



# Fostering Intra-ECOWAS Cooperation and Advancing Intra-African Trade in West African Agrifood Value Chains

**Regional workshop - 12 - 13 December 2023**

**Hotel Ndiambour, Dakar, Senegal**

**FRESHPPACT Presentation**



# FRESHPPACT

## The Fresh Produce Impact Hub



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FRESHPPACT is run by the University of Northampton, Centre for Sustainable Business Practices and is funded under the Sustainable Manufacturing and Pollution Programme (SMEP).



The SMEP programme is funded by the UK Foreign, Commonwealth and Development Office (FCDO) and is implemented in partnership with the United Nations Conference on Trade and Development (UNCTAD).

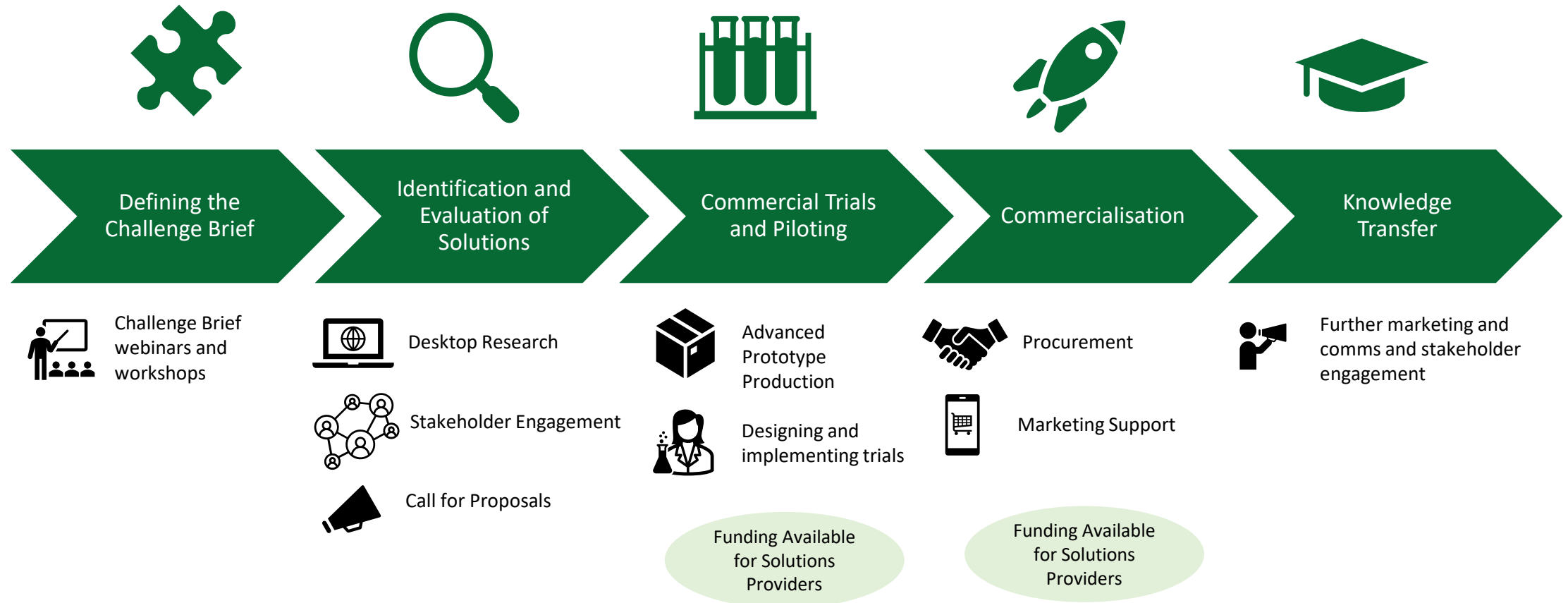


# INTRODUCING FRESHPPACT

Our mission is to bring together industry and research partners to rapidly find transformative solutions to the biggest social and environmental challenges that exist within fresh produce supply and value chains.



# THE MODEL



# THE CHALLENGES



The first challenge that FRESHPPACT is addressing is the issue of **Plastics Pollution**.

Three Challenge Funds were launched to find solutions to problem plastics found in **Agricultural Mulch, Workwear and Packaging**.

Solutions may include new technology and business models that mitigate plastic pollution through material substitution, accelerated biodegradation and improved manufacturing and remanufacturing processes.



# Solutions Identified

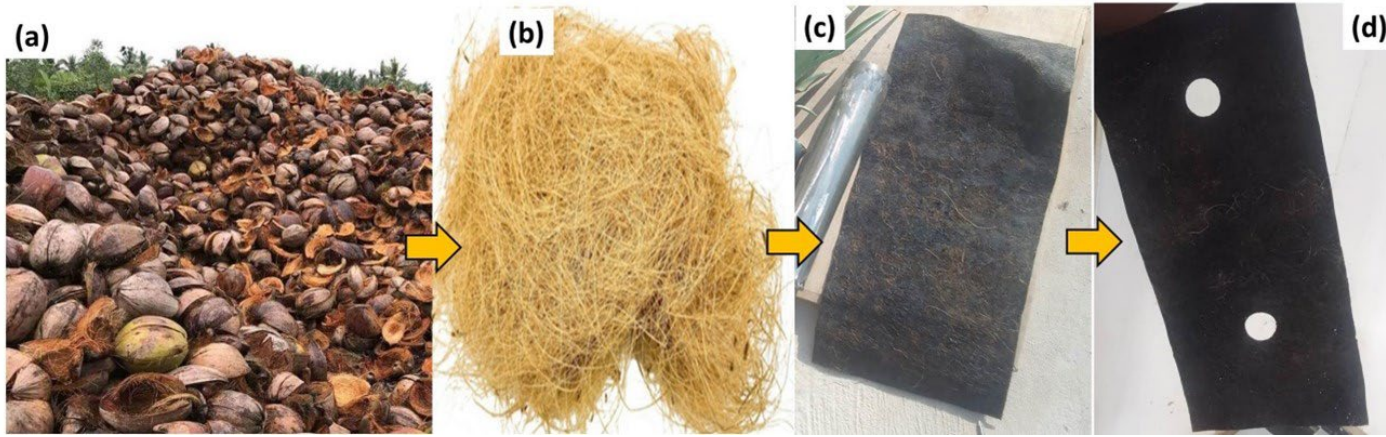


# Coco360 Ghana – Coconut Coir Mulch

- Transformation of the coir into mat/felt to replace the plastic materials used in agricultural mulching.
- Coconut husk waste - a major by-product from coconut processing; estimate of over 1 million tons of coconut husk waste is produced annually in Ghana alone.
- The proposed solution seeks to design locally fabricated machine that can scale up coir production from the coconut husk and transform the coir into an organic felt or mat.
- The mat will be used as a viable replacement for plastic much used in the agricultural sector, particularly for pineapple farming.



# Coco360 mulch MVP



- Breakdown of the compact fibre that make up the husk into disaggregated fibre and peat. These are sieved, washed and treated to rid impurities and toxic materials.
- Disaggregated fibre is then hot pressed (80-100°C) and bound using naturally formulated binding agents into mulch mats.

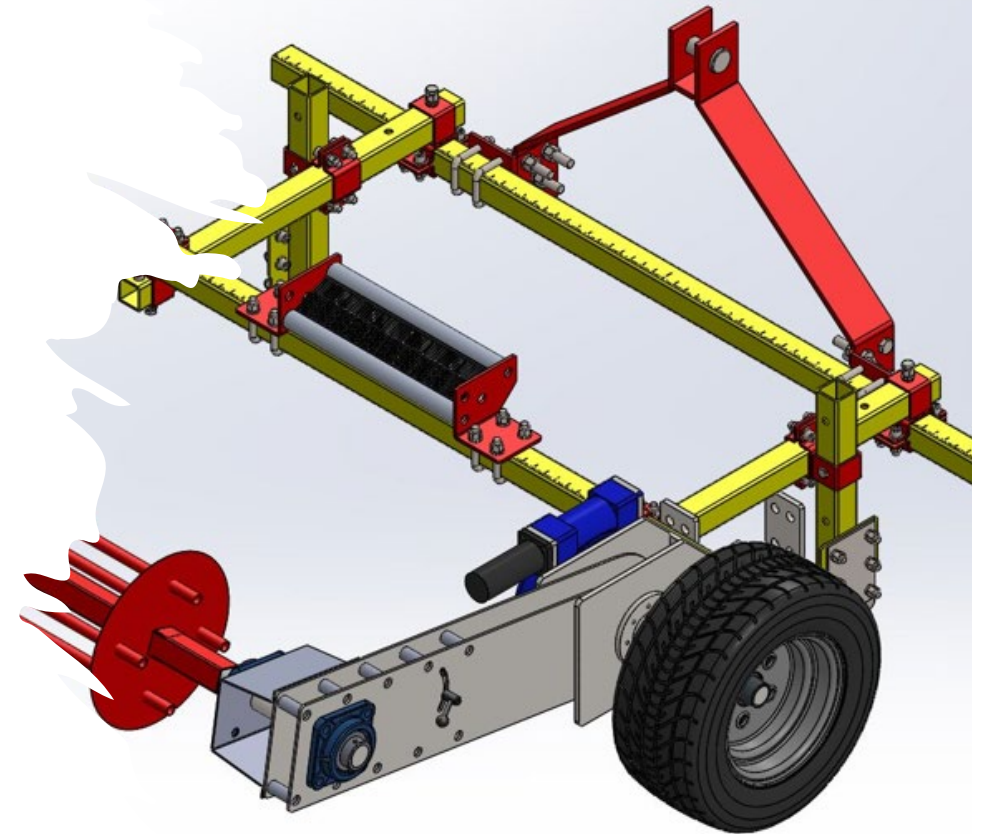
# Holistic Mulch Project

- Proposal to test different mulch materials together, including:
  - Coconut coir mulch
  - CSIR SA bioplastics (BDM)- made from natural agri by-products such as starch, cellulose (abundant in pineapple) and glycerol (abundant in Mango)
  - Existing Plastic mulch material
  - No mulch
- Testing for technical performance (weed control, pineapple yield, moisture retention), environmental performance and commercial feasibility.



# Data Solutions Hub - Mechanical mulch lifter

- To minimise the plastic mulch left behind in the fields. This improves the environmental impacts on the field, agricultural activities, and rural lives within specific regions.
- Solution can facilitate the creation of a new supply chain and employment for local people.
- Opportunities to stimulate recycling/ circular economy activities



# Kelpi Ltd



Kelpi is a world-leading materials innovation business which has developed unique packaging solutions from seaweed.



Kelpi's bioplastic coating, applied to paper or card, has a very high moisture barrier, yet is fully biodegradable, compostable, marine-safe, and can be processed through standard paper or card recycling streams at its end of life.



Devising advanced prototypes of a coated card & paper solution. Starting with solutions focused initially on replacing the thin-film lidding film with a coated paper solution, replacing the plastic trays with coated card is the ultimate goal.



The solution would be suitable to package fresh fruit products like Mango and Pineapple.



# Challenges of Plastic Substitutes in the context of AfCFTA

- Unclear regulations for these new products which may be a Non-Tariff Barrier to adoption.
- Higher price of these substitutes, requiring incentives to breach the gap to desired and accessible pricing before economies of scale is achieved.
- Higher tariffs on plastic substitutes than current plastics used
- Fragmentation and siloed knowledge of these substitutes.



# Prospects of Plastic Substitutes in the context of AfCFTA

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By-products from Coconut (fibre) and Mango (Glycerol) which are abundant across the African continent can create another stream of trade and industrial diversification.

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Tariffs on plastic substitutes need to be lowered to encourage adoption.

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Countries like Nigeria can increase their integration in the intra-regional sectors and promote the development of intra-regional value chains.

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Provides a great opportunity for the market of mulch materials, especially from Coco360 and CSIR SA across the African Continent.

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Creation of employment.

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Development of a repository/hub that will be responsible for searching for and documenting companies making new and value-adding products from agri by-products.

THANK YOU

Any questions?

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Discover the Solution.  
Change the World.

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