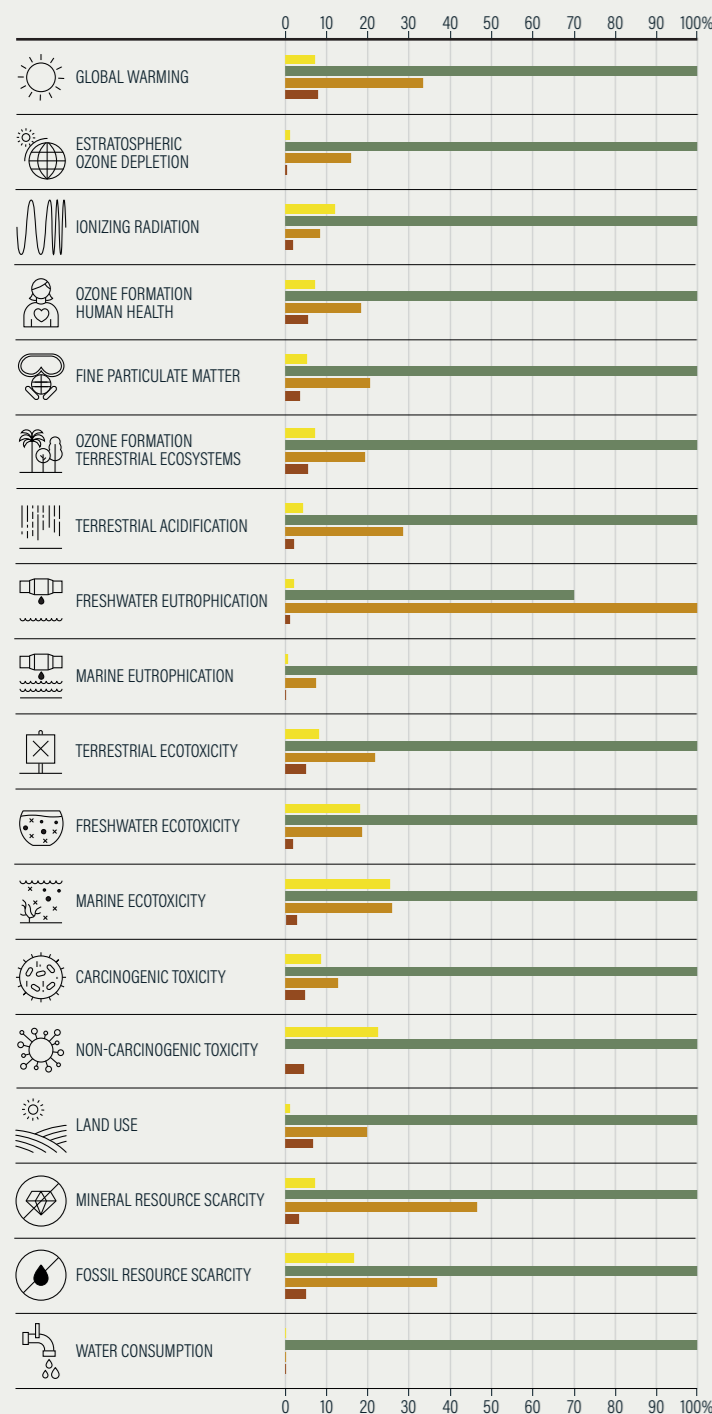


**BANGLADESH IS A HOTSPOT FOR PLASTIC WASTE ENTERING THE OCEAN**

- Bangladesh was among the top 20 countries in 2016 with the highest volumes of mismanaged plastic waste generated by coastal populations, amounting to 360,000 tonnes.
- Cigarette butts accounted for the largest share (32.87%) of all items collected from beaches in Bangladesh in 2019, followed by food wrappers (10.48%). Other items collected in large shares included plastic beverage bottles, plastic takeaway

- containers, plastic grocery bags and plastic lids.
- Of the 87,000 tonnes of SUP waste produced annually, 86% is landfilled. Although plastic is the material collected in the greatest volume, only a small percentage (2.5%) is recycled – 20,000 tonnes out of total of 800,000 tonnes of all plastic waste.

**IMPACTS PER LIFE CYCLE STAGE OF ALTERNATIVE BAG TYPES**



**WHAT DO LIFE-CYCLE AND TECHNO-ECONOMIC ANALYSES REVEAL?**

A screening life-cycle assessment of various product feedstocks was carried out for four product categories: (i) takeaway containers for food and beverages; (ii) plastic grocery and other bags; (iii) plates, straws and cutlery; and (iv) bottles and sachets for water and other beverages. Results of the LCA screening for grocery bags are illustrated in the figure beside. After further techno-economic analysis a number of promising feedstock materials were identified (see the table below).

CATEGORY	PROMISING ALTERNATIVE MATERIALS
TAKEAWAY CONTAINERS	ARECA / BANANA LEAVES / PAPER
GROCERY BAGS	COTTON / JUTE / BANANA FIBRE / PAPER
PLATES	ARECA / BANANA LEAVES
STRAWS	PAPER / BAMBOO
BOTTLES	GLASS / ALUMINIUM
SACHETS	NO VIABLE OPTION AVAILABLE

Materials excluded were wood, wool, bamboo and stainless steel for their poor overall environmental performance, coconut shells mixed with bamboo for their poor functionality, and polylactic acid (PLA) used for bioplastics for the lack of appropriate composting facilities.

Jute is promising for packaged dry groceries and materials such as paper and bamboo have the potential to reach price parity with SUPs, but in general higher prices affect the economic viability of most SUP substitutes. Additional regulatory and fiscal measures favouring plastic substitutes may be needed to bridge price gaps.

**KEY**

- CORN FIBRE BAG
- COTTON BAG
- JUTE BAG
- PAPER BAG

**NOTE**

In the impact assessment graphics, 100% represents the product with the largest environmental footprint for each impact indicator. The indicators of the alternative products are presented as fractions of that maximum for each impact category, i.e., the larger the bar, the greater the potential impact of each alternative compared with the option that has the greatest potential impact.

**REGULATORY LANDSCAPE FOR SUPS**

- Bangladesh introduced a national ban on plastic bags in 2002, one of the first countries in the world to do so. The penalty for violation of the ban involving production, importation and marketing is a 10-year prison sentence or a fine of BDT 10,000 (\$170 at 2002 exchange rates) or both. For the sale, exhibition, store, distribution, transportation or use of plastic bags for commercial purposes, the penalty is a six-month prison sentence or a fine of BDT 10,000.

**Design challenges**

- No pricing-related measures exist to disincentivize the use of SUPs.
- Specific incentives or promotional measures for environmentally friendly or fully compostable substitutes are lacking – e.g. the mandatory use of alternatives for packing certain condiments is not extended to other use cases.
- Effective EPR requirements are lacking.

- Bangladesh has introduced policies promoting plastic alternatives such as the Mandatory Jute Packaging Act, 2010 and the Jute Packaging Rule, 2013, which require the use jute for packaging items such as cereals, spices and animal feed.
- The Government has introduced measures to stop the use of SUPs in coastal areas.

**Implementation challenges**

- Enforcement of the plastic bag ban throughout the country is ineffective.
- Alternatives cost more than SUP products.

**TRADE OPPORTUNITIES IN SUP SUBSTITUTES**

- Bangladesh is a net exporter of some non-plastic feedstocks, such as jute and sisal, and – with smaller net export values – cereal straw and husks. Top export markets include developed economies such as the United Kingdom, Canada, the European Union (especially the Netherlands), Japan and Switzerland as well as developing countries such as China, India, the Republic of Korea, Pakistan, Saudi Arabia, Sri Lanka and the United Arab Emirates. The Russian Federation is also an important export market for sisal.

- South-South trade and developing-country markets are also important. These include Côte d'Ivoire for jute and regional markets such as India for jute and sisal; Pakistan for jute, aluminium waste and scrap, and vegetable plaiting materials; and Sri Lanka for paper, cardboard and vegetable plaiting materials.

- Bangladesh is mostly a net importer of non-plastic end-use products, with the exception of containers made of vegetable plaiting materials and bags made of jute, cotton and other textile materials (such as hemp). Top export markets include developed economies such as Australia, Canada, the European Union, Japan, Switzerland, the United Kingdom and the United States. Top developing-country export markets include India, Indonesia, Jordan, the Republic of Korea, Mauritius, Myanmar, Singapore, Turkey and the United Arab Emirates. Within South Asia, India is a top export market for aluminium bottles and jute bags.

- Bangladesh displays a revealed comparative advantage in exports of natural fibres of jute and sisal among non-plastic feedstocks and paper, jute, cotton and hemp grocery bags among non-plastic end-use products.

- For plastic feedstocks MFN import duties average 5%. For non-plastic feedstocks they range from zero (for cotton) to 25% (for hemp). For plastic end-use products, import duties range

**POLICY OPTIONS AND RECOMMENDATIONS**

- Further strengthen data gathering and inventory development for life-cycle assessment.
- Expand manufacturing capacity and deployment of modern technologies, particularly for processing feedstocks such as agricultural by-products and waste.
- Strengthen the regulatory framework for SUPs by incorporating global best practices and enable effective enforcement.
- Rationalize taxes and import duties that could contribute to raising the costs of raw materials for manufacturers of non-plastic end-use products.
- Expand the mandates for the use of plastic substitutes beyond packaging of cereals and condiments to consumer grocery bags for packing dry goods.
- Expand take-back and reuse schemes established for materials such as glass and aluminium.
- Offer greater preferential market access by larger developing countries outside South Asia for exports of non-plastic feedstocks and end-use products.
- Provide technical and financial assistance to enable producers and exporters of SUP substitute products to conform to emerging best practices for standards and labelling.