.98	53.78

Source: UN Comtrade and ITC Trade Map.

overexploited due to incentives such as subsidy.

South Asian LDCs can form a common position in EGS negotiations as they face similar types of economic and environmental problems. They are demanding greater market access for their products in developed- and developing-country markets as they shift their trade policies towards liberalization and enhanced integration with the global economy, offering greater market access to foreign products through reductions in tariff rates.

South Asian LDCs are also grappling with environmental problems that are exacerbating poverty. Therefore, they should pursue a two-pronged strategy—a national strategy on EGS negotiations, and a united voice to strengthen their position for greater market access for their products in developed and fast developing countries.

The negotiating strategy of South Asian LDCs should stem from their own import requirements and export potential with regard to EGS. LDCs are not bound to make any tariff reduction commitments during the Doha Round negotiations, though they are encouraged to do so. However, any tariff and NTB reduction commitments by developed and developing countries will benefit LDCs.

Therefore, their strategy should be to wait and watch rather than hurry to make any commitment on EGS liberalization. Nonetheless, as liberalization of EGS is part of the single undertaking of the Doha Round negotiations, South Asian LDCs should participate actively in the discussions in order to ensure that the negotiations result in an outcome that is conducive

to their sustainable development. In this regard, a number of aspects should be considered while adopting strategies for EGS negotiations.

Inclusion of agriculture- and natural resource-based products in the negotiating list

Given the fact that the export interest of South Asian LDCs in EGs lies in EPPs which are agriculture- and natural resource-based, they should emphasize that the negotiating list of EG trade in the WTO include products of their interest. Further, in the case of determining EPPs, processes and production methods (PPMs) for examining how products are grown, extracted, manufactured and provided in a sustainable manner in all or some stages of their life cycle should be reviewed. This is because the use of PPMs to determine the environmental benefits of agriculture- and natural resource-based products such as forestry and fisheries involves labelling and certification schemes which may turn into environmental protectionism at times.

Emphasis on “project approach”

Most industrial units in LDCs such as Bangladesh and Nepal are small and medium enterprises (SMEs) which lack financial and technological capability to comply with the requirements set by developed-country importers. The list approach to liberalization does not emphasize the need for technology transfer adequately. In view of these issues, the project approach as proposed by India stands to offer better opportunities for South Asian LDCs in terms of market access since this approach is supposed to enable technology transfer which can in turn help

Product description and HS code	Exporter	Major export destination and tariff rates
Jute and other textile bast fibres, raw or retted (530310)	Bangladesh	China 6.1%; India 9.6%; Pakistan duty free
Sacks & bags, for packg of goods, of jute or of other textile bast fibres (630510)	Bangladesh, Nepal	India 9.8%; Syria 30.3%; Sweden 0.8%
Twine, cordage, ropes and cables, of jute or other textile bast fibres (560710)	Bangladesh	India and Mexico not available; Malaysia duty free
Machines & mechanical appliances having individual functions (847989)	Bangladesh, Nepal	Netherlands 0.1%; India 3.6%; Italy 0.1%; Mexico 11.4%; Philippines 0.8%; United Arab Emirates 4.7%; Kenya, Nigeria, Russian Federation duty free
Tubes, pipe & hollow profiles, iron or welded, of circ cross sect (730630)	Nepal	India 9.8%

Source: UN Comtrade and ITC Trade Map.

improve LDC compliance with technical and sanitary requirements.

Elimination of NTBs

Even if tariffs are eliminated, NTBs such as environmental and production regulations and standards, eco-labelling, certification and subsidies could serve as an implicit obstruction to LDC exports. The export interest of Bangladesh and Nepal in EGs lies in the area very near to agricultural goods, which could face the most harsh forms of NTBs, for example, sanitary and phytosanitary (SPS) measures.

Duty-free and quota-free market access

It is likely that many of the EGs are already covered by various preferential schemes offered to LDCs by developed countries. Therefore, if these products are listed as EGs for multilateral tariff cuts under the Doha Round, the preferences enjoyed by LDCs for such

products in developed-country markets will be eroded and their competitiveness reduced. Therefore, South Asian LDCs should demand duty-free and quota-free market access for all products of their export interest immediately in all developed countries as well as in developing countries in a position to do so.

Special and differential treatment

South Asian LDCs should demand special and differential treatment for improved market access for their products which have less negative environmental impacts and which are derived in an environment-friendly way.

Affordability of essential environmental services

In the case of services, the main way to trade in ES is through Mode 3 (commercial presence) and Mode 4 (movement of natural persons) as defined in the WTO's General Agreement on Trade in Services (GATS).

Country	Product description and HS code	Tariff rates (%)
Bangladesh	Machines & mechanical appliances having individual functions (847989)	1.67
	Static converters (850440)	7.33
	Boards, panels, includg numerical control panels, for a voltage <=1000 V (853710)	8.50
	Air or gas compressors, hoods (841480)	9.13
	Parts for diesel and semi-diesel engines (840999)	5
Nepal	Parts of hydraulic turbi & water wheels including regulators (841090)	5
	Parts of machines & mechanical appliances having individual functions (847990)	5
	Machines & mechanical appliances having individual functions (847989)	7.50
	Static converters (850440)	5
	Parts of electric motors, generators, generating sets & rotary converters (850300)	5

Source: WITS database.

The issue of affordability of essential ES should be a priority of South Asian LDC governments. Though commercial presence of foreign enterprises under Mode 3 may contribute to increased investment and capital formation, improvements in the coverage and quality of EG, and transfer of technology and capacity building, South Asian LDCs should not make any commitments on this without an understanding of the implications of liberalization of essential environmental infrastructural services such as water.

Removal of stringent immigration and recruitment policies

Commercially meaningful liberalization of environmental infrastructure services requires market access in environmental support services such as construction, engineering, and legal and consulting services (Mode 4). Market access of service providers from LDCs to developed countries is constrained by stringent immigration and recruitment policies of the importing countries. Though ES exports by South Asian LDCs are not significant as yet, they have the potential to reap economic benefits by exporting environment-related professional services in the form of studies, assessments and consultancies. For example, LDCs which suffer from environment-related natural disasters such as flood, cyclone and drought are better equipped with the expertise to deal with such catastrophes.

Review of the IPR regime for technology transfer

The issue of intellectual property rights (IPRs) has to be resolved for enabling technology transfer to LDCs. These countries are demanding flexibilities in the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in order to enable them to use patented climate-friendly technologies. Article 66.2 of the TRIPS Agreement, which mandates

members to take measures to encourage technology transfer to LDCs, should be implemented for climate technologies. The IPR regime, which is a barrier to technology transfer to LDCs, needs to be reviewed. South Asian LDCs should also be watchful of any attempts to dump old technologies by developed countries in the name of technology transfer.

Technical and financial assistance

In order for LDCs to take full advantage of liberalization of EGS, technical and financial assistance is essential. Such assistance is needed not only for buying clean technologies but also for addressing any probable negative impacts of liberalization on LDCs. SMEs, which dominate the industrial sector in LDCs, are not in a position to buy clean technologies to comply with domestic environmental regulations. To this end, South Asian LDCs should submit proposals to receive support under the WTO's aid-for-trade initiative. ■

Notes

- 1 WTO. 2001. Doha Ministerial Declaration, WT/MIN/(01)/DEC/W/1, Ministerial Conference, Fourth Session, Doha, 9–14 November.
- 2 OECD. 2001. *Environmental Goods and Services: The Benefits of Further Trade Liberalisation*. Paris: Organisation for Economic Co-operation and Development.
- 3 UNCTAD. 2003. Environmental Goods and Services in Trade and Sustainable Development. Note by the UNCTAD Secretariat, Geneva.

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South Asia Watch on Trade, Economics & Environment (SAWTEE) is a regional network that operates through its secretariat in Kathmandu and 11 member institutions from five South Asian countries, namely Bangladesh, India, Nepal, Pakistan and Sri Lanka. The overall objective of SAWTEE is to build the capacity of concerned stakeholders in South Asia in the context of liberalization and globalization.

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