UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

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Plastics Control Measures & the Role of Innovative & Traditional Plastic Substitutes & Alternatives

Joint ICCF-AIPA-UNCTAD briefing on technology and innovation solutions to address marine debris in Southeast Asia, 06 July 2023

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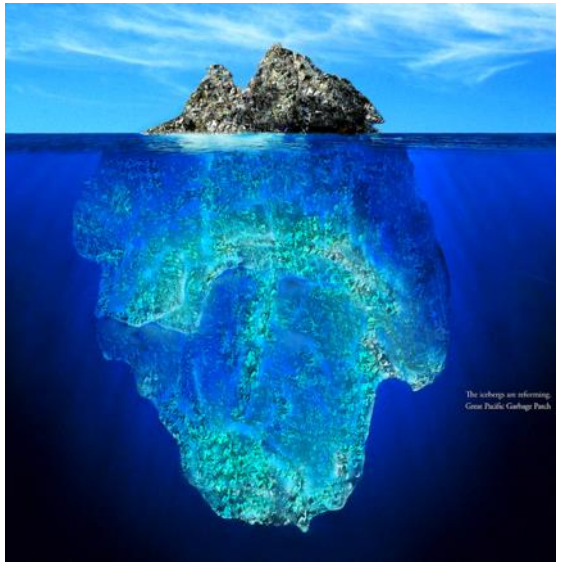
Impacts of Plastics on the Oceans

- ‘Downstream’ plastics pollution to the ocean: About 8-12 million tonnes of plastic end up in the world’s oceans every year (about 3-4 % of the annual plastic production).
- About six huge patches of plastic waste & other forms of garbage on the ocean
- Unseen problem: Sea bottom plastic accumulation
- If current trends continue, our oceans could contain more plastic than fish by 2050
- A key concern in fisheries & aquaculture is the ingestion of microplastics by fish and its impact on the fauna & human food safety.
- Negative impacts on oceans economic sectors such as fisheries, aquaculture, and tourism. All key for the Indo-Pacific Region



CONTROL AND MITIGATION MEASURES ACROSS EACH STAGE OF THE PLASTICS VALUE CHAIN

Control measures applicable to plastics are being discussed as one of the main tools to be part of a legally binding instrument on plastic pollution, including in the marine environment. This table summarize some of those options, covering both trade / border measures and internal market measures which can be adopted by countries.

Control measures can help steer economies away from harmful, problematic, single-use plastics and at the same time promote more sustainable material substitutes and alternatives.

			RAW MATERIALS  Hydrocarbons	UPSTREAM  Polymer pellets	MIDSTREAM  Products and parts	DOWNSTREAM  Plastic waste or residues	RECOVERY  From land or water bodies
TRADE / BORDER MEASURES	**TARIFFS**	Higher tariffs for harmful/problematic plastics. Lower tariffs for plastic substitutes.	×	×	×	×	
	IMPORT BAN (QR)	Import ban on imports of single-use plastics causing persistant pollution.			×	×	
	IMPORT QUOTAS (QR)	Limitations on imports of single-use plastics.	×	×	×	×	
	IMPORT LICENSES (ILP)	Import licenses for recyclable plastic waste; Import licenses for plastic bag components to avoid circumventing.		×	×	×	
	EXPORT BAN	Export ban of polymers, products or scrap material to destinations with limited capacity to process end-of-life materials.		×	×	×	
	EXPORT QUOTAS	Limits on specific polymer or scrap material exports.		×		×	
	EXPORT LICENSES	Adherence to Basel plastic waste ammendments / PIC prodecure.				×	
	EXPORT TAXES	Explicit tax or via state marketing boards.				×	
	TRADE DEFENSE TOOLS	AD/CVD applied to plastics; *Peace clause* so not to apply AD/CVD on material substitutes.	×	×	×	×	

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INTERNAL MARKET MEASURES	MONETARY AND ECONOMC INSTRUMENTS	Environmental or chemical taxes applicable to plastics; Packaging and recycling fees; Preferential tax treatment to alternatives/substitutes.	×	×	×	×	×
	PUBLIC PROCUREMENT //not including public hydrocarbon enterprises//	Government procurement favouring goods with recycled content; Procurement of plastic depollution services.			×		×
	PHASE OUT SUBSIDIES TO POLYMERS	Removal of grants to fossil fuels and polymer production	×	×			
	OPERATION LICENSES	Authorization of operation for polymer production or recycling / recovery services of sufficient quality	×	×	×	×	×
	LABELLING (TBT)	Labelling requirements clearly indicating polymer and recycled content; Proper labelling requirements of recycled plastic scrap trimmings or pellets		×	×	×	
	SERVICES LIBERALIZATION & REGULATION	Plastics depollution services liberalization; National plastic waste management frameworks.					×
	EXTENDED PRODUCER RESPONSIBILITY	Deposit schemes; Take-back programmes.				×	
	DESIGN AND QUALITY STANDARDS (TBT)	Exclusion of any hazardous chemicals; Minimum thickness, reusability, mono-material requirements; Durability.	×	×	×	×	
	INTERNAL PRODUCTION AND COMERCIALISATION BANS OF PLASTIC PRODUCTS				×	×	
	CERTIFICATION AND CONFORMITY ASSESSMENT (SPS/TBT)			×	×		
	RECYCLING TARGETS (ADM)					×	×
	MEASURING, MONITORING AND MAPPING OF PLASTIC LITTER (ADM)					×	×

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The distinction between plastic substitutes and plastic alternatives

Plastics substitutes are natural materials that have similar properties to plastics, while plastic alternatives include bioplastics or biodegradable plastics.

Plastic substitutes		Plastic alternatives
Mineral, plant, marine or animal	ORIGIN	Bioplastics or Biodegradable plastics
Recyclable, reusable, biodegradable, compostable, or erodable	PROPERTIES	Recyclable, biodegradable, or compostable (end of life)
Should have lower environmental impact along their life cycle	IMPACT	Should have lower GHG lifecycle emissions when compared to plastics
Should not be harzardous for human, animal or plant life	SAFETY	Should not be harzardous for human, animal or plant life
Non-plastics		**Better plastics**

Source: UNCTAD Vivas Eugui & Pacini (2022). UNCTAD, based on presentation on plastic substitutes HS codes, Life-cycle analysis and tariffs considerations. WTO Dialogue on Plastics.

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HS Chapter	Description	Number of 6-digit HS Codes
04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, n.e.c.	1
05	Animal originated products; not elsewhere specified or included	3
07	Vegetables and certain roots and tubers; edible	8
08	Fruit and nuts, edible; peel of citrus fruit or melons	2
11	Products of the milling industry; malt; starches; inulin; wheat gluten	3
12	Oil seeds and oleaginous fruits, ..., industrial or medicinal plants; straw and fodder	7
13	Lac; gums, resins and other vegetable saps and extracts	4
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	4
15	Vegetable waxes (other than triglycerides); whether or not refined*	1
17	Sugars and sugar confectionery	2
20	Preparations of vegetables, fruit, nuts or other parts of plants	1
23	Food industries, residues and wastes thereof; prepared animal fodder	4
28	Inorganic chemicals; organic and inorganic compounds of precious metals…	2
29	Organic chemicals	2
32	Glass; glass frit and other glass, in the form of powder, granules or flakes*	1
39	Cellulose; Natural polymers…	5
40	Rubber	4
41	Raw hides and skins (other than furskins) and leather	12
42	Articles of leather,…,articles of animal gut (other than silkworm gut)	1
44	**Wood and articles of wood; wood charcoal**	**43**
45	Cork and articles of cork	7
46	Manufactures of straw, esparto or other plaiting materials; basketware…	8
47	**Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap)…**	**17**
48	**Paper and paperboard; articles of paper pulp, of paper or paperboard**	**31**
50	Silk	10
51	**Wool, fine or coarse animal hair; horsehair yarn and woven fabric**	**25**
52	Cotton	3
53	**Vegetable textile fibers; paper yarn and woven fabrics of paper yarn**	**19**
54	Man-made filaments; strip and the like of man-made textile materials	4
56	Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables…	4
57	Carpets and other textile floor coverings	1
63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	2
67	Feathers and down, prepared; and articles made of feather or of down	1
68	Stone, plaster, cement, asbestos, mica or similar materials; articles thereof	1
69	Ceramic products	4
70	Glass and glassware	9
76	**Aluminium and articles thereof**	**17**
94	Furniture,… not elsewhere specified or included	4
95	Toys, games and sports requisites; parts and accessories thereof	4
96	Miscellaneous manufactured articles	1

Reducing plastic use is the best way to prevent it becoming waste or hazardous waste. Substitutes can contribute significantly to this aim. A mapping of HS codes of potential plastic substitutes resulted in…

282 HS codes identified (6-digit)

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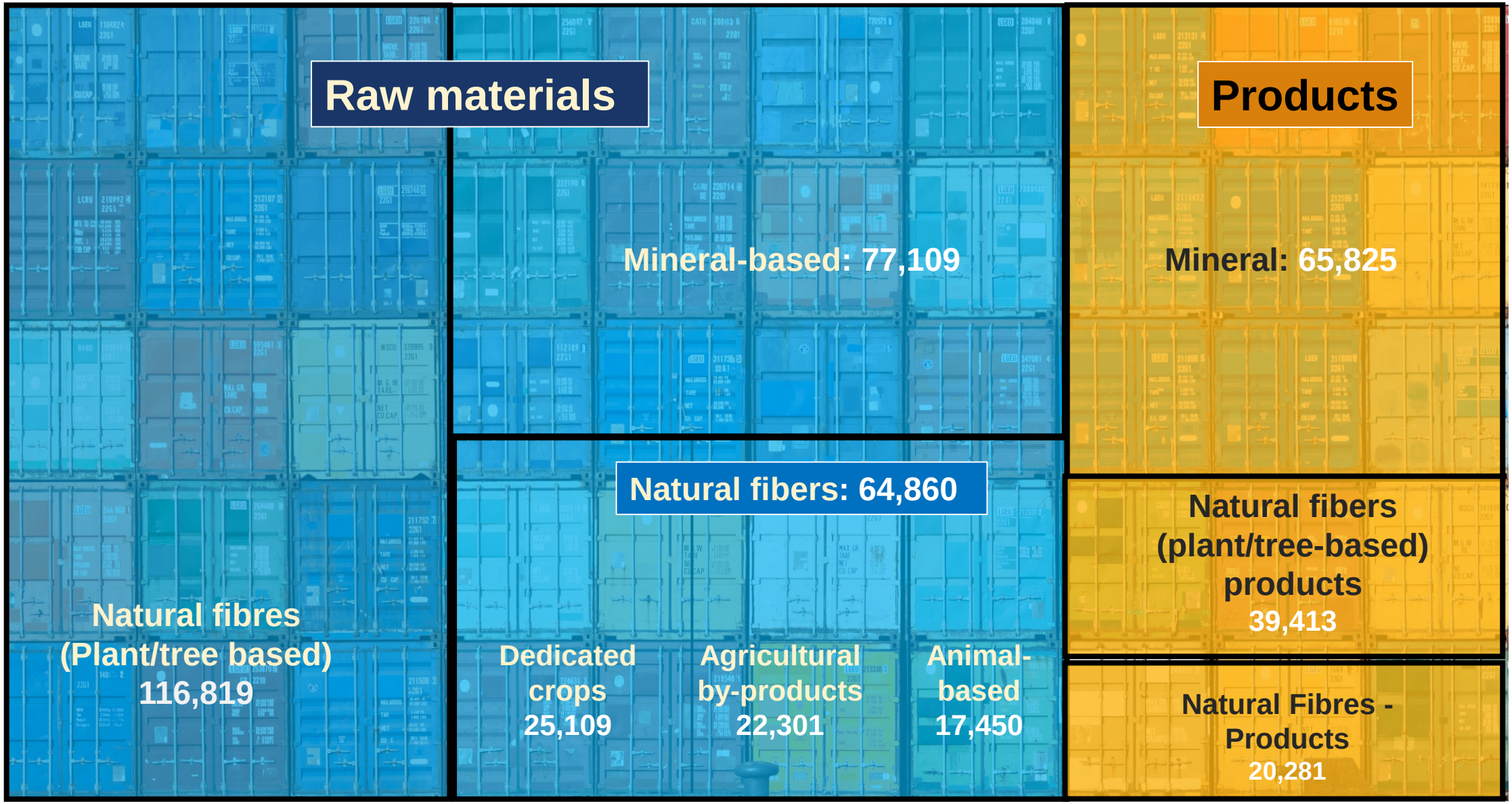
Trade value of plastics substitutes

Export represented $388 billion, approximately 2/3 represents exports of raw materials ($258 billion)



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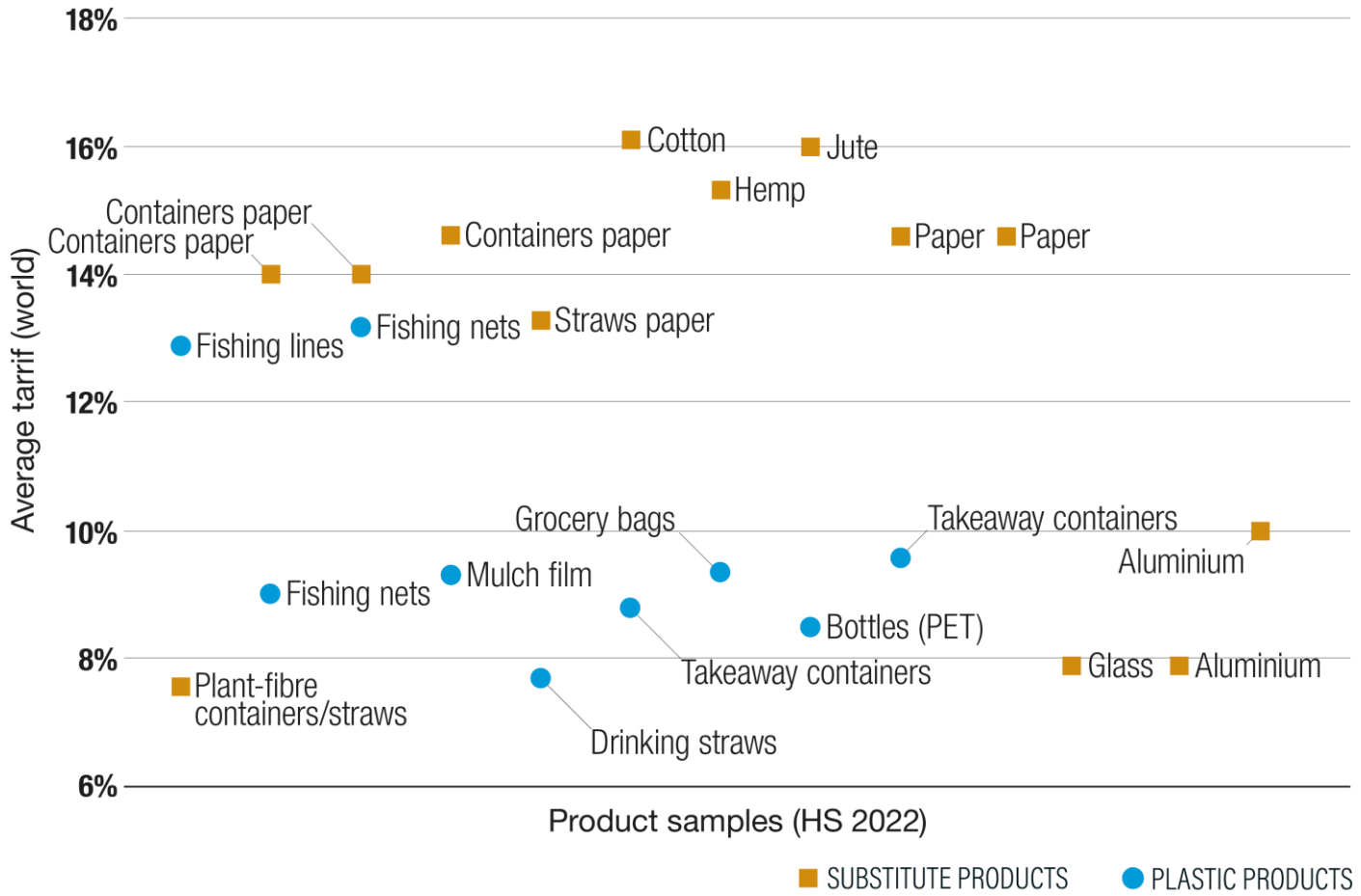
Average import tariffs on plastic products vs material substitutes

Substitutes often face higher import tariffs than their plastic equivalents.



Source: UNCTAD, based on OEC data 2020 and HS 2022 codes.
Note: Aluminium, paper, cointainer paper and fishing nets are repeated because of different items represented in different HS codes.

Important to promote more policy coherence in tariff schedules vis-à-vis potential control measures and incentives

Life Cycle Analysis of substitutes is important as substitutes have varying environmental impacts.

UNCTAD's plastics-substitutes dashboard allows analysis of single-use plastics compared to single-use material substitutes & reusables.

Importantly - reuse is fundamental for better environmental performance.

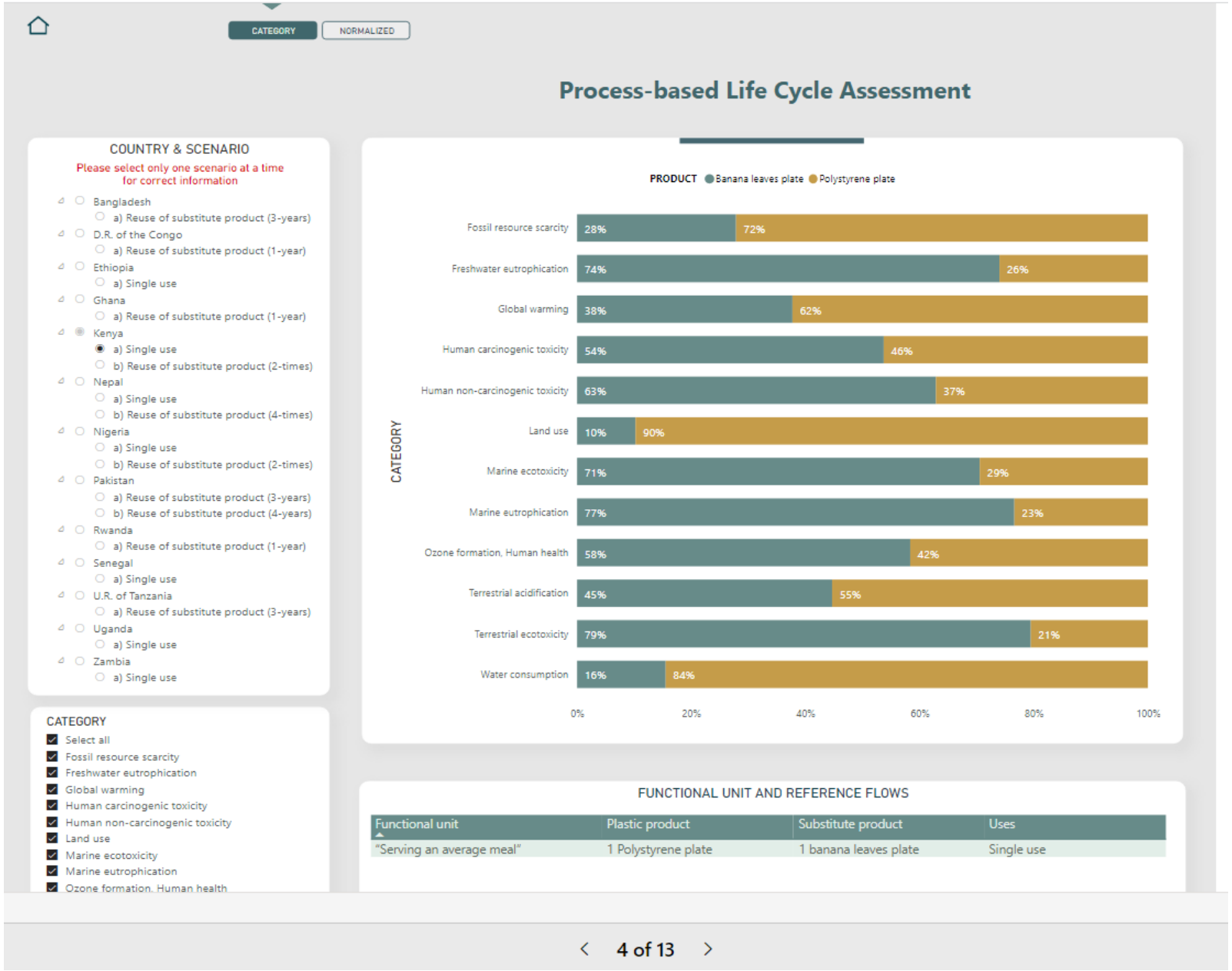


Image source, UNCTAD SMEP Dashboard: https://unctad.org/news/dashboard-shows-environmental-impacts-exports-african-and-south-asian-countries

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Notpla

Making packaging disappear

An all-natural packaging solution made from seaweed and plants that is naturally biodegradable and home-compostable, just like a piece of fruit.

One innovation is a takeaway food container coated with seaweed, a revolutionary move for the takeaway industry that has traditionally relied on plastic or chemicals to hold food.

Image source, NotPla: https://www.notpla.com/products/

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BIO-LUTIONS
Fibre Based Solutions

Bio-Lutions converts agricultural residues into self-binding, durable natural fibres to make biodegradable and compostable single-use disposables and packaging.

The process uses a wide range of agricultural residues such as wheat straw, hemp shives, nettle, reed, banana stems, vine shoots and more.

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Image source, Bio-Lutions: https://www.bio-lutions.com/

Case Study: Bamboo as an alternative to plastics

Bamboo can be used to replace a variety of products often made of plastics.

Furthermore, the ban on single-use plastics in many countries opens possibilities to use bamboo as their substitute. Increased reliance on bamboo as a plastics substitute may also contribute to tackling marine plastic pollution (UNCTAD 2021).

Examples include:

- Roofing sheets – bamboo roofing is quieter in the rain, lightweight, strong and doesn't have any adverse health impacts;
- a single bamboo straw can replace 360 single-use plastic straws, this has the potential to reduce plastic pollution particularly by companies and hotels.

Image source: Commodities at a glance: Special issue on bamboo (unctad.org)

Bananatex

The world’s first durable, technical fabric made purely from the naturally grown Abacá banana plants is Cultivated in the Philippine highlands.

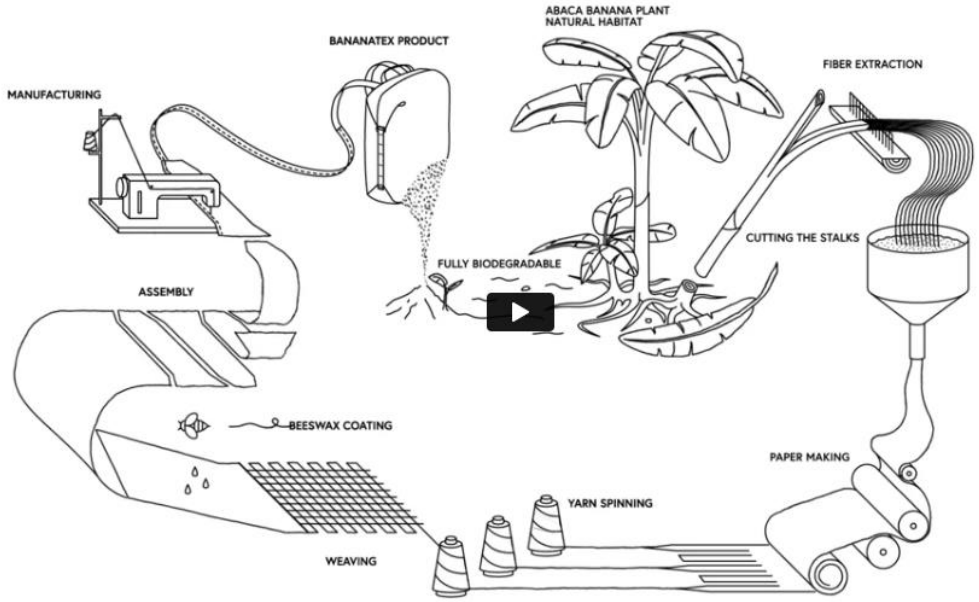

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Image source, Bananatex: https://www.bananatex.info/index.html

Gaia Biomaterials

Biodegradable fishing nets

(alternative plastic)

UNCTAD-SMEP project developing renewable-based, biodegradable and compostable fishing nets.

Based on PBAT, PLA and Calcium Carbonate. (Biodolomer®)

Images source: UNCTAD

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Thank you
Merci

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SMEP
Sustainable Manufacturing and Environmental Pollution Programme

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Ocean Economy