



We build strength, stability, self-reliance and shelter.

Terms of Reference (ToR)

Rice Straw to Rice Straw Ash (RSA) Value Chain – HARVEST Project

Supply Chain Consultant

I. Habitat for Humanity Egypt (HFHE)

Habitat for Humanity (HFH) is an international nonprofit organization founded in 1976 as the world leader in addressing the housing challenges faced by vulnerable communities. Today HFH works in more than 60 countries worldwide to empower people in the poorest communities to overcome the chronic lack of decent housing. HFH works in close cooperation with local communities and partners to help people in need to build, repair and renovate their homes thus improving people's strengths and self-reliance through adequate shelter. HFH constantly seeks new affordable solutions to make homes safer, more energy efficient, provide water and sanitation solutions, mitigate effects of disasters and support housing microfinance. HFH also seeks to influence the way housing and related shelter issues are assessed, prioritized and funded by local, national and international governments and inter-government forums.

HFH started operating in Egypt in 1989 and has supported more than 46,000 families in more than 40 communities in 5 governorates in partnership with strategic local partners and community members. Its programs focus on supporting vulnerable families in poor rural and urban areas to have better homes through different approaches including directly rebuilding stable and adequate homes for the poorest of the poor, and improving access of low-income families to affordable micro loans and engineering support to rehabilitate, build, and maintain their homes. It also focuses on improving communities' resilience to Climate Change through promoting innovative low-cost climate resilient building materials and improving heat resilience of public spaces in poor neighborhoods including informal settlements and advocating for adequate housing for all.

II. The HARVEST Project

The HARVEST project converts Egypt's rice straw, traditionally burned and a major source of air pollution, into a sustainable construction material: Rice Straw Ash Compressed Earth Blocks (RSA-CEBs). These low-carbon blocks provide a sustainable alternative to conventional building materials while improving thermal comfort and addressing key challenges such as air pollution, heat stress, and the shortage of affordable, high-quality housing in Egypt.

During the first phase of this project a feasibility study confirmed the technical feasibility, environmental impact, and economic potential of the technology, now the project will build on previous results to move toward piloting and real-world demonstration of the innovative product by establishing a circular value chain from rice straw ash production to block manufacturing and construction, as well as validating the business model. The project brings together Dutch and Egyptian partners to advance technical development, demonstrate the technology in practice, and prepare the market and financial conditions for wider adoption.

III. Objective of this Assignment:

Habitat for Humanity Egypt wishes to contract the services of a qualified consultant to provide a comprehensive assessment of the rice straw management and handling in Egypt to guide the project team in creating a viable business model. The consultancy will focus on the supply chain, including rice straw accessibility, farmers' engagement, competing uses and options, stakeholders' engagement, logistics, existing regulations, processing systems, and others.

IV. Scope of Work:

The consultant will carry out an integrated assessment based on desk review, field visits, meetings, interviews, etc. to provide reliable data and information, critical insights and effective recommendations. The following should be covered as a minimum:

1. Geographic Location Optimization

- Identify different regions in Egypt with high rice cultivation areas and significant production of rice straw.
- Assess proximity of the different regions to construction materials producers, especially cement factories and brick producers, and to construction demand centers.
- Assess road accessibility and transport infrastructure.

2. Upstream Sourcing and Farmer Engagement

- Identify and analyze existing rice straw management/handling programs and initiatives, led by, or supported by the government and other influential stakeholders including collection, storage, use, and disposal.
- Identify and analyze the most commonly used existing competing uses and value pathways for rice straw in Egypt.
- Map existing rice farmers structures (individual farmers, informal groups, cooperatives, etc.)
- Identify existing models for rice straw collection, balling, and pricing mechanisms.

3. Collection, Aggregation, and Transport System

- Map and assess existing collection and transport practices.
- Assess whether farms are reachable by trucks and define existing alternative solutions where needed
- Estimate realistic transport costs (cost per ton-km)
- Assess local availability and cost of transport modes (leasing vs. contracting)

4. Storage of rice straw and RSA and Seasonal Buffering

- Assess storage options for rice straw at farm level, village/aggregation level.
- Estimate rough storage costs of different options.
- Determine current operational approaches to manage seasonal surges and supply fluctuations.

5. Rice Straw Ash Processing System and Facility Design

- Analyze pros and cons for setting up a centralized facility for producing rice straw ash (RAS) vs. distributed networks.

- Identify and justify optimal locations for setting up a centralized rice straw ash (RAS) production facility.
- Identify and justify optimal locations for setting up a network of processing units.

6. Stakeholder Roles

- Map key actors across the value chain (farmers, contractors, processors, producers, government entities) and define roles and responsibilities across the system through a Porter analysis.
- Assess potential implementation models (private-led, partnership-based, hybrid structures)
- List current policies, incentives, or pilot projects related to rice straw or agricultural residues.
- Identify potential regulatory hurdles (e.g., environmental, waste management, transport safety, permits).
- Identify opportunities for collaboration with government programs, NGOs, and private sector actors.
- Assess available incentives, subsidies, or policy support mechanisms.

7. Risk Assessment and Operational Resilience

- Identify key risks across:
 - o Supply (seasonality, climate events)
 - o Logistics (cost fluctuations, access constraints)
 - o Market (price sensitivity, adoption barriers)

V. Duration and Timing

The assignment is expected to be implemented within a maximum of 3 months starting from signing the contract. Estimated level of effort of 15-20 working days. Detailed timeline to be agreed at contract inception

VI. Key Deliverables:

All deliverables shall be submitted in English. Data collection instruments and anonymized datasets should be annexed where applicable.

Deliverable 1:	Inception report with detailed methodology and workplan, including inquiry questions and final report outlines	7 days after signing the contract
Deliverable 2	1st Draft Report including implementation details and findings	2.5 months after signing the contract
Deliverable 3	Final Report	3.0 months after signing the contract

VII. Required Expertise

The consultant/team shall demonstrate:

- Proven experience in market research and commercial viability assessments for manufacturing, agricultural waste management or construction material systems (consultant should include at least one team member with relevant technical experience).
- Demonstrated capability in value chain and supply chain analysis in emerging markets; experience in Egypt/MENA.
- Experience with farmer/primary producer engagement and agricultural residue or biomass supply chains is an asset
- Familiarity with building materials performance, certification processes, and market adoption dynamics
- Capacity to conduct field-based research and stakeholder engagement
- Strong analytical, financial modeling, and reporting skills
- Excellent written and spoken English and Arabic languages
- Commitment to Habitat for Humanity's values and safeguarding standards.
 - **Humility** – We are part of something bigger than ourselves
 - **Courage** – We do what's right, even when it is difficult or unpopular
 - **Accountability** – We take personal responsibility for Habitat's mission

Safeguarding: HFHI requires that all consultants take seriously their ethical responsibilities to safeguarding our intended beneficiaries, their communities, and all those with whom we work. Employees & Managers at all levels have responsibilities to support and develop systems that create and maintain an environment that prevents harassment, sexual exploitation and abuse, safeguards the rights of beneficiaries and community members (especially children), and promotes the implementation of Habitat for Humanity's code of conduct).

VIII. Confidentiality and Ownership

All data, analyses, and outputs produced under this assignment shall remain the property of the HARVEST consortium. The consultant shall not disclose or publish any materials without prior written approval.

IX. VIII. Application Procedures:

Interested candidates are invited to submit a proposal consisting of:

1. Technical Offer (60%):

- A brief description of the consultant's understanding of the assignment and proposed implementation methodology.
- Consultant's CV/ or main consultants in case of a company
- Samples of similar assignments.

2. Financial Offer (40%):

- Detailed budget for the assignment including all taxes. covering: personnel, materials, transportation, and any other costs.



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X. Legal & Administrative requirements:

- Applications should include Valid commercial registration and tax card (for companies).
- Consultants must produce electronic invoices (VAT included as per Egyptian law).

XI. Application Procedures

Interested candidates should send their applications to: hr@habitategypt.org

Subject line: "Supply Chain Consultant – HARVEST Project"

The Closing Date for Applications is May 31st, 2026