

Terms of reference (ToR)

Production of physical 3D model (Short-term consultancy services)

Project: IMPACT 2026 – Phase III

Duration: 6 weeks

Date of publication: 24 July 2026

Deadline: 2 August 2026

Nature of assignment	Production of physical 3D house models
Duration	4 weeks
Location	Kathmandu, Nepal
Published Date	24 July 2026
End date of application submission	2 August 2026

1. About Habitat for Humanity Nepal

Habitat for Humanity Nepal is an international non-governmental organization that is driven by the vision that everyone deserves a decent place to live. Our partnership with communities, governments, private sector including entrepreneurs and financial institutions, youth networks, and academia, allows us to serve low-income families by improving habitability, tenure security, access to basic services and affordability of housing solutions. Our integrated programming serves to benefit 2.7 million people over the next three years, through direct and incremental construction, affordable housing finance, affordable construction technologies and services, and evidence-based policy advocacy for housing adequacy as a fundamental right. Responding to the root causes of inequity in the housing ecosystem, Habitat Nepal leads with a systems-strengthening approach, facilitating development of inclusive housing markets, removing key policy barriers and empowering communities through people-centered approaches, for a stronger and more equitable housing ecosystem.

2. Background

Since 2019, Habitat Nepal has been implementing the "IMPACT 2026" project which is driven by a commitment to scale safe, durable, and affordable bamboo housing solutions. Building on the achievements of Phases I and II, the current phase (Phase III – July 2025 to December 2027) emphasizes innovation, sustainability, and local ownership to meet housing demands while fostering resilient and eco-friendly construction practices.

Through this assignment, Habitat Nepal aims to support individual/ companies/private sector to produce physical 3D house models of the Habitat homes to promote bamboo housing and aid in the positive perception of this locally-available, nature based solution, that can be used as a climate-resilient material in affordable house construction. This terms of reference or TOR defines the work to be carried out by individual/private sector. It provides a brief outline of the project and specifies the scope of work.

3. Objective

The main objective of the assignment is to produce a high-quality, scaled physical architectural models of Cement Bamboo Frame Technology or CBFT house used in Habitat Nepal's works. There are four distinct physical models: a skeleton model showing the bamboo structural frame, a assemblable 3D model, a hands-on, modular prototype designed with detachable parts to physically demonstrate the step-by-step prefabrication and on-site construction sequence and a detailed and sectional mockup of individual modular CBFT panel or floor panels, exposing internal framing, layers, and connection details.

4. Scope of work

The successful candidate/consultant/consultancy firm will:

- **Material sourcing and preparation**
 - Procure high-quality, durable modeling materials that accurately mimic bamboo culms, joinery elements, and panel components at scale (e.g., treated bamboo splints, wooden plates, metal bracing, connections, etc.)
 - Ensure all materials are resistant against moisture and warping to guarantee long-term durability for exhibition and handling.
- **Model fabrication**
 - **Sectional model:** Fabricate a structural model focusing on the load-bearing bamboo framework, roof trusses, and precise replication of physical bamboo joinery (e.g., fish-mouth joints, nut-bolt connections, etc.).
Scale: 1:16
 - **Assemblable pre-fabricated panel model:** Construct high-detail, larger-scale sectional mockup of a prefabricated CBFT wall panel physically exposing the internal bamboo and wooden framing, metal bracing, flattened bamboo matt and plaster layers, and panel to panel connections.
Scale: 1:8
 - **Settlement model:** A model showing settlement planning including key infrastructure components such as roads, surrounding neighborhood context, landscape elements, etc. (Map will be provided by Habitat Nepal).
Scale: 1:100
- **Finishing and packaging**
 - Mount all models on sturdy, professional presentation bases with clear labeling.
 - Provide custom, durable transport packaging for each model to ensure safe transit for field training or exhibitions or for storage.

5. Methodology

The consultancy will adopt a structured approach to produce clear and detailed physical 3D models. It will start by reviewing relevant design drawings and CBFT construction technology to ensure accuracy and consistency. In coordination with the technical team based in Lalitpur, design will be finalized, and built into 3D models. The consultancy will produce physical 3D models of CBFT house, incorporating key good design practices in the model. Draft design plan for each model will be shared for final review with Habitat's team in Kathmandu and feedback will be incorporated before delivering the final model.

6. Key deliverables

The key deliverables for the consultancy are:

- Scaled physical skeleton model of CBFT house accurately replicating bamboo structural framing and connections.
- A modular, hands-on interactive assemble able model with detachable, interlocking components designed for manual assembly/disassembly to demonstrate construction sequencing.
- Physical mock-up of an individual prefabricated CBFT wall panel which must feature a cutaway view exposing internal framing, layering, and interlocking edges.

- A model showing settlement planning including key infrastructure components such as roads, surrounding neighborhood context, landscape elements, etc.
- Isometric and parallel elevation views pictures of the finished products.
- Fixed graphic plaques on each model detailing project name, scale, and component labels.
- Secure transport for each model to ensure safety during field transport.

7. Workplan and indicative timeline

SN	Activities	Date
1	Announcement	24 July 2026
2	Application submission deadline	2 August 2026
3	Selection and contracting	17 August 2026
4	Kick off meeting with the production team	20 August 2026
6	Draft detail model plan submission	31 August 2026
7	Review and changes	23 September 2026
8	Final delivery	30 September 2026

8. Qualifications, skills, and experience

The consultant or firm will have the following qualifications:

- The firm/consultant must have at least three years of experience in model making, with at least one prior similar model making experience for INGOs, government, and development organizations, or related work of a similar nature.
- Ability to execute the tasks on time.
- Communication, coordination, and research independently on the given task.

9. Evaluation criteria

- **Relevant experience (30%)** Demonstrated experience in producing 3D models, particularly in the development sector, bamboo modeling experience is an added bonus.
- **Technical approach and understanding (25%)** Clear understanding of the assignment, target audience, and ability to propose an effective methodology for delivering simple, accurate and high-quality model.
- **Quality of previous work (20%)** Portfolio showcasing creativity, model making experience and experience with similar projects.
- **Team composition and capacity (10%)** Qualifications and experience of key team members, including architects, modelers, draftsmen, etc.
- **Cost effectiveness (15%)** Financial proposal that provides good value for money while meeting the required quality standards.

10. Coordination and supervision

The consultant/firm will work in close coordination with the technical team based in Lalitpur throughout the assignment. The project lead will provide overall guidance, share relevant materials, and facilitate coordination as needed.

11. Support from Habitat Nepal

Habitat Nepal will provide necessary technical and coordination support to facilitate the successful implementation of the assignment. This will include sharing relevant design in 2D and technology specific documents and photo references to guide model production.

A designated focal person will support the consultant/firm in coordinating with the project team and relevant stakeholders, and will provide timely feedback. Habitat Nepal will also ensure that all technical details are accurate, contextually appropriate, and aligned with project objectives.

12. Mode of Payment

Payment will be made to the consultant/firm only upon full completion of the deliverable after reviewed, verified, and approved by the Habitat Nepal Communication and Technical team

13. Ethical Standards

In accordance with its foundational mission principles, Habitat Nepal is committed to the highest ethical standards and opposes all forms of discrimination, exploitation, and abuse. We intend to create and maintain a work and living environment that is safe, productive, and respectful for our colleagues and for all we serve. We require that all staff and representatives (consultants, contractors, vendors/suppliers, interns, volunteers, agents, and implementing partner organizations) take seriously their ethical responsibilities to Safeguarding (Child Protection, Prevention of Sexual Exploitation, Harassment, and Abuse) our intended beneficiaries, their communities (especially children), and all those with whom we work. Abiding with the organization, the consultancy service has responsibilities to maintain an environment that prevents harassment, sexual exploitation, and abuse, safeguards the rights.

14. Copyright

Copyright for the documents will remain with Habitat Nepal national office and includes the right to use the material.

15. Application Requirements

- A Technical Proposal detailing the interpretation of the TOR and work schedule. The technical proposal should, at a minimum, include the following information in your interpretation of the TOR:
 - Detailed work plan and methodology
 - Key deliverables
 - A capability statement demonstrating how applicants meet the required qualifications and competencies, along with at least one sample from previous work similar to this assignment
 - Two reference details from former clients
- A copy of organization/institution registration certificate
- A copy of the latest tax clearance certificate
- PAN/VAT registration document and the number
- Copies of curriculum vitae, or CV, of the key team members (as an annex)
- A Financial Proposal detailing the proposed costs including all applicable taxes.
- The entire proposal should be a maximum of seven (7) pages including the financial proposal. Proposals not meeting this requirement will not be considered.

- Confidentiality of Information: All documents and data collected will be treated as confidential and used solely to facilitate analysis.

16. Instructions to Submit the Proposal

Interested national reputed and qualified consultants/firms should submit their technical and financial proposal including testimonials/certificates.

Please write “**TOR_3D HouseModels**” in the subject line of the email and submit the proposal no later than 02 August 2026 at procurement@habitatnepal.org

For any queries contact the following email address np.info@habitatnepal.org

Application deadline: Sunday, 2 August 2026



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