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| **SHELTER WORKING GROUP RECOMMANDATIONS VERSUS HANDICAP INTERNATIONAL SHELTER** | | |
| **Indicators** | **Shelter Working Group Recommendations** | **Handicap International Pilot shelter** |
| **Key data** | | |
| **Lifespan** | Materials and shelter construction allowing for more than 3 years of use.  Materials should allow and easy maintenance and be upgradable. | Lifespan between 5 to 10 years.  Walling realized in *Clissade* (Caribbean construction technique).  Walls are divided in panels allowing a strong and simple upgrade. HI will provide a technical leaflet to the beneficiary in order to improve it in a good way. |
| **Cost** | 1000-1500USD including transport and labor and potential taxes. (For basic 1 storey transitional shelter, assuming additional input of material and labor from home owners). | 1500 USD excluding transport, labor and taxes. |
| **Covered living space** | Provide a target of 18m² in floor plan4 with 24m² as a maximum.  A minimum of 12m² may be considered for instances where no other space is available, and with a clear justification. | HI Shelter provides 18 m² for living space. |
| **Head height** | A minimum of 1.8 m from the ground to the eaves | HI Shelter is 2.35 m height |
| **Site and service** | | |
| **Tenure** | Legal aspects of the site or plot should be resolved.  A minimum time frame for any transitional agreement is 18 months but it is preferred to have an agreement of 3 years or longer (linked to lifespan) | Each case will be taken into consideration.  CASECS and municipalities are involved in this process.  Priority will be given to resolve plot property clear.  As regards disabled people, the dedicated State Secretary (as HI partner) will be involved in the negotiations.  In case of serious obstacle the HI shelter design presents the advantage of being totally removable. |
| **Location** | In principle, the location of the shelter should support the choice made by the beneficiaries themselves.  Shelter should be constructed at, or near to the existing homestead, without inhibiting permanent housing reconstruction  Shelters should be built in locations and with designs minimizing the exposure of the occupants to hazards and maintain access to livelihoods.  Shelters should not be built next to dangerous buildings or structures.  Shelters should not be built on land liable to flood.  A shallow slope to allow for drainage is ideal.  Shelters should not be built on land at risk of landslide. | Every shelter will be rebuilt after a carefully technical assessment undertaken by HI technical team and taking into consideration the TWG recommendations.  In addition HI shelter is easily removable |
| **Plot preparation** | Sites need to be cleared sites of any physical dangers | Plot preparation will be done with the participation of the beneficiaries via cash for work. As an average 4 days are planned for every shelter. |
| **Water and sanitation** | Adequate water provision and sanitation should be provided.  Construction must be coordinated with WASH cluster.  Any water or sanitation gaps to be communicated to WASH cluster  Adequate site drainage is provided to minimize the risk of flooding. Individual Shelters must be connected to site drainage solution. | HI will coordinate with WASH cluster and stakeholders in order to be sure that the shelter beneficiary will receive adequate WASH facilities. When and where no other organization positioned and expert in Wash will be able to ensure this Wash activities, HI will implement on his own minimum WASH facilities construction and hygiene education campaign and will proceed to WASH and Shelter adaptation to the vulnerability of each beneficiary. HI is currently in discussion with OXFAM-Intermon for a possible partnership since both organizations are covering similar geographical areas. |
| **Design principles** | | |
| **Access** | Shelters should take into account access by disabled people, where applicable | HI has a long experience with accessible shelter. The design of the shelter is already inclusive, which increase the unit price of the shelter. Different small adaptation will be define by the social team and realized to cover the different case of disability. |
| **Hazard resistant learning** | Design principles (e.g. openings such as doors should be away from the corners of the structure) should be easy visible and easily adaptable as a practical learning example of principles of good construction  Information regarding safe building practices and techniques should be disseminated | HI shelter is following the international standards in building and construction.  Beneficiaries will be involved in the construction and will receive a leaflet in Creol underlining the basics for safe construction and advices for upgrading the house. |
| **Ventilation and temperature** | Design of the shelter should allow an adequate ventilation and minimize internal temperatures.  Where possible, promote openings on 3 sides of the shelter to allow cross ventilation. | HI created two main openings (the entrance and the back) on the small fronts of the shelter. At the top of those panels we have opposite slight openings to let the wind get through smoothly.  To create a natural ventilation slight openings where made at the bottom of the panels on the shaded sides of the shelter. This is creating a natural cooling system, offering regular and soft ventilation to the house.  Shelter orientation will be emphasis. |
| **Privacy** | The design should allow families to add at least one internal division for privacy  The shelter should provide a flexible space. | HI shelter has a rectangular form (5.37x3.36 cm internal dimensions) giving the opportunity to create two small rooms of 9 m² each (2,68 x 3,36 cm). |
| **Culturally appropriate** | Materials and construction techniques to be used are familiar to the beneficiaries | HI adapted a very well known construction technique: the *Clissade*. Generally done with Palm trees, HI tested it with pine wood in order to protect the Haitian environment.  The fact that the people are familiar with this ancestral technique is a guarantee of easy maintenance and fast appropriation. If some elements must be renewed all the capacity is available locally. |
| **Flexibility/resource efficiency** | Where possible, materials are to be reusable. | The shelter is 100% reusable |
| **Design Details and hazard resistant construction** | | |
| **Rains and Floods** | The roof should protect the interior and walling materials from rain  Foundations have sufficient strength and height to withstand flooding of site. | HI shelter is completely covered by appropriate corrugated iron sheets  HI shelter is built on stilts. |
| **Hurricanes and tropical storms** | Foundations must secure the shelter to the ground in strong winds.  The roof must be fixed securely to be resistant to storms must be designed with adequate strength for proposed roofing material.  A pitch of 300- 450 for 2-pitched roofs and 120-140 for 1-pitched roofs is optimum for resistance against strong winds.  Ratio of length to width of the shelter approaches 1.  Metal strapping is strongly advised to provide protection from hurricane and earthquake.  Structures should be designed so that timbers and the joints take the loads rather than the fixings | The stilts are fixed 30 cm in the ground with cement.  The roof is a 2-pitched one with a 30° angle.  All the main elements of the house are screwed together; metal strapping is used where necessary. |
| **Earthquake** | Seismic resistance techniques must be incorporated into site selection, shelter form, the location of openings, foundations, bracing and ring beam connections | HI shelter is designed in order to resist to earthquake (design, foundations, panels and nods). In addition the light global weight of the house is also a guarantee of limited casualties in case of disaster. |
| **Other design details** | Concrete foundations will not be a requirement, as land ownership issues may encourage displacement.  Consideration must be given on some sites that multistorey buildings will be built | HI considered the two scenarios, with stilts (pilotis) and with concrete slab. The construction will be made on the legal aspects of the land (owners, renters and beneficiary) and depending on the technical aspects of the plot. |
| **Program issues** | | |
| **Technical assistance** | Ensure that transitional shelters are well constructed to maximize life span and protection | The careful choice of the raw material as well as the selected technique are a good guarantee of longevity and good level of protection |
| **Diversity of interventions** | Organizations must ensure that families have the means and skills to build safe shelters.  Other interventions next to shelter construction should be considered in a broad range of interventions | Technical Training will be done to improve the skill of the beneficiary. In addition they will be directly involved in the construction of their shelter meaning that will have a precise idea on how duplicate such kind of houses already well known in the region. |
| **Beneficiary selection** | Organizations must work carefully to ensure that the most vulnerable families, including the landless are not excluded from transitional shelter support.  Gender sensitive programming is required and women should be consulted about a range of issues. | Those aspects will be obviously taken into consideration for further details about the beneficiary selection please refer to the main narrative. |