A.18 Pakistan – 2010-2014 - Floods - Overview

Overview

Emergency: Repeated flooding in Pakistan.

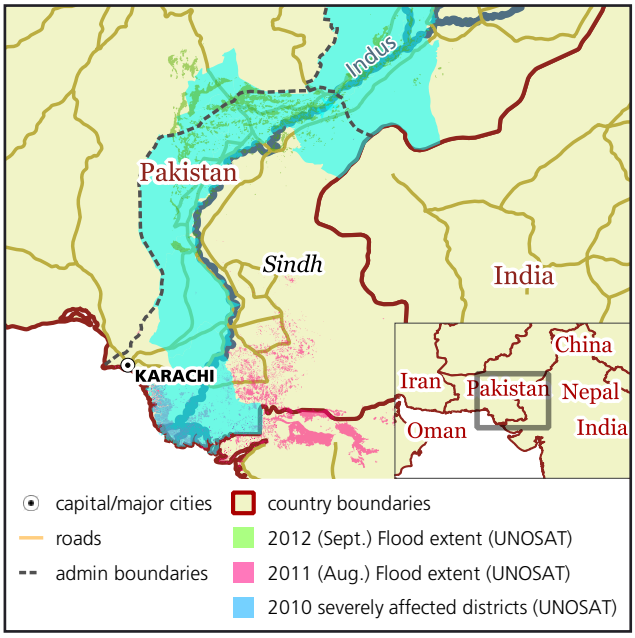
Date: July 2010 onwards

Damage: Since July 2010 over 2.5 million homes are estimated to have been damaged or destroyed.

People affected: Tens of millions of people have been affected since 2010.

Summary of emergency:

Since 2010, annual monsoon rains have been extreme, unpredictable, and unprecedented in recent memory. Intensive agriculture and deforestation, together with poor building practices have greatly increased the risk of flooding and the vulnerability of millions of people.



Emergency timeline:

[a] July 2010: Flooding affects 20 million people (a fifth of Pakistan's surface area is submerged) and over 500,000 houses damaged.

[b] September to October 2011: Flooding affects 8.9 million people. 1.5 million homes damaged.

[c] September 2012: Flooding affects 4.85 million people. 640,000 houses damaged. 140,000 people living in relief camps.

[d] August 2013: Flooding affects 1.5 million people, almost 80,000 houses damaged.

[e] September 2014: Flooding affects 2.5 million people and 100,000 houses damaged.

Country background

Pakistan ranks 145 out of 187 on the 2011 Human Development Index (HDI), female literacy is among the lowest in the world (3% in some areas), whilst chronic malnutrition affects almost half of children under five years old in Pakistan.

Emergency

In the flatter, less mountainous plains of southern Pakistan the ground water table is high. Floods usually occur during the summer rice season when fields are already saturated.

Flood waters can remain stagnant for months, damaging infrastructure and homes, preventing return and recovery, and also impacting agriculture, employment and food security.

In the first days of the emergency, people often seek shelter on raised bunds that are normally used for roads, or else in any available public building.

Impact

People who were already physically and economically vulnerable, have been hardest hit by each flood and coping capacities have been gradually worn down as in some cases recovery is halted by a new flood.

The worst affected areas have been northern Sindh, southern Punjab and eastern Baluchistan, home to around 10 million people.

Shelter strategy

The National Disaster Management Agency (NDMA) was the formal lead of the Cluster. The NDMA has been the government agency in charge of government disaster response and planning since 2007. Whilst challenges were recognised in planning vertically between levels from national to regional to local, at the local government level District Disaster Management Agencies (DDMAs) there was significant cooperation and a process for the approval of works and support of partners, mirroring the de-centralisation of the Cluster coordination process itself.

The Shelter Cluster has focused upon the implementation of low-cost, timely shelter construction.

Supporting shelter reconstruction on such a large scale has been challenging in terms of coordination, quality control and collaboration with local Government. The Shelter Cluster has led with several initiatives:

Local "sub-district" co-ordination

Co-ordination has focused upon mapping actors at the village level. The Shelter Cluster initiated "District Focal Points" - NGOs who were given a small grant for transport and staff to constantly liaise with and monitor progress of different shelter partners. This was fed back to the Shelter Cluster but also to the district

Government offices, thus enhancing support and acceptance of this work by local authorities.

Temporary Settlement Support Unit teams

These teams constantly travel around the various shelters (temporary, institutional or otherwise) and provide regular reporting on outstanding needs and return progress.

Assessement of Coping Capacities in Return Areas (ACCRA) also helps to provide a multi-sector overview of needs and gaps in return communities.

Technical aspects

Following the 2010 floods, then the largest humanitarian disaster on record, the immediate priority was to deliver temporary shelters to millions of people across five provinces – an enormous logistical challenge. As this transitioned into return and recovery mode, shelter cluster members focused on a strategy for early recovery, including:

- Brick and cement-mortar foundations, continuing up to window line as the main flood-resistant design element. (This assumed reliance on specialist builders / masons).
- Dissemination of basic "how to" information on flood resistant elements to improve protection for houses
- Federal Government distribution of an unconditional cash / compensation grant of up to US$ 800 for flood affected families to support recovery. This was by far the largest investment to date in recovery of any sector, costing almost US$ 1bn of Government/donor funding.

By mid-2014 – and two major floods later – the overall strategy has been adapted. The leadership of the Shelter Cluster for the majority of this time has rested within one agency, and collective learning about the context of housing and livelihoods in the vulnerable communities, traditional architecture and community resilience and the impact of energy-intensive materials on the local and global environment has all fed into the strategy.

The latest strategy now includes:

- Research in traditional and local vernacular building designs and materials, adapted and improved to achieve flood-resistance. This has also minimised negative environmental impacts where possible.
- More emphasis on community-based training for enhancing the capacity of people to rebuild their own homes, reducing reliance on external masons or builders.
- Conditional cash transfers to beneficiaries in tranches triggered when pre-agreed components of shelters had been completed to an acceptable standard; leaving much of the management and ownership of the process in the hands of the beneficiaries.

To further support the transition from emergency to recovery, emergency shelter kits have been improved:

- Materials are re-used as roofing elements in the more durable, flood-resistant house built when return has been possible.
- A versatile "roofing kit" includes up to 20 bamboo poles, one steel beam and two plastic sheets for a structure larger than a tent.
- A solar light is included to increase a sense of security and safety at night.

The combined response reached over 200,000 homes between late 2010 and mid-2014. Though this is impressive, it represents only around 10% of the total number of homes destroyed by flooding over that period. Most of the remaining 90% have rebuilt basic shelters using materials or methods that still leave them highly vulnerable to future floods.

Funding considerations

Cutting the costs of individual houses has been achievable by shifting away from fired bricks and cement towards traditional architecture, mud, clay and lime based construction. The cost of an average house construction – including agency support and overhead costs – has been reduced from around US$ 1,200 after 2010 floods to just over US$ 500 in the 2011 and 2012 responses. This, multiplied across the 100,000 durable homes constructed or underway equals an overall "saving" of almost US$ 70 million. This "saving" has resulted in reaching more than twice as many people for the same investment.

Looking to the future

While major cost savings and carbon reduction strategies can be applauded, the very notion of flood resilience in shelter needs some level of certification. As global climates are changing and natural disasters like floods in Pakistan are increasing in frequency and intensity; it is vital that we agree on strategies and designs for what constitutes a flood resistant shelter.

There has yet to be an independent analysis of the physical capacity of reconstructed homes to resist intense rain or prolonged immersion in water, and this is a crucial technical issue to study.

In September 2014 another flood has devastated thousands of homes across both Pakistan and India. Four years after the "mega-flood" of 2010, in the face of this predictable natural hazard, homes are still collapsing. This need not be the case, as we have learned through our shelter projects over these preceding years of flood and recovery.

An example of an emergency roofing kit which will later be used for a transitional shelter then again for the roofing elements of a permanent flood resistant shelter.
Photo: Magnus Wolfe Murray

The second, transitional stage in the life of a roofing kit. This temporary hut, lived in for about a year, will be dismantled and the roof will be used for a permanent house. This saves around US$ 111 from the cost of the new shelter.
Photo: Magnus Wolfe Murray

Two different types of shelter: in the foreground, an unfinished, square, flat-roof house with compound bamboo ring beam on top of the walls. To the right, a round house (known locally known as "chulla"). This was the first time people in this village had constructed permanent shelters.
Photo: Magnus Wolfe Murray

Sangar district, Southern Sindh, December 2013. Lime stabilised mud brick foundations and walls. Flood resistant with pitched, not flat, roof.
Photo: Magnus Wolfe Murray

An important part of securing community confidence in new techniques: testing the durability of lime-stabilised soil blocks tunder water. These blocks had been in this bucket for about 6 months, so the community was confident that the materials would be flood-resistant.
Photo: Magnus Wolfe Murray

A.19 Pakistan – 2012 – Floods

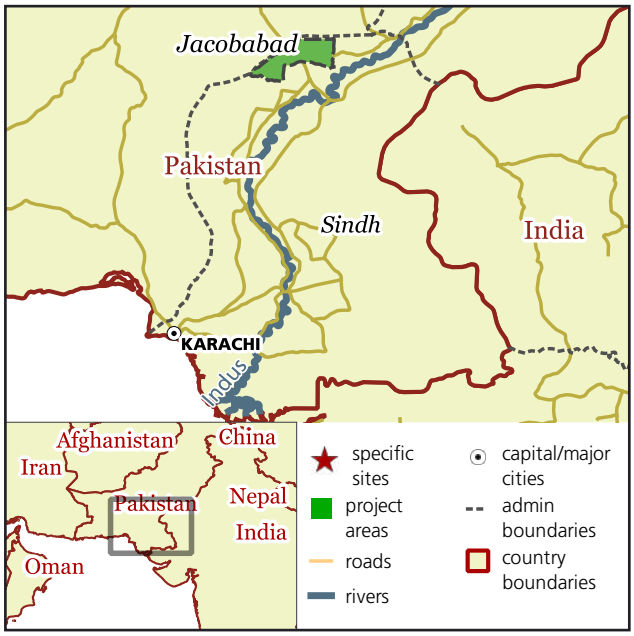
Case study

Keywords: Transitional shelter / T-shelter; Cash / vouchers; Site planning; Training.

Emergency:	Monsoon floods, 2012, Pakistan.
Date:	7-11 September 2012
Damage:	Approx 635,000 homes damaged or destroyed in total. Approx. 145,000 houses destroyed in Jacobabad.
People affected:	4.85 million people were affected by the floods, with around a fifth of those affected living in Jacobabad (940,000 people).
Project location:	Jacobabad district, Sindh.
Beneficiaries:	4,970 households (31,002 people).
Outputs:	5,167 shelters by mid-2014 (some families received two kits). 77 villages site-planned.
Ocupancy rate:	100%.
Shelter size:	12ft x 19ft (21m²) housed a family of six to *Sphere* standards.
Cost per shelter / household:	Materials and labour: US$ 380. Total costs: US$ 748.

Project description:

Flood-affected families were supported with 5,167 transitional shelters in areas where the organisation was already present. The shelters conformed to *Sphere* standards and were built in three rounds of construction. They were quick to build and incorporated key DRR elements. Village site-planning was introduced in the third phase of the project.

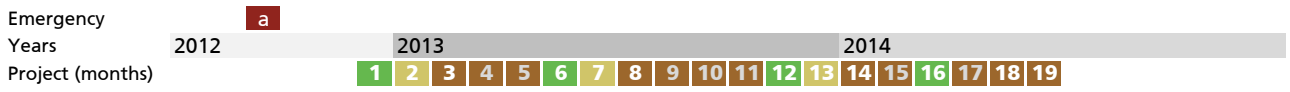


Emergency timeline:

[a] 7-11 September 2012: monsoon flooding.

Project timeline (number of months):

[1] November 2012: Round 1.a (registration, committee formation).
[2] Round 1.b (materials distribution and construction).
[3-5] Round 1.c (grant and transport payments. 2,235 shelters complete).
[6-8] Round 2 (1,922 shelters).
[12-15] Round 3 (408 shelters). First inclusion of site planning as activity.
[16-18] Round 4 (602 shelters).
[19 ongoing-] Project ongoing until mid-2015 with plans for 2,000 additional shelters.



Strengths

✓ The construction of a demonstration shelter facilitated community feedback, which resulted in improvements to the design, such as larger verandas.
✓ Using local knowledge and materials meant shelters were quick to build, low cost and culturally appropriate. Raised-earth plinths greatly improved flood resistance.
✓ Good communication and feedback mechanisms.
✓ Village site planning had many positive impacts, including reducing standing water, establishing an evacuation plan, and improving WASH facilities.
✓ The use of portable transitional shelters meant that beneficiaries knew they could take such a high-value asset with them should they face eviction.
✓ Involving women in site planning was challenging due to cultural barriers. To mitigate this, all-female groups provided feedback on all-male original plans.

Weaknesses

× Site planning could have been made a standard part of the response for all villages from the start of the project.
× Site planning activities were difficult to manage if the number of households involved was less than five or more than 15.

Observations

- Tribal conflict is endemic in the area, which sometimes limited access.

Saeedabad village, Jacobabad before the site had been re-planned. The new plan would result in moving shelters away from electrical wires and poor drainage areas and creating better footpath access around the site.
Photos: PO Tasleem/CRS

Community site planning involved using small models of houses and infrastructure to help design a new village layout.
Photos: FE Altamash/CRS.

Situation before the disaster

Before the flooding, people were mostly living in houses constructed out of mud brick, which are prone to collapse during heavy rains and/or flooding.

Situation after the disaster

After the 2012 floods, affected communities resided in tents, emergency shelters or were living under the open sky. After repeated flooding over several years, communities were reluctant to rebuild mud houses as the investment of time and resources risked simply being washed away.

Many people were not able to afford pukka (burned brick) houses, and faced eviction by the landowners at any time. This has meant that most people had been constructing thatch houses that could easily be transported with them if they were forced to move.

Shelter strategy

The Government of Pakistan established the National Disaster Management Authority (NDMA) in August 2007 to take the lead in the response to emergencies and disasters, with responsibility for preparedness, response and reconstruction.

The NDMA is intended to play a coordinating role, working with INGOs and NGOs, and is responsible for communicating government policy for implementation on the ground.

The Shelter Cluster has focused upon the implementation of low-cost, timely shelter construction.

Project implementation

The project adopted a self-help approach, and was implemented in partnership with a local organisation, with the main organisation providing technical guidance and monitoring the field activities. The project team was made up of four main organisation staff and ten local partner staff.

The intervention was carried out in small clusters of villages at the same time, with the clusters all being located within the same Deh (smallest administrative unit). The Dehs were prioritised in terms of need, with those with the greatest need receiving support in the first of three rounds of construction.

A demonstration house was built in each community as a training aid.

Communities identified individuals best suited to construction training and if no suitable person could be found a carpenter was brought in from the surrounding area to support them. A one-day training was provided for the carpenter, under the supervision of a field engineer.

The trained carpenters built the core of the structures and were paid 1,000 Pakistani Rupees (PKR) per shelter (approx. US$ 10). The community provided the unskilled labour required to complete the shelter (mud plastering, plinth construction), with those households who were unable to contribute any labour for their shelter given PKR 600 (US$ 6) to pay for two days of labour.

Each household received a voucher worth US$ 375. Suppliers were identified to provide materials that could be redeemed against the vouchers provided, and each supplier's warehouse acted as a distribution point. Beneficiary families also received PKR 600 (US$ 6) for transporting the materials. By managing the construction of their own house, families had a strong sense of ownership of the process and tailored the design to their own specific needs,

The project also included a strong feedback mechanism, which involved a hotline, complaint boxes and verbal feedback during site visits. All feedback was transferred into a tracking sheet, and responded to appropriately.

Site planning

Village site planning was introduced in December 2013 during the third round of construction and was eventually conducted in about 77 villages (20% of the total number).

Following initial community sensitisation about the project, each village was mapped, with key hazards and communal facilities identified. As many participants were illiterate, small models of handpumps, shelters and houses were used in the mapping process.

In some communities, due to social barriers, women in the community were excluded from the first round

Building shelters on a raised plinth is one of the most effective ways of reducing damage to shelters during flooding. Drainage ditches were dug with stone or earth curbs dug around the perimeter of shelter to divert rainwater away from the house. A small number of non-beneficiary households replicated the technique when building their own houses. Photos: FE Altamash/CRS.

of planning, where male representatives of every family made the initial settlement plan on large sheets of paper. In these cases, women's committees were established to ensure equal decision-making between men and women. Women's committees also provided a safe environment for women to freely express their opinions.

During the planning exercise the Social Mobiliser ensured that representatives of every beneficiary family were present and that any land dispute issues were raised and solved. The mobiliser also addressed issues such as security and privacy concerns, which were particularly important in villages where there were a number of different social castes living together.

Beneficiary selection

The organisation worked on the provision of shelters in one Union Council at a time. A Union Council (UC) is a small administrative unit, often known as a village council in rural areas. Those UCs that were most flood-prone were prioritised.

Within each UC and village, vulnerable households were identified in collaboration with community committees, according to a set of vulnerability criteria. This community-led process reduced conflict and disputes over who received assistance.

The project targeted households whose homes were completely destroyed or very badly damaged, and checks were made to make sure that families were not in the receipt of shelter assistance from another organisation. Families also had to be willing to provide labour for the construction of the plinth and plastering of the walls.

Beneficiary registration was made on portable tablet computers which sped up the registration process and facilitated quick analysis of the data.

Coordination

The organisation was active in the Shelter Cluster and coordinated with government agencies and other NGOs in order to adjust targeting to collectively achieve blanket coverage of the area, and avoid any duplication of efforts.

Materials

The only unfamiliar construction material introduced was the poplar pole. This was accepted by the communities without any problems.

The final bill of quantities was determined by the organisation's global shelter technical advisor, following the construction of a pilot shelter.

A market assessment based on the list of materials was conducted with local vendors in October 2012, in order to determine if there was sufficient quality and capacity for manufacturing in Pakistan to supply all the materials.

Organisation logisticians selected vendors based on site visits to the suppliers to check the quality of the materials. Materials were mostly trucked from Punjab since local materials were of low quality and not in sufficient quantity.

A just-in-time approach to procurement was necessary to avoid having large warehouse stocks of bamboo vulnerable to water damage during the monsoon season.

"We constructed our shelters according to our village settlement plan and now our animals and property are more safe and secure from thieves."
Beneficiary

Disaster Risk Reduction (DRR)

Village site planning

The organisation introduced settlement planning to communities in order to support them to develop their villages into disaster-resilient settlements. When families had selected their shelter site individually, it had often been done haphazardly and without coordination. By leaving narrow pathways between shelters, the walls became more susceptible to rain draining off from neighbouring roofs, and people had more difficulty evacuating quickly with their livestock and assets.

Some shelters had also been built far from water sources, and some had verandas which were oriented southward, limiting their protection in the summer.

As a condition for participating in the project, families were supported

by the organisation to identify safe plots. This included avoiding low-lying areas or areas near steep slopes with risks of landslides, sites next to busy roads, waste dumps or electrical lines, and plots too close to other buildings.

The organisation developed model shelters, hand pumps and latrines, and led settlement-planning exercises with communities to focus on disaster resilience and ensure that village planning accounted for other infrastructure (hand pumps latrines, mosque) as well as various social elements (protection, privacy, security, access).

The communities also considered drainage during flooding, rain water run-off from the roofs, and village evacuation planning. The process engaged both beneficiaries and non-beneficiaries of the shelter materials vouchers.

Wherever possible, planning sessions were attended by men and women. When this was not possible due to cultural reasons, separate feedback was sought from the female community representatives immediately after completing the exercise with the men.

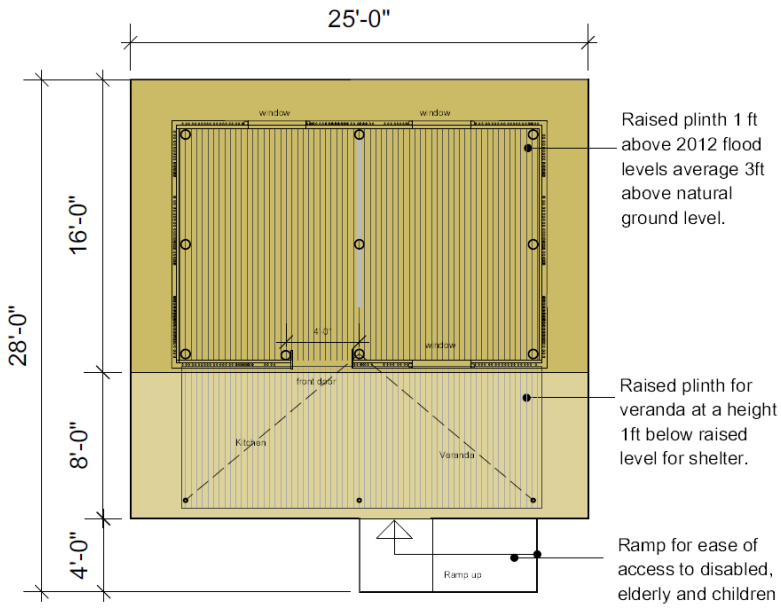
Benefits of the village planning, identified by beneficiaries included:

- Increased security through better visibility of others' plots.
- Greater village cohesion through joint planning.
- Improved communal spaces created a number of new possibilities, including providing an area for shared storage of seed or tools.
- Women, who carry out most of the cleaning duties, reported reduced time needed to keep new shelters and plots clean and tidy.

Shelter design

DRR components in the shelter design included:

- Anchoring poplar poles for vertical support elements 2ft. (60cm) below grade, with excavated pits backfilled with stones and/ or well-compacted soil.
- Treating the bases of poplar poles with engine oil to protect against rot and insects.
- Vertical structural elements were strengthened by horizontal bamboo beams to create a unified structural system. Diagonal bamboo corner braces attaching the vertical structural elements to the horizontal tie-beams further improved resistance to lateral loads.
- Connections between poplar poles and the bamboo were secured with nails and reinforced with rubber straps. Critical connections were strengthened with GI wire.



Part of the technical shelter design document specifying details for the plinth. Graphic: CRS

Wider project impacts

Some beneficiaries reported that they will continue to use the lessons they learned in future village developments, and any new families coming to the village will be educated in the advantages of good settlement planning.

Given land tenure issues, many communities appreciated the fact that they could disassemble the shelter and take it with them in the event of eviction.

Bill of Quantities

Item description	Qty
Poplars (4in. tops, various lengths)	11 pcs
Bamboos (1" to 2" diameter, various lengths for beams, purlins, rafters and wall supports, including veranda)	95 pcs
Chick Mats for walls and roof	7 pcs
P.E Tarpaulin	2 pcs
Cotton rope	4kg
Nails (various sizes)	2.5kg
G.I (Galvanized iron) wire	4kg
Limestone (20kg bag)	3 pcs
Tools: saw, claw hammer, pliers, wheelbarrow	1 kit per 5 households
Measuring Tape and water level	1 per 10 households
Needle and scissors	1 pc
Polyethene Sheeting 30ft x 16ft, (approx. 9m x 4.5m) waterproof double ply 1.5 mm	1 sheet
Hoe/'Kodder'	1 pc
Polyethene tarpaulin (4m x 6m 80 GSM)	1 pc

A.20 Pakistan – 2012 – Floods

Case study

Keywords: Core housing / progressive shelter; Cash / vouchers; Training.

Emergency: Monsoon floods, 2012, Pakistan.

Date: 7-11 September 2012.

Damage: Approx. 635,000 homes damaged or destroyed in total, of which over 250,000 in the four districts.

People affected: 4.85 million in all provinces. Jacobabad: 940,000 people. Ghotki: 342,000. Shikapur: 250,000. Qambar Shahdadkot: 250,000.

Project location: Jacobabad, Ghotki, Shikarpur and Qambar Shahdadkot districts, Sindh province.

Beneficiaries: Target of 14,790 households.

Outputs: 5,725 shelters completed and 111,494 villagers trained to date.

Ocupancy rate: 100%.

Shelter size: 21 m² recommended.

Cost per shelter: Materials per shelter US$ 300. Total project cost per shelter: US$ 514.

Project description:

The project was a continuation of the previous One Room Shelter (ORS) programme, responding to flooding in 2010 and 2011 (see *Shelter Projects 2010, A.24* and *Shelter Projects 2011-2012, A.22*). While the project followed a similar methodology in terms of construction and DRR training, after the 2012 floods there was a much greater emphasis placed on feedback mechanisms.

Emergency timeline:

[a] 7-11 September 2012: monsoon flooding.

Project timeline (number of months):

[1] Jan. 2013: Planning, fund-raising and identifying implementing partners.
[7-18] Phase 1 construction in response to 2012 floods. 2,090 houses completed.
[10-22] Phase 2 construction. 3,635 completed as of September 2014.
[18-24] Phase 3 construction ongoing.
[24] Dec. 2014: Target completion date.

Emergency		a																					
Years	2012		2013										2014										
Project (months)			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Strengths

- ✓ The beneficiary feedback approach employed multiple and complementary feedback channels including a call centre, face-to-face interactions through district level field teams, and monitoring visits. Beneficiaries were updated as to the status of their complaint or enquiry.
- ✓ Feedback has been used to inform and modify project strategy decisions.
- ✓ Telephone communication allowed the project to reach some vulnerable groups when site visits were impractical. The hotline is toll-free.
- ✓ Promotion of the feedback approach has been effective in raising awareness. Posters, stickers and business-cards with key messages have all been used.
- ✓ The service is confidential, which has helped to build trust with community members.

Weaknesses

- × Some feedback could have been lost if no tangible decision or action had been made, or if it was not recorded correctly.
- × Many women prefer face-to-face communication when seeking information and/or discussing ongoing problems. Despite the advantages of the hotline, usage rates by women are low due to cultural constraints and high illiteracy rates.

Observations

- Cultural practices that involve the separation of women and men in discussions and decision-making present a challenge for the project's aim of equal participation.

The focus group discussion opened up a new way of communicating with beneficiaries and deepened the project staff's understanding of their situation, needs and ideas. Photo: IOM Pakistan.

Situation before the disaster

The region affected by the floods is among the poorest in Pakistan, with development indicators, including global nutrition rates, already approaching crisis point before the 2010 floods.

After the 2010 floods, which damaged or destroyed approximately 1.8 million houses, the organisation supported affected families to build over 38,000 shelters (see *Shelter Projects 2010, A.24*).

Heavy rains caused flooding again in September and October 2011, displacing an estimated 1.2 million people throughout Sindh and Balochistan. Around 35% of the communities affected in 2011 were also affected by the 2010 floods.

Situation after the disaster

Flooding in 2012 mostly affected districts in northern Sindh, whereas the 2011 floods affected southern Sindh. Whilst there was some overlap in the 2010 and 2012 flood-affected areas, all of the families selected for 2012 shelter recovery assistance were first-time beneficiaries.

In the aftermath of the disasters, communities had limited resources and insufficient technical capacity to reconstruct durable shelters.

Shelter strategy

The Shelter Cluster's early-recovery strategy for the 2011 and 2012 floods advocated for the provision of low-cost shelter support to the most vulnerable families whose houses became uninhabitable after the floods, in a way that improved their resilience to future natural disasters. The Cluster strategy encouraged a beneficiary-driven approach, providing flexible shelter solutions tailored to the needs and capacities of beneficiaries.

Beneficiary selection

The beneficiary selection process was unchanged since the 2011 response, identifying the most severely affected districts and forming village committees to identify the most vulnerable in their communities.

Project implementation

The organisation continued with the same methodology it had used in response to the 2011 floods, working with implementing partners whose field teams worked in collaboration with village committees to distribute cash for rebuilding.

The cash was distributed in three tranches. The first was paid in advance for the construction of the floor plinth; the second was transferred on completion of the plinth, to pay for construction of the walls; the final tranche was given once the walls were complete in order to pay for the building of the roof.

Implementing partners and project staff provided technical support throughout the project, giving trainings on safe construction practices and Disaster Risk Reduction (DRR) techniques to the beneficiaries.

Feedback mechanisms

Recognising the growing need for active, accountable and meaningful engagement with the shelter project beneficiaries, the organisation launched a Monitoring, Evaluation, Accountability and Learning (MEAL) initiative in its 2012 flood response.

The MEAL initiative has been a three-tier approach, comprising of:

- A Humanitarian Call Centre 'hotline'.
- Household monitoring visits.
- Beneficiary feedback focus-group discussions.

The aim of MEAL has been to increase two-way communication between beneficiaries and project teams, by offering a variety of options to promote choice, opportunity and access for the beneficiaries. MEAL has facilitated the beneficiaries' ability make suggestions, complaints and comments.

The initiative streamlined and enhanced the previously established call centre and monitoring visits, and added a new element of focus group discussions.

Humanitarian Call Centre (HCC)

The predominant mechanism for beneficiary feedback has been the HCC 'hotline'. It promotes transparency and encourages the reporting of programme irregularities by beneficiaries, implementing partners and staff, as well as providing a way to give general information.

Data collected by the HCC is integrated into the overall M&E system to ensure timely and reliable follow-up, cross verification of eligible households and beneficiaries, and documentation of responses. The feedback loop is closed by then

In-depth beneficiary feedback can have a positive impact on the planning and execution of a project. The project increased the value of payments when beneficiaries raised the issue of high market prices which were preventing them from finishing their houses with quality materials. Photo: IOM.

contacting the caller, if a response is required.

The HCC has received 533 calls since 2011, of which 90% were related to complaints and grievances, whilst 10% were information requests or feedback on the programme. Complaints were forwarded to the organisation's management for follow-up, and 94% have been successfully resolved to date.

Random household monitoring visits

Random sampling household monitoring visits have been made to at least 5% of beneficiary households. The visits were first introduced in 2010 as part of the then flood response.

Technical, social mobilisation and monitoring teams have collected feedback through community visits and verification missions. On average, monitoring teams have conducted 640 random visits per week.

Focus-group discussions

A "beneficiary feedback learning exercise" was piloted in 2013. Nine focus-group discussions were held with beneficiaries in nine union councils spread across five districts.

This innovative exercise went beyond regular monitoring processes, providing a space to listen to the views and experiences of the people who benefited from the shelter project.

Social mobilisers and technical staff conducted the discussions, which were divided into different topics:

- The objectives of the shelter assistance project.
- Beneficiary selection methods and social mobilisation.
- The construction process for the One Room Shelter response (ORS).
- Project closure.

As a preface to the focus group exercises, project teams thoroughly briefed participants on each of the topics to be covered, ensuring common understanding of the scope and purpose of discussions in order to encourage full beneficiary engagement and effective feedback. The success of the pilot and the deepened engagement with beneficiaries led to focus-group discussions being established as a standard feedback mechanism in 2014.

Using feedback to improve programmes

The MEAL approach enables the project to adapt and better tailor its assistance to beneficiary needs. This is evident through numerous adaptive measures undertaken. Feedback has also informed strategic-level discussions about shelter programming, for example reconstruction in a context constrained by land ownership and property titling. Below are three examples.

1) Formation of new community-based organisations

Feedback from the focus-group discussions indicated that the village committees were not performing as hoped. In many cases, beneficiaries were not aware of who the committee members were, or what their role was.

To solve this problem, household-level community groups were formed instead. These groups were made accountable for the financial and procurement processes, and monitored the quality and delivery of construction operations. This new arrangement meant that community members had greater decision-making power and responsibility. For example, when receiving shelter cash contributions, a group could decide to procure collectively, making savings through bulk purchases.

2) Modification to cash transfer procedures

Financial procedures can be bureaucratic and time consuming, involving multiple banks, transfers and signatures. Families reported that they had to borrow money at interest because cash payments were arriving late.

As a result of the feedback, project accounts have now been opened in the same local banks that beneficiaries use, significantly streamlining the whole process.

3) Payment changes

Both beneficiaries and field staff had consistently reported that the overall cash support of 26,000 rupees was not sufficient at current market prices.

The organisation conducted a market analysis which confirmed that the allocated cash amount was not sufficient to support families to 'build back better'. An additional 4,000 rupees allowed families to buy the quality of materials required to fully implement flood-resistant building techniques.

Shelter design and Disaster Risk Reduction (DRR)

In August 2013, a survey of vernacular construction techniques in northern Sindh was conducted in 20 villages and five districts, to identify DRR-enhanced interventions for shelter construction. Based on the results, a low-cost shelter solution informed by vernacular 'lohkat' techniques was developed (houses are built using poles from lohkat trees, plastered with mud on the outside). The survey results also highlighted that respondents preferred mono-pitched roofs as compared to double-pitched roofs, as the former type is easier to construct and allows people to take refuge on top of it during floods.

The hotline and complaints procedure was advertised through posters. The telephone number was shared by handing out business-cards to the community. Graphic: IOM.

As part of the 2012 floods response, an effort was made to enhance the use of lime in shelter construction. A Training-of-Trainers (ToT) programme was implemented in 2014, with key technical project staff given the opportunity to test formulate different lime compositions based on soil analysis and other tests.

Once optimal compositions were identified, this information was included in technical trainings for beneficiaries to build back safer.

Wider project impacts

Around a quarter of those participating in technical trainings to support safer shelter construction were non-beneficiaries, raising general awareness of DRR techniques.

Some beneficiaries who have learned new masonry techniques are now being employed by non-beneficiary families to build their houses.

The training of implementing partner organisations has filled the gap in technical capacity that existed during the response to the 2010 floods. Some organisations that previously worked as implementing partners for the project have now applied for independent funding for similar shelter-recovery activities.

The future of feedback

As beneficiaries are increasingly aware of their right to be included within the planning, implementation and evaluation phases of aid programmes, feedback mechanisms are taking their rightful place as a key part of any programme. Accountability is not just a moral imperative, but also an operational need.

By providing a mix of feedback mechanisms, not only can implementation be improved but a voice can be given to the marginalised.

Diverse feedback mechanisms also help to monitor and motivate implementing partners, providing an important stream of information when the main organisation has few staff on the ground.

A.21 Pakistan – 2012 – Floods

Case study

Keywords: Core housing / progressive shelter; Cash / vouchers; Site planning; Training.

Emergency: Monsoon floods, 2012, Pakistan.

Date: 7-11 September 2012.

Damage: Approx 635,000 homes damaged or destroyed in total. Approx. 145,000 houses destroyed in Jacobabad. Kashmore: 117,000.

People affected: 4.85 million people were affected by the floods. Jacobabad: 940,000 people. Kashmore: 851,830.

Project location: Jacobabad and Kashmore districts, Sindh province.

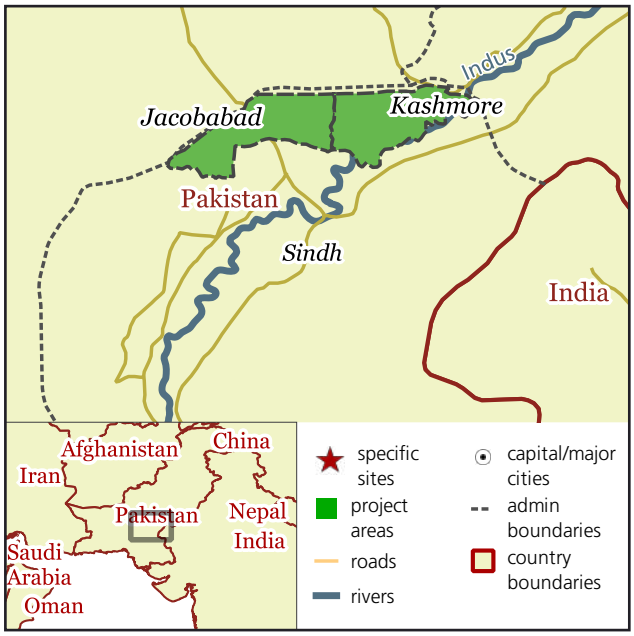
Beneficiaries: 1,000 households (7,000 individuals).

Outputs: 1,000 shelters, and disaster resilience training.

Ocupancy rate: 100%.

Shelter size: 20.4 m².

Cost per shelter: US$ 350 for materials and labour. US$ 443 including project costs.



Project description:

The project provided 1,000 vulnerable families with safe, resilient and locally adaptable shelter.

The shelters were built with some materials and skilled labour provided by the organisation, and with beneficiaries providing some unskilled labour and salvaged or no-cost materials.

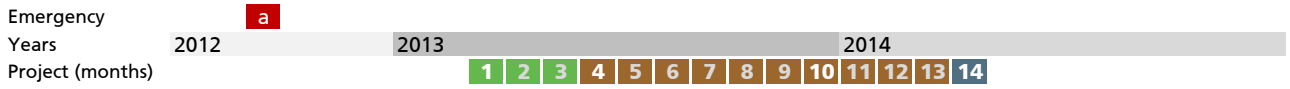
Community members not receiving direct shelter assistance were included in the DRR trainings for mapping hazards and improving shelter construction techniques.

Emergency timeline:

[a] 7-11 September 2012: monsoon flooding.

Project timeline (number of months):

[1-3] March 2013: Planning period.
[4-9] First phase of construction.
[10-13] Second phase of construction.
[14] April 2014: Project concluded.



Strengths

- ✓ Local ownership and leadership of the project were promoted through beneficiary-implemented reconstruction.
- ✓ Solutions to reduce flooding risks were based on traditional and cost-effective methods.
- ✓ The shelter design adopted local best practice of thick mud walls to reduce heat during the summer.
- ✓ The inclusion of non-beneficiaries in construction trainings meant that the design was replicated by other families.
- ✓ The purchase of bamboo from other provinces reduced initial logistical delays and ensured that all beneficiaries received their materials.
- ✓ As part of a multi-sectoral programme that included WASH, the project helped to accelerate a transition from relief to recovery.

Weaknesses

- × Construction targets were delayed due to families prioritising harvesting their crops over working on their shelters. This had been predicted as part of the contingency plan, but had a greater impact than expected.
- × The banking system was unreliable and delayed cash transfers. A second bank began operating towards the end of the project and the organisation was able to switch banks.
- × Increases in the cost of materials, caused by bamboo shortages, were not foreseen. Fortunately the higher costs were offset by exchange rate changes.


Construction of the mud toe. Photo: ACTED.

Situation before the disaster

Before the 2012 floods, the majority of the population in the target area lived in either mud houses called "kacha" or straw structures called "chappar".

Kacha mud houses are built with two layers of lime-stabilized plaster, render, and cane mats ("chicks"), with wooden poles as girders.

Chappar houses use wooden poles or bamboo for the wall and roof structures, with the walls fortified with reeds, often without mud plaster.

Mud-layering and chappar structures are usually built by the families themselves, while mud-brick houses require a mason. Wealthier households lived in more permanent brick structures with cement mortar.

Jacobabad and Kashmore are districts which have been repeatedly affected by recurring floods (including the 2010 and 2012 floods), exhausting the coping mechanisms of the affected communities. As a result, development indicators were worse than the national average.

Situation after the disaster

The organisation's post-flood assessment of 11 worst-hit Union Councils (a local administrative division) showed that the monsoon floods damaged 75% of the houses, of which two-thirds were fully destroyed. Only 20% of the houses were undamaged, with a remaining 5% of households living in temporary shelters as a result of previous disasters.

The high rate of destruction appeared to be related to a major gap in the knowledge and practice of disaster-resilient construction techniques. In the target areas, 63% of shelters were katcha mud houses.

At the time of the assessment, those whose housing had been damaged were living in a number of different situations: 32% of families were reportedly living in the open air, 27% were living in damaged houses, 6% with host families, 6% in temporary shelters, 5% in tents and 4% in public buildings. Shelter was ranked as the most immediate need by the majority of those affected.

Shelter strategy

The shelter cluster strategy focussed on two areas: technical requirements for shelters, and training to improve construction techniques.

Technical requirements

Shelter size had to meet Sphere standards, ranging from 200 to 250 sq ft. (18m^2 to 23m^2) depending on family size. The shelters had to be safe and incorporate a number of Disaster Risk Reduction (DRR) elements, such as strengthened roof and wall structures and elevated platform foundations.

"After the 2011 flood my family was forced to live in a straw hut with little protection or privacy. After building our new shelter, the winter has not impacted on our health. I don't fear the rainy season anymore". Beneficiary

Families whose house had been completely destroyed could receive material or cash support up to a limit of US$ 375 per shelter. Beneficiaries were asked to make their own contribution through no-cost materials, e.g. mud or salvaged materials, labour, and a limited amount of cash.

The shelter design had to allow for adaptations, such as extensions, or the addition of sanitation facilities or kitchens. Vernacular construction techniques were recommended so that communities could build and reconstruct houses using familiar materials and construction processes.

Training

In contrast to 2010, a focus was placed on transferring knowledge about DRR techniques to the community. Trainings to improve shelter safety and durability were coordinated by the Shelter Cluster. Trainings had to be practical and 'on site', with a standardised curriculum in local languages. They were also to be made available to those who were not receiving direct shelter assistance. The involvement of women was considered important, particularly as women are traditionally involved in plastering the walls of their homes.

Project implementation

Following the selection of beneficiaries, the communities were trained on disaster risk-mapping exercises, to identify areas less prone to flooding as construction sites. Landlords were engaged in the process to decrease the risk of disputes over land rights.

The elevated areas identified through community mapping were always within a limited geographical range and relocation to these areas was entirely voluntary. If the beneficiary did not wish to relocate, or if there was no suitable elevated ground nearby, they were encouraged to either construct a raised platform or to raise the floor level of their dwelling.

The project team consisted of a project coordinator, a team leader, a civil engineer, eight sub-engineers and four community mobilisers. The organisation aimed for a gender balance amongst staff members,

Demonstration of side-wall bracing. Photo: ACTED.

partly to ensure the participation and inclusion of female beneficiaries.

Once beneficiaries were selected, the organisation distributed tokens which could then be redeemed for materials from the organisation's warehouses.

Beneficiaries were expected to provide unskilled labour while the organisation provided two skilled workers for around two days to lead the shelter construction.

The organisation paid the skilled workers with bank cheques, but these were problematic since many were unable to cash them due to inter-bank problems.

Beneficiary selection

Families whose houses had been completely destroyed and who were living in emergency shelters, straw structures or severely damaged mud structures were given priority in shelter assistance. Beneficiaries were selected using a score-card method, based on a previous assessment carried out for a WASH intervention.

The WASH assessment included shelter considerations to prevent over-surveying of beneficiaries, and to save time and resources.

Priority was given to households which were more vulnerable to socio-economic deprivation. Project staff then visited each of the selected beneficiary households for final verification and confirmation.

Coordination

The data analysed for the project was collected by the organisation's specialised assessment unit, along with cooperation from other organisations in the area and data provided by the Sindh Provincial Disaster Management Authority (PDMA) and by the Shelter Cluster, on damages, losses, and needs.

The project was part of a more general programme of response to flooding in the Sindh area in 2010, 2011 and 2012.

The shelter design was influenced by technical discussions within the Shelter Cluster during February 2013, and project activities followed the Monsoon Humanitarian Operational Plan and Cluster strategy.

Technical solutions

The shelter design used local practices and familiar materials with targeted improvements to make the shelters more disaster-resistant.

The structure of the shelter was built out of bamboo poles, which were pre-treated by the supplier for termite-resistance.

A prefabricated window and door were also provided, and stairs or a ramp at the door was provided to ease access for the elderly and disabled.

Disaster Risk Reduction (DRR)

Several DRR measures were included:

Beneficiaries were encouraged to build a raised platform made of several layers of pressed soil to protect the base of the structure from flood water.

Walls were fortified with a trellis and plastered with a mix of mud and straw, both of which were beneficiary contributions.

The roof has a 1-foot-high (30cm) incline with 1-foot-long extended eaves. It was built from bamboo, plastic tarpaulin and wooden slats (called "chicks") covered with mud plaster.

The girder was made of two bamboo poles, supported by two pillars made of three bamboo poles each and a central vertical support.

The eaves protected the wall from being soaked and weakened by rain while the plastic sheet on the roof provided waterproofing protection.

The final layer of plaster on the walls as well as on the roof is a 1-part lime to 5-parts mud mix which weather-proofs the shelter and prolongs the life of the structure.

The community was mobilized to identify potential construction sites based on areas of increased resilience to disasters as part of a disaster risk-mapping exercise. The training also focussed on DRR techniques. This was a significant change in strategy compared to the 2010 response, where capacity-building was not prioritised.

Materials

The materials for the shelter were procured in Punjab province, the primary supplier of bamboo in Pakistan. Other materials, especially sand and gravel, were sourced in Sindh province.

Wider project impacts

Some key components of the shelter construction strategy were also adopted by the wider community, such as construction on a raised platform, and installing eaves to prevent rain from soaking and weakening the walls. The use of lime in construction also increased.

The use of tarpaulins for roofs was adapted by other villagers, who used spare plastic bags as a makeshift cover.

Bill of Quantities

Item	Quantity
Bamboo, 2.5" diameter, anti-termite treated, various lengths 9ft – 17ft	71 pcs
Lime (10 % of Mud)	2 x 20kg bags
Chicks (Size 17ft x10ft)	2pcs
Tarpaulin sheet one piece (17ft x 20ft)	1 pc
Cotton Rope 3mm	4 pcs
Steel nails 4"	1kg
Nails 6"	1kg
Steel rivets 9"	9 pcs
Door	1 pc
Window	1 pc
Beneficiary contribution: sticks, straw and mud for plastering, clay.	-