



Terms of Reference (ToR)

Assessing Food and Beverage Packaging Practices and Identifying Environmentally Sustainable and Profitable Food Packaging Business Models

Project Title: PlasticSmart Cambodia: Business Cases and Practices to Mitigate Plastic Waste and Pollution for a Sustainable Future

1. Context and Background

CARE International is a globally recognized development organization dedicated to alleviating poverty and fostering sustainable development through strategic partnerships and evidence-based interventions. Since 1973, CARE Cambodia has implemented diverse initiatives aimed at empowering marginalized and vulnerable communities, with a particular emphasis on gender equity and environmental sustainability.

Cambodia faces critical challenges stemming from plastic pollution, particularly in urban and peri-urban areas surrounding industrial garment factories. Food vendors operating near these factories contribute significantly to single-use plastic waste due to its widespread availability, low cost, and habitual reliance. The lack of sustainable alternatives, coupled with limited awareness of eco-friendly solutions, exacerbates environmental degradation in these communities.

CARE Austria, together with CARE Cambodia, in cooperation with the Youth Council of Cambodia (YCC) and Independent Democracy of Informal Economy Association (IDEA), are implementing the PlasticSmart Cambodia project, running between December 2024 and December 2027 and. Funded by the European Union. PlasticSmart Cambodia aims to reduce pollution and greenhouse gas (GHG) emissions by promoting sustainable packaging and waste management practices.

The assessment will provide empirical insights into current packaging practices, identify barriers to sustainability, and design viable alternative business models that are both environmentally friendly and economically feasible for Micro, Small, and Medium Enterprises (MSMEs).

The findings will inform pilot interventions targeting 200+ food vendors across four industrial factory zones in Kandal, Kampong Chhnang, and Kampong Cham provinces.

2. Purpose and Objectives

Primary Objective:

To identify, develop and pilot sustainable, profitable and gender-sensitive packaging business models for food vendors, enabling scalable solutions to reduce plastic waste and environmental impact.

Specific objectives include:



1. Assess Existing Practices: Document packaging types, materials, vendor usage behavior, customer preferences, cost factors, and supply chain dynamics.
2. Evaluate Challenges: Identify financial, operational, cultural, and gender-specific bottlenecks that hinder the adoption of sustainable packaging by food vendors.
3. Map Opportunities: Identify potential suppliers of sustainable packaging materials, evaluate their capacity, assess market accessibility, and analyze cost structures for vendors.
4. Design Business Models: Develop at least two evidence-based business models for sustainable packaging that are feasible, profitable, environmentally impactful, and sensitive to gender-specific considerations.
5. Produce Recommendations: Provide a roadmap for pilot rollouts, vendor training, and scaling strategies to integrate sustainable packaging materials into the food vending ecosystem.

3. Scope of Work

Geographical Coverage:

- Food vendor clusters (urban and peri-urban) located in areas surrounding four garment factories: Sourlee Crown, Horizon Outdoor, New Wide, Kai Neng in the provinces of Kandal, Kampong Chhnang, and Kampong Cham provinces.

Target Groups:

- At least 200 MSMEs (61% women-led MSMEs), engaged in food and beverage vending, predominantly surrounding garment factories
- Factory workers, approximately 20,000 workers as key consumers of vendor services, with 90% being women.
- Packaging suppliers: Local businesses engaged in providing sustainable packaging solutions, including materials like banana leaves, sugarcane pulp containers, biodegradable plastics, etc.
- Other stakeholders such as factory managers and local authorities.

4. Key Research Questions

The study will address the following overarching research questions, which are further expanded in **Annex 4** to guide detailed data collection and analysis. These questions are aligned with the project's objectives and have been structured to inform the design of practical and scalable business models.

- **Current Packaging Practices:** What materials are most used, and what drives these choices (cost, availability, demand)? What inefficiencies can be addressed?
- **Financial and Operational Constraints:** What are the key barriers (e.g., costs, logistics) to adopting sustainable packaging, and what cost-sharing or efficiency strategies can support transition?
- **Supplier Dynamics and Market Accessibility:** Who supplies sustainable packaging, and what affordability or access gaps exist?
- **Consumer Demand and Behavior:** How willing are consumers to accept/pay for sustainable packaging? What outreach strategies could boost demand?



- **Business Model Design:** What models are profitable, feasible, and gender-responsive?
- **Scalability:** What features of the models enable scale-up across other MSMEs?
- **Environmental and Social Impacts:** What measurable environmental and social benefits can be expected?
- **Policy and Regulatory Environment:** What policies could incentivize sustainable packaging adoption?
- **Validation and Feedback:** How will the models be refined based on stakeholder feedback?

5. Methodology

This assessment adopts a mixed-methods, participatory research framework to ensure robust data collection while fostering stakeholder ownership of solutions.

5.1 Data Collection Methods

- Desk Research:
 - Review Cambodian relevant policies such as the Solid Waste Management Policy (2020 - 2030) and the Circular Strategy on Environment (2023 – 2028)
 - Conduct literature reviews on sustainable packaging materials, technologies, and market studies specific to the sector.
 - Analyze pricing data for conventional vs. sustainable packaging (e.g., polystyrene vs. sugarcane pulp containers).
- Stakeholder Mapping:
 - Identify key actors (e.g., Phnom Penh Waste Recycling Association, Ministry of Environment).
 - GIS map of existing packaging waste infrastructure and service coverage in the project locations.
- Field work and data collection
 - Surveys & Interviews:
 - Structured surveys with 200 food vendors (disaggregated by sex, age, business size and location).
 - 15-20 Key informant interviews (KIs) with (5 packaging suppliers, 5 factory managers, 5 consumers, and 5 government officials).
 - Focus Group Discussions (FGDs):
 - 4 FGDs (one per target factory) with 10–15 vendors each to discuss challenges and solutions.
 - Field Observations: Documenting waste disposal and packaging practices, and operational challenges observed across vending clusters around garment factories.

5.2 Analytical Framework

- Cost-Benefit Analysis: Comparing sustainable vs. conventional packaging. Measure material costs, benefits (financial return to vendors), consumer perception, and supplier distribution costs when adopting sustainable alternatives
- Supply Chain Mapping: Identify key actors in the supply chain, logistical bottlenecks, and opportunities for scaling affordable sustainable packaging.

- Gender Analysis: Assess barriers faced by women food vendors in shifting to sustainable packaging practices, considering caregiving responsibilities and workload.

6. Implementation & Timeline

Implementation stages	Description	Deadline
Inception Report	Desk review, methodology, data collection tools, workplan, enumerator training plan	Weeks 1-2
Field Data Collection	Surveys, KIIs, FGDs	Weeks 3-6
Analysis & Drafting	Data analysis, model design, report writing	Weeks 7-9
Draft Report	Preliminary findings, business model proposals	
Validation Workshop	Present findings to stakeholders for feedback and validations	Week 9
Final Report	Revised report with actionable recommendations	Week 10

7. Deliverables

The consultant/team is expected to deliver the following outputs in line with the agreed timeline:

1. Inception report, including:

The consultant will submit a comprehensive inception report to **CARE for review and approval** prior to the commencement of fieldwork. This report must include:

- Detailed explanation of the proposed research design, including mixed-methods rationale, sampling strategy (with justification), and gender-sensitive approaches.
- Clear description of sampling criteria, sample size calculations, and plans for geographic and demographic disaggregation.
- Draft data collection tools (surveys, interview guides, FGD prompts), including digitization on an agreed platform (e.g., Kobo Collect or ODK).
- Data analysis plan of how quantitative and qualitative data will be analyzed, including any software to be used (e.g., SPSS, Stata, NVivo), and coding frameworks.
- Detailed schedule of activities, responsibilities of each team member, and fieldwork logistics plan.
- Ethical approach and quality assurance plan, including risk mitigation to ensure informed consent, confidentiality, and compliance with CARE's Child Protection and Safeguarding policies
- Enumerator training plan, piloting tools, data verification, and managing fieldwork risks or limitations.
- Preliminary literature review on the packaging ecosystem, relevant Cambodian policies, and best practices in sustainable packaging business models.

2. Draft report, including:

- Cover page: Title page with date, logos, consultant name
- Executive summary (max. 2 pages) summarizing methodology, main findings, conclusions, and recommendations.



- c. Detailed analysis of current packaging practices, challenges, costs, consumer behavior, and supply chain gaps
- d. Two viable business model options that are environmentally sustainable, financially viable, and gender-responsive.
- e. Draft recommendations for piloting, vendor training, and scale-up strategy
- f. Visuals (e.g., charts, supplier maps, decision trees) to support findings.

3. Final report, including:

- a. Revised content based on stakeholder feedback from the validation workshop.
- b. All sections from the Draft Report finalized.
- c. Cleaned and anonymized datasets (quantitative and qualitative). For the qualitative data, this includes the audio recording files, original transcripts, and translated transcripts of the full verbatim. Note that summary transcriptions or translations will not be acceptable.
- d. Codebooks, analysis files (SPSS/Stata syntax, transcripts), and any formulae used. and output files reflecting the analysis conducted.
- a. Annexes: study ToRs, the composition of consultant team, tools, a list of sites visited, a list of key informants, references, etc.

The final report must be submitted in **editable Word format** (English). Datasets must be submitted in an approved format (e.g., Excel, SPSS) and follow CARE's ethical data protocols.

8. Research Management Arrangements & Ethics

- 1) Supervision: CARE Cambodia's Project Team.
- 2) Reporting: Consultant will submit drafts for review before finalization.
- 3) Ethical Compliance: Adherence to CARE's Child Protection and Safeguarding Policies, and informed consent,
- 4) Confidentiality of sensitive data. The consultant must ensure that all personal and business data collected during the assessment is kept confidential and stored securely. All datasets must be anonymized with identifying information removed before submission. A password-protected identifier key may be used if necessary for follow-up, and access will be restricted to CARE-approved personnel. Consent forms will include clear explanations of confidentiality terms, and data will only be used for the purposes outlined in the ToR.

For detailed ethical requirements, including CARE's data protection standards and consent protocols, please refer to Annex 3: Ethical Guidelines for Research.

9. Consultant Requirements

Essential Qualifications:

- 1) Advanced degree in environmental science, business, economics, or related field.
- 2) 5+ years of experience in sustainable packaging, circular economy, or sustainable MSME development.
- 3) Strong quantitative and qualitative research skills.



- 4) Fluency in English is mandatory, proficiency in Khmer is preferred.

Preferred Experience:

- 1) Previous work in Cambodia or similar contexts.
- 2) Expertise in supply chain analysis, financial modeling, and cost-benefit analysis.
- 3) Knowledge of garment industry supply chains. — including how food vendors operate around factory zones, how packaging materials are sourced and transported, and how factory workers demand influences packaging use.
- 4) Examples of successfully implemented sustainable business models catering to similar vendor ecosystems.

10. Specifications for the Submission of Offers

Interested consultants/firms must submit:

- 1) Technical Proposal: Methodology, workplan, team credentials.
- 2) Financial Proposal with budget breakdown (daily rates, fieldwork costs): a detailed budget proposal that outlines all expected costs related to the consultation/survey, including fieldwork, data analysis, reporting, and any other relevant expenses. The budget should be competitive and justifiable based on the proposed scope of work.
- 3) CVs: Key team members' qualifications.
- 4) Samples: Two similar assessment reports.

11. Evaluation Criteria:

- 1) Technical proposal quality (40%).
- 2) Relevant experience (30%).
- 3) Cost-effectiveness (20%).
- 4) Technical proposal quality (40%).
- 5) Relevant experience (30%).
- 6) Cost-effectiveness (20%).

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12. Annexes

Annex 1: Project Logical Framework (Logframe).

Annex 2: Sample Data Collection Tools (questionnaires, interview guides).

Annex 3: Ethical Guidelines for Research.

- CARE requires that the datasets that are compiled or used in the process of external evaluation are submitted to CARE when the evaluation is completed.
- Data must be disaggregated by gender, age and other relevant diversity, in line with the project's Theory of Change.
- Datasets must be anonymized with all identifying information removed. Each individual or household should be assigned a unique identifier. Datasets which have been anonymized will be accompanied by a password protected identifier key document to ensure that we are able to return to households or individuals for follow up. Stakeholders with access to this document will be limited and defined in collaboration with CARE during evaluation inception.
- In the case of textual variables, textual datasets or transcripts please ensure that the data is suitable for dissemination with no de-anonymizing information unless these are case studies designed for external communication and suitable permission has been granted from the person who provided the data. In these circumstances, please submit, with the case study, a record of the permission granted, for example a release form.¹
- Where there are multiple datasets (for example both tabular and textual datasets) identifiers must be consistent to ensure that cases can be traced across data lines and forms.
- CARE must be provided with a final template of any surveys, interview guides, or other materials used during data collection. Questions within surveys should be assigned numbers and these should be consistent with variable labelling within final datasets.
- Formats for transcripts (for example: summary; notes and quotes; or full transcript) should be defined in collaboration between CARE and the external evaluator at the evaluation inception
- In the case of tabular datasets variable names and variable labels should be clear and indicative of the data that sits under them. Additionally, the labelling convention must be internally consistent and a full codebook/data dictionary must be provided.
- All temporary or dummy variables created for the purposes of analysis must be removed from the dataset before submission. All output files including calculations, and formulae used in analysis will be provided along with any Syntax developed for the purposes of cleaning.
- We require that datasets are submitted in one of our acceptable format types.
- CARE must be informed of and approve the intended format to be delivered at evaluation inception phase. Should this need to be altered during the project CARE will be notified and approval will be needed for the new format.

Annex 4 Detailed research questions

This annex provides a comprehensive breakdown of the core research themes presented in Section 4 of the ToR. These questions aim to generate actionable evidence for the development of business models that are sustainable, profitable, and inclusive.

1. Current Packaging Practices

- What types of packaging materials are currently used by vendors, and what factors (e.g., cost, availability, consumer demand) drive these choices?
- What inefficiencies in packaging procurement and usage can the business models address to improve vendor profitability and environmental impact?

2. Financial and Operational Constraints

- What are the key financial and logistical barriers vendors face in transitioning to sustainable packaging, and how can these be mitigated in the business models?
- What cost-efficiency mechanisms (e.g., bulk purchasing, shared logistics) can be incorporated into the business models to reduce transition costs for vendors?

3. Supplier Dynamics and Market Accessibility

- Who are the main suppliers of sustainable packaging materials, and what gaps in affordability or accessibility must the business models address?
- How can partnerships between vendors and suppliers be structured within the business models to ensure reliable access to affordable sustainable materials?

4. Consumer Demand and Behavior

- How willing are consumers to accept or pay for sustainably packaged products, and how can their preferences shape business model strategies?
- What consumer outreach strategies (e.g., awareness campaigns) can be integrated into the business models to drive demand for sustainably packaged food products?

5. Designing Feasible Business Models

- What profit margins can vendors realistically achieve when transitioning to sustainable packaging, and how do costs compare to current practices?
- How can gender-responsive measures (e.g., addressing barriers faced by women-led MSMEs) be integrated into the business models to ensure equitable adoption?

6. Evaluating Scalability of the Business Models

- What elements of the business models can ensure scalable adoption across MSMEs in Cambodia and beyond?
- How can lessons from successful packaging transitions in other regions inform the scalability and replication of these models?

7. Environmental and Social Impact Integration

- What measurable environmental impacts (e.g., reduction in plastic waste, GHG emissions) can the business models achieve?
- How can the business models also deliver social benefits, such as cleaner communities and improved vendor health outcomes?



8. Policy and Regulatory Considerations

- What policy or regulatory frameworks can incentivize the adoption of sustainable food packaging within the business models?
- How can partnerships with local governments, business associations, and NGOs strengthen business models and facilitate implementation?

9. Business Model Validation

- What criteria (e.g., profitability, supply chain efficiency, environmental impact) should be used to evaluate the success of piloted business models?
- How can feedback from vendors, consumers, and stakeholders be used to refine and validate the business models for broader adoption?