Assessing local building cultures for resilience & development

A practical guide for community-based assessment

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CRAterre Editions

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Local building culture

From top left to bottom right: Mali, Turkey, Libya, Ethiopia, Indonesia, Cuba

The concept of **Building Culture** involves considering Habitat through the following lenses:

- the construction process (materials, techniques, structure, shape);
- the organization of the construction, its maintenance, its social and economic impact;
- the design and arrangement of spatial components (indoor and outdoor) as well as their use(s);
- the symbolic character of the structure as a whole, or of some of its specific elements.

A building culture results from the adaptation of a community to the environmental conditions of the territory in which it is established - physical, climatic, social, economic and cultural. As with biodiversity, a multitude of **local building cultures** exists throughout the world and it is important to consider that all of them evolve and change over time, and that several building cultures may coexist in a given territory.

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Nepal, after the 2015 earthquake

Foreword

Poor housing is one of the major problems our world is still facing. Although the demographic peak has not been reached yet, hundreds of millions are already exposed to climatic, technological and human hazards in natural and built environments that are becoming increasingly vulnerable. Relevant solutions, sustainable and adapted to context, must imperatively be implemented to break this vicious circle and allow vulnerable populations to live, grow and build a future. Without this, a domino effect could amplify the damage, or even disrupt major balances and ecosystems, which could impact territories at a much wider scale, including areas that are supposedly "protected".

This global dimension should not make us forget to think and act locally: quite the opposite. As it was again highlighted at the 2015 Sendai UN World Conference on Disaster Risk Reduction, a special effort must be made to prevent, and so decrease, the impacts of natural hazards. Responses to crises and post-disaster situations also have to be improved and developed beyond the urgent and immediate needs of the affected populations, by taking into account the necessity to mitigate the effects of potential future hazards and to provide solutions in compliance with the principles of sustainable development. This perspective of resilience can only be achieved if it is based on the use of local resources and dynamics.

As a matter of fact, affected populations, professionals and local organizations can not be mere aid recipients. In the long run, it is local populations that truly hold the key to the sustainable improvement of their own resilience and living conditions. It is for this reason that local populations should be the main actors in (re)construction activities, and that such activities should valorise their own capacities, knowledge and know-how.

It is in this regard that a number of humanitarian organizations recently came together to find alternative, context-adapted, "situated" solutions. Although in some cases, the implementation of good technical solutions provided positive results, it became increasingly clear that in order to achieve proper sustainability in projects, the most important factor was not to find appropriate technical answers but to make use of, and fit with, local social, organizational, technical and financial capacities. The idea is clearly to work from what exists and to improve it while perpetuating endogenous capacities for adaptation and evolution and, most importantly to build on the local strengths and dynamics that accompany them. Many recent experiences on the field (Africa, Latin America, Caribbean, and Asia) have confirmed the relevance of such an approach.

Following several international seminars and, the 2010 publication of a manifesto titled "Promoting local building cultures to improve the efficiency of housing programmes", CRAterre, the International Federation of Red Cross and Red Crescent Societies and Secours Catholique-Caritas France decided to go one step further. For this purpose, fifty experts from around the world were invited to participate in this capitalization of experiences, to synthesize and theorize this type of approach.

The handbook you are now holding is the result of this collective effort made to share results obtained both in the field and in the framework of scientific researches. The approach and activities explained in this guide are complementary to several participatory tools and, particularly, to the IFRC Participatory Approach for Safe

Shelter Awareness (PASSA). We hope that the methodology that is presented herein will contribute to collectively advance into a new level of improvement of the relevance of housing and construction projects. It is important that the organizations involved in the field share common references in order to engage in a desirable harmonization of solutions from a technical, architectural, organizational or strategic standpoint, especially when dealing with the poorest populations and in the quest for improved local resilience conditions for people exposed to natural hazards. For this, it is essential to go through an adapted analysis and territorial diagnosis process, focusing on physical and human resources, and the identification of local initiatives. The sustainable improvement of housing, for and by local populations, depends on the proper consideration of resources already available, namely local building cultures.

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Introduction






Variety of local houses and building cultures (from top left to bottom right):
Afghanistan, Philippines, Bangladesh, Salvador, Haiti, Democratic Republic of Congo

Local cultures, building practices & risks

All over the world, human societies have steadily developed knowledge for building their settlements to fulfil their needs according to their customs, beliefs and capacities. Centuries of practice and experience have led to a wide diversity of building cultures, resulting in different building systems and architectures, taking into account available resources, local climate, social practices and cultural models.

In areas prone to natural hazards, communities have generally integrated these phenomena into their daily practices, developing their own strategies to cope with related risks and to reduce the vulnerability of the built environment. To this end, local builders and populations have devised various measures, ranging from construction techniques and details, technical devices and temporary provisions, particular beliefs and specific behaviours to management strategies at territorial, settlement and household levels. These measures vary from hazard to hazard, from region to region, and even among members of the same community.

These practices have repeatedly demonstrated their relevance over time, and during catastrophic events, almost systematically demonstrating the existence of a real culture of risk.

In a time of climate change with unprecedented displacement and destruction of hundreds of thousands of houses, local know-how and materials represent a strong potential to generate and support local dynamics, and a relevant approach to increase the scale of the response within available and often limited funds.

Past and on-going experience has proven that taking these strategies into consideration is extremely valuable for enhancing community and habitat resilience. Identifying, understanding, recognizing and, where needed, improving and strengthening local disaster resilient practices and building techniques result in very useful and efficient resources for preparing relevant prevention and (re) construction programs. This approach ensures respect of culture and customs, identification of basic needs and valorisation of local capacities, both in terms of know-how and organization.

Therefore, enquiring about local cultures through a field assessment process provides data that can guide decisions towards respecting the recommendations of internationally recognized standards, fulfilling core humanitarian principles and linking relief, rehabilitation and development. At the same time, it provides a valuable reference framework to better target what people can do independently and thus ensure the sustainability of the process at the end of the project.

A field guide to assess local practices for habitat & risks

IDENTIFYING

UNDERSTANDING

CONTEXTUALIZING

SHARING

ADAPTING

EXPERIMENTING

EVALUATING

PROMOTING

DISSEMINATING

The development of a set of tools to enhance appreciation of practices developed by local communities is an initiative shared by partner institutions* that, for several years, have been committed to promoting context-based strategies.

The objective of this guide is to describe and disseminate a methodology for valorising local knowledge in housing and construction projects. It will specifically help to identify those practices that have a high potential for responding efficiently and adequately to habitat improvement and vulnerability reduction needs.

This approach has been tested and fine-tuned over the past years within housing and vulnerability reduction programmes handled by various organizations from different countries. This has also included implementation-in community contexts, training and capacity building for project staff, sensitization of project managers and decision-makers.

This guide offers a methodological and operational support for decision-making and practices towards approaches and actions deeply rooted in local contexts. It is a practical tool that provides detailed explanation on planning, preparing and undertaking field assessments of local practices related to habitat and risks. It refers to a participatory approach suitable for and adapted to various geographical, cultural and risk-prone areas.

The result of this assessment will be the compilation and organisation of basic data to be used for the project preparation, both from the technical (materials, design, training), economical (target unit cost) and organisational (responsibilities, planning, management) perspectives.

By supporting habitat assessment in all its different aspects, it also fosters links between programmes, providing clues and keys to define and implement coherent projects including income-generating activities, livelihood, health and other related sectors.

*CRAterre-International Centre for Earthen Construction, Secours Catholique-Caritas France, International Federation of Red Cross and Red Crescent Societies.

WHO IS THIS GUIDE FOR?

This guide is a tool for local, national and international organizations, decision-makers and technical stakeholders working at field, educational and institutional level on habitat and community resilience. It will contribute to improving the quality of their interventions by better adapting them to local practices and habits as well as by valorising strengths and capacities existing within their working areas.
This tool is not intended for the exclusive use and management of external experts and NGOs. It is also designed to be appropriated and used by local communities with support from adequate (local/international, internal/external) human resources.

HOW IS THE GUIDE ORGANIZED?

This guide is divided into 4 complementary parts:

Part 1
A local building culture approach

is addressed to decision-makers and project managers.
It presents arguments and perspectives to recognize the value of local building cultures within housing and vulnerability reduction programs.

Part 2
Assessing local building cultures

explains to project managers and field officers how to carry out the assessment in the field. It presents the main methodological concepts, sequence and contents of the activities to carry out along with some operational guidance for preparing field activities and assessment tools.

Part 3
Planning the assessment

provides guidance for project managers and field officers on how to include the assessment of local building cultures into the project cycle and how to plan related activities adapted to context, available resources and skills.

Part 4
Annexes

provides references for a deepening of the overall approach, with examples of assessment tools, additional field projects, complementary methodological and technical supports.

PART 1

A LOCAL BUILDING CULTURE APPROACH

INSPIRATION FOR DECISION-MAKING

This section defines main issues and challenges related to housing programmes, post-disaster interventions and disaster risk reduction that, when addressed through a local building culture approach, can directly contribute in improving local habitat and community resilience.

It suggests some food for thought and paths for action to push forward the integration of the existing capacities as well as of local resilient and construction practices in shelter projects, disaster response and preparedness and, by doing so, enhancing their effectiveness.

This part includes the following contents:

- Habitat and resilience
- Challenges & paths for action through local building cultures
- A real way forward!
- Case studies

Haiti: 2010 earthquake reconstruction in Petite Goave

1. Habitat and resilience

Habitat and resilience are closely connected evolving processes within the community. External relief and development policies or actions may either foster or disrupt them.

In such contexts, pressure for quick delivery has often led to the proposal of "readymade" models following almost exclusively international standards. This approach is geared towards ensuring full safety, in order to be able to take full responsibility of a (re)construction project. However, it has shown some strong limitations. The main drawbacks are:

- Lack of adaptation to local climatic conditions, ways of living and cultural habits;
- Technical solutions often not replicable by the local community as they are either too expensive or too sophisticated;
- Low quality imitations and mix of technologies often result in poor quality and increased vulnerability;
- Beneficiaries and local professionals not involved in the design and implementation process, even though this is essential for the local economy and the continuity of projects in the long term;
- Use of imported or non-local materials and technologies limit the ability of the community to contribute their own resources and knowledge, and discourage local ownership of, and responsibility for, the resulting housing or construction solutions.

Shelter and habitat projects, and especially post-emergency responses, are opportunities to identify the strengths and weaknesses of local building cultures, and thus validate, promote and improve existing local practices.

When reflection begins from individual experience and community achievements, responsive actions can better reach the goals of enhancing and reactivating community resilience while reinforcing people's dignity and capacity, thereby ensuring the sustainability of the investments.

Such an approach will contribute to a coherent answer and to achieve better coordination of the efforts of various bodies and organizations involved in the process.

Moreover, this is in line with main internationally recognized humanitarian concepts and with some specific principles of the *Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*:

- We shall respect culture and custom
- We shall attempt to build disaster response on local capacities
- Ways shall be found to involve programme beneficiaries in the management of relief aid
- Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic needs.

Haiti: improved local building technique after 2010 earthquake

This approach is also in line with the *Sendai Framework for Disaster Risk Reduction 2015-2030* adopted at the Third United Nations World Conference on March 18, 2015 and supported by the United Nations Office for Disaster Risk Reduction.

In this framework, it is suggested "to ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessment and the development and implementation of policies, strategies, plans and programmes of specific sectors, with a cross-sectoral approach, which should be tailored to localities and to the context".

To fully take into account the strengths and weaknesses of local building cultures for habitat projects and vulnerability reduction programmes, a necessary first step is to perform a basic research activity for the identification and understanding of the existing practices.

The necessary investment to be considered in project planning to achieve the basic step described in this booklet will result in huge savings as logistical issues will be drastically reduced during the project implementation. It is a worthwhile investment that will lead to decisions ensuring more short-, medium- and long-time benefits to the affected communities.

Philippines: existing house (right) and houses rebuilt after 2013 typhoon Haiyan with improved local techniques and materials (left)

2. Challenges & paths for action ...

Answering to the needs without delays

After most disasters, the first responders involved in the relief and reconstruction process are the affected population themselves. What they do, in terms of shelter, use of resources and recovery steps is part of the local building culture. Understanding how people attempt to rise to the challenges, and develop project strategies focused on supporting and improving on what they already know and do, saves time wasted in developing external solutions and in organizing necessary logistics to implement them. By doing so, aid effectiveness will be maximized and project efficiency and impacts will be improved, fostering scaling up of houses and of other building production capacity in a short period of time.

Contextual answers

Peoples' lifestyles, socio-cultural habits and customs, as well as knowledge and experience, are embedded into their houses and settlements. Local building cultures integrate social, cultural and symbolic processes of disaster preparedness and response that can be easily appropriated and replicated. Moreover, water and sanitation, comfort and adaptation regarding climate and social behaviours, various hazards and risks are often taken into account in the local practices. Housing design, and socio-cultural habits, may vary significantly even in a limited area. Taking into account these facts will reduce risks of conflicts between technical answers and local ways of life, helping to achieve population acceptance and ownership as well as programme efficiency.

Building back better, building back safer

After a disaster, many lessons can be learnt from the observation of damaged and undamaged buildings. Those can be turned into specific recommendations for either repairs or new construction, with possible improvements to increase resilience and to extend building lifespan. A range of safe and affordable options can be developed according to already existing situations. Local technical knowledge and know-how can be strengthened and good practices

... TAKING INTO ACCOUNT LOCAL BUILDING CULTURES

as well as potential improvements can be demonstrated scientifically or by practice.
By doing so, the project will help local populations ascribe value to their culture, better understand the potential of the local environment, and prioritize housing and settlements improvements according to their technical and financial capacities. Thus, the project will become an opportunity to respond to immediate needs and build the capacity to face future crises by adjusting and improving – rather than replacing – local technologies.

PARTICIPATORY APPROACH & PROJECT APPROPRIATION

To ensure project ownership, and the sustainability of its results and impact, there is a need to:

- Put the local populations at the centre of the project process by adopting a participatory approach, strengthening social ties and supporting community self-help practices;
- Identify local know-how and methods of organization, adaptation and housing protection strategies, and integrate these elements in the programmes to be implemented;
- Pay attention to economic accessibility issues, so that duplication is possible for the majority.

If the project begins with learning from the existing, all these steps become compulsory, as it is not possible to understand the existing without a strong partnership with local populations and other stakeholders.

DIGNITY

International support should strive to keep people's dignity. In this regard, it is important to recognise the value of relevant local good practices, and to integrate them in crisis response projects.
By adopting a participatory approach where beneficiaries and communities are part of the decision process, supporting the bearers of local knowledge and know-how and strengthening social ties, a project can contribute to the recovery of individual dignity.

PAYING ATTENTION TO THE MOST VULNERABLE

To study local building cultures will help all partners to understand the realities of all groups involved in the production, use, and maintenance of human settlements, and, in particular, houses. By doing so, specific vulnerabilities and capacities will be identified, along with particular practices related to gender and social customs; issues regarding socio-cultural rules and responsibilities of men and women will be understood. As a result, the project will better take into account and address problems of access to improved habitat and, if relevant, focus on improving the existing situations and mitigating inherent vulnerabilities.

LINKING RELIEF REHABILITATION AND DEVELOPMENT / PREPAREDNESS

There is a need to work simultaneously on housing improvement and disaster preparedness by developing responses that will help local populations to access safer houses (core houses, sources of materials, trainings, etc.) through their own efforts. Projects should ensure a *continuum / contiguum** of the support provided to affected populations; keeping in mind what people would carry on building on their own after the external support. Most of the time, their only choice will be to redo what they were doing before the crisis.

Assessing local practices and resources provide useful data for taking into account people's capacities when deciding on strategic and technical approaches. If projects do not develop affordable solutions, relevance, viability and impact will be very poor.

* With the *continuum* approach, the different phases of disaster response are carried out one after another following a temporal sequence: emergency aid is mobilized; then reconstruction and rehabilitation activities are implemented until the recovery of development programs becomes possible. However, this approach does not allow to adequately responding to the complexity of post-disaster situations. For that reason, it has to be associated with the *contiguum* approach that considers simultaneity between emergency and development and involves an overlap between short and long term actions and different spatial dynamics.

Poverty alleviation

Money invested in disaster response provides a huge opportunity to feed local economies and not "bypass" local communities. The building sector has a high potential in this regard. If only high-tech and ready-to-use prefab industrial solutions are promoted, this will lead to injecting funds in international and medium to large national companies with a very limited positive impact on local economies. The appropriate use of local resources for material, workmanship and management, as well as research and development, training, etc., to fill existing gaps will ensure that the funds invested have a maximum positive impact on the local economy.

Strengthening local capacities & governance

Projects are an opportunity to strengthen local capacities, including accountability and governance, for the long term. Identifying existing technical, operational, organisation and managerial capacities will allow making the best use of them and, if needed, enhancing them at institutional and field level. On the basis of this understanding, project objectives and expected results can be balanced and strategies in line with local partner's capacities can be developed to support community cohesion and recognition. On the other hand, it provides useful data to develop relevant and enabling regulatory systems that integrate policies, codes and schemes suited to regional and local peculiarities.

Environmental Impact

Local building practices often evolved in relation to resources available in a given context. To study the existing context will inform supporting agencies about the local challenges regarding potential impact in the environment while contributing to the development of suitable technologies as independent as possible from external know-how, materials or assistance.

This does not exclude the possibility of introducing a reasonable proportion of imported materials and/or techniques to compensate for some of the weaknesses that may be observed. Nevertheless, protecting the local environment should not end in selecting technical solutions, material, or strategies that could lead to negative environmental impacts at the global level.

Trying to make the best use of local materials, while implementing complementary activities (such as bamboo plantation) in order to reduce local impact, may be much more viable than transporting imported materials with large amount of embodied energy.

Viability

Habitat and resilience go well beyond the scale of a basic house. Care should be taken in using materials and construction techniques that will, in adaptation to each context, be viable in terms of implementation and maintenance, while making sure not to break away from local technical and financial capacities. Learning from the existing local building culture will help to understand what is locally affordable in terms of financial investment, resource accessibility, skills and know-how.

Sustainability

In most disaster responses, the support from aid agencies rarely covers all the needs of the affected populations. There is therefore a necessity to ensure that duplication is possible for a greater number: consider how beneficiaries, along with their neighbours, will benefit from the project.

In order to achieve this, promoted technical solutions should be neither unaffordable nor too sophisticated.

Response based on lessons learnt from the progressive evolution of local building culture will help to achieve this goal.

3. A real way forward!

"If we are to make progress, we must not repeat history but make new history. We must add to inheritance left by our ancestors"- Mahatma Gandhi

Improving on local building culture and developing post-disaster responses based on existing good practices do not lead to some kind of nostalgic return to the past. The local- formal and informal- construction sector needs to be analysed in its dynamic dimension to:

- Strengthen technical, operational, organisational and managerial capacities;
- Foster a sustainable process;
- Establish more effective preparedness to manage future crises;
- Propose solutions that actually improve upon what currently exists;
- Ensure that even if they cannot be used directly, local strengths (tangible and intangible) are kept through adaptations to contemporary situations.

A good knowledge and understanding of local building cultures forms a sound basis to help communities plan towards climate change mitigation and disaster preparedness. By strengthening self-confidence and dignity, it is further possible to re-launch an endogenous process for a long-term improvement of living conditions and resilience. A real way forward!

Haiti /
post-disaster rehabilitation for sustainable and resilient habitats

THE PROJECT

Post-earthquake assessments highlighted that a great number of rural houses were partially damaged, in many cases as a consequence of previous degradation due to a lack of knowledge and resources for appropriate maintenance. However, in these areas very few people were injured or killed by collapse of traditional buildings.

Rehabilitation projects* were implemented in rural and peri-urban areas in 4 strongly affected regions. On the basis of a detailed assessment of local building cultures, specific strategies, architectural designs and technical solutions were developed for each working area to enhance housing durability and resistance to earthquakes and cyclones. The use of debris and materials from damaged buildings as well as of naturally available resources (earth, stones, fibres, etc.) was maximized to ensure economic affordability, logistical feasibility and technical reproduction. Capacity building, training and awareness raising activities were carried out for local national partners, local engineers and artisans, project beneficiaries and communities.

Sensitization, advocacy and dissemination activities carried out at national scale led to a widespread endorsement of the approach by other partners and stakeholders. Other organizations have adopted and implemented it in 3 other regions, in peri-urban areas and for response to other local crises, such as Hurricane Sandy in 2012.

*Partners' list and further references at the end of the document

LESSONS LEARNT & CHALLENGES

Local and community-based **partner organizations were responsible for defining and managing their own project**, designed for replication without external support. This contributed to a good ownership by local stakeholders and strengthened their capacities. However, project scale and outcomes had to be balanced with partner technical, management and administrative capacities.

Shelter component associated to reforestation and agro-ecology programmes contributed to ensure natural resources renewal and to increase livelihood opportunities, including the creation and strengthening of small construction enterprises and artisans associations.

IN 7 REGIONS OVER 5 YEARS:

1,000	houses rebuilt and repaired
2,000	houses spontaneously rebuilt according to the improved designs
8	newly built one- and two-storey community buildings
510	trained builders and foremen
33	trained technicians
> 10,000	sensitized people
12	local institutions & community-based organizations involved
10	international organizations involved
1	national seminar on sustainable housing in rural area

A detailed assessment of cultural practices meant that social structures were enhanced and **technical solutions fully integrated into local architectural and cultural context**.

Involvement of affected people in construction activities and project **implementation based on local "kombit" (self-help) systems** contributed to strengthen socio-cultural identity and community solidarity.

Training and awareness raising activities for trainers, artisans and house-owners contributed to fostering a general improvement of construction safety by enhancing skills and knowledge of stakeholders involved in decision-making and building processes related to construction.

Training sessions organized for local engineers and artisans on local housing assessment and sensitization at community and beneficiary level on strengths and weaknesses of damaged houses increased people's **awareness and responsibility for appropriate construction and repair**.

Research activities on local building cultures supported the technical validation and delivery of a **certification of improved local construction systems** for housing construction, by the Haitian Ministry of Public Works, Transport and Communications.

From the top: training and sensitization activities; 2-storey school building; house designs and improved construction systems

BANGLADESH / CONTEXT-BASED STRATEGIES FOR DISASTER PREPAREDNESS AND VULNERABILITY REDUCTION

THE PROJECT

The project aims to develop disaster preparedness and vulnerability reduction strategies for housing according to various types of natural hazards, architectural and construction typologies, socio-cultural contexts. Started in 2007, it was carried out in 3 different stages*: an external evaluation of the response to cyclone Sidr; a pilot phase in two hazard-prone areas; a 3-year project with national coverage, developing and disseminating disaster preparedness and shelter response strategies specific to each region.

In each area, a participatory process was carried out to assess local building cultures and to develop a variety of technical and operational options responding to different capacities existing within each community. Different models were built in selected areas after validation by local communities and a national technical university. These included designs for newly built houses, case-by-case improvements of existing housing and emergency shelter prototypes respecting local housing typologies, Sphere standards and budget recommended by the national shelter cluster.

Complementary activities included training, awareness-raising and knowledge dissemination from local to national level. Some of project basic technical principles were adopted by the Bangladeshi Shelter Cluster as a part of the national policy for post-disaster response. Since 2011, the same approach has been applied to achieve the construction of 1,085 houses throughout the country and other funding and implementing agencies in Bangladesh as well as in other contexts (such as Haiti, Nigeria, Benin, Philippines) have adopted this approach.

From the top: improved existing house in Chittagong; Safer house models in Dinajpur and Rajshahi

*Partners' list and further references at the end of the document

LESSONS LEARNT & CHALLENGES

Implementation was carried out through an **iterative approach, from pilot projects, to a consolidation and then dissemination phase**, including regular monitoring and evaluation. At all stages, local communities, the implementing agency and academic labs were actively involved. This helped to adjust the methodological approach, strategies and architectural designs at all steps of the project, fostering greater project flexibility and partners' capacity building.

In order to ensure local capacity building, activities were implemented **step-by-step** from a first phase handled by international and national expertise, **through an appropriation phase** handled by national and regional staff, **to a consolidation phase** implemented by local staff.

The project benefitted from scientific support of national universities, and in turn helped them to acquire experience in local building cultures. In the future, the universities will raise students' awareness and engagement in these issues, through lectures, internships, etc. and thus **develop a better capacity to respond to national challenges**.

DURING 7 YEARS IN 7 REGIONS:

700	house built and improved
8	different designs developed
150	trained artisans
318	trained organisation staff
> 1,850	community members sensitized
> 250	professionals & students sensitized
3	National seminars on sustainable housing in rural areas

To better address contextual people needs, **different options** have been developed **for the same location taking into account people's particular cultures**. For example:
In Dinajpur area, developed model allows the house to be dismantled very quickly, adopting existing local coping practices.
In Chittagong area, two disaster models were designed at the same cost and, in case of crisis, beneficiaries will be free to decide the one they will prefer according to their own particular culture.
In Khulna area, the project shifted from zinc roof to clay tile roofing material as a strategy to address excessive heat in the hot season and to help to increase impact in the local economy.

Top right: sensitization activities;
Bottom left: emergency shelter prototype in Rajshahi

Local building cultures & field projects: some experiences and results


Pakistan, after the 2005 earthquake: damaged house and newly rebuilt house with improved stone masonry


Honduras: administrative building with local materials such as earth, timber and traditional tiles



Haiti: traditional timber frame construction in urban area, 2-storey housing for dense area, bus station

Iran, after the 2003 Bam earthquake: traditional vaulted houses and housing prototype for reconstruction

Democratic Republic of Congo: school buildings and demonstrative wall with improved traditional techniques

Philippines, after Haiyan typhoon: existing house and house rebuilt according to local techniques and traditional typologies

PART 2

Assessing Local Building Cultures

Guidance for project managers & field officers

The methodology presented in this booklet is designed to guide the assessment of local buildings, practices and issues related to construction and risks in areas where you are working or you are intending to work.

This section contains practical guidance and information to help the project staff prepare, facilitate and implement the assessment at field level. It should be read by all those willing to understand the assessment process in detail, including project managers and field officers. It sets out the basis for training and helps project managers supervise field staff and volunteers' work toward a comprehensive and contextual analysis of local building cultures.

Once a specific area has been selected, the assessment process should, as much as possible, follow the steps and the activities explained in the next pages to get an overall understanding including, if possible and relevant, all the factors influencing the existing situation.

This part includes the following contents:

- Presentation of the assessment methodology
- Key concepts
- Assessment contents
- Assessment activities and tools
- Practical tips

1. Presentation of the assessment methodology

1.1. What does this methodology consist of ?

It is a *participatory approach* for the assessment of local building cultures and good practices related to construction and risks in a given context. It combines technical, economic, social, cultural and environmental issues.

It is a methodology that supports a group of stakeholders to design, plan and manage a *joint assessment and learning process* based on different activities carried out together with the local communities, in a relatively short period of time. Resulting information offers practical and context-specific references for developing appropriate technical solutions and for building up an operational set of actions for improving local habitat and community resilience.

1.2. Why is it relevant ?

The aim of the assessment supported by this methodology is to identify and understand potentials and vulnerabilities of local buildings and construction practices, as well as to recognize priority needs, existing capacities and resources through a collectively shared process. All this information provides baseline data to identify the main issues on which habitat and disaster risk reduction (DRR) activities can focus to support local communities in improving their resilience and living conditions while valorising their own cultural identities.

Specific objectives:

- To identify main features of local housing and settlements, including their use, related resources, knowledge and know-how, construction processes and trends, challenges and good practices concerning management, durability and resilience.
- To understand main hazards affecting the area and their impact on constructions as well as to recognize ordinary or particular practices related to local DRR strategies.
- To get an overview of the socioeconomic, cultural, institutional and natural settings.
- To assess capacities, strengths and weaknesses of local project partners.

1.3. How does it work ?

The assessment methodology is based on a sequence of 13 activities carried out by a small facilitation team together with local communities. These activities are based on various selected participatory tools and different methods of communication (such as drawings, interviews, group discussions) to encourage a large participation and a sharing of knowledge among stakeholders, community members and, particularly, with those involved in construction activities.

The whole process takes about 1 to 2 weeks. However, this should be considered as an indicative duration to be adapted to the size of the area, prior knowledge about it and current relationship with local communities. In fact, according to the situation, the assessment could also be carried out over a much shorter period of time. Additionally, flexibility should be considered regarding the specific conditions of the area, different practices that may exist, availability of the community and other stakeholders, experience of the team and project specific nature and requirements. This process can be also facilitated by people that are not familiar with the area, and over a longer period of time.

The overall approach and related tools provide data complementing those coming from existing methodologies for shelter (such as those prepared by the national shelter cluster) as well as for other sectors (e.g. livelihood, sanitation, climate change adaptation, etc.). Additionally, the assessment process and relationship built with local communities open the way for, and fully support, complementarities and extensions with existing owner-driven approaches for communities (e.g. PASSA, VCA-DRR, CBHFA, PHAST/CLTS) and local authorities (e.g. PDNA).

Sharing with communities

Understanding the context

Learning from local practices

1.4. Who are the stakeholders ?

Communities
- Members of the communities from different ages and genders, social and cultural groups, income levels, with and without land title
- Inhabitants, tenants, house owners, land owners
- Self-builders
- Community based-organizations and groups

Construction professionals
- Construction artisans
- Materials suppliers, producers and carriers
- Contractors
- Technicians, experts and construction specialists (engineers, architects)

Authorities
- Representatives from local, regional and national authorities
- Governmental departments
- Technical authorities and regulation bodies (e.g. Ministry of Construction)
- Traditional community leaders

Others stakeholders
- GO/NGOs and other groups working in the area at community, regional, national and international level
- Coordination bodies and international agencies
- Donors
- Vocational and academic institutions
- Research and training centres
- Local, national and international DRR and construction sector organizations

Project team
- Project managers
- Field team: field officers, local animators and volunteers
- Technical and/or methodological partners

Note: Depending on the situation, the role of project team and/or field unit can be taken on by community-based organizations or other local stakeholders (such as local governmental bodies/ departments, educational institutions, etc.).

1.5. When can it be adopted ?

This assessment methodology can be adopted in pre- and post- disaster situations when actions for habitat improvement and enhancement of local capacities will be carried out. Activities and outcomes of the assessment are not oriented only towards direct beneficiaries of the houses, but contribute to a whole process improving practices at individual, professional and institutional level.

→ **Disaster relief**

Supporting short-term shelter and habitat solutions responding to immediate needs while fostering the transition to more durable structures in line with structural safety and local building practices.

This can include:

- Integration of aspects from local cultures (like architectural elements and construction techniques) into transitional shelter designs
- Considering reuse of materials, extension and modification of the original shelter
- Facilitating construction and transformation by the people themselves
- Informing coordination networks and community of practices on response and strategy planning

→ **Recovery and rehabilitation**

Fostering long-term construction solutions and risk reduction measures in line with local resources and capacities.

This can include:

- Validating and promoting vernacular building techniques
- Improving local practices and solutions
- Facilitating the regeneration of local knowledge and know-how

→ **Preparedness and mitigation**

Developing approaches, technical measures and capacity building activities to anticipate disaster response for future crises.

This can include:

- Developing and fine tuning, together with local communities, emergency shelters integrating local resources and different ways of living

- Improving existing houses and buildings
- Enhancing traditional early warning systems
- Planning preparedness at local level
- Capitalising on knowledge for further disaster response

→ **Development**

Identifying sustainable solutions for the improvement of existing coping and construction practices.

This can include:

- Designing and constructing public buildings adapted to existing risks to introduce and demonstrate new and improved local techniques
- Planning community buildings to be use during crisis (for example as community shelters)
- Contributing to poverty reduction through construction activities, material production and livelihood sectors, entrepreneurship
- Developing context-specific Information Education and Communication tools to promote and raise awareness of local building cultures
- Training of construction professionals and technicians from local and governmental institutions
- Strengthening of construction related-sectors with the involvement of local technical schools and universities

1.6. When can it be implemented ?

This assessment methodology has been developed primarily for rural and peri-urban contexts, especially where traditional knowledge about construction and risks is still transmitted and widely practiced.

However, this approach is also suitable for urban contexts and areas not exposed to natural hazards. In such cases, criteria, stakeholders and assessment steps need to be adapted to the diversity of conditions and constraints at socio-economic, cultural and institutional level. For application in urban areas, adaptations shall especially consider influence of density, proximity, urban planning and building rules on technical and habitability solutions as well as a reduced inhabitants' involvement in the construction process.

2. Key concepts

- **PARTICIPATION**

Actively involve local communities, artisans and stakeholders from different ages, settlements, socio-cultural backgrounds and income levels. Each of them holds particular knowledge and experience and can play a relevant role in future actions.

> Encourage the community members to participate, as early as possible in the process, in identifying potential solutions and pre-selecting the most appropriate options based on their experience of the risks and past disasters. The community might better identify which housing issues they think are important and its involvement would also help you to see where risks and vulnerabilities fit into broader housing thinking. A deep involvement of the community will valorise people's inputs and will ensure their appropriation of the process, besides raising awareness at the earliest stages of the project. It also sends a clear message that the community members are considered equal, fully-fledged partners.

- **KEY QUESTIONS & ACTIONS**

At each stage of the process, 3 main actions- to observe, to ask, to verify- need to be carried out on the basis of 5 key questions- What? Why? How? (By) who(m)? When? - to better understand specific behaviours, phenomena and practices that might be omitted by the tools or which could not be identified at the time of assessment.

> Example 1: Understanding the reasons
>
> In one area you observe that there are different types of housing (e.g. elevated on a platform, with several storeys, built using different materials, etc.). For each type, identify main features, how the structure is built and the main differences between each type. Then, by questioning their inhabitants, local builders and community members, try to find out the reasons for these differences:
> Does each type correspond to a different socio-cultural group? Is there any difference related to land issues? Who built each type of building? Is there any relationship between some types of buildings and particular socio-cultural groups? Have some types been more recently built than others? Why have people started to build a new type of house? Is this related to a shortage of resources for construction? Is there any coping strategy related to some particular housing type? If yes, how do these influence the construction and the way of living of its inhabitants?

EXAMPLE 2: SEQUENCE OF QUESTIONS ABOUT A SPECIFIC TOPIC

Questions and answers from an assessment in Bangladesh

What:	Q: Is there any measure that people adopt to reduce the vulnerability of their house? A: Yes, people move their house to a safer place where they live until the end of the crisis. Then they take it back to the original site.
When:	Q: When do people do this? Does it happen often? A: When a big flood is coming. This happens every 2-3 years.
Why:	Q: Why do people move their houses? A: During big floods water level can reach 2m high and people do not have the capacity to build a house resistant enough to this type of hazard.
How:	Q: How do they move their houses? Is there any particular construction detail that is specifically related to this practice? A: They dismantle the house by parts and they carry them by foot or by boat. The houses are built with very light materials (bamboo, CGI sheets, straw) that can be easily hauled. Main structural connections are designed in such a way that they can quickly open, dividing the structure in parts (e.g. the whole roof) that can be easily handled and reassembled.
By whom:	Q: Who is in charge of the construction of the house? By whom is the house dismantled and moved? A: The house could be initially built by the house-owner or by a local artisan. However, during the crisis the house is dismantled, moved and rebuilt only by the family members.

- FACILITATION

Information gathering and relations with local communities need to be properly facilitated and managed to ensure data reliability and a fair involvement of all the stakeholders.

. Ensure good facilitation skills in order to avoid partial or distorted information, to maintain a good relationship with local communities and to gradually hand down to them the responsibility of the process.

- During meetings and interviews, encourage sharing and open discussion, ensuring the free expression of various points of view and their good understanding.
- Avoid making closed-ended questions or questions that already include the answer: start from issues raised during the discussion to further deepen them; also ask other participants their experience and points of view.
- Plan separate activities and discussion sessions to ensure that perceptions and points of view from both women and men, as well as from different social/cultural/ethnic groups, are integrated in the assessment.

• ADAPTATION

Activities, contents and tools are flexible and need to be adapted to the characteristics of the area and the situation (before or after a disaster) where the assessment takes place as well as to the conditions (available time, funds and skills) for its implementation. If needed, change sequence, add or adapt the activities to be carried out and develop new tools or adjust the existing ones, according to assessment objectives, local context and target audience (artisans, adults, children, etc.).

• CROSS-CHECKING

Ensure the reliability and completeness of information by cross-checking and triangulating different sources throughout the assessment.

- Verify information by questioning persons and groups with different experiences, ages and skills about the same subject.
- Compare and complete data obtained using different tools and during different activities.

3. Assessment contents

The contents of the assessment are determined by its specific purpose. However, 6 main aspects are particularly important to consider. They include issues related to the environmental setting, settlements and housing, knowledge and resources for their production and maintenance as well as how people cope with natural hazards.

In addition, capacities at grassroots level need to be analysed to identify possible bottlenecks as well as to understand how local and community-based organizations can handle the project, disseminate information and contribute to community resilience over time.

Moreover, questioning existing and past experience provides useful information to anticipate and prepare for future crises according to previous situations, agencies involved, problems faced by the populations directly or indirectly affected, and strategies that they have put in place.

The checklist on the following pages provides some key elements to look at when carrying out an assessment. Not all the elements need be included every time: the choice will depend on the objectives of the assessment and the situation at hand. By the same token, other relevant elements not listed can be added.

- Make a copy of the checklist: bring it with you to the field and keep it at hand while preparing the tools and the assessment report.

SITE
- Natural environment
- Socio-economic profile
- Infrastructures

HABITAT
- Settlements
- Housing & building typologies
- Building construction

CONSTRUCTION PROCESS
- Activities & roles
- Maintenance

RESOURCES
- Materials
- Skills & know-how
- Costs

RISK REDUCTION
- Natural hazards & risks
- Adaptation & coping strategies

CAPACITIES
- Organizations & networks
- Cooperation systems
- Key persons & groups

ASSESSMENT CONTENTS & MAIN INFORMATION SOURCES

● main source
○ complementary source

	COMMUNITY MEMBERS	INHABITANTS / TENANTS / HOUSE AND LAND OWNERS	SELF BUILDERS / CONSTRUCTION ARTISANS	MATERIALS PRODUCERS / SUPPLIERS / CARRIERS / CONTRACTORS	TECHNICIANS / EXPERTS CONSTRUCTION SPECIALISTS	LOCAL AUTHORITIES / GOVERNMENTAL DEPARTMENTS	FORMAL & INFORMAL COMMUNITY LEADERS	GOs & NGOs / COORDINATION BODIES	VOCATIONAL / ACADEMIC / RESEARCH / TRAINING CENTRES	OBSERVATION IN THE FIELD	DOCUMENT REVIEW
SITE											
Natural environment	●									●	●
Socio-economic profile	●					●	●	○			●
Infrastructures	●					●	●	○		○	●
HABITAT											
Settlements	●					●	●			●	○
Housing/building typologies	●	●	●		○				○	●	○
Building construction	●	●	●		○	○			○	●	○
CONSTRUCTION PROCESS											
Activities & roles	●	●	●			●	●			○	○
Maintenance	●	●	●							○	
RESOURCES											
Materials	●	●	●	●	○				●	○	○
Skills & know-how	○		●	●	●			○	○		
Costs	●	●	●	●	○	○					
RISK REDUCTION											
Natural hazards & risks	●	●	●			●	●	○		○	○
Adaptation & coping strategies	●	●	●			●	●	○	○	●	
CAPACITIES											
Organizations & networks	●		○		○	●	●	○			
Cooperation systems	●	●	●	○	○	○	●	○	●		
Key persons & groups	●	●	●		●	●	●	○			

3.1. CHECKLIST FOR ASSESSMENT AND REPORTING

SITE

NATURAL ENVIRONMENT

- Zone (urban, rural, peri-urban)
- Topography (relief, vegetation, rivers, lakes, etc.)
- Climate (main seasons, temperature, prevailing winds)

SOCIO-ECONOMIC PROFILE

- Population (number of inhabitants, family sizes, community sub-groups, socio-economic status, displaced people, etc.)
- Livelihood (assets and activities, main types, annual/seasonal, financial resources - average per family)
- Institutions (formal/informal community-based groups and networks, GO/NGOs working in the area)

INFRASTRUCTURES

- Access (distance/time from main town, types of roads, practicability in normal and disaster situations)
- Infrastructures (water distribution system, education, health care, markets, religious buildings, etc.)

HABITAT

SETTLEMENTS

- Settlement patterns and types (clustered, scattered, etc.)
- Settlement history, development and evolution
- Accessibility (time, practicability, safety, transport options)
- Location of villages and houses
- Land and house tenure (ownership, security, access to land, land ownership management, occupancy)
- Vulnerability (types, most exposed areas/social groups)
- Adaptation (climate specific planning, risk protection, social mixing/segregation)

HOUSING & BUILDING TYPOLOGIES

- Main existing types of buildings and their purposes
- Orientation and location in the plot
- Shape and size of buildings and spaces
- Inside and outside spaces (use and arrangement according to everyday life activities, livelihood activities related to housing and settlement, furniture and belongings representative of what people consider important in terms of making a home)
- Additional buildings on the plot

- Extensions (where, which functions)
- Comfort (climate, ventilation, lighting, privacy, security)
- Facilities and equipments (heating and cooking systems, storage, water management and sanitation arrangements, electricity)
- Housing surroundings (tree barrier, water resource, drainage, etc.)
- Evolution of housing and building typologies and new trends
- Customs and beliefs (separation of women and men, neighbourly relations, sacred and protected spaces, protective provisions from local unsafe practices)

BUILDING CONSTRUCTION

- Types of construction
- Techniques and materials (for: foundations, load-bearing system, secondary system, walls, roof, joints, and openings)
- Shape and size of structural elements and construction materials
- Main problems and causes
- Special provisions improving space, durability and resilience
- Climate responsive building designs (passive ventilation, natural lightening, natural cooling/heating systems, and regulation of indoor/outdoor temperature)
- Changes in construction practices (lost and new techniques and practices, trends)
- Practices and beliefs (house orientation and location, positions of structural or non structural elements, construction components, rituals in the construction process)

CONSTRUCTION PROCESS

ACTIVITIES & ROLES

- Main stakeholders (sex, age)
- Roles and responsibilities (who makes the main decisions, who participates in the construction)
- Selection criteria for: site, house position, construction materials and techniques, artisans involved
- Construction seasonal schedule
- Construction steps and duration
- Solidarity and mutual self-help practices
- Formal and informal regulatory systems for production and management of housing, land, settlements (roles and responsibilities, persons/institutions in charge, policies and building codes)

MAINTENANCE

- Lifespan of each construction type
- Concerned parts, frequency and types of work

- Persons in charge and people involved
- Lifespan of construction materials
- Solutions to improve durability
- Easy maintenance facilities
- Maintenance habits (awareness, evolution or loss of practices, reasons)
- Practices that contribute to reducing/increasing construction durability and resistance

RESOURCES

MATERIALS

- Local materials (types, provenance, cost, availability in ordinary and post-disaster situations, renewability)
- Available on the market (types, provenance, cost, availability in ordinary and post-disaster situations)
- Recyclability and reuse of construction materials
- Knowledge and practices to improve lifespan of construction materials (harvesting time and age, natural protection process, choice for specific construction parts)
- Know-how on how to preserve and ensure renewal of natural resources for building purposes
- Transport
- Production, preparation, transformation, treatment of construction materials
- Tools and equipment required for construction, production and preparation of materials
- Materials suppliers and producers

SKILLS & KNOW-HOW

- Artisans (number, types, provenance, availability, groups, quality of workmanship)
- Labour cost
- Payment modes
- Agreement with house owner/inhabitants
- Learning and training systems
- General construction industry (construction companies, planners and technicians, capacities, availability)

COSTS

- Construction cost (total, by parts, most costly parts)
- Maintenance cost
- Cost of facilities and equipment (heating and cooking systems, water and sanitation, electricity, etc.)
- Occupancy cost (land/house rent, provision of access, water, sanitation, electricity, etc.)
- Ways to reduce cost for transport, labour and construction

RISK REDUCTION

NATURAL HAZARDS & RISKS

- Types of natural hazards (frequency, intensity, duration, season, situation after a disaster)
- Damages to housing and environment
- Community behaviour (before, during and after a disaster)
- Climate related risks (type, evolution, impact)
- Capacities and knowledge of the different gender/age groups & diversity roles

ADAPTATION & COPING STRATEGIES

- Preparedness (traditional and official warning systems, effective technical and social practices)
- Particular behaviours before and during disaster
- Protection measures (embankments, evacuation centres, escape routes)
- Technical arrangements to reduce vulnerability (permanent measures, temporary provisions, construction details)
- Settlement practices contributing in exacerbating/reducing risks and community vulnerability
- Beliefs related to natural hazards
- Community capacities in disaster management

CAPACITIES

ORGANIZATIONS & NETWORKS

- Local and community-based organizations (structure, working area and sectors, members, skills, experience in project management and disaster preparedness/response)
- Coordination platforms and institutional bodies (sectors, levels)

COOPERATION SYSTEMS

- Local self-help systems and community involvement
- Networks for information dissemination and knowledge sharing (traditional and institutional systems, main stakeholders, channels and supports)

KEY PERSONS & GROUPS

- Community representatives and authorities (traditionally and/or institutionally recognized, role)
- Reference persons (at community and institutional levels, roles)
- Local experts (traditional/institutional, roles, sectors of expertise)

Note: This is an indicative checklist. As much as possible, information shall be collected for each of these points. However, the level of detail and additional questions shall be adapted to context situation and conditions for assessment implementation.

3.2. Assessment in post-disaster situations

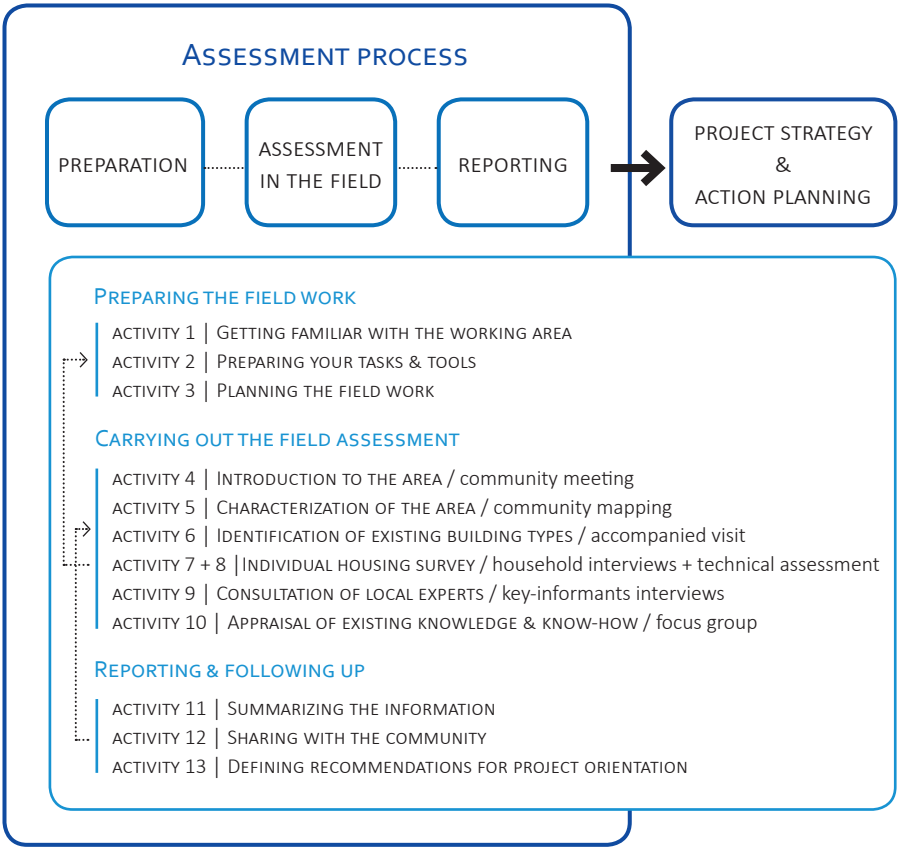
After a disaster, specific issues have to be addressed to plan appropriate shelter and (re)settlement responses according to needs and priorities.
In post-disaster situations, early assessment needs to be carried out in the immediate aftermath, prior to the main removal of rubble and demolition of what is still standing, to better understand failure mechanisms and critical weaknesses of existing buildings.
To complete the previous checklist, the following aspects should also be considered. This list shall be adapted to each situation and, if needed, completed according to guidance provided by specific charters and standards for humanitarian response (such as in "Shelter, settlement and non-food items" section of S*PHERE Humanitarian Charter and Minimum Standards in Humanitarian Response*).

- Number of households lacking adequate shelter and where they are living (displaced/on site)
- Immediate and potential further risks due to lack of adequate shelter and ongoing effects of the disaster
- Pre-disaster situation: housing types, main construction materials, land and housing tenure
- Types of damages by types of construction
- Existing materials that can be salvaged from damaged site for shelter (re)construction
- Available construction materials, equipments and skills
- Financial and human resources accessible to affected population for sheltering
- Land availability, ownership and usage to meet urgent shelter needs
- Imminent and expected threats that could potentially damage shelter
- Impact on local natural environment and extent of available natural resources
- Pre-crisis vulnerabilities likely to be affected by the disaster
- Coping strategies in place and opportunities to support them
- Potential evolution of the disaster (worsening factors)
- Need for external assistance

→ Additional references

UN-HABITAT (2009), *LENSS TOOL KIT. Local Estimate of Needs for Shelter and Settlement*. IASC Emergency Shelter Cluster.
World Bank (2014), *Post-Disaster Needs Assessment (PDNA) Guidelines. Housing Volume B*. World Bank-GFDRR, United Nations Development Group, European Commission.

4. ASSESSMENT ACTIVITIES & TOOLS

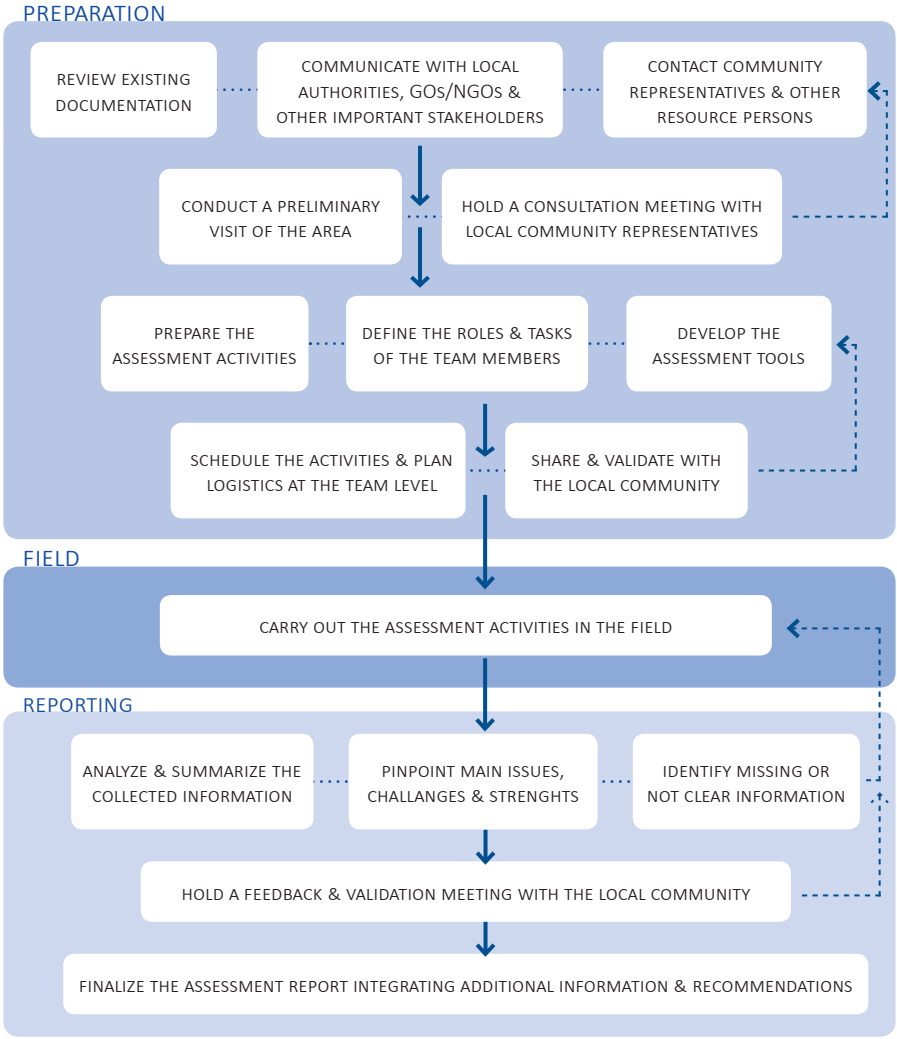


TIME REQUIRED

PREPARATION	minimum 3 days (according to prior knowledge of the area and available data) . 2 additional weeks shall be considered if preparation phase has to include training of project staff, development and pre-test of assessment tools.
IN THE FIELD	minimum 4 days (according to the extent of the area and settlement location) . Additional days shall be considered for a detailed damage assessment after a disaster (actual number depending of disaster scale and affected areas)
REPORTING	2-5 days
SURVEY TEAM	minimum 2 persons with technical and facilitation skills

ASSESSMENT STEPS

The following diagram summarizes the main steps of the assessment process to carry out once the setting up and training of the assessment team, along with the identification of the communities, have been done (See Part 3, Section 1). The importance given to each step can vary. There may also be a need for some loops and feedbacks between activities along the process.



4.1. PREPARING THE FIELD WORK

ACTIVITY 1 | GETTING FAMILIAR WITH THE WORKING AREA

Before undertaking an in-depth assessment, it is important to know about the key cultural and historical issues of the context of the community you will be working with, including physical characteristics, climate and particular risks affecting the area.

- CONSULTATION OF EXISTING INFORMATION SOURCES

Collect information that already exists in the form of written reports and documents prepared by other organisations, institutes and official agencies (such as national statistic office, disaster management department). This information provides a first overview of the area and the community, the main challenges it is facing, what has been done so far to address them, as well as a basic reference for cross-checking with information gathered during the field assessment. This review should be done prior to any fieldwork, as the findings may influence the tools you choose to use in a given community.

→ In addition to general data about the area, find out historical information on local building practices and changes over time through documents and the internet, to be completed with information collected in the field.

→ Look also for land tenure and building regulations as well as for schemes from government or other institutions.

- BUILDING A RELATIONSHIP WITH LOCAL STAKEHOLDERS

Be introduced by someone who knows the community. Try to make sure that this person is also “accepted” by the community. It can be a community leader, a representative from local community organisations or local authorities. These persons may also give you some preliminary information about the area and problems that communities are facing, how to interact with the community as well as clues to avoid making mistakes due to a lack of knowledge of the local culture and habits.

→ Inform local authorities of your plans and contact any other GO/NGOs working in the area to coordinate activities, avoid duplication and conflicts.

- PRELIMINARY VISIT

Organize a preliminary field visit with your contact persons to get a first impression and overview of the area. This is a good opportunity to get in touch with the community, to identify other resource persons, to share with them and validate their involvement in the process. Moreover, it will help you in identifying key issues, major problems and difficulties as well as in formulating some first hypotheses on the process and possible answers.

→ When possible, a rapid assessment shall be carried out to collect data on construction types according to materials used or architectural typologies.

ACTIVITY 2 | Preparing your tasks & tools

- ACTIVITIES

Share the objectives of the assessment with your team and the other stakeholders, prepare the activities to be carried out in the field and get familiar with their sequence, purpose and implementation. Discuss and clarify any doubts about facilitation, information collection (e.g. how to take notes and pictures), and ways to manage the communication with the community.

- ROLES

The assessment team should include 2 to 4 facilitators. At least 1 should have a social science background and 1 a technical background in the construction sector.
Decide who will act as facilitator and who will be the primary contact person for the community. Some activities require 2 persons, one facilitating the discussion and the second one taking notes and observing the ongoing dynamics among participants.

→ As far as possible, include in the team one or more persons from the local community. They will help in better understanding the local context and culture. However, carefully consider their position within the community (e.g. relatives of a local chief), as it can affect community involvement and fairness of the process.

- TOOLS

Develop the tools needed for each activity on the basis of the checklist provided in Part 2 (Sections 3.1 and 3.2) and on information that you have already collected about the area and the community (types of natural hazards, main features of existing houses, etc.). These tools can be multiple-choice questionnaires and/or checklists of the topics to be discussed and assessed during each activity. Checklists should be preferred to questionnaires to ensure a smooth discussion during community and group meetings. See Part 4 -Annexes for an example of specific tools used in past field projects. Pre-test the toolkit before starting the field assessment, to get used to it and to verify that formats and contents are appropriate. The pre-test can be done in another area with which the team is familiar. If needed, modify, fine-tune and adjust the tools before starting the field assessment.

→ Tools have to be developed by the field staff to ensure that local peculiarities are taken into account. However, supervision and, if needed, specific support shall be provided by the project manager and the project officers to ensure an appropriate skills and understanding level.

→ The tools have to provide specific information related to the purpose of each activity. For instance, questionnaire for technical assessment needs to include main information about the construction (size, types of materials, damages, etc.) and vulnerability factors (distance from a river, level of recent floods, etc.).

→ Use questionnaires for selected topics to ensure that all interviews address the same issues in the same way.

ACTIVITY 3 | PLANNING THE FIELD WORK

- PLANNING

The time needed to complete the field assessment will vary according to the extent of the considered area, schedule of the programme and other factors (such as community availability, climatic and access conditions, etc.). In some situations, the assessment may require a few days to cover the whole area. In others, it can be appropriate to divide the whole area into sub-zones to be assessed at different moments.

Activity planning should consider regular activities carried out by the community (such as market days, harvesting time, etc.) that may reduce its availability.

→ Make sure that you get any required permission for the visit, from the government, the community and/or from any other type of authorities (cultural religious, etc.).

→ Check the latest weather forecasts and seasonal trends. Ask local staff.

→ Check security notices and levels (governmental, UN, etc.). Brief the assessment team on the security situation and any safety operating procedures.

- SEQUENCING

Plan the activities following the order in which they are presented below, since each of them will provide important information for the next one. Some of the activities can be carried out on the same day (for instance, community meeting and mapping). However, allow enough time for you and the community to assimilate and share information acquired.

→ Keep some flexibility for integrating loops and readjustments in the activity sequence, to make use of new information and to benefit from the knowledge of specific resource persons that might not have been identified at the beginning of the process.

- PLACE & TIME

Before:
- Prepare each activity beforehand, identifying a good place for meetings and validate it with the community.
- Advise the community in advance about the time, the place and purpose of the meeting.

During:
- Create the right environment to let participants feel comfortable and free to talk.
- Manage the space in such a way that all the participants can hear each other and follow the on going discussion.
- Manage the time, try to respect the scheduled time for each activity and be flexible: if you see participants getting tired or bored, gently close the session. Some activities may also take more time than expected, so keep a margin to allow for extension.

4.2. CARRYING OUT THE FIELD ASSESSMENT

On the following pages, activities to be conducted in the field are explained in a sequence that should be respected as each activity provides useful information for the next one.

Each activity for the assessment in the field is presented on 2 or 3 pages, according to the following structure:

ASSESSMENT STEP

ACTIVITY x | TITLE OF THE ACTIVITY

DESCRIPTION	Short explanation about what the activity consists of
PURPOSE	Specific objectives of the activity to clarify what the field team should achieve by carrying it out
CONTENTS	Main topics to be assessed with the activity
WHAT TO DO	Step-by-step instructions on how to carry out the activity
OPERATIONAL GUIDANCE	Summary of practical information useful to plan and prepare each activity
EXAMPLE	Short example of information that can be gathered through the activity illustrated on the basis of field assessments implemented during past projects in different contexts

→ Make a copy of the following pages and bring it with you on the field as reminder of the aspects to assess, how to carry out each activity and persons to be involved.

INTRODUCTION TO THE AREA

ACTIVITY 4 | COMMUNITY MEETING

DESCRIPTION Introduction meeting with local communities to collect basic information and share the assessment programme and purpose.
Several meetings can be organized at different levels (for example for the whole area and then in each settlement) to ensure good information about the project and to collect specific data at local level.

PURPOSE

- To introduce the organisation and the project team
- To explain the purpose of the assessment and how it will be carried out
- To collect general information about the area and the community
- To understand main features of local houses, settlements and risks

CONTENTS

- AREA PROFILE: climate, main seasons, accessibility, infrastructures, resources
- SOCIO-ECONOMIC PROFILE: number of inhabitants, main activities, family sizes, sources of income, community organization (social/cultural/ethnic/religious groups, formal and informal leaders, regulatory groups and bodies), local and community-based organisations, self-help groups, GO/NGOs working in the area
- HABITAT: settlement patterns (by family, social group, etc.), land tenure, house types and dimensions, construction techniques and materials, comfort and safety, extension of living space, main problems, maintenance
- CONSTRUCTION PROCESS: season for construction, who does what, time needed, community rules for construction and resource management
- NATURAL HAZARDS: types, frequency, intensity, season when they occur, situation after past disasters, more exposed parts of the area, what people do during a disaster, measures to reduce vulnerability at collective and household level

WHAT TO DO

- Select the date and the time for the meeting depending on people's availability.
  - Select a neutral, quiet and comfortable place protected from both sun and rain.
  - If there are several social/ethnic/religious groups in the community, it is better to avoid meeting in a place considered as belonging to one of them.
- Introduce yourself, your organisation and the project team; explain the purpose of the project and how the assessment will be carried out.
  - Do not raise false expectations and respect local protocols and customs in introducing the team to the community.
- Start with some general questions on the area and then go further with detailed questions.
  - After the introduction and at the end of the meeting, ask if there are any questions about your organization, the project or other issues.
  - Ensure the involvement of all the participants and be sure that answers are not always given by the same persons.
  - Ask about activities carried out by other GO/NGOs; this will help you focus actions on real needs, if needed complementing the work of other agencies.
- Close the meeting briefly summarizing the information collected and explain the next step of the assessment (mapping).
  - Mapping activity can be done at the end of the meeting. However, if a lot of people attended the meeting, ask who among participants are the most appropriate persons and create a small group that will work on the map.

OPERATIONAL GUIDANCE

Assessment phase:	initial
Time:	2.5 hours
Number of participants:	20 to 30 persons
Target participants:	members and representatives from local community
Tools:	checklist for questions, writing pad, pen
Team members:	2 (1 facilitator + 1 note-taker)
Skills:	facilitation

In Dinajpur region (Bangladesh), during the community meeting two different situations came up as influencing the living and housing conditions of some groups within the local population. Some families live in a permanent manner in protected areas, while others are temporarily installed on the embankments near the river. To reduce damage during frequent floods, the latter dismantle their houses and move them to a safer place. Once the flood ends, the house is brought back to the initial location. Understanding this difference will foster the development of technical solutions specific to each of these situations.

CHARACTERIZATION OF THE AREA

ACTIVITY 5 | COMMUNITY MAPPING

DESCRIPTION

Preparation of a map of the whole area, or of some of its parts, drawn on the ground and/or on paper by local community members. One or more maps can be done for different themes (resources, housing types, risks, etc.), geographical scale (for the whole area or for each settlements) or after a particular event.

PURPOSE

- To develop a common understanding of the main features of the area
- To understand the impact of natural hazards on the area and the built environment as well as community perception of related risks
- To locate the zones most exposed to natural hazards and the most vulnerable community members
- To identify which building typologies are the most vulnerable / resilient according to local risks

CONTENTS

- NATURAL ENVIRONMENT: area boundaries, access (ways and time), land use, livelihood, resources for construction, high and low areas, landmarks, infrastructures and public buildings
- HABITAT: settlement patterns, houses location, housing types, most vulnerable houses
- NATURAL HAZARDS: description (flow of water, direction of wind, etc.), affected areas, damaged buildings and infrastructures, vulnerability factors (unstable slopes, lack of vegetation, etc.) and protection measures (cyclone/hurricane shelters, embankments, escape routes, etc.)

What to do

- Explain the purpose of the activity and how it will be carried out.
  - Depending on the number of participants, subdivide into small groups of 5 to 10 persons. Each subgroup will prepare its own map.
  - Mapping may be a concept unknown to the local community. In this case, explain the purpose and the information you would like to collect. Together, identify representations methods that will be understandable to all parties.
- Ask the participants to define symbols and graphic codes (such as different colours) to indicate each existing building type and their main aspects.
  - This can be done according to different construction techniques or materials (earth, stones, bricks, etc.), structural systems (infill frame, masonry walls, etc.) or architectural typologies (stilt house, courtyard house, etc.).
- Ask them to start to draw the main landmarks (rivers, roads, etc.) and then to add further details.
  - Take note of the comments made during mapping, they could help to identify additional issues that need to be considered or examined in detail.
  - Risk maps can include areas affected during a particular disaster, its causes (like the bursting of a dam) and consequences on the area (like flooded zones) and the buildings affected.
- Display the completed map and ask each group to explain the main aspects that have been identified. Then ask for any suggestion from the other participants.
- Once the map has been validated by the participants, take a photograph of it and keep it at hand: it will be very useful for other activities like the visit of the area.

Operational guidance

Assessment phase:	initial
Time:	1.5 to 3 hours according to the extent of the mapped area
Number of participants:	minimum 5 persons
Target participants:	community members with a good knowledge about the area
Tools:	checklist, large paper sheets, markers, pencils, rubber, camera, writing pad, pen, adhesive tape
Team members:	2 (1 facilitator + 1 note-taker)
Skills:	facilitation

During community mapping in Rajshahi region (Bangladesh), main housing typologies for each settlement have been identified and indicated with different colours according to the number of storeys, particular construction techniques and materials currently used in the areas. This has facilitated the understanding of the overall situation and land use patterns along with the collection of quantitative data on housing size and distribution of most common types.

IDENTIFICATION OF EXISTING BUILDING TYPES

ACTIVITY 6 | ACCOMPANIED VISIT

DESCRIPTION

Accompanied visit (also known as transect walk) of the area together with some members of the community.
During the visit, a lot of information can be collected in a very short period of time, by observing the natural and built environment and discussing with community members and people met along the way.
At the beginning of the assessment, this activity helps to identify physical and social aspects of the area, to establish an initial contact with the local population and to learn about existing technologies and practices.
Thereafter, other visits can be carried out with some persons (such as construction artisans) that can help to detail more some specific topics, thanks to their particular knowledge and experience.

PURPOSE

- To identify main features of existing houses and settlements
- To learn about local ways of life along with related provisions and arrangements
- To determine existing construction and/or architectural types
- To select houses for a detailed assessment
- To get an overall overview of the area
- To understand physical factors of vulnerability

CONTENTS

- AREA PROFILE: high and low areas, accessibility, resources (types and location)
- HABITAT: settlement patterns (clustered, disseminated, contiguous, etc.), architectural and construction types, use of private and common spaces, special provisions for everyday life
- NATURAL HAZARDS: exposed zones, housing vulnerability factors (exposure to wind, unstable cliffs, proximity to rivers or sea, etc.), protection structures (embankments, tree barriers, etc.)

What to do

- Identify some people that have a good knowledge of the area and good relations with the different community groups.
- Visit the area, including rapid assessment of the existing buildings.
  - The whole area should be visited, not only the most exposed zones.
  - Use the map as reference to take note of additional information.
  - Pay short visits to randomly chosen houses to get an idea of the situation.
  - Take the opportunity to discuss with persons met on the way and with the inhabitants of the houses visited.
- Determine the different types of housing according to the most recurrent typologies and construction techniques (for example, according to materials, construction systems or architectural design).
  - For detailed information about how to identify existing building types see Section. 5.2.
- Select 3 to 4 houses of each type for a further assessment, considering:
  - Houses located in different zones of the area.
  - The most representative examples of construction or architectural types (according for example to the construction system or the size of spaces).
  - Different housing sizes of the same type (like 1 room, 2 rooms, etc.), to understand how local houses evolve and are extended.
  - Houses corresponding to different social and economic groups, to identify construction solutions and parts in which people invest more technical and economic resources.

Operational guidance

Assessment phase:	initial
Time:	3 hours to half-day depending on the extent of the area
Number of participants:	4 to 6 persons
Target participants:	community members with a good knowledge about the area
Tools:	checklist, camera, writing pad, pen, map
Team members:	minimum 1 (better if the whole team)
Skills:	facilitation + technical

Accompanied visits in remote areas of Aklan region (Philippines) have fostered the understanding of main housing weakness and prioritise which parts of the construction need to be improved.
A great number of stilt houses are shored up with long bamboos used to brace the buildings that are unstable due to rotting of the timber post base. Without these bamboos, houses would bend out-of-plane and even collapse under strong winds. Technical solutions promoted by the project thus have to include improvement of post durability and structure stability, for instance with proper foundations and bracing of the wooden frame.

INDIVIDUAL HOUSING SURVEY

ACTIVITY 7 + ACTIVITY 8

Survey of individual houses includes interviews with households and/or house owners along with a technical assessment. These activities can be carried out simultaneously or at different times.

Complete the technical assessment of the most relevant houses for each identified type. Additionally, interviews can be conducted with other persons to collect additional information about construction process, vulnerability reduction strategies and effects of natural hazards on local housing.

→ The selected houses should be representative of the types of construction existing in the area and they should be located in different zones and/or settlements.

ACTIVITY 7 | HOUSEHOLD INTERVIEWS

DESCRIPTION Conversation based on some leading questions that encourage the interviewee to give examples and anecdotes that contribute to detail the focused topics and to identify new issues that need to be further investigated.

PURPOSE

- To deepen the understanding of factors influencing housing design, production and evolution
- To learn about local ways of living, socioeconomic situation
- To understand construction and maintenance of the house and related facilities or equipment
- To identify strengths and weaknesses of particular designs, materials and construction systems
- To accurately understand how local hazards affect existing buildings and their surroundings
- To identify particular practices and knowledge related to habitat and risks, at individual and household levels

CONTENTS

- HABITAT: use of the spaces, extension, comfort, safety, facilities and equipments (water, electricity, costs, etc.)
- CONSTRUCTION PROCESS: criteria of choice (site, construction system and materials), skills and resources needed, time required for construction, who does and decides what
- DURABILITY AND MAINTENANCE: main problems, causes, adopted solutions, frequency, persons in charge, changes of the practices over time
- NATURAL HAZARDS: damage to buildings and the surrounding environment, vulnerability reduction measures, what people did before, during and after past disasters

WHAT TO DO

- Preliminary: explain the purpose of the interview and reach an agreement about the time to do it.

- Begin with the questions included in the checklist or the questionnaire to develop an open discussion.
  - Use the information provided by the interviewee to formulate the next question.
  - Improvise new questions following the flow of the conversation and new issues raised.
  - Encourage the interviewee to give examples and anecdotes.
- Before closing the interview, verify that all the planned topics have been covered.

OPERATIONAL GUIDANCE

Assessment phase:	intermediary
Time:	30 minutes to 1 hour
Number of participants:	1 to 2 persons
Target participants:	house owners and inhabitants of existing houses from various backgrounds, ages and gender, cultural and social groups, occupations and income levels
Tools:	checklist or questionnaire, camera, writing pad, pen
Team members:	2 (1 facilitator + 1 note-taker)
Skills:	facilitation + technical

In Khulna region (Bangladesh), discussions with different households led to identifying measures to reduce construction vulnerability that may not have been otherwise recognized. In fact, they are implemented only in a temporary manner, just before the impact of a cyclonic storm. To improve the roof resistance against strong winds, the roof structure is tied with ropes to the nearby trees or to the ground, and bamboo grids or fishing nets are placed over thatched and tiled roofs to prevent blow-off.

ACTIVITY 8 | TECHNICAL ASSESSMENT

DESCRIPTION Assessment of individual housing and their surroundings, considering architectural and constructive aspects, building durability and vulnerability as well as special arrangements related to cultural factors and protection measures against natural hazards or other external agents.

PURPOSE

- To identify features of existing houses and their surroundings
- To understand in detail technical components of existing buildings
- To recognize specific strengths and weaknesses of particular construction types, materials and techniques
- To identify specific provisions and measures that reduce building vulnerability to local hazards

CONTENTS

- SURROUNDINGS: site, position on the plot, level of the ground, equipment, other buildings
- ARCHITECTURE: number and arrangement of the spaces, size, use, entrances and openings, facilities
- CONSTRUCTION: structural system, features of construction parts (foundations, load-bearing system, roof, joints, etc.), quality of materials and labour
- DURABILITY AND MAINTENANCE: plot and house condition, degradation, causes, affected parts, solutions to improve durability
- NATURAL HAZARDS: vulnerability factors, types of damage, devices reducing the vulnerability of the building

WHAT TO DO

- Visit the houses selected during the previous accompanied visit.
- Explain the purpose of the assessment to the household and/or house owner of the selected house.
- Pay a short visit to the whole plot and the existing buildings.

- Fill up the technical questionnaire, taking notes or sketching any additional information.
  - Involve a construction artisan in this activity, so that you can directly ask about the construction process, particular arrangements or technical solutions.
- Make drawings:
  - Plan of the overall plot with the house, additional buildings and equipments.
  - Sections and plans of the house with partitions of inside spaces and location of main structural elements (for example, the position of the posts) and note the main dimensions.
  - Make sketches of particular construction parts and provisions.
- Take the main dimensions of the house (size and shape, length, width and height of rooms and space like veranda, terrace, etc.) and the construction components (size and shape, distance between posts, height of foundations, etc.
- Take photographs of the house from each side, construction components, critical parts and devices reducing building vulnerability.

OPERATIONAL GUIDANCE

Assessment phase:	intermediary
Time:	30 minutes to 1 hour per house
Number of participants:	1 to 2 persons
Target participants:	team members (+ 1 construction artisan if possible)
Tools:	checklist or technical questionnaire, camera, writing pad, pen, measuring tape
Team members:	minimum 1
Skills:	technical

After the 2010 earthquake in Haiti, assessment conducted in rural areas led to identification of some strengths in existing houses. Generally, the infill of the timber frames fell down and the structures were bent out-of-plane. However, they rarely collapsed and could be repaired and improved using the same local materials and respecting the original house plan.

CONSULTATION OF LOCAL EXPERTS

ACTIVITY 9 | INTERVIEWS WITH KEY INFORMANTS

DESCRIPTION

Individuals or small groups discussions with specific persons that, for their particular knowledge and experience, hold detailed information that might not be known by the wider community.
These persons include local construction professionals (carpenters, masons, etc.) that are currently involved in housing production and know construction options implemented within the community.
This activity can also be carried out in separate meetings with local authorities, material suppliers and transporters, other GO/NGOs. Topics covered can include, for instance, political and administrative matters, particular issues related to specific population groups as well as availability of construction materials in ordinary and post-disaster situations.

PURPOSE

- To understand construction steps and activities for construction
- To determine resources currently needed for housing
- To deepen understanding of frequent damage caused by local hazards and types of work that need to be carried out in the aftermath of disasters
- To identify locally existing skills for construction
- To learn about the history of local construction practices and their changes over time
- To validate information from previous meetings and assessment of existing houses

CONTENTS

- HABITAT: types, construction systems, materials (quantity, provenance), costs
- CONSTRUCTION PROCESS: best season, time needed, construction steps for each housing type, main problems, maintenance and solutions to improve durability, evolution of building practices (new and lost, reasons)

- SKILLS: number and qualification of existing artisans, labour costs, agreement with house owner, artisan groups, ways of learning, forms of organization
- NATURAL HAZARDS: frequent damage, repair works, solutions to reduce vulnerability

WHAT TO DO

- Identify some experienced artisans that have a good reputation among local people.
  - Involve different types of artisans with different ages and experience so you can simultaneously benefit from the expertise of each one of them as well as better understand how housing construction is managed.
- Explain the purpose of the meeting.
- Facilitate an open discussion beginning with some starting questions and using supports that can help in the discussion (such as drawings, photos, tables for cost estimation by construction parts, inventory of construction materials available on the local market, etc.).
  - Organize the meeting near some houses corresponding to the identified construction types and use them as reference to facilitate the discussion.

Operational guidance

Assessment phase:	final
Time:	1 to 2 hours
Number of participants:	1 to 4 persons
Target participants:	artisans involved in housing construction in the area
Tools:	checklist and other specific tools, writing pad, pen, camera
Team members:	2 (1 facilitator + 1 note-taker)
Skills:	facilitation + technical

Questioning local artisans about repair after a recent disaster in Mymensingh region (Bangladesh) led to identifying a particular technical solution. Some people have used bamboo posts as roof bearing structure separated from the earthen walls. During floods, the latter may collapse but the roof is preserved, providing immediate shelter. Repair works can be easily and quickly carried out, while living inside it. This can be a good technical option to consider within solutions promoted by the project.

In Cap Rouge region (Haiti), a meeting with the community-based organisation Vedek helped to identify it as an important project partner. Since 2009, Vedek has included a disaster management committee, which is very active at local level, for preparedness and emergency response. Such a group, strongly rooted in the local community, is an essential stakeholder to involve in capacity building and vulnerability reduction activities.

APPRAISAL OF KNOWLEDGE & KNOW-HOW

ACTIVITY 10 | FOCUS GROUP

DESCRIPTION Meeting with a small group of persons that have acquired specific knowledge and experience and are continuously or occasionally involved in housing construction and maintenance activities.

PURPOSE

- To detail and validate information about main features and construction process of existing buildings
- To specify resources available and currently needed for construction
- To deepen effects of natural hazards on the existing built environment
- To determine measures and devices that improve building resilience and reduce inhabitants' vulnerability
- To cross-check and validate information from previous meetings and housing assessment

CONTENTS

- HABITAT: main features of existing building types and reasons for these differences, construction steps, maintenance (frequency, concerned parts, people in charge), housing extension, causes of loss/emergence of particular construction practices
- RESOURCES: materials (provenance, availability, costs), skills and know-how
- NATURAL HAZARDS: frequent types of damage, repair works (concerned parts, types of work and cost, frequency, skills needed), measures to reduce building vulnerability (reinforcements, particular construction details and devices, permanent and temporary solutions)

What to do

- Some days before, identify the participants and organise the meeting.
  - Fix the time according to people's availability and select a quiet place protected from both rain and sun.
  - Prior to the meeting, summarize and review main findings based on information collected so far. Identify any point that is missing or that needs to be clarified. List them, so that you can complete the information during the meeting.
- Introduce the project team and encourage the participants to introduce themselves.
- Explain the purpose of the meeting and why participants have been selected.
- Start with some questions and facilitate an open conversation flexible enough to allow new issues to be raised. Always bring the discussion back to the main topics with some focused questions.
- Before concluding the meeting, briefly summarize the collected information and verify that all the participants agree on their validity.

Operational guidance

Assessment phase:	final
Time:	2 hours
Number of participants:	6 to 12 persons
Target participants:	construction artisans, self-builders, inhabitants, persons in charge of particular tasks (such as maintenance, material supply, etc.)
Tools:	checklist, writing pad, pen
Team members:	2 (1 facilitator + 1 note-taker)
Skills:	facilitation + technical

In Sylhet region (Bangladesh), reasons behind the difference of construction types existing in the area and their adaptation according to risk exposure have been recognized thanks to focus group discussions. In safe sites, house walls are built completely in earthen material while, in areas exposed to floods, they are built using a bamboo frame with a light infill, in order to avoid building collapse and risk for the inhabitants. In areas less affected by floods, a hybrid construction system has been adopted, using a bamboo frame with half earthen walls in the lower part and light fences in the upper part: the frame ensures a preservation of the roof if the substructure is damaged, and the half walls improve the inside comfort while reducing risks of heavy wall collapse.

4.3. Reporting & following up

ACTIVITY 11 | Summarizing the information

Analyze the collected information and prepare a draft report just at end of the field activities.

This report aims to:
- Summarise the survey findings
- Present the overall situation of the area
- Underscore the main existing problems in the construction related to durability and local risks
- Describe local solutions and coping strategies

To prepare it:
- Establish a list of main contents according to information collected and to the checklist presented in this guide (see Part 2, Section 3)
- Assemble the information under the different report points, adding photos and sketches in order to facilitate understanding also by people that have not been in the field
- Add an explanation on how the assessment has been carried out, which activities have been implemented and tools used, problems faced and opportunities raised
- Verify the information validity comparing the survey findings
- Share it with your supervisor and check for any possible information gap

→ Collected information should be properly managed and stored in such a way that they could be easily accessible. File data by geographical area or community; photographs should be sorted and associated to other supports (for example, numbering in the same way pictures of assessed houses, survey sheets for household interviews and technical assessment).

ACTIVITY 12 | SHARING WITH THE COMMUNITY

Organise a feedback meeting with the local community to share main survey findings and to validate them.

- Summarise the findings, if needed with the help of some drawings to allow everyone to understand
- Ask the participants to validate them or to suggest any additional points
- Ask the participants to list the main problems about construction and risks and to prioritize them
- Be sure to not raise wrong or unrealistic expectations on what the next programme and who the beneficiaries will be

→ Separate meetings may need to be organized according to the extension of the area and to different existing social/cultural/ethnic groups.

→ In post-disaster situations, you may need to collect information about people's current situation, short and longer-term priorities, preferences and intentions. Include them in the feedback session for validation.

→ Feedback session is a good opportunity to undertake awareness raising activities on shelter and to initiate a process supporting local communities in developing skills for joint decision-making, long-term planning and mobilisation strategy for resilience, beyond your own intervention.

Bangladesh: community meeting for project planning

ACTIVITY 13 | Defining recommendations for project orientation

Finalize the assessment report, including comments from the feedback meeting as well as recommendations for project orientation.
Recommendations should take into account identified problems and should integrate solutions implemented by the community to overcome them as well as good local practices.

- In some situations, the action plan will be developed on the basis of data collected only from this assessment and it will concern both methodological and technical approaches to adopt for the project.
- In other situations, the development of an action plan can be complemented by some activities, like awareness-raising sessions, capacity building for decision-making at community level and participatory planning.

Philippines: awareness-raising of safe and durable construction during participatory planning

5. Practical tips: how to ...

5.1. Facilitating community involvement

Communicate

Communication is essential for mutual respect and trust. It also means taking opportunities as they arise to engage with people, listening to them and learning from them, or creating positive conditions for discussing and sharing ideas.

- Be sensitive to the other's own cultural conceptions, adapt your behaviour to the local context and customs
- Respect traditional forms of dialogue and participation
- Be humble and, if necessary, recognise your mistakes: they can offer an opportunity to understand how to avoid them in future
- Give people the space to express themselves freely, and to put ideas on the table as they occur to them
- Take advantage of opportunities for informal communication (e.g. stop at the local coffee house, talk to people in the street or in the fields) that will provide you information which can complement those from more formal events (such as community meetings or focus groups)

Listen

Listening is essential in order to actually understand people's concerns and ideas and to engage in meaningful participation. When people feel they are listened to, they will more likely feel respected and be more motivated to involve themselves in the process.

- Stay humble and keep an open mind
- Sit down and take the time to listen
- Be attentive and respectful when people talk
- Give each speaker enough time to speak and express himself, especially in group meetings
- Feel free to rephrase what has been said to make sure that you have understood the point correctly. By doing so, ask for clarifications and further details and encourage other people to bring additional information

Ensure transparency and good understanding

Good transparency and understanding are strong bases for involvement and mutual trust, but also for the security of your team and local community.

- Explain who you are: provide information on yourself, your organization and its mandate; explain why you are visiting the area. Make sure that people clearly understand the purpose of your visit and that you do not create false expectations.
- Explain how you work: before the start of the field assessment and each activity, explain what you will do, what is the purpose and how the information collected will be managed.
- Adapt the vocabulary and expressions to your audience. If people find it very hard to understand you, it is not their problem but a problem in the way you explain
- Ask people to explain back to you, or to other persons, what they have heard so you can verify if they have understood. This is also important to ensure reliability of information circulating in the community without your involvement.
- Be open to questions, ask if you have been understood, and do not hesitate to clarify again and again.

Encourage participation

Participation involves an encounter between different individuals, cultures, values, beliefs and skills; its success depends on the ability of those involved to understand and trust one another.

- Ensure that you are seen as being on equal terms and not in a position of authority or superior knowledge
- Show that you have things to learn from the community members
- During the activities, acknowledge every participant's contribution and avoid criticizing people's comments
- Pay attention to those who remain silent or whose contributions are not given consideration by other participants. Invite them to speak out with questions, but do not put them under pressure
- Manage different personalities, especially those that may try to dominate the group or disrupt the process. Try to find out why they behave in this way and explain to them the importance of the process.

5.2. Identifying existing building types

Recognizing existing types of buildings will help you to identify which are the most widespread practices. It will also help you to understand if it is necessary to develop a range of technical solutions to meet different needs, ways of living and capacities.

A "type" includes those buildings that share significant similarities among them and, simultaneously, show important differences from other buildings, in terms of architectural design, construction technologies, socio-cultural references.

Existing types of buildings can be differentiated on the basis of several aspects, such as materials used, construction system, design and shape of the house, space arrangement, etc. However, sometimes differences may not be so obvious and they may be related to factors that are not clearly visible. This is why it is important to ask questions and validate information with the community on the existing types as well as on the reasons for their differences.

FOLLOW THESE STEPS

1. From the minute you arrive in the area, look around and ask yourself:
   - Can you see any clear difference between the existing buildings?
   - Do they all have the same shape and size?
     If not, in what way are they different?
   - Are they all built with the same materials and/or construction system?

2. Identify the features that make some of the existing buildings different and/or similar. Then, determine main groups of buildings with similar features. By doing so, you are defining the main "types" of buildings existing in the area.
   - What are the main differences between the existing buildings?
   - What are the main characteristics of each group of similar buildings?
   - In what feature is each group different from the others?
   - Can you identify any difference between buildings within the same type? If yes, in what are they different (e.g. materials, number of storeys, arrangement of the spaces, etc.)? Can you determine any sub-types?

> Example from the field:
> In the same area, two main types can be defined: houses elevated on a platform with a wooden structure and houses on the ground with masonry walls. Among the elevated houses, some have a thatched roof, bamboo walls and are built almost without nails, while others have corrugated galvanised iron sheet roof and walls with nailed timber boards. So, two sub-types can be identified within the elevated type.

3. Find out why some buildings are different and if there is any difference that you could not identify.
   Ask the local community to identify the main types of construction that, according to them, exist in the area and what are the reasons for these differences. You can do this, for instance, during the first community meeting, mapping or with your guides during the accompanied visit.
   - Are the differences related to particular socio-cultural groups?
   - Is it a matter of economic resources?
   - Is there any building type that is localized only in some areas and/or settlements?

   > Example from the field:
   > The houses elevated on a platform are from indigenous people while those on the ground are built by people that emigrated from other areas. Among the elevated type, houses with corrugated galvanised iron sheets and timber walls belong to better-off families that can afford to pay for materials and carpenters, while those with thatched roof and bamboo walls belong to poorer people that self-build their houses using only natural and freely available materials.

5.3. Collecting information

Observing

Each time you are in the field and while you are moving around, take the opportunity to observe the houses, how people use the spaces, and other issues related to shelter that may need to be considered (such as water and sanitation, availability of natural resources, risk-prone areas, etc.).

- Look at the existing situation and local buildings, compare what you see and try to find out why things are different and in what are they relevant.
- It is not that because some things or behaviours are similar to what you know that they are like those that you know. Ask for understanding and check it before assuming it as such.

Some guiding questions

- Is there any difference in the shape, materials and conditions of buildings from different settlements?
- Do houses from different social/cultural/ethnic groups look different?
- Which are the differences between houses from better-off families and houses from poorer people?
  - Consider difference in construction materials, architectural design, size and shape of the spaces, but also in provisions and arrangements to improve durability and resistance.
  - Compare the different solutions: are they equally effective? Do they have the same cost?
- Is there any space with a particular purpose or used for particular activities?
- Is there any thing in the construction or in how people live in it that make you wonder about its purpose? If yes, then ask to the people and try to find out the reasons and/or functions.

Conducting a discussion & recording information

- Prepare a checklist or a questionnaire on the main topics that you want to assess and discuss
- Begin by introducing yourself and by explaining the purpose of the meeting
- Keep the conversation informal and mix questions with discussions

- Start with general topics and then go into details
- Ask questions that do not already include the answer (for example, not: is this better than the other one? But: which one is the better one?)
- Develop more in-depth questions starting from those in your checklist or questionnaire

> Example:
> Question in your questionnaire: How do you know that a cyclone is coming?
> Answer: By the radio
> Additional question: Once you know that a cyclone is coming, is there anything that you do to improve the resistance of the house?

- Be flexible and do not stick only to your prepared questions: let yourself be guided by the conversation and pick up issues raised to get additional information.
- If someone is translating, explain which information you are looking for before starting the discussion and be careful to avoid misunderstanding.
- During meetings and interviews, take only brief notes so that the conversation will not be interrupted and people intimidated. Note the answer to your questions but also additional information that people may provide. Complete your notes while the information is still fresh in your mind.
- During meetings, if the note-taker misses or does not understand some information, do not stop the conversation but wait until it ends to ask for clarifications and explanations.

Taking pictures

- Before going to the field, charge your camera and empty the memory card.
- Take general pictures giving an idea of the situation, the houses and how people use outside and inside spaces:
  - Settlement and their environment, where the houses are located and what settlements look like
  - Surroundings of the house (plot, outer spaces, additional buildings, facilities)
  - Each side of the house from outside: front, back, left and right sides as well as from the corners (front/side, back/side)
  - Inside and outside spaces: arrangement of the spaces, equipments and furnishing, activities

- Take detailed pictures from inside and outside the house showing specific house parts and particular provisions related to the structure, everyday life, comfort and safety of the inhabitants:
  - Main structure: vertical structure, roof and covering, floor, connections between structural parts, foundations or base of the vertical structure, etc.
  - Construction elements and provision: windows, ventilation and lightening systems, storing place, etc.
  - Main problems affecting the house and the structure
  - Measures implemented to improve the resistance and the durability of the house or of some of its parts
- For each construction type, take pictures of different buildings and of those for which you have carried out a technical assessment.
- Ask permission before taking pictures of the house and the people, especially for culturally sensitive spaces and contexts.
- Try to fit the whole house inside the picture frame and get closer for captures of detailed pictures.
- Chose the right angle and place for taking the picture: check that what you want to show is not hidden by people or other objects.
- Before leaving the house, verify that the picture is of good quality (e.g. enough light) and that what you wanted to capture is clearly understandable, even by others.
- Download the pictures regularly on a computer and classify them per zone or according to the assessment sheets (e.g. for individual housing survey).

ADDITIONAL REFERENCES

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PART 3

Planning the assessment

Guidance for project managers

The assessment of local building cultures comes as a preliminary activity to define and plan actions at both technical and organizational levels. However, it is also a tool for following up and evaluating project results, effects and impacts on community well-being, development and construction practices.

This part provides guidance to plan and manage an assessment related to housing, existing vulnerabilities and coping strategies. It gives information about phases and conditions for its implementation, capacities needed and complementarities with other sectors and approaches. Additionally, indications are provided on activities, resources and components to consider within a project frame including an assessment phase as well as references for project orientation.

This part includes the following contents:

- Organizing (be)for(e) the assessment
- The assessment, a tool for project planning
- Orientation for project strategy and action planning

Bangladesh: community meeting

1. Organizing (be)for(e) the assessment

1.1. Setting up the team

Project manager

The project manager should be experienced in housing and DRR programs. The manager has a key role in supervising activities and field staff as well as in mobilising and coordinating with local authorities, project partners and other stakeholders working in the area. The project manager shall also ensure links and dialogue between the field and the funders, to ensure relevant activity orientation and flexibility.

Moreover, the project manager should have experience in facilitating the participatory process and be familiar with the assessment approach and steps, tools and activities, in order to guide the field team and to make sure that relevant information is collected.

During the assessment, the project manager should ensure the following tasks:

→ SUPPORT & SUPERVISION OF FIELD STAFF

The project manager has to play a capacity building role: communicating the process, adding social and technical value to the analysis, supporting the field staff through a partnership approach and a joint learning process. Field staff follow-up can be ensured through an initial briefing and/or training as well as regular feedback meetings, prior to, and after, each main step of the process (preparation, activities in the field, reporting). The project manager has to carry out regular field visits to get an overall idea of the situation; to understand specific issues, to ensure that community participation is on track and to assess capacities of the field team, especially for staff practicing this approach for the first time.

→ MONITORING & REPORTING

The project manager shall carefully supervise the reports written by the field staff, verifying that all information needed has been included and clearly presented, recommendations for further steps are realistic and in line with existing situations and needs as well as with project objectives and project team capacities.

Field staff

The same team should work in the same area through all the activities, to build a relationship of trust and understanding with local communities as well as to ensure a strong capitalisation of the process.

- Each team will be able to carry out one activity per day in most circumstances, allowing for travel time. A maximum of two activities (see Part 2, Section 4) and/or community meetings per day is advised.
- The number of communities and/or the extent of the area covered by each team should be defined according to their ability, context conditions and access to the area.
- The speed and the extent of the assessment will vary greatly according to project team capacities, scale of the program, time and situation constraints.
- If needed, one person from the field team can be responsible to manage and coordinate activities between various sites (project officer) while others can be in charge of activity implementation at local level (field officers).

Skills

The team carrying out the field assessment should include at least 2 persons: one with a technical background and the other one with a social background.
These skills are not needed for the whole duration of the assessment, so that staff involvement can be optimized. Either the social or the technical person can individually carry out some activities, while other activities have to be jointly developed by both of them.
Prior to the assessment, capacity building has to be ensured for the field team to acquire understanding and familiarity with the approach and the facilitation process.
During the assessment, the team is supervised by the project manager or, if any, by the project coordinator.

- Mix and balance team members according to gender and provenance of the staff (national level, community members, external from community).

Acting as facilitator requires knowledge about the context and the local culture (including the language) and the ability to build up a relationship based on mutual trust and respect (this also to ensure the safety of everyone). This role should preferably be assigned to someone having a good connection with the field (like a field officer or staff from a local organization) or coming from the considered area (like a member of a community-based organization, a local volunteer or animator).

FIELD STAFF SELECTION

Essential criteria:
- Good communicator
- Social and technical background
- Open attitude and curious
- Willing to work and stay in the communities
- Knowledge of the language used in the area to be assessed

Desirable criteria:
- Confident in reading and writing
- Capacity and community building skills
- Knowledge of the area
- Experience in participatory process and facilitation

1.2. Training the assessment team

Training and orientation should be provided for the project team, prior to the assessment.
Project managers should be knowledgeable about the overall approach and be experienced in the process, the tools, and how to work with local communities. They should normally be trained first, so that they can then train and properly follow-up the other team members.
The field team has to be trained in animation skills, to ensure an appropriate facilitation of the process, as well as in the assessment, to ensure a good and similar understanding about its objectives, activities and how to use the tools.

- Training of the field team can be organized prior to the assessment or during its early stage. In this case, a pilot training and field-testing phase can be carried out in a localized area, under the direct guidance of the project manager and/or an experienced person (like an external trainer). Once this phase is completed, the field staff can be deployed to one or several extended areas. This learning-by-doing approach can be very effective in post-disaster situations as the staff will be trained while carrying out the assessment.
- Capacity building and team preparation should include practice and exercises (role-playing, field sessions, case studies, etc.) for developing and adapting the tools to a specific context, facilitating meetings and interviews, observing and taking notes. It should also include getting feedback from colleagues to find the best ways of explaining and exchanging in the local language so that people can understand the issues.
- Training should also include awareness sessions to explain and sensitize the project team to the concept of local building cultures and the related overall approach. This session is essential to provide them some basis of understanding the specific perspectives, the ultimate purpose of the assessment and what relevant information to gather on the field.
- Guidelines presented in Part 2 of this handbook can be used as reference for staff orientation and training, while arguments provided in Part 1 can be used for awareness raising and sensitization. For other supports and additional resources see Part 4-Annexes.

1.3. IDENTIFYING COMMUNITIES

Prior to the assessment and action planning, potentials areas and communities need to be carefully identified. Selection of zones and communities can require the following steps:

- Identifying potential zones/communities on the basis of:
  - previous contact and/or project within a certain community
  - information gathered from local authorities and/or coordination agencies
  - direct demand coming from local communities, authorities or other stakeholders
  - areas affected by a crisis requiring housing relocation, including in emergency situations
  - community/area where previous assessments (such as VCA, PASSA) have highlighted habitat issues as important vulnerability factor
- Gathering information on the area/community through preliminary data collection.
- Identifying and getting in contact with local resource persons (formal/informal leaders, religious and community representatives, etc.) and, if possible, carrying out a short field visit.
- Consulting potential communities and identifying those interested in the overall approach.
- Informing local authorities at district level and other GO/NGOs that are working or planning to work in the area.

→ The identification of communities/areas must be based on the actual situation and clearly defined criteria. These criteria will depend on the objectives of the assessment and may differ from one situation to another.

SOME USEFUL QUESTIONS TO CONSIDER WHILE DEFINING YOUR CRITERIA

- Which communities are particularly vulnerable?
- Are housing safety and durability significant concerns?
- Was the area affected and/or is it regularly affected, by natural hazards and/or climate related risks?
- Are there other GOs/NGOs working in the area?
- Are communities interested?

1.4. PLANNING ACTIVITIES & RESPONSABILITIES

The assessment of local building cultures can be carried out prior to the project design or it can be integrated into the project from the beginning. In both cases, assessment activities can be planned according to the following order.

→ Designate persons responsible for the implementation and supervision of each activity right from the beginning of the project.

SEQUENCE OF ACTIVITIES & PERSONS IN CHARGE

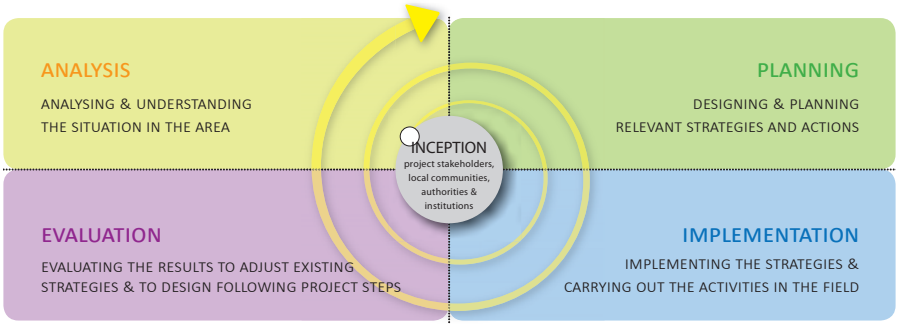
	PROJECT MANAGER	FIELD TEAM
PREPARING		
SELECTION OF THE PROJECT TEAM	—	
ORIENTATION AND TRAINING OF THE PROJECT TEAM	—	
IDENTIFICATION OF POTENTIAL PROJECT AREAS & COMMUNITIES	—	
IDENTIFICATION OF COMMUNITY RESOURCE PERSONS	—	
SELECTION, ORIENTATION AND TRAINING OF THE FIELD TEAM	—	
PRELIMINARY VISIT / RAPID ASSESSMENT	—	—
PRELIMINARY MEETINGS WITH COMMUNITIES	....	—
SELECTION OF PROJECT AREAS & COMMUNITIES	—	—
CONSULTATION WITH COMMUNITIES, AUTHORITIES & OTHER RELEVANT STAKEHOLDERS	—	—
ASSESSING		
PREPARATION OF THE ASSESSMENT & PRE-TEST OF THE TOOLS	....	—
ASSESSMENT IN THE FIELD	....	—
SUMMARY OF ASSESSMENT FINDINGS & ANALYSIS	....	—
VALIDATION MEETINGS WITH LOCAL COMMUNITIES	....	—
FINALIZATION OF REPORT & RECOMMENDATIONS	....	—
DESIGNING & PLANNING		
DESIGN OF THE PRELIMINARY PROJECT STRATEGY / COMMUNITY-BASED PLANNING	—	—
VALIDATION WITH COMMUNITIES, AUTHORITIES & OTHER RELEVANT STAKEHOLDERS	—	—
REVISION OF THE PROJECT STRATEGY	—	—
PREPARATION OF THE PROJECT STRATEGY WITH DETAILED PLANNING & BUDGET	—	—

— responsible .... supervision

2. THE ASSESSMENT, A TOOL FOR PROJECT PLANNING

2.1. HOW DOES THE ASSESSMENT FIT INTO THE PROJECT CYCLE?

Assessment is an essential activity to carry out prior to action planning. However, the participatory approach presented in this booklet can be also implemented throughout the whole project process in line with its main steps: analysis, planning, implementation, and evaluation. These activities shall be continuously carried out throughout the project, in a cycle that can be repeated as many times as necessary to ensure consistency with context conditions and intervention phases, their evolution during the post-crisis period as well as an adaptation to new working areas.

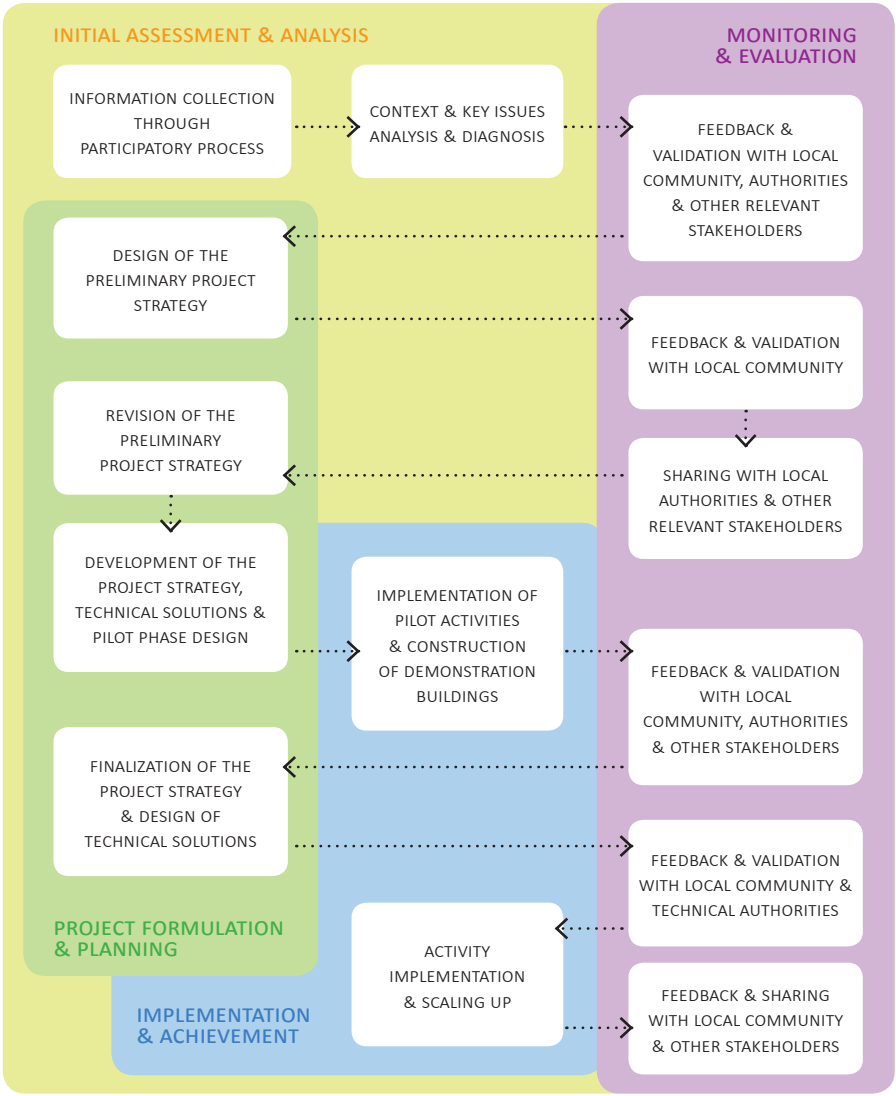


In this sense, assessment is a process and not a single event:

- Initial and rapid assessments provide the basis for subsequent in-depth assessments detailing (but not repeating) earlier findings.
- During the project process, it supports an improvement and, if needed, a reorientation of objectives and activities, even beyond the confines of the project.
- At the intermediary evaluation stage and at the end of the project, it helps to identify and to highlight changes and influence of the project on community resilience and construction practices.

→ In post-disaster situations, it is very important to continuously assess. People will keep repeating or addressing previous weaknesses, create new ones through time and resource constraints, or introduce new adaptations/transitions. It is essential to understand the processes and the criteria through which they make these choices in order to adapt and develop relevant approaches and solutions.

PROJECT SEQUENCE IN EACH CONTEXT



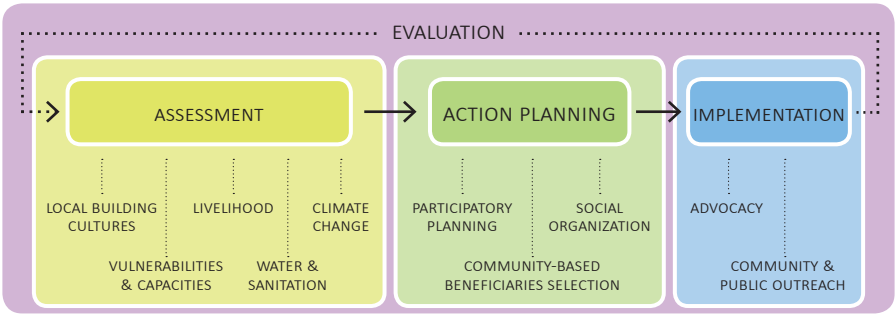
2.2. HOW CAN IT COMPLEMENT OTHER APPROACHES?

The assessment methodology presented in this guide is designed to support programmes aiming to enhance local capacities for resilience and construction of safe and durable housing. It is therefore very closely related to other issues for which some specific methodologies do exist (such as vulnerabilities and capacities, water and sanitation, livelihood, adaptive capacities to climate change, post-disaster damage and need analysis).

The assessment of local building cultures can be implemented autonomously to prepare and plan for construction related activities in rural and peri-urban areas, or in a complementary manner with:

- Assessment methodologies focusing on interrelated sectors and crosscutting issues to develop integrated project strategies and/or to analyse broader challenges and dynamics.
- Participatory approaches including awareness raising activities and community project planning (such as PASSA). In this case, the assessment of local building practices is a good entry point to get familiar with the community and to appraise the main problems that need to be focused on.

Furthermore, you can gain a better understanding of the challenges communities face by sharing and coordinating with other organizations, sector coordination networks, communities of practices and among different departments of the same organization (such as shelter, disaster management, sanitation and capacity building). This approach will help you identify main priorities for action.



2.3. WHICH PROJECT STEPS & COMPONENTS SHOULD YOU CONSIDER?

Activities and resources for the assessment shall be integrated into the project budget or under a separate one, in the case that it will be carried out prior to project design. The following list outlines the main steps and components to consider in estimating resources and time for the assessment and key project activities to be conducted afterwards. However, it is neither exhaustive nor comprehensive: it needs to be adapted and completed according to your specific project.

→ Integrate the following lines in your budget and planning and estimate the number of days and resources needed according to your project objectives and the particular situation of the areas where you are working (for example: if you are working in very remote areas, you should consider days for carrying out the assessment, or other activities, and for travel time).

INDICATIVE REFERENCES FOR ESTIMATING RESOURCES & TIME

1. PREPARATORY WORKS

1.1. Selection, orientation and training of the assessment/project team
1.2. Selection of communities and project areas
1.3. Communication with local authorities and other relevant stakeholders
1.4. Assessment of local building cultures and recommendations
1.5. Preparation of the project strategy and implementation planning
- Design of the preliminary project strategy
- Validation with communities, local authorities and other relevant stakeholders
- Revision of the project strategy including pilot and scaling up activities
- Preparation of the overall strategy with detailed planning and budget

2. PREPARATION OF TECHNICAL DESIGNS

2.1. Drafting of technical design strategy proposals
2.2. Sharing and co-development of technical solutions with communities
2.3. Adjustment and fine-tuning of technical designs
2.4. Validation of technical designs and options with the community, local authorities and other relevant stakeholders

3. SELECTION OF BENEFICIARIES

3.1. Definition of selection criteria jointly with the community
3.2. Preparation of primary beneficiaries' list with/by the community
3.3. Feedback & complaints from the community, local authorities and other relevant stakeholders
3.4. Verification of complaints and door-to-door survey
3.5. Finalization of beneficiaries' list with/by the community

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4. PROGRAM INPUTS

4.1. Construction of buildings and demonstration units (including materials, tools, transport, labour, etc.)
4.2. Development of awareness and training materials for construction and DRR (including production of toolkits and pedagogical supports)
4.3. Activity implementation
- . Pilot activities and solutions
- . Improvement of contents and approaches
- . Implementation on a larger scale

ACTIVITIES TO CARRY OUT THROUGHOUT THE WHOLE PROCESS

5. CAPACITY BUILDING & TRAINING

5.1. Program orientation workshop for project staff
5.2. Project staff training on assessment and DRR activities
5.3. Artisan training
5.4. Training of trainers

6. INFORMATION DISSEMINATION & COORDINATION

6.1. Lessons-learnt workshops
6.2. Development of illustrating and information materials
6.3. Coordination meetings

7. MONITORING & EVALUATION

7.1. Feedback and co-evaluating with local communities
7.2. Following up and reporting
7.3. Monitoring and visits
7.4. External audit
7.5. External evaluation

8. OPERATIONAL COSTS

8.1. Staff salary & allowance
- . Salary and allowance for project manager
- . Salary and allowance for project officer
- . Salary and allowance for field officers (+ animators, if needed)
- . Wage and allowances for construction workers
- . Medical and accident insurance, social security fund, etc.

8.2. Transport (purchase/rent of vehicles and drivers)
8.3. Travelling and duration allowances
8.4. Stationeries items
8.5. Telephone and communication
8.6. Digital media (cameras, laptops, radios, etc.)

9. ADMINISTRATIVE COSTS

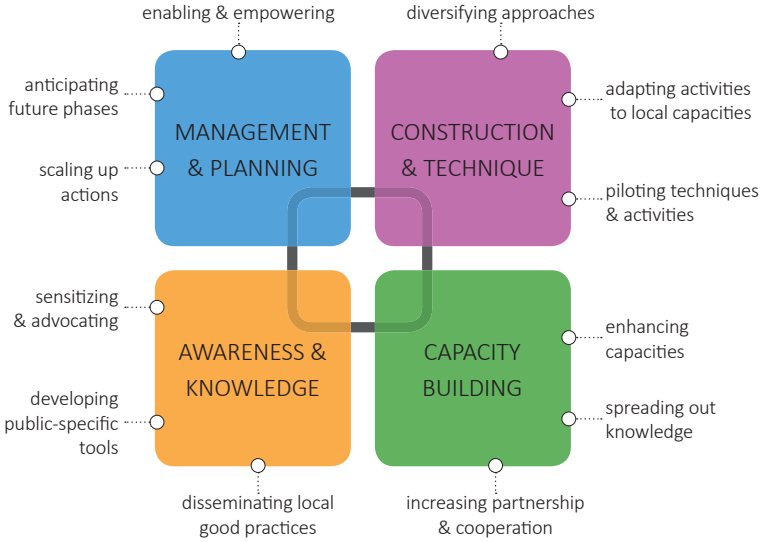
Note: Additional expenses related to other activities specific to the project and to the situation/condition of its implementation need to be carefully considered.

3. ORIENTATION FOR PROJECT STRATEGY & ACTION PLANNING

In improving habitat and community resilience in the long term, essential project components are:

- Involvement of the project partners in decision-making and implementation process to foster ownership and cooperation among local stakeholders and communities.
- Construction activities providing a direct response to existing needs according to local practices and different capacities.
- Improvement of local builders, communities and project staff capacities to access safe and durable habitats and to be better able to manage future crises.
- Dissemination and promotion of existing knowledge to increase diffusion of relevant solutions.

The following pages provide inputs and suggestions for addressing these issues starting from an understanding of existing practices, capacities and building cultures. By recognizing, empowering and mobilizing for action, they contribute to a step forward towards contextually specific and culturally appropriate actions, while responding to actual priorities and needs.



MANAGEMENT & PLANNING

- Involving and empowering local stakeholders and communities
- Prioritising an enabling, rather than providing, strategy based on processes and methods of action (qualitative) rather than products (quantitative)
- Linking relief, rehabilitation, preparedness and development
- Anticipating future phases and integrating further sectors
- Scaling up actions and implementing pilot activities to build capacities among project partners
- Responding to urgent needs while anticipating medium-long term changes and challenges
- Ensuring flexibility by sizing, adjusting and carrying forward actions and objectives according to current capacities and context evolution
- Planning a sustainable exit strategy facilitating a progressive take over and ownership by local stakeholders
- Developing and following up actions throughout the project on the basis of an iterative process
- Investing locally and accompanying local dynamics
- Integrating livelihood and shelter interventions
- Sharing and networking to extend project outcomes beyond its time and space limits
- Evaluating impact and influence after some years from the end of the project
- Associating research, experimentation, action and dissemination

Philippines: participatory planning by local staff and communities

CONSTRUCTION & TECHNIQUE

- Learning from good local practices and respecting existing building cultures and lifestyles
- Identifying local know-how and resources, building and coping practices from which to develop context-specific actions
- Valorising local building cultures to support their evolution towards resilient and sustainable practices
- Implementing solutions responding to immediate needs while preparing for future crisis and disseminating improved construction practices
- Developing approaches respecting the diversity of each context while implementing a range of technical solutions according to different - financial, social and technical- capacities
- Disseminating and fine-tuning solutions through pilot buildings demonstrating resilient techniques and highlighting the potential of local materials for quality and affordable construction
- Improving and diversifying technical solutions according to experience learnt during the project process and feedback from local communities
- Taking into account skills, resources and materials that are easily accessible in order to ensure long-term resilience and sustainability, affordability and viability once the project is completed
- Assuring wellbeing, privacy and safety from households to community level
- Promoting the use of construction materials from renewable and sustainable resources and managing their use to meet ongoing and future needs
- Adopting and ensuring quality control of technologies minimizing the adverse impact of material production and supply on the natural environment
- Reducing future risks and vulnerabilities through appropriate selection of shelter design and technical solutions

CAPACITY BUILDING

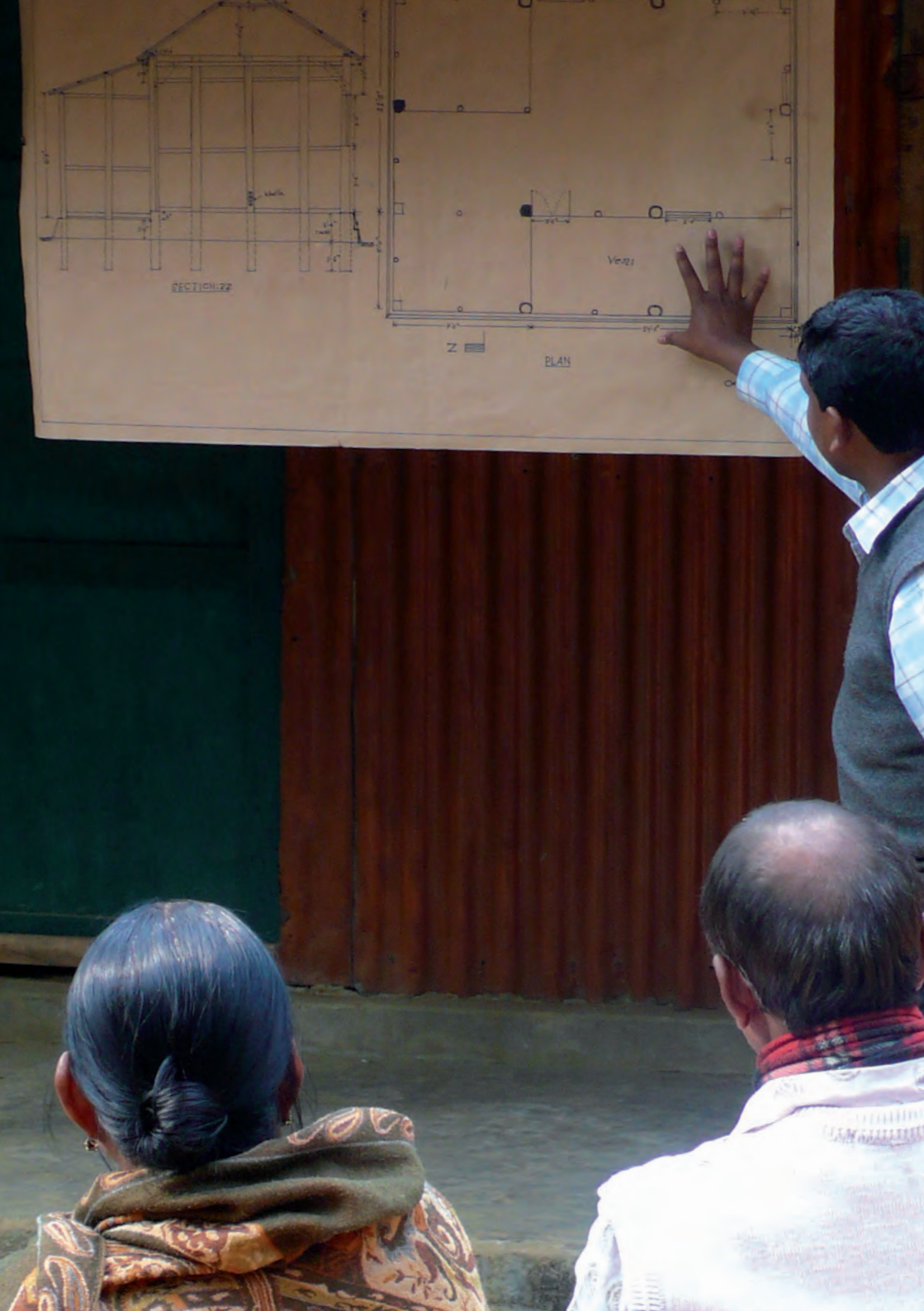
- Building up analytical and decision-making capacities while improving organisational and operational skills at community and institutional levels for assessing, planning and implementing future actions suited to each specific context
- Designing and testing strategies, preparedness and contingency plans to enable local stakeholders to develop and implement adequate solutions and approaches in the future
- Assessing and securing supply of resources to respond to various crises scales
- Adopting participatory approaches and appropriate beneficiary selection ensuring strong community involvement and ownership from the initial stage of the project
- Organizing feedback and lessons-learnt sessions during and at the end of the project with all the stakeholders
- Targeting direct beneficiaries while allowing the whole community to benefit from the project and to be able to understand and replicate technical improvements
- Generating sustainable employment opportunities, stimulating production sectors and building management skills at local levels
- Enhancing technical and operational capacities with hands-on training and training-of-trainers sessions
- Fostering a spread of know-how and sharing of experiences across geographical boundaries and operational levels
- Relying on interdisciplinary teams composed of people with technical, social and management background to support integrated and sustainable strategies
- Strengthening existing partnerships and creating new cooperation and coordination opportunities among community, operational, academic and institutional stakeholders
- Fostering social cohesion, strengthening community ties

AWARENESS & KNOWLEDGE

- Developing educational activities and tools adapted to different groups, contexts and situations
- Informing and demonstrating effectiveness of local techniques through models and pedagogical experimentations
- Disseminating relevant vernacular safe construction techniques and coping strategies
- Strengthening existing skills through training for builders and materials producers
- Enhancing local know-how through learning by experiencing and practice on new and existing solutions
- Recognizing builders' skills and expertise through certification and/or validation of learning
- Developing local, regional and national networks to foster a wider dissemination of knowledge
- Connecting with local educational and training institutions to ensure a long-term impact on building practices and competencies
- Sensitizing decision-makers and authorities so that they can better contribute in the development of a sustainable and responsible construction sector
- Advocating with operational and institutional stakeholders to promote and recognize value of local building and risk cultures

Haiti: community awareness raising activities

Bangladesh: technical training for housing improvement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PART 4

Annexes

This part provides practical information and references for a further apprehending of the overall approach.

The annexes are divided in 2 parts:

Annexe 1 / Assessment tools
Examples of tools used during a preparedness and vulnerability reduction programme in Bangladesh as well as headings of the report related to the assessment conducted.

Annexe 2 / Resource materials:
Documents and suggestions for further readings on case studies of field projects and complementary methodological and technical supports.

Note: attention should be given to adapt the assessment tools to your specific working areas. The supports presented in the next pages should be taken as examples and not as samples to apply as they are.

ANNEXE 1 | Assessment tools

Check-list for community meeting

1. Introduction:
   presentation of the programme, explanation of objectives, request of participation

2. General information about the area:
   - description of location (topography, climate, min seasons, etc.)
   - accessibility (distance from main town, types of roads, access according to season)
   - socio-economic profile
   - infrastructures/facilities (health centre, water sources, schools, embankment, cyclone shelters, etc.)
   - occupation (type of activities, general and for construction, source of income and livelihood)
   - activities in the house

3. Main features of local housing:
   - Settlement pattern (housing distribution, particular groups, use of land, etc.)
   - Land tenure (ownership, acces, security, land management system)
   - Plot (type of vegetation, drainage, soil stabilization, etc.)
   - House pattern (main types and most common, types no more in use)
   - Architectural typologies (main dimensions, shape, number of rooms, orientation, space arrangement, veranda, balconies, annex buildings, etc.)
   - Building typologies (plinth, drainage, main structure, posts, fences, roof and covering, openings, ceiling, new techniques)
   - Building materials (type and provenance)
   - Problems in the house (land, spaces, materials, transport, artisans, etc.)
   - Maintenance (parts of the construction, frequency, cost, who is in charge)
   - Extension of living space (which part, where, when, by whom)
   - Comfort (climate, privacy, security)

4. Construction process:
   - Season for construction
   - Transport of materials
   - Preparation of materials (production, treatment, transformation process, etc.)
   - Construction steps
   - Duration of construction
   - Ways to reduce costs
   - Who do what for the construction
   - Decision criteria for construction (about choice of site, materials, space arrangement)
   - Relation with artisans (type of contract, follow up)

5. Natural hazards:
   - Main features (types, frequency, season, after how much time situation go back to normality, ordinary and exceptional disasters, more exposed part of the area, access to the area)
   - Damages to buildings (types, which part is the most affected, repairing/ reconstruction)
   - Collective measure for vulnerability reduction (arrangement to reduce risk, what people do before, during and after a disaster, main difficulties)
   - Individual measure for disaster reduction (arrangements to improve resistance of the house)
   - Situation after a disaster (materials available in the area and on local market, recycling from destructed house, shortage)

6. Additional information:
   - Other GO/NGO working in the area (types of activity, aid in disaster situation)
   - Local and community-based organisations

INDIVIDUAL HOUSING SURVEY | HOUSEHOLD INTERVIEW

1	Sample ID	Village / No. of the house	Surveyor	Date
2	Construction process	Who built the house? (How many persons? Labour cost, who did what?) ○ owner ○ skilled labour ○ unskilled person ○ family and relatives ○ other:		
		Criteria for choice of artisans ○ personal acquaintance ○ renown ○ availability ○ cost ○ quality of work ○ other:		
		Ways for reducing cost ○ participation to the construction ○ collecting materials ○ involving family members/relatives ○ self-help group ○ other:		
3	Construction (for the surveyor and for the house owner)	House age and history		
		Criteria of choice for position/ orientation		
		Cost (total, most costly part)		
		Weakness (frequent problems and causes)		
		Strengths/ good features		
4	Construction stages	if extension, which part, in which direction? After how much time?		

<table>
<tr><td rowspan="3">5</td><td rowspan="3">Materials</td><td colspan="4">Types, quality and building part for which it is used</td></tr>
<tr><td colspan="4">Criteria of choice</td></tr>
<tr><td colspan="4">Provenance and distance/ availability/ cost
o land of the house owner
o nearby the village
o local market
o other:</td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">Maintenance/ improvement

(to be done and that could suggested)</td><td>Which part needs maintenance?</td><td>Frequency</td><td>What has to be done? How? By whom?</td><td>Cost</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="8">7</td><td rowspan="8">Disaster

o extreme storm

o rainfall

o earthquake

o flash flood

o river flood

o land slide

o other</td><td>Does your family feel safe in the current house?</td><td colspan="3"></td></tr>
<tr><td>Where do you shelter?</td><td colspan="3">o Stayed home
o Embankment/road
o Shelter/school
o other</td></tr>
<tr><td>How do you prepare to a disaster?</td><td colspan="3"></td></tr>
<tr><td>Description
(duration, after how much time situation returns normal, how do you manage)</td><td colspan="3"></td></tr>
<tr><td>Damages to buildings</td><td colspan="3"></td></tr>
<tr><td>Damages to surrounding environment</td><td colspan="3"></td></tr>
<tr><td>Is it possible to made the house safer? How?
(at house level, surrounding environment, trees more resistant)</td><td colspan="3"></td></tr>
</table>

INDIVIDUAL HOUSING SURVEY | TECHNICAL ASSESSMENT

1	Sample ID	Village / No. of the house		Surveyor	Date
2	Address				
3	Owner / interviewed person detail	Name		Age	Profession
		No of adults	No of Children		No of domestic animals
		M: F:	B: G:		
4	Plot situation	Land	Risks	Vegetation	Built environment
		○ Flat ○ Slope ○ Top of the hill ○ River/lake side ○ Other	○ Wind exposed ○ Unstable slope ○ Flood exposed ○ Tidal wave exposed ○ Other	○ No tree ○ Isolated trees ○ Some trees ○ Surrounded	○ Isolated house ○ Near other houses ○ Between other houses ○ Other
5	Location of the house	Distance from river, sea, ravine, …	Orientation	Position on the plot	Other constructions
6	House typology	Type	No. of Rooms	Particular elements	
			○ 1 ○ 2 ○ 3 ○ 4	○ veranda ○ kitchen ○ cattle shed	
7	Dimensions	External perimeter	External heights	Rooms	Room Height
			Ridge: Gutter (if any): Walls :		
8	House age and condition	Age, yrs	Condition		Maintenance (building parts and frequency of works)
		○ 5 ○ 10 ○ 15 ○ 20 ○ other	○ Old but maintained ○ Old and damaged ○ New but not maintained ○ New and maintained ○ Other		
9	Facilities & equipments	Latrine	Water supply source		
			Type	Access	Distance (time)
			○ well ○ pond ○ pump ○ other	○ easy ○ difficult ○ very difficult ○ other	

10	Assessment of the Structure	Structural system	Framing: timber/bamboo/RC/other Fence/infill:		Masonry: Stones / bricks / cement blocks / other
		Foundation	Type:	Level of plinth	Soil condition
				ft from existing ground level	
		Post (size, spacing)			
		Beam (size, spacing)			
		Cross bracing sizes (location, types)			
		Roof	Flat / 1 pitch / 2 pitches / 4 pitches / other Structure: Timber/Bamboo/Steel Covering: GI sheet / thatched / other		
		Connections			
		Opening			
		Special arrangements			
11	Experience of last disaster: o extreme storm o rainfall o earthquake o flash flood o land slide o other	Duration			
		Rainfall	o mild o moderate/submerged o strong o very strong (washed away)		
		Force of wind	o Mild o Strong o very strong(trees, houses uprooted)		
		Main wind direction			
		Water level	o under plinth lever o over plinth lever o other o		
		Damages			

Check-list for meeting with local artisans

1. Introduction: introduction of team member, presentation of the programme, explanation of objectives, request of participation, duration of the meeting

2. Housing technical features
   - Houses types and dimensions
   - Building parts (plinth, drainage, main structure, posts, fences, roof and covering, openings, ceiling, new techniques)
   - Building materials (type and provenance)
   - costs of different house parts (it can be good to choice one or more types of existing houses and to ask to the artisans time, materials and cost for each part)

3. Construction process
   - Season for construction and why
   - Materials (transport, production, treatment, transformation process, etc.)
   - Construction steps
   - Duration of construction
   - Decision maker in house construction process
   - Maintenance (construction part, frequency, cost, who is in charge)
   - Precautions to improve durability
   - Way to reduce costs
   - Problems for construction

4. Skills for construction
   - Number and types of artisans available in the village
   - Daily salary / contract basis
   - Contract with owner
   - Artisans groups
   - Exchange among artisans
   - Follow up of the construction

5. Natural hazards
   - Damages to houses (types, which part is the most affected and reasons)
   - Improvements to reduce house vulnerability

QUESTIONNAIRE FOR MATERIAL SUPPLIERS

1. Data:

Name of the company: Name of person

Address and contact:

2. Company characteristics:

Sector: formal / informal Years of existence : Number of employees:

Managed by : family / community / government / other :

3. Products:

Type and dimensions	Provenance	Price	Quality	Comment

For each product, consider also: availability, production and price variation according to season; available stock, production capacity, price

4. In the past crisis:

- Did the production have been suspended? Yes/non If yes, why and for how long?
- Any problem for supply of raw materials?
- How long to rebuilt the stock?
- Increasing of prices:

Headings of the assessment report

1. Background

1.1. Country context

1.2. Assessment purpose

1.3. Involved stakeholders

1.4. Assessment schedule & methodology

2. Assessment findings: region X

2.1. Context
- Socio-economic profile
- Local risks

2.2. Site
- Administrative division
- Natural environment
- Accessibility
- Settlement implantation
- Facilities and infrastructures
- Number and size of households
- Other stakeholders in the area

2.3. Housing typologies
- General description

(for each existing type)
- Orientation
- Space arrangement
- Dimensions
- Kitchen and other facilities

2.4. Construction features
- Foundations / plinth
- Load bearing structure
- Roofing
- Fences / walls
- Joints
- Other elements (openings, etc.)

2.5. Building process

2.6. Maintenance

2.7. Building materials

2.8. Skills for construction

2.9. Construction costs

2.10. Coping strategies

3. Main recommendations

4. Annexes

4.1. Assessment tools

4.2. Documentary sources & references

→ REFERENCE

The complete report of the assessment carried out in the framework of the programme in Bangladesh, is available for free download at the following website:

http://craterre.org/diffusion:ouvrages-telechargeables/download/id/ed67919247b2b2da93cb94415273f0d0/file/bdg006_report_of_field_visit_ac16022012_light.pdf

ANNEXE 2 | Resource materials

General documents

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Websites & resources of relevant projects worldwide

ALNAP - Strengthening Humanitarian Action through Evaluation and Learning
www.alnap.org

CRAterre - International Centre for Earthen Construction
http://craterre.org

Groupe URD - Urgence Réhabilitation Développement
http://www.urd.org

IFRC- International Federation of Red Cross and Red Crescent Societies
http://www.ifrc.org

Secours Catholique-Caritas France
http://www.secours-catholique.org

Shelter Case Studies
http://www.sheltercasestudies.org

SPHERE project - Humanitarian Charter and Minimum Standards in Humanitarian Response
www.sphereproject.org

Acronyms

CBHFA	Community-Based Health and First Aid
CLTS	Community-Led Total Sanitation
DRR	Disaster Risk Reduction
PASSA	Participatory Approach for Safe Shelter Awareness
PDNA	Post-Disaster Need Assessment
PHAST	Participatory Hygiene and Sanitation Transformation
VCA	Vulnerability and Capacity Assessment

References of the illustrated case studies (part 1)

HAITI / Post-disaster rehabilitation for sustainable and resilient habitats

Local partners: PADED, Platform PAPDA Platform, GADRU, CONCERT-ACTION, EPPMPH,PRESTEN, VEDEK

International partners & donors:
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BANGLADESH / Contextually based strategies for disaster preparedness and vulnerability reduction

Local partners: Caritas Bangladesh, Bangladesh University of Engineering and Technology

International partners & donors:
Secours Catholique-Caritas France, Caritas Luxembourg, CRAterre

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User feedback

Your experience and feedback on this guide are important for us!

Do not hesitate to share any specific comment or question about the methodology and the approach presented with this guide, by sending a message to:

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Project partners

International Federation of Red Cross and Red Crescent Societies - IFRC

The IFRC supports Red Cross and Red Crescent National Societies in the areas of risk reduction through safer construction practices and sustainable construction of human settlements both before and after disasters. In addition, the IFRC is co-lead of the Global Shelter Cluster, tasked to coordinate the shelter response after natural disasters. IFRC considers that shelter construction is not just a matter of building a 'product' – but rather a 'process' whereby people can improve their own homes, and engage to create a safe and secure environment.

Secours Catholique-Caritas France

Secours Catholique-Caritas France is committed to working alongside the most vulnerable by fighting against the causes of poverty and exclusion, based on the principle that men and women living in situations of poverty are the main and first actors in their own development. Among other activities, it finances and supports housing projects, benefiting populations affected in the long term by natural disasters. Recent experiences, including local know-how and techniques and respect for the existing natural and socio-cultural environment, have given very positive results (earthquake-resistant housing in Haiti, cyclone-resistant housing in Bangladesh and the Philippines...).

CRAterre, AE&CC Research Unit, Grenoble National School of Architecture - ENSAG

CRAterre is working towards proposing valid responses to the global housing challenge, while paying attention to challenges linked to the protection of the environment, the preservation of cultural diversity and the fight against poverty. To this end, CRAterre's multidisciplinary team of researchers, professionals, lecturers and trainers collaborates with many partners to establish creative links between research, on-the-field activities, training, knowledge dissemination and sensitization activities.

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The development of a set of tools to enhance appreciation of local practices developed by communities regarding settlements and risks is an initiative that aims to promote context-based strategies for responding efficiently and adequately to habitat improvement and vulnerability reduction needs.

This guide offers a methodological and operational support for decision-making and practices towards approaches and actions deeply rooted in local contexts. It is a practical tool that provides detailed explanation on planning, preparing and undertaking field assessments of local practices related to habitat and risks. It refers to a participatory approach suitable for, and adapted to, various geographical, cultural and risk-prone areas.

By supporting habitat assessment in all its different aspects, it also fosters links between programmes, providing clues and keys to define and implement coherent projects including income-generating activities, livelihood, health and other related sectors.

The necessary investment to be taken into account in project planning to achieve the basic step described in this booklet will result in huge savings, as logistical issues will be drastically reduced during the project implementation. It is a worthwhile investment that will lead to decisions ensuring more benefits to the affected communities, including a long-term enhancement of their resilience capacity.

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