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## Term of Reference

**Technical Support for Pilot Production and Testing of Coconut-Based Biodegradable Pallets**

Project: CIRCULAR ECONOMY COCOA: “FROM BEAN TO BAR”
Budget line: 6.2.2.2 | Date: July 1, 2025

Helvetas is an independent organization for development based in Switzerland with affiliated organizations in Germany and the United States. Active in Vietnam since 1995, Helvetas has been promoting sustainable agriculture, inclusive economic development, biodiversity conservation, and green innovation, particularly in collaboration with small and medium enterprises (MSMEs).

# CONTEXT

Within the framework of the European Union-funded SWITCH-Asia Programme, Helvetas is implementing the four-year project *Circular Economy Cocoa: From Bean to Bar* (2022–2026). The project aims to develop circular economy solutions in cocoa and other agri-food sectors, leading to equitable economic growth decoupled from harmful environmental impacts.

As part of these efforts, Helvetas is supporting the application of biodegradable coconut-based pallets as an innovative alternative to conventional plastic and wood pallets. Vietnam’s coconut industry, especially in Bến Tre and the Mekong Delta, generates a substantial amount of agricultural residues, offering strong potential for transforming agri-waste into high-value, sustainable products.

Although some early initiatives have explored coconut-based materials for pallet production, no existing product has yet met the technical design and quality standards required for industrial and commercial application. In this context, Helvetas is facilitating the pilot production and field testing of improved 500 coconut-based pallet prototypes in collaboration with 8–10 project partner SMEs as end-users.

Helvetas now seeks a qualified consulting team or firm to provide technical support by clearly defining product requirements and assessing the quality and performance of samples and final prototypes through both field trials and laboratory testing. The consulting team will work in close coordination with the Project team, the pallet manufacturer, and selected end-users to ensure effective implementation. The ultimate goal is to prepare the product for commercialization and broader adoption in Vietnam’s agri-logistics sector.

# OBJECTIVES

* To provide technical support to Helvetas and the pallet manufacturer throughout the pilot production and validation of coconut-based pallet prototypes, ensuring they meet industry standards for functionality, durability, and sustainability.

# SCOPE OF WORK

The service provider is expected to undertake the following tasks:

* Review existing biodegradable coconut-based pallet products, including aspects such as water resistance, load-bearing capacity, mold resistance, and structural durability.
* Define technical and quality requirements for improved coconut-based pallet prototypes.
* Evaluate initial samples and final products; provide technical guidance and recommendations for improvement
* Conduct a user survey, analyse feedback and summary key findings.
* Deliver a final report outlining key results, lessons learned, and recommendations for improvements and potential scale-up.

# REQUIRED QUALIFICATIONS

* A legally registered consulting firm in Vietnam or a team of independent experts with legal capacity to enter into a service contract.
* Demonstrated technical expertise in product quality assessment, materials science (preferably biodegradable or bio-based materials), and/or packaging innovation.
* Proven experience in evaluating and testing material performance, including durability, moisture resistance, and structural integrity.
* Experience working with bio-based or agri-waste-derived materials is a strong asset.
* Strong analytical and reporting skills, with the ability to provide practical, industry-relevant recommendations.
* Proficiency in English; experience collaborating with MSMEs or in development cooperation contexts is an advantage.

# DELIVERABLES

* Technical brief on prototype development requirements.
* Prototype testing report(s), including lab and field test results.
* Final report with user feedback analysis and recommendations.

# SUGGESTED TIMELINE

| **Activity** | **Tentative Date** |
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| Proposal submission deadline | By July 25, 2025 |
| Selection and contract finalization | By July 31, 2025 |
| Implementation period | August-October (3 months) |

# TECHNICAL & FINANCIAL PROPOSALS

Interested consulting firms or expert teams are invited to submit:

* Technical Proposal: outlining the approach, methodology, team composition, relevant experience, and timeline.
* Financial Proposal: detailing cost breakdown, consultant rates (daily based), budget justification, and any additional cost considerations.

Proposals should be submitted by **July 25, 2025** to the following email addresses: helvetas.vietnam@helvetas.org and diep.dinh@helvetas.org.

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