



Circular Economy in Action

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Study commissioned by:
Netherlands Food Partnership : business cases for circular solutions in the poultry value chain in Cote D'Ivoire.

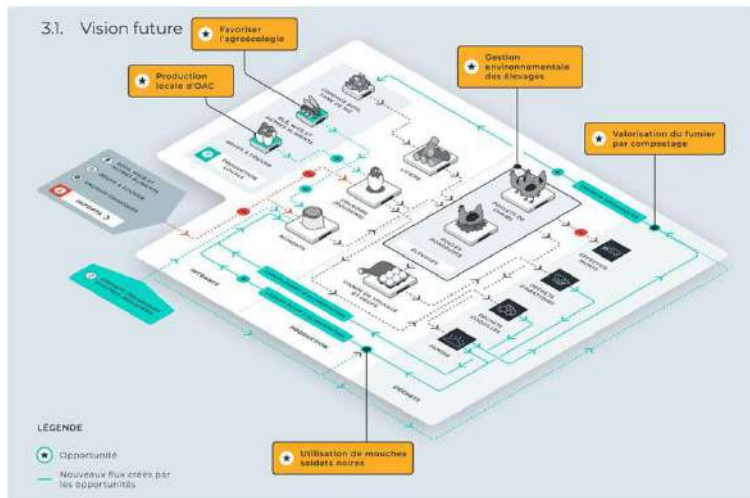
Netherlands Food Partnership

- Builds strong partnerships for sustainable food systems
- Takes a systemic perspective for more inclusive food systems in Low and Middle-Income countries
- Looking from Drivers to Outcomes and the institutional environment that enables food security and environmental sustainability.



source:
Freepik

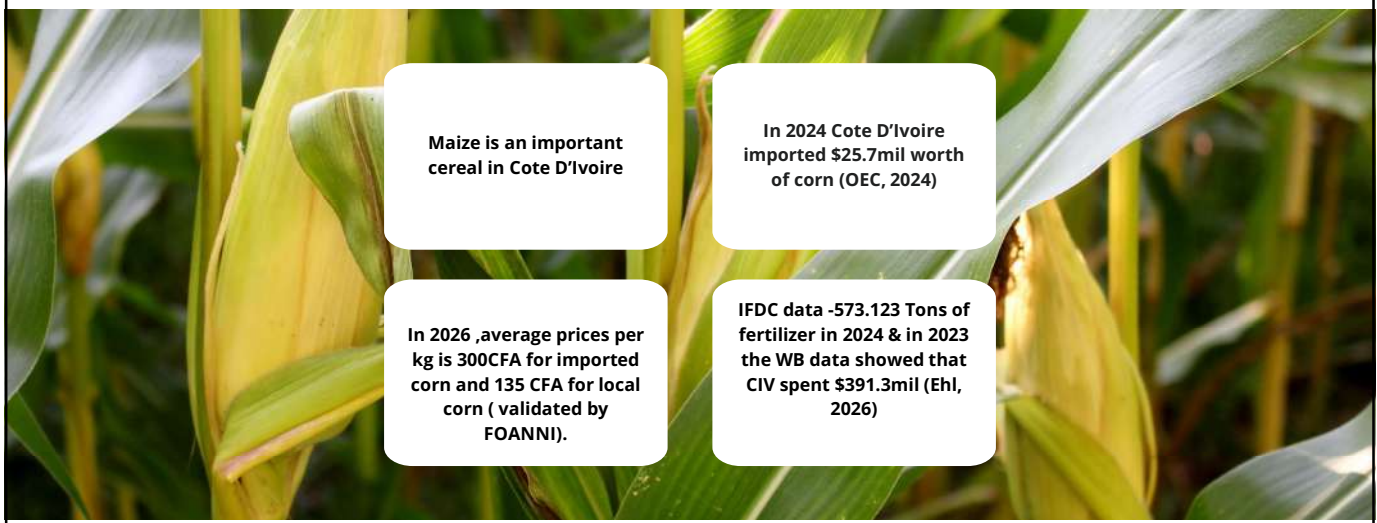
Circular Economy Within the Poultry Value Chain



Source: RVO. (2025). Valorisation circulaire de la filière avicole en Côte d'Ivoire: Défis et opportunités. 1-38.

- Local production of day-old chicks
- Promoting agroecology
- Environmentally sustainable management of livestock
- Manure valorization
- Use of Black Soldier Fly

Maize and Fertilizer imported in Cote D'Ivoire





NFP: Vision



01

Develop and scale alternative protein sources

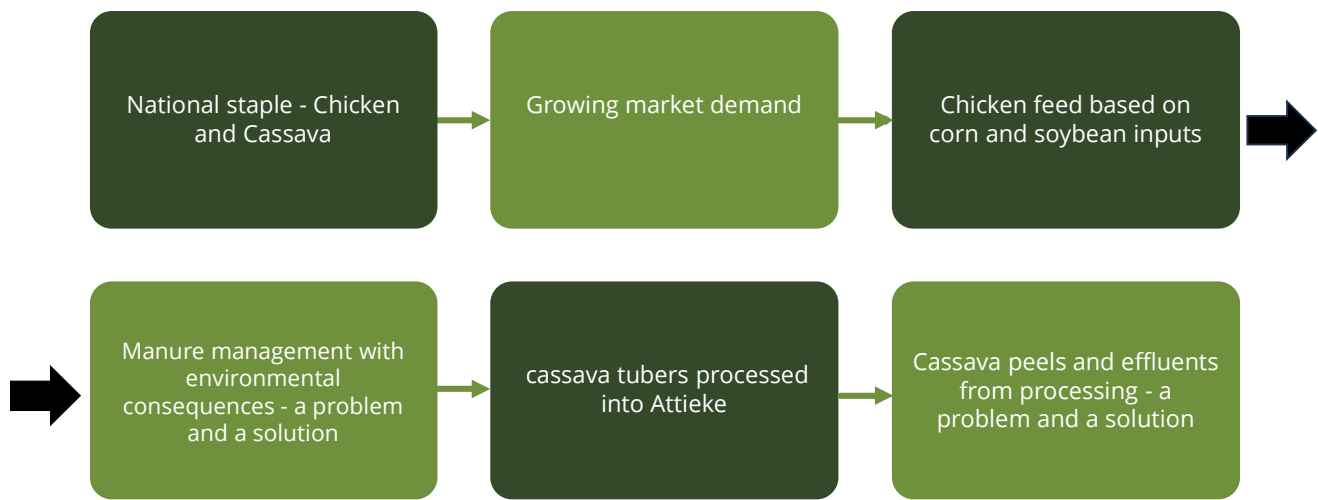
- Food waste from hospitality and food industries
- Residue streams from other sectors (e.g. cassava peels, BSF)

02

Manure management in poultry sector

- Advanced composting technology
- Soil health advisory and training

Cote D'Ivoire: Realities-Problems/Solutions



Volumes of Raw Materials to be Transformed

- Chicken manure estimated at over 500,000 tons per annum and concentrated around specific regions (RVO, 2025)
- Cassava processing produces an estimated 1.25 million tons of peels per annum about 10-20% is currently re-used and the rest leads to soil degradation and environmental pollution (Hamissou et al., 2023)



Current Context

- Chicken manure is generally abandoned on the roadside and sometimes sold dried by farms who can sell and applied on the fields without composting
- Bigger farms have a manure management challenge
- Cassava peel is not processed but a small part is sold for animal feed, and causes environmental challenges



Three Case Studies

- 1) **High Quality Cassava Peel (HQCP)** as a partial corn (20-30%) replacement in poultry feed (International Livestock Research Institute, 2025)
- 2) **Poultry Manure** - processed into **organic fertilizers** with measurable micro, macro nutrient, humic & fulvic acid profile, with stable organic matter
- 3) **Compost** - plant based material combined with poultry manure



Case Study 1: HQCP

- Extensive work done by International Livestock Research Institute in Nigeria with **localized technology** developing 3 fermented feed inputs from the cassava peels (International Livestock Research Institute, 2025):
- Whole, Coarse and fine mash
- Using the same machinery/technology used for the production of Attieke and Garri - a fermentation and drying process that gives the end product a shelf life of 6 months.



Source: CGIAR. (2022). Solution : Cassava Peels for Animal Feed Production. Propas.iita.org. <https://propas.iita.org/en/solutions/cassava-peels-for-animal-feed-production/57/details/>

HCQP local context in Cote D' Ivoire

- A local feed miller is already testing washed and dried cassava peels as a feed input, with supply needs of a minimum of 50 tons per month
- A small feed supplier in Yamoussoukro is already blending it with other ingredients and supplying to more than 10 fish farms
- Mitigates the rising costs of corn imports and the inadequate local production of corn with average yields ranging from 2-5 tons per hectare
- Potential to remove the competition of food and feed

Source: field research and (RTI, 2026)



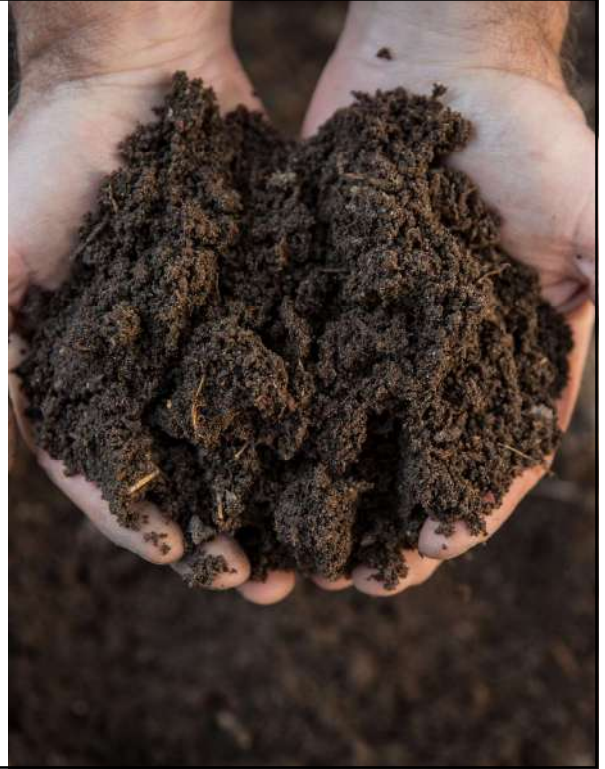
Case Study 2: 100% chicken manure organic fertilizer

- Applying composting, drying, sterilization and pelletizing production process leading to a finished product profile with storability, shelf life of more than 1 year
- Dry matter 80-90%, Organic matter 50-65%, Total Nitrogen (N) -4.2%, Organic Nitrogen 85 - 90% , Phosphor pentoxide(P2O5) 3% ,Potash Oxide (K2O) 3%, Calcium Oxide (CaO) 9%, Magnesium oxide (MgO) 1%, C/N 9% , CEC <20 (Agriculture.Institute, 2023; Biocompig, 2026)
- Antibiotic residues in manure (NABC & RVO, 2020)



Case Study 3: Compost

- Organic plant material grinded and further broken down by BSFL; frass is harvested, composted with nutrient rich chicken manure and additional nutrients are integrated into the final product with the possibilities of pelletizing technology to achieve further efficiency
- Composted plant-based material integrated with biochar and poultry manure
- Low nutrient, high organic matter for soil amendment



Call to Action for Dutch Companies

- Dutch knowledge and technology is suited to the needs and solutions in Cote D'Ivoire poultry feed and waste management challenges
- Opportunities for collaboration between local companies, knowledge institutions and technology providers in the Netherlands to add more value to the poultry sector and close the circle





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