

Favoriser les biens et services qui permettent de meilleurs systèmes d'approvisionnement en eau en Afrique et en Asie du Sud

Le projet SMEP

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SMEP

Sustainable
Manufacturing and
Environmental
Pollution
Programme



Sustainable Manufacturing and Environmental Pollution (SMEP)

La thematique de la poluicion
plastique

La pollution industrielle

Opportunités de soutien
financier



Pollution plastique

4 impacts des plastiques sur l'océan

**Pollution plastique et chimique
(origine terrestre)**



- Environ 8 à 12 millions de tonnes de plastique finissent dans l'océan (environ 3 à 6 % de la production annuelle de plastique)
- Six patchs d'océan + pollution cachée
- Produits chimiques toxiques tels que les phtalates, les retardateurs de flamme et le bisphénol -A

Système alimentaire



- Environ 51 billions de particules de microplastique se trouvent dans les océans
- Ingestion de microplastiques par les poissons et d'autres espèces

Faune et flore marines



- Plus de 640 000 tonnes de filets de pêche abandonnés sont sur l'océan
- Les engins de pêche fantômes constituent une menace pour les mammifères, les tortues et les oiseaux de mer par ingestion, suffocation et enchevêtrement.

**Secteurs de l'économie océanique
et moyens de subsistance**



- Dommages causés par les déchets plastiques :
- Valeur esthétique/d'usage des destinations touristiques et de pêche sportive côtières
- Transport maritime, ports et infrastructures côtières
- Il est plus coûteux de nettoyer que de prévenir
- 91% des consommateurs se déclarent préoccupés par les problèmes de déchets plastiques (PNUE, 2020)
-

PLASTIQUES - Post-UNEA 5.2: La route vers 2024 vers un traité des Nations Unies pour lutter contre la pollution plastique et les déchets marins

Principaux éléments :

Un comité de négociation intergouvernemental, débutant en 2022 et devant être achevé d'ici la fin de 2024

Un instrument juridiquement contraignant au niveau international pour mettre fin à la pollution plastique, y compris dans le milieu marin

Un accord pour établir un groupe scientifique et politique sur les produits chimiques et les déchets et pour prévenir la pollution

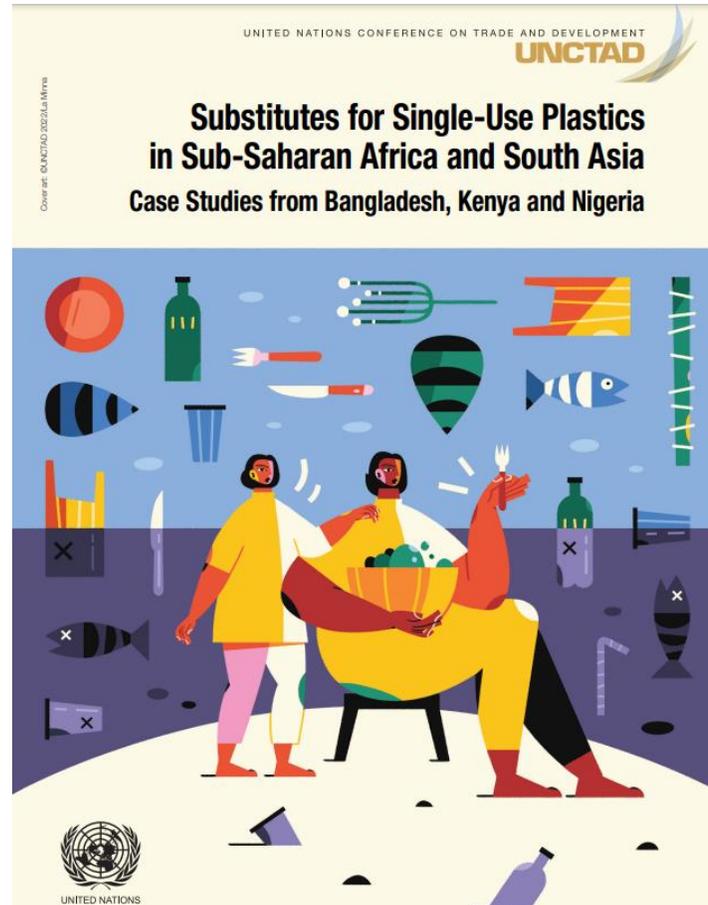
Un large éventail d'approches, d'alternatives durables et de technologies pour aborder le cycle de vie complet des plastiques, y compris l'économie circulaire

Alternatives / « meilleurs plastiques » : bioplastiques, plastiques biodégradables

Substituts : Matières naturelles, minérales, marines et à base de déchets (juin, aluminium, argile, verre, chanvre, etc.)

La solution: Combinaison de **Alternatives** + **Substituts** + **Meilleur design** (moins de consommation plastique)+ **Meilleure gestion des résidus plastiques (Services)**

**PLASTIQUES - Là où la plus grande partie de la valeur est gaspillée...
Mettre l'accent sur les plastiques à usage unique (SUP) et promouvoir les
substituts de matériaux**



UNCTAD (2022) Substitutes for Single-Use Plastics in Sub-Saharan Africa and South Asia

Promoting Plastic Substitutes – Illustrative HS codes list

HS SUBHEADINGS FOR NON-PLASTIC FEEDSTOCKS AND END-USE PRODUCTS SELECTED FOR BANGLADESH, KENYA AND NIGERIA

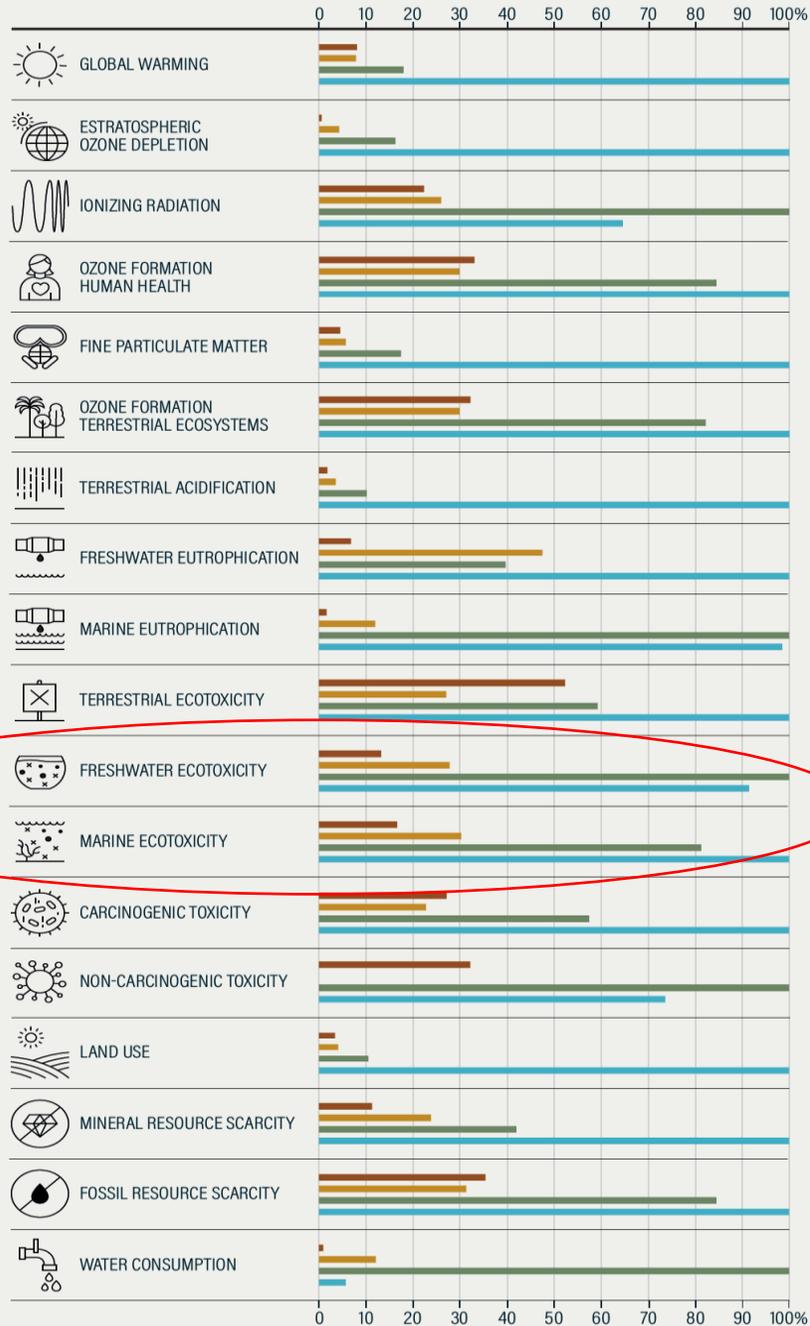
SUBSTITUTE PRODUCTS	FOOD CONTAINERS AND SINGLE-USE ACCESSORIES		
	Containers: banana/plantain leaf	4602.19	Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made up from goods of heading 4601; articles of loofah; Of Other vegetable materials
	Containers: coconut husk	4602.19	Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made up from goods of heading 4601; articles of loofah; Of Other vegetable materials
		4819.10	Cartons, boxes and cases, of corrugated paper or paperboard
	Containers: paper	4819.20	Folding cartons, boxes and cases, of non-corrugated paper or paperboard
		4823.69	Trays, dishes, plates, cups and the like, of paper or paperboard; Other
	Straws: paper	4823.90	Other paper, paperboard, cellulose wadding and webs of cellulose fibres, cut to size or shape; other articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibres; Other
	Straws: wheat fibre	4602.19	Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made up from goods of heading 4601; articles of loofah; Of other vegetable materials
	GROCERY BAGS/PACKAGING		
	Cotton	6305.20	Sacks and bags, of a kind used for the packing of goods; Of cotton
Hemp	6305.90	Sacks and bags, of a kind used for the packing of goods; Of other textile materials	
Jute	6305.10	Sacks and bags, of a kind used for the packing of goods; Of jute or of other textile bast fibres of heading 5303 (excluding flax, true hemp and ramie)	
Paper	4819.30	Sacks and bags, having a base of a width of 40 cm or more; of paper, paperboard, cellulose wadding or webs of cellulose fibres	
	4819.40	Other sacks and bags, including cones; of paper, paperboard, cellulose wadding or webs of cellulose fibres	
LIQUID CONTAINERS			
Glass	7010.90	Carboys, bottles, flasks, jars, pots, phials, ampoules and other containers, of glass, of a kind used for the conveyance or packing of goods; preserving jars of glass; stoppers, lids and other closures, of glass; Other	
	7612.90	Aluminium casks, drums, cans, boxes and similar containers (including rigid or collapsible tubular containers), for any material (other than compressed or liquefied gas), of a capacity not exceeding 300 litres, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment; Other	
	Aluminium	7615.10	Table, kitchen or other household articles and parts thereof; pot scourers and scouring or polishing pads, gloves and the like; Of aluminium
		7616.99	Other articles of aluminium; Other

PLASTICS –HS codes

Feedstock / Products	HS Code (2020)	Export Volume (USD Billions, 2018)	Average Import Tarrif (Brazil, China and USA)	
Plastic Materials	<i>Plastic: Polyethylene</i>	3901	57.72	8.88
	<i>Plastic: Polypropylene</i>	3902	22.45	8.86
	<i>Plastic: Polystyrene</i>	3903	9.93	9.00
	<i>Plastic: Polyvinyl chloride (PVC)</i>	3904	11.93	7.89
	<i>Plastic waste and scrap</i>	3915	4.68	10.25
	<i>Plastic: Polyethylene terephthalate (PET); viscosity number of 78 ml/g or higher</i>	390761	8.04	7.92
	<i>Plastic: Polyethylene terephthalate (PET); other</i>	390769	2.41	7.92
Mineral Products	<i>Aluminium</i>	7601	20.50	4.72
	<i>Aluminium waste</i>	7602	6.68	1.50
	<i>Glass</i>	7001	2.92	5.67
Natural Fibres - Dedicated Crops	<i>Coconut husks</i>	5305	1.85	5.49
	<i>Cotton</i>	5201	8.88	15.76
	<i>Hemp</i>	530210	0.01	6.00
	<i>Jute</i>	530310	0.04	6.50
	<i>Paper & cardboard</i>	481190	1.49	14.22
	<i>Sisal</i>	560721 560729	0.03 0.03	4.30 8.87
Natural Fibres - Agricultural By-Products	<i>Areca leaves/Banana leaves</i>	140190	0.08	6.40
	<i>Wheat husks</i>	1213	2.45	12.00

Feedstock / Products	HS Code (2020)	Export Volume (USD Billions, 2018)	Average Import Tarrif (Brazil, China and USA)	
Plastic Products	<i>Drinking straws</i>	391732	0.60	8.12
	<i>Takeout/takeaway containers and plates for food</i>	392310	2.99	10.30
	<i>Grocery and other bags</i>	392321	3.99	10.33
	<i>Bottles (PET)</i>	392330	2.52	9.17
	<i>Takeout/takeaway containers and plates for food</i>	392410	2.47	10.64
Food Containers & Single-Use Accessories	<i>Containers: banana/plantain leaf; coconut husk;</i>	460219	0.15	9.09
	<i>Straws: wheat fibre</i>	481910	5.91	18.67
	<i>Containers paper</i>	481920	3.08	18.67
		482369	0.77	19.50
	<i>Straws: paper</i>	482390	1.62	17.74
Grocery Bags/Packaging	<i>Cotton</i>	630520	0.11	19.07
	<i>Hemp</i>	630590	0.58	18.40
	<i>Jute</i>	630510	0.09	22.50
	<i>Paper</i>	481930	0.35	19.50
		481940	1.48	19.50
Liquid Containers	<i>Glass</i>	701090	12.92	8.86
		761290	0.77	8.87
	<i>Aluminium</i>	761510 761699	0.89 1.82	11.37 9.31

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

CATEGORY	PROMISING ALTERNATIVE MATERIALS
TAKEAWAY CONTAINERS	PAPER
GROCERY BAGS	PAPER OR SISAL
PLATES	COCONUT HUSKS
STRAWS	WHEAT STEM
BOTTLES	GLASS OR ALUMINIUM
SACHETS	NO VIABLE OPTION AVAILABLE

Materials excluded were wood, wool, bamboo and stainless steel, for their poor overall environmental performance, and polylactic acid used for bioplastics, for the lack of appropriate composting facilities.

In Kenya, as in many developing countries, SUP products are often much cheaper than non-plastic alternatives. Additional regulatory and fiscal measures favouring plastic substitutes may be needed to bridge price gaps.

KEY

- PAPER BAG
- JUTE BAG
- COTTON BAG
- WOOL 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.

Analyse du cycle de vie des substituts plastiques

Il est important de savoir que ce qui remplace le plastique peut aussi avoir des conséquences sur l'environnement et l'eau !

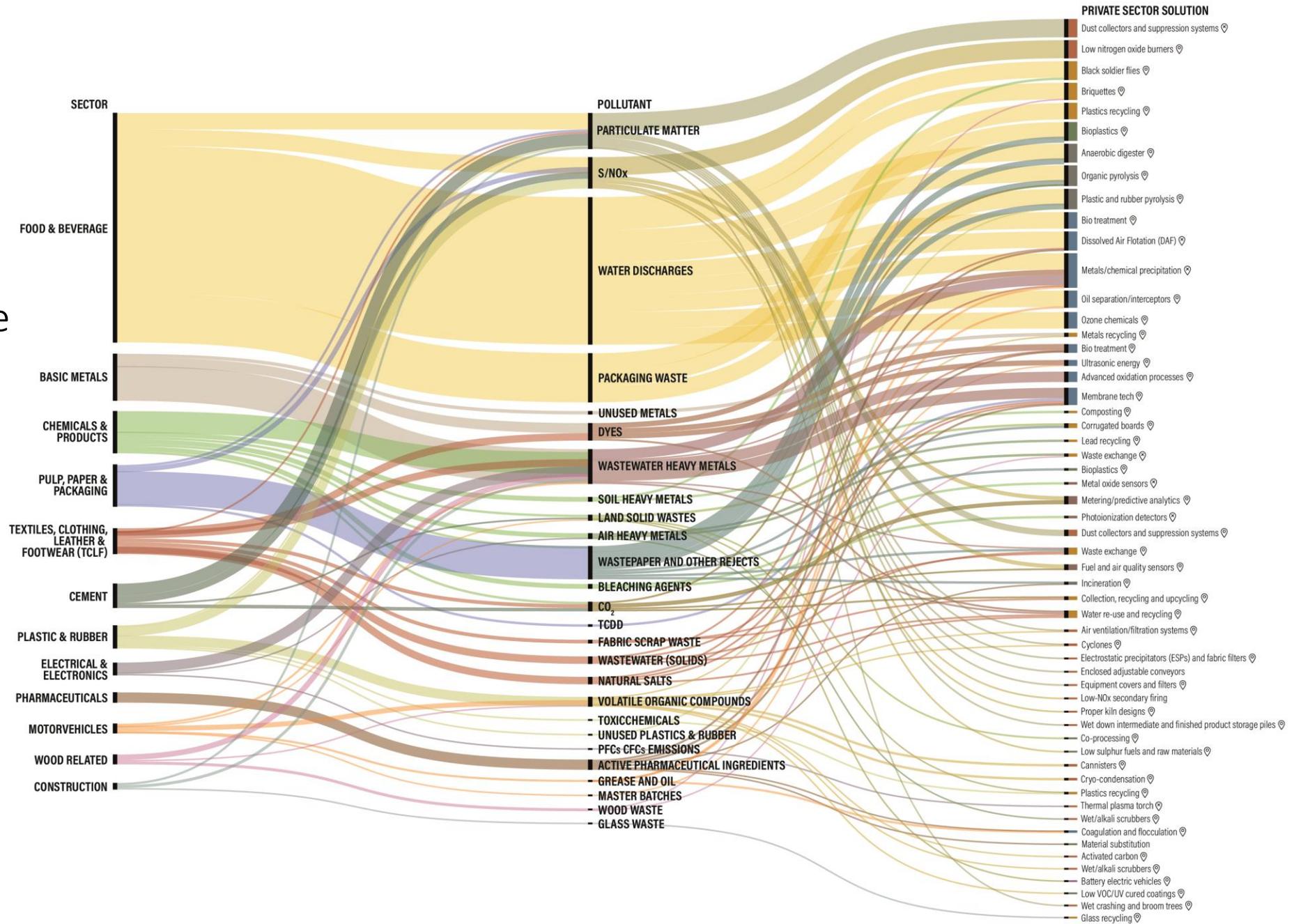
Source: SMEP Country Case Kenya

Organisation/ Project Name	Consortium Members/ Partners	Description of Project	Geography
Blue Skies Pty Ltd.	Waitrose & Partners	Blue Skies aim to establish a multi-stakeholder Research and Development Hub, which addresses single-use plastic in the agri-business to the point-of-sale value chain. The hub will initially address single-use plastic in disposable workwear and agri-film.	Ghana
Chinhoyi University of Technology (CUT)	Kudiwa Waste and Energy Solutions	Utilising plastics waste as a feedstock, Chinhoyi University will be establishing a manufacturing facility for plastic roof tiles with solar power features to address household energy needs.	Zimbabwe
The Council for Scientific and Industrial Research (CSIR) – South Africa	Elizade University, Nigeria	CSIR will undertake research and development into bio-degradable mulch film to replace Polyethylene (PE) mulch used in the agriculture value chain, tailoring biodegradation rates to climatic and soil conditions.	Nigeria
The Flipflop Project	Coastal Oceans Research and Development – Indian Ocean (CORDIO) East Africa; Northumbria University, School of Design; University of Portsmouth	The Flipflop Heritage Boats Project aims to establish a closed-loop waste management centre for the Lamu archipelago. This is linked to a heritage boat building centre, that aims to scale up plastic boat building in the region.	Kenya
Gaia Biomaterials	Kompost-it; Alnet; Sustainable Seas Trust	Gaia will undertake research and development into alternative biodegradable solutions for fishing nets, also working alongside regional fishing industry associations to ensure user acceptability, thus tackling the challenges of ghost nets in the marine environment.	Democratic Republic of Congo
International Synergies Limited (ISL) Limited	Maxwell Stamp Limited	ISL aim to address plastics pollution reduction through industrial symbiosis and will research, identify, and develop innovative reuse solutions for local uptake.	Bangladesh
PA Consulting	Global Access Diagnostics Ltd (GAD); PulPac	PA Consulting will research and develop compostable lateral flow test cassettes applying dry moulding of cellulose fibres obtained from sustainable sources as an alternative to single-use plastic.	To be confirmed
RiverRecycle Limited	Beach Clean Up Ghana Ltd.; Ambitious.Africa	RiverRecycle will implement a patentable remediation system to collect plastic waste in rivers, utilising this as feedstock to end products, specifically plastic boards and pyrolysis oils.	Ghana
University of Cambridge	Nepal Communitere; Field Ready	The University of Cambridge will establish multiple small-scale plastics remanufacturing units, producing building and construction products suitable for local construction requirements.	Nepal
University of Warwick	Environmental Sustainability Associates Limited (ESAL); De Montfort University (DMU); Chatham House (CH); GIVO; Zero Waste Goods Limited (ZWGL)	The University of Warwick will implement a technology-enabled plastic waste management system, processing waste plastics into flake products and pyrolysis oils.	Nigeria



5 millions de livres sterling (GBP) de soutien aux projets Source: Programme SMEP FCDO-CNUCED Smeprogramme.org (Approvisionnement en plastique)

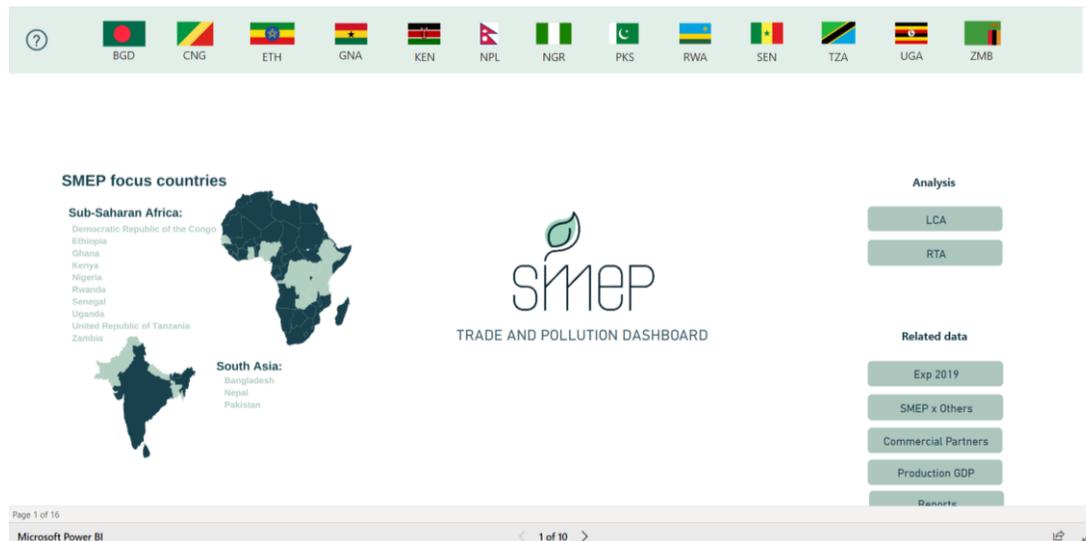
Pollution manufacturière





Pollution manufacturière

- L'économie circulaire en pratique
- Bottom-up and top-down
 - Bottom-up: Soutenir des projets de démonstration, faciliter l'accès aux technologies, retravailler les flux financiers
 - Top-down: Link with other projects (avoiding ODA duplication); Transparence des donees



<https://smepprogramme.org/resources/dashboard-shows-environmental-impacts-of-exports-from-african-and-south-asian-countries/>

SMEP – Appels pour financement de projets à venir

- GBP 9million
- Food-processing (East Africa) - deadline 18 Septembre
- Tanneries / cuir
- Textiles / textiles

Possibilités de financement - SMEP GBP 250.000 – 1M

Smepprogramme.org

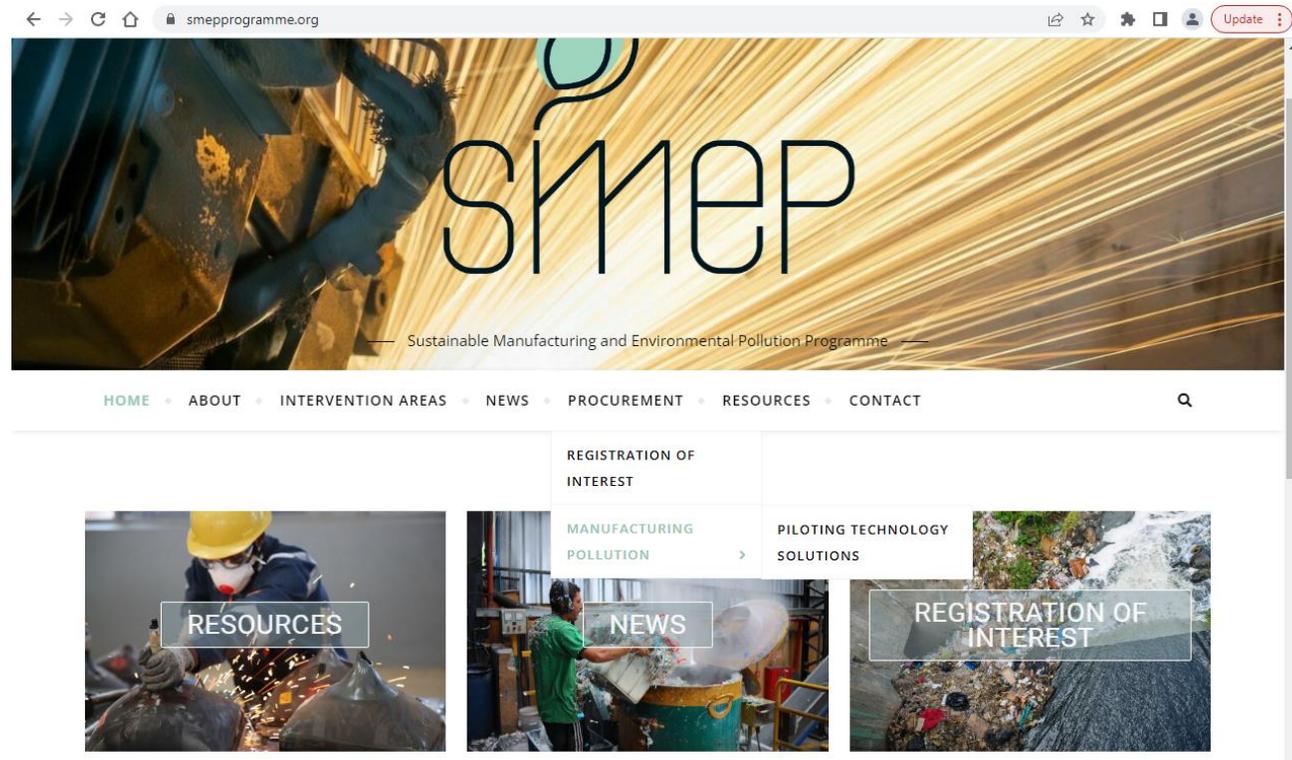
Appel a propositions de projets ouvert (jusqua Septembre 2022)

Systemes de capture de
pollutants

Biodigestion

Membranes

Recuperacion de residus pour
utilizacion industrielle
(circularité)





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