Managing construction and rehabilitation projects (commercial contractors)

28 March 2023

Key points

- Set clear project goals, and define the project's size, value, and timeline. Map out possible constraints and make explicit the technical complexity of the works involved.
- Demonstrate how the proposed activities align with UNHCR's goals and objectives in the specific emergency operation.
- Examine Government regulations and complete a stakeholder analysis.
- Examine and take into account Government policies.
- Estimate the costs and assess sources of funding.
- Evaluate climatic conditions and environmental factors.
- Assess the local market and available capacity and expertise.
- Study UNHCR's management and control procedures.
- Develop a Quality Control and Quality Assurance Plan.
- Evaluate the socio-economic context (territorial issues, demography, socio-cultural factors, economic and institutional issues).
- Complete a risk analysis and consider how risks may be mitigated.
- Develop an operation and maintenance plan for the lifetime of the project.
- Establish the project's timetable.
- Identify and consider other parameters identified by the feasibility study.

1. Overview
In emergencies that displace a large number of refugees, settlements (in or out of camps) often lack infrastructure and facilities, which can compromise refugees' quality of life and create protection risks. To resolve these problems, comprehensive construction or rehabilitation plans are established, in coordination with stakeholders, to repair and improve access to roads, drainage networks, schools, health centres, community centres and public spaces.

Successful construction and rehabilitation projects require good planning and project management, which in turn depend on knowledge of the local context, technical expertise, and sound assessment of resource requirements and risks. Failure to address such issues can lead to poor quality outcomes, cost overruns and delay. Therefore, before committing to rehabilitation and construction projects, UNHCR field operations should:

- Identify the need for the rehabilitation or construction of infrastructure.
- Demonstrate how the proposed activities align with UNHCR's goals and objectives.
- Commission a feasibility study. Assess environmental, economic, political and social impacts and deem the level of risk acceptable.
- Have access to and allocate the funds required.
- Agree that the UNHCR programme unit that supports the works will take responsibility for integrating specific tasks, including liaison with local authorities and coordination with Government, refugees, and the host community.
- Determine that the works and budget maximize return and achieve best value for money.
- Identify the parties who will be responsible for taking over the facilities, and for operating them (if required), and maintaining them.

### 2. Main guidance

#### Underlying policies, principles and/or standards

Resource scarcity, rising energy costs, durability and sustainability, and environmentally responsible practices are all issues of great concern to UNHCR and cannot be ignored when planning and designing civil works. Sustainable development must meet human needs while preserving the natural environment for present and future generations. The keystone of sustainable design is providing buildings that are energy efficient, healthy, comfortable to occupy, low in maintenance, flexible in use, specified with environmentally responsible materials, and designed for long life.

Any rehabilitation or construction of infrastructure project must aim to develop facilities that are socially, economically and environmentally sustainable after completion, and are in accordance with UNHCR principles and international standards. This objective will be achieved by:

- Cooperating with local and national government authorities, United Nations agencies, non-governmental organizations and other partners.
- Consulting with refugees and host communities during the planning and design phases.
- Consulting environmental experts and ensuring compliance with all statutory environmental regulations applicable to the area of operation.
Promoting environmentally sustainable construction materials.
Ensuring that design and construction minimize maintenance requirements over the life cycle of the facility.

**Good practice recommendations**

Good practices ensure that the most common pitfalls of rehabilitation and construction works are being avoided, such as:

- Lack of comprehensive procurement planning and control mechanisms.
- Lax application of procurement processes (for tendering, selection criteria, evaluation, contract signature)
- Rushed application of procurement processes. Procurement in accordance with good practice needs time and planning. It should contain the adequate level of detail to avoid additional costs or change orders. Procurement and programme staff do not communicate clearly and sufficiently and thus lack mutual understanding of the requirements of implementation. Similarly the complexity of building works and the resources needed to implement them are not fully understood.
- The scope of the project and its technical specifications are not defined in enough detail.
- Unclear or incomplete Bills of Quantity, incorrect cost estimates and unrealistic timelines.
- Insufficient expertise in managing, supervising and monitoring rehabilitation or construction works.
- Lack of financial and time contingency. Cost and time may increase with unforeseen circumstances such as administrative delays, for example in receiving local authority authorizations, or permission to access the site.

---

**SUMMARY APPRAISAL REPORT**

1. Purpose of the Civil Works
2. Eligibility
3. Scope of Works, Drawings, BoQ, specifications and Components
4. Budget, Financing and Cost Estimate
5. Site Investigation and Technical Feasibility Study
6. Implementation
   a) Implementation Plan and Schedule
   b) Design and Construction Works Supervision Mechanism
   c) Consulting Services (if applicable)
   d) Operations and Maintenance (if necessary)
   e) Monitoring and Quality Control
7. Procurement Methodology
8. Environment and Social Impacts
9. Risk and Mitigation Measures
11. Stakeholder Consultations and persons of concern Participation (if applicable)
To avoid delays, increased costs, and contractual breaches consider the following:

- Act only when you have completed planning. The design stage itself can be sub-divided into as many steps as necessary to resolve all design problems before construction begins.
- Consider the services of external firms or consultants with appropriate technical background to prepare complex designs. Technical expertise may exist in implementing partners or within UNHCR.
- In cases where design, scope of works (SOW) and Bill of Quantities (BoQ) come from the government. These documents should be reviewed and if needed modified, developed or completed. Aim for as much detail as possible, within time constraints, on SOW, BOQ, and specifications.
- Consult carefully with stakeholders at all stages, to avoid misunderstandings that can be costly.
- Work closely with government and local authorities and take account of their policies.
- Make sure projects meet the expectations of persons of concern, host communities, and authorities.
- The procuring goods processes shall be used for "Prefabricated Buildings" by a direct acquisition of buildings and according to the UNHCR Procurement.
- The civil works items in the Bill of Quantities can allow a variation of ±10% of actual quantities.
- The budget contingency for supervising and monitoring of civil works includes unforeseeable cost requirements typically range between 12% and 20% of the total civil works cost.
- In most cases, design services are contracted separately from construction contracts. Turnkey contracts, in which the contractor is responsible for both the design and construction, can be difficult when the performance of the contractor is unknown or when the extent of the external risks is uncertain (e.g. time required for allocation of sites, approval of drawings and specifications by the government, etc).
- Purchasing of goods for the facilities, such as generators, audio-visual equipment, IT equipment, furniture, etc should be completed separately by supply/procurement colleagues. Modular design can be considered to reduce the need for multiple designs for units of similar functionality. This can reduce cost and time during the design stage. (Modular design is an approach that subdivides a design into smaller parts (modules) that can be independently constructed and then used in different sites).
- The site condition (soil, access, boundaries, etc) is an important factor in the design and can affect cost and duration of the building, particularly for sites in remote areas. Therefore, site variances should be included in all the design elements (SOW, BoQ, cost estimation, etc) if similar civil work activities are to occur on multiple sites.
- On the other hand, when modular design is being implemented on multiple sites, an individual pricing should be included per site. This makes the site-specific variation to be included in the procurement and tender evaluation and not result in a series of variation orders.
- The key stakeholders (e.g. UNHCR, government, implementing partner, etc) shall endorse the complete set of design documents, drawings and specifications before tendering and procurement activities commence. This endorsed set of documents becomes the technical reference documentation for the civil and construction project.
- Ideally, no changes should be made to the final design documents once they have been
finalized and approved. Modification of design drawings comes at high cost. Modifications once construction has started are more costly and require change orders.

- Should significant changes occur to the design documents during the development of detailed design, drawings and specifications, the detailed implementation plan should be amended to include and reflect the new requirements.
- The final design shall meet the government norms, standards and specifications, and the local building regulations where applicable. It should also take into account the local climatic conditions and the risk of natural disasters.
- A comprehensive set of drawings, SOW and BoQ increases the probability of receiving strong, detailed offers. It also help to facilitate the evaluation process, contract management, and are more likely to results in fulfilment of contract and expectations of UNHCR and other stakeholders.
- Civil works need a clear SOW so that detailed work plans can be developed. Work plans milestones can be tied to BoQ to facilitate monitoring and payment procedures.

Considerations for practical implementation

A project to construct or rehabilitate infrastructure is successful when it meets the expectation of the country programme and other stakeholders, matches the project’s scope, meets specified quality standards, is delivered on time, and follows the budget. Commercial contracts are governed by the regular procurement procedures or the exceptional procedures for procurement during emergencies, as requested by the office and approved by the Headquarters Committee on Contract. For procurement by partners funded by UNHCR, the UNHCR Policy and Procedures on Procurement by Partners with UNHCR Funds apply (UNHCR/HCP/2014/11).

Most construction projects will follow similar steps. Adjustments will be made if the scope of the project so requires. The table below outlines the common stages of construction management:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Responsible</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Definition of needs</td>
<td>Management*</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Feasibility study</td>
<td>Operation</td>
<td>Engineers</td>
</tr>
<tr>
<td>3</td>
<td>Implementation plan</td>
<td>Management*</td>
<td>Engineers</td>
</tr>
<tr>
<td>4</td>
<td>Design Documents (drawing, scope of works, etc)</td>
<td>Engineers</td>
<td>Operation Management*</td>
</tr>
<tr>
<td></td>
<td>Implementation strategy and modality</td>
<td>Management* Procurement</td>
<td>Operation Engineers</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------</td>
<td>-------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Procurement and contracting processes</td>
<td>Procurement</td>
<td>Management* Operation Engineers</td>
</tr>
<tr>
<td>7</td>
<td>Physical construction activities</td>
<td>Engineers</td>
<td>Management* Operation Finance</td>
</tr>
<tr>
<td>8</td>
<td>Handover and contract completion</td>
<td>All above</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Maintenance</td>
<td>Government/Beneficiaries</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Lessons learned</td>
<td>All above</td>
<td></td>
</tr>
</tbody>
</table>

* Management: the relevant project manager or coordinator

**Resources and partnerships**

- Local or central government authorities.
- Community and religious leaders.
- The host community.
- National and international NGOs.
- IFRC and ICRC.
- Other UN and international organizations.
- Academic institutions
- Private sector

**Annexes**

- UNHCR, Global Strategy for Settlement and Shelter 2014-2018
- UNHCR Policy and Procedures on Procurement by Partners with UNHCR Funds
- Sphere Handbook (2018)
- UNHCR, Handbook for the Protection of Women and Girls
- Risk Management _ Fraud Prevention _ Toolkit
3. Links

UNHCR, Coordination of camps and other collective settings UNHCR/OG/2016/1 Operational Guidelines on UNHCR Technical Specialists for Public…, Fraud Prevention UNHCR, Procurement Management and Contracting Services UNHCR/HCP/2014/11 UNHCR Policy and Procedures on Procurement by Partners with U…

4. Main contacts

Shelter and Settlement Section (SSS), Division of Programme Support and Management (DPSM). At: e-mail: HQShelter@unhcr.org.