



NEPAL EARTHQUAKE RESPONSE: Lessons for operational agencies

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Acknowledgements

This paper was written by David Sanderson and Ben Ramalingam, with contributions from Jock Baker, Jennifer Duyne Barenstein, Paul Currion, Filiep Decourte, Annie Davenport, Jan Egeland, Paul Gimson, Steve Goudswaard, Paul Harvey, Ann Lee, Raju Neopane, Ronak Patel, Robert Piper, Anshu Sharma, Rajib Shaw, Hari Darshan Shrestha, Shukla Tryambakesh, Maggie Stephenson and Michele Young.

Suggested citation

(2015) Nepal Earthquake Response: Lessons for Operational Agencies. ALNAP Lessons Paper. London: ALNAP/ODI.

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Copy-edited by Alex Potter

References by Renee Goulet

Communications and publication management by Franziska Schwarz, Alex Glynn and Chloe Sanguinetti

Cover image: Flickr/Basil Strahm

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Scope of the paper

This lessons paper aims to assist operational agencies responding to the 25 April 2015 Nepal earthquake. It provides 17 lessons drawn from experience of previous comparable disasters, based on evaluations, research papers and interviews with operational humanitarian practitioners. Key links to relevant information are provided after each lesson, with references provided at the end of the paper. Lessons are organised into two categories – ‘strategy and management’ and ‘technical delivery’.

The 7.8 magnitude shallow earthquake struck 81 km north-west of Kathmandu, with two subsequent smaller earthquakes and severe aftershocks. Just over a week after its impact the death toll was 7,000, with the number expected to rise. The government estimates are that over 70,000 houses have been destroyed and over eight million people are affected.

Summary of lessons

Strategy and management

1. Work with and through national and local actors, structures and networks.
2. Use the extensive preparedness planning that has already taken place.
3. Ensure that capacity development is seen and used as a vital form of aid.
4. Coordination is essential and must be tailored to the Nepali context.
5. Support pre-existing goods and service delivery systems.
6. Logistics are critical and demand the effective brokerage of international expertise.
7. Recognise the regional nature of the response.
8. Understanding and anticipating population movements are essential.
9. Pay special attention to marginalised, hidden and vulnerable populations, especially in urban areas.

Technical delivery

10. Assessment is the foundation for appropriate response.
11. Use digital technology and engage in two-way communication with affected communities.
12. Use cash-based programming linked with market analysis.
13. Get ready for the monsoon with temporary durable shelters such as high-quality waterproof tents.
14. Rebuild settlements safely to be ready for the next earthquake.
15. Debris management: urban rubble presents a challenge, but also a resource.
16. Health and WASH needs change quickly and require continuous assessment and adaptive responses.
17. Emergency education efforts should address both immediate and long-term needs.

Abbreviations & acronyms

CaLP	Cash Learning Partnership
CBO	Community-based organisation
CDAC	Communicating with Disaster Affected Communities
CDW	Construction and demolition waste
EMMA	Emergency Mapping and Marketing Assessment
ETC	Emergency Telecomms Cluster
IDP	Internally displaced person
IDRL	International disaster response laws
IPPF	International Planned Parenthood Federation
LGCDP	Local Governance and Community Development Programme
MIRA	Multi-Cluster Initial Rapid Assessment
NEOC	National Emergency Operation Centre
NGO	Non-governmental organisation
NRRC	Nepal Risk Reduction Consortium
NSET	National Society for Earthquake Technology-Nepal
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
RAM	Rapid assessment for markets
RSCG	Rental support cash grant
SRH	Sexual and reproductive health
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WASH	Water, sanitation and hygiene
WHO	World Health Organisation

Strategy and management

LESSON 1

Work with and through national and local actors, structures and networks.

As with all emergencies, international responders should work hand-in-hand with national and local organisations and networks. In Nepal, the National Emergency Operation Centre (NEOC) of the Ministry of Home Affairs is playing a central role in national-level disaster management, supported by chief district officers and village development committees. Several experienced national non-governmental organisations (NGOs) exist, among them the National Society for Earthquake Technology-Nepal (NSET), which has over 20 years' experience of earthquakes in Nepal. Others include community- and faith-based organisations, a number of which have disaster management as a core strategic imperative.

Emergency clusters have been long established in Nepal, with well-defined working modalities incorporating and in support of designated governmental departments. Cluster-based contingency plans had been developed before the earthquake and have been regularly updated (see Lesson 2). Because of the importance and history of aid in Nepal, many good partnerships and connections exist between the international community and national actors that should be capitalised on (see Lesson 4). Such connections are vital for bridging the gap between relief and recovery efforts.

Community-based organisations (CBOs), specifically those for the urban poor, who are often unrepresented in national and municipal structures, will be critical partners in the immediate relief efforts and longer-term recovery. The National Federation of Squatter Communities and the National Federation of Women's Savings Collectives are examples of organisations that might help to guide both of these locally contextualised responses. Both are affiliates of the global Slum Dwellers International network.

Links

- NEOC, National Emergency Operation Centre website: <http://neoc.gov.np/en> and Twitter feed: <http://twitter.com/neocofficial>
- UN Nepal Information Platform: <http://un.org.np>
- NSET, National Society for Earthquake Technology-Nepal: <http://www.nset.org.np/nset2012/>
- Slum Dwellers International in Nepal: <http://www.sdinet.org/country/nepal/>

LESSON 2

Use the extensive preparedness planning that has already taken place.

Nepal is well known for being at particularly high risk of earthquakes (the last major earthquake, at 8.4 magnitude in 1934, killed some 8,000 people). Consequently many preparedness initiatives have been put in place over the years. The Nepal Risk Reduction Consortium (NRRC), launched in 2011, combines government, aid agencies, donors and international financial institutions. Flagship projects under NRRC include school and hospital safety and community-based disaster risk management. Relief and recovery efforts must build on such pre-existing measures, as well as ongoing development programmes, such as the Local Governance and Community Development Programme (LGCDP). Experience from Haiti points to significant problems when development and disaster actors, sometimes in the same organisation, do not synchronise their activities (Clermont et al., 2011). Specific measures include the following:

- Align efforts with existing legislation, such as the 1982 Natural Calamity (Relief) Act, and its proposed successor, the Disaster Management Act; the 2008 National Strategy for Disaster Risk Management; the 2011 Local Disaster Risk Management Planning Guideline; and the 1994 Nepal National Building Code.
- Coordinate with government structures, including the Central Natural Disaster Relief Committee and local authority equivalents, and NEOC at the district and municipal levels.
- At the community level, build on the Community Disaster Management Committee formation guidelines, approved in 2013.
- Use pre-prepared information, such as the mapping of risk profiles of schools using the input of students and young people to map buildings' vulnerability (Grünwald and Carpenter, 2014).
- Formulate new partnerships among different actors, including the private sector.

Links

- Urban Preparedness – Lessons from Kathmandu Valley:
<http://www.alnap.org/resource/10884.aspx>
- LGCDM, Local Governance & Community Development Programme:
http://lgcdp.gov.np/home/about_lgcdp.php
- NRRC hospital and school retrofit programmes:
<http://un.org.np/sites/default/files/2012-12-26-Flagship-1-School.pdf>

LESSON 3

Ensure that capacity development is seen and used as a vital form of aid.

Capacity strengthening and support to national and local actors constitute a vital form of assistance. Where these capacities are found to be weak, international humanitarian actors should prioritise a coordinated effort to strengthen them. The forms of support provided should go beyond basic training to include strategic support, leadership and management advice, mentoring, secondments, equipment, and supplies.

An overarching priority in capacity-strengthening work should be investments in national and local governance mechanisms, many of which will have been disrupted by the earthquake. A number of mechanisms for effective humanitarian governance are already in place in Nepal. For example, the network of 44 district-level and two regional emergency operations centres have played a vital role in assessment and communication with NEOC and collaboration with local CBOs, Red Cross offices and the police. The NEOC network has been previously supported by the United Nations Development Programme (UNDP), the Department for International Development and the Department of Foreign Affairs and Trade, and will need further support. Collaboration with development sides of the aid system may be useful for securing the necessary financial investments.

Links

- Building the Future of Humanitarian Aid:
<http://www.alnap.org/resource/9151.aspx>
- Humanitarian Capacity in the South Asian Earthquake Response: <http://www.odihpn.org/humanitarian-exchange-magazine/issue-34/humanitarian-capacity-in-the-south-asian-earthquake-response-a-local-perspective>
- Capacity development in humanitarian crises:
<http://www.intrac.org/data/files/resources/687/Praxis-Note-54-Capacity-Development-in-Humanitarian-Crises.pdf>

LESSON 4

Coordination is essential and must be tailored to the Nepali context.

As Lesson 1 notes, the cluster system has been long established in Nepal. As with other emergencies, following a large influx of organisations, coordination must be tailored to the local context. Done badly, coordination structures increase transaction costs for all involved and exclude national and local actors. NEOC is playing a central role in coordinating the national response, with the support of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). NEOC is enabling both the establishment of the various sectoral clusters and inter-cluster coordination. The government has also put in place additional governance and oversight mechanisms, for example, requesting that relief funds received by the international community should be reported to the Nepal Central Bank daily.

Clusters should have clear and meaningful roles for national and local actors at the outset (the government has emphasised in particular effective coordination with the chief district officers of the 12 most-affected areas), as well as the large number of regional actors, especially from India and China. Clusters should also make sure not to re-create new local engagement mechanisms, but instead to work with and build on existing NGO and CBO collaboration mechanisms. Inter-cluster coordination efforts should ensure that such engagement mechanisms are shared across clusters as far as possible. In previous crises each cluster has developed a series of distinct structures, each of which usually involves the same national and local actors. Addressing this unnecessary duplication will be essential.

Links

- Strengthening of the coordination of emergency humanitarian assistance of the United Nations:
<http://www.alnap.org/resource/20122.aspx>
- Lessons Learned from the Cluster Approach:
<http://sites.tufts.edu/jha/archives/1976>
- Humanitarian Response Platform website:
<http://www.humanitarianresponse.info/coordination>

LESSON 5

Support pre-existing goods and service delivery systems.

Experience from Haiti highlights the risk of international aid damaging an existing economy, for instance, by competing unfairly with existing service providers by providing goods and services free of charge. This must be avoided. In urban settings there are strong existing economic systems that provide populations with the necessary goods and services that should be tapped into (IASC, 2010). International actors must therefore work within and support these systems, helping to return them to their previous capacity.

There are a number of ways in which this can be done that meet the needs of both immediate relief efforts and longer-term recovery:

- Whenever possible there should be local procurement of food and other aid supplies. This needs to be on the basis of good market assessments (see Lesson 10).
- There should be regional procurement of goods and services, such as from India (where routes are open; see Lesson 7).
- The international humanitarian sector should work closely with national private sector actors at a strategic and operational level to ensure mutual benefits. For example, cash-based assistance to local shops to replenish stocks and start trading again can help kick-start local economies.

The international humanitarian sector should seek ways to work with and strengthen national and local private sector interventions. Some of these may involve the private sector as a direct responder, but others may be more creative and original in nature. For example, while the Nepali tourism industry is likely to be seriously affected by the earthquake in the short term, drops in tourism demand could be mitigated in part by the procurement of essential services from the sector by humanitarian actors, from accommodation through to support to transportation, communications and logistics. Here there is also scope for tourism to be used as a means for channelling new contributions to the recovery effort.

As well as actors and networks in-country, there is a strong Nepali diaspora whose members are already actively involved in the response, both in terms of sending cash to relatives (remittances to Nepal account for around 25% of GDP) and returning to contribute to the response efforts. A current research project (see link below) on earthquake risk remittances may provide useful information. Because of their unique insider-outsider perspectives, engagement with Nepali groups such as the Global Nepali Professional Network is a potentially vital source of information and networks.

Links

- Urban Crises and Humanitarian Response: A Literature Review:
<http://www.alnap.org/resource/20019.aspx>
- GNPN, Global Nepali Professional Network:
<http://www.gnnp.org/#!/kurakani/c1ppt>
- Remittances in reducing risk to earthquakes – analyzing results:
<http://www.elrha.org/hif-blog/remittances-reducing-risk-earthquakes-analyzing-results/>

LESSON 6

Logistics are critical and demand the effective brokerage of international expertise and national requirements.

The response faces numerous logistical bottlenecks, from the lack of airport capacity to the damage done to roads and bridges inhibiting access to rural areas. Regionally, materials are being provided by India and China. There are four major roads going into Nepal from India (see link below).

The deployment of the Nepali and regional military and international private sector expertise is helping with critical issues, but more support is needed. International military resources have been slower to be deployed in Nepal compared to other recent disasters. The Logistics Cluster is already working with UPS and DHL on securing additional logistics support, and Deutsche Post DHL is providing capacity to manage aid at Tribhuvan airport. Early in the response customs requirements have been reported to be problematic and could potentially become a flashpoint between the government and the international community. The international humanitarian community therefore should act as an active broker for improving aid efficiency and effectiveness, while the use of international disaster response laws (IDRL) guidelines for affected states should be prioritised.

Links

- Road Access Routes to Kathmandu, Nepal from India:
<http://quakehub.net/post/117670320993/agencies-considering-road-routes-for-movement-of>
- IDRL Guidelines:
<http://www.ifrc.org/en/what-we-do/idrl/idrl-guidelines/>
- Logistics Cluster Nepal:
<http://www.logcluster.org/ops/nepal>
- Notes on customs clearance and useful contacts:
<http://un.org.np/headlines/note-customs-clearance-and-useful-contacts>

LESSON 7

Recognise the regional nature of the response.

The earthquake response has a strong regional dimension, with India and China in particular playing a central role. International actors should seek to align and coordinate with and mutually support these actors. Six members of the Asian Disaster Reduction and Response Network have already responded: NSET Nepal, SEEDS India, Mercy Malaysia, PGVS India, Doctors for You India and Dhaka Community Hospital Bangladesh, with coordination taking place via Nepal Quake Hub (see link below).

The efforts of key regional actors should be worked with and integrated at all levels. In Myanmar after Cyclone Nargis the creation of the Tripartite Core Group as an ad hoc coordinating body by the government, UN and Association of Southeast Asian Nations allowed for greater international-regional collaboration in response and recovery. Similar efforts should be made to integrate regional players into the NEOC system in the Ministry of Home Affairs. This should also provide a strong platform for regional engagement in local levels of operational management, for example, by bringing representatives of regional actors into the various clusters, leading to the better use of resources and a reduced coordination burden at the district and local levels.

Links

- Quakehub:
<http://www.quakehub.net>
- Asian Disaster Reduction and Response Network:
<http://www.adrrn.net>
- Cyclone Nargis Tripartite Core Group:
<http://www.burmapartnership.org/tag/tripartitie-core-group/>

LESSON 8

Understanding and anticipating population movements are essential.

One of the major lessons of the Haiti earthquake response is that urban populations are highly mobile, and assistance efforts must work to keep track of movements. This is already becoming apparent in Nepal, where within one week of the earthquake an estimated 100,000 people left Kathmandu for rural areas, with many people returning to their ancestral villages. There are anecdotal reports of significant cross-border migration to India. This is a porous international border and is a known route for human trafficking (see link below). Agencies need to be aware that earthquake evacuees, particularly younger girls, could become targets for traffickers.

Tracking the influx and outflow of populations is a major challenge. In Haiti, there were numerous attempts to do so using mobile phone monitoring; however, this information was not available in real time for use in operational decision-making. However, phones and tablet computers can be used, in conjunction with good information management, to assess population movements in a more direct way through surveys and assessments (see Lessons 10 and 11). This will require collaboration with the district- and village-level authorities, who should be tasked with tracking population changes as a matter of urgent priority.

Links

- UN Global Initiative to Fight Human Trafficking:
<http://www.ungift.org/knowledgehub/en/stories/September2014/unicef-reports-7-000-nepali-women-and-girls-trafficked-to-india-every-year.html>
- Predictability of population displacement after the 2010 Haiti earthquake:
<http://www.pnas.org/content/109/29/11576.full>
- Flowminder tool for analysing population mobility:
<http://www.flowminder.org/about/>

LESSON 9

Pay special attention to marginalised, hidden and vulnerable populations, especially in urban areas.

Cities are homes to marginalised and hidden people. These may include those fleeing persecution or the law, illegal migrants, and/or those deemed to be different to others in society, such as lesbian, gay, bisexual and transgender people LGBT (Sanderson and Knox Clarke, 2012). Many such groups and individuals may specifically not want to be found and may behave differently to the assumptions much aid is based on: research in urban Colombia found that the priority of marginalised groups there is to remain 'passive' and 'invisible' (Jakobsen, 2011). Gender will also be an added dimension, in terms of which women in such groups may be especially marginalised. The IFRC's 2010 gender guidelines (see Lesson 10) note that 'women more often carry additional disadvantages due to gender than men. These disadvantages can be amplified within some communities and cultures, especially when women are single, divorced, widowed or childless'.

ACAPS (2015) reports that in Nepal, Dalit communities are especially vulnerable, and are discriminated against in terms of choices of habitation and access to services, which results in 'Dalits living in highly vulnerable places' and having been 'systematically excluded from relief and rehabilitation efforts following flood and other natural hazard events'. The UN High Commissioner for Refugees reports that there are some 40,000 refugees and asylum seekers in Nepal, and as of 2013 there are some 50,000 internally displaced persons (IDPs). A 2012 research paper on IDP legal frameworks, best practices and national plans is given in the links below.

Assessments should also highlight particularly vulnerable populations/people for whom protection will be an issue. In addition to women and child-headed households, the elderly, and the infirm, other groups may be susceptible to gangs and organised criminal activity. Anecdotal evidence emerging some days after the earthquake points to organised, systematic break-ins by armed gangs. Protection will be an important consideration in both formal and informal camps.

Links

- ACAPS Lessons learnt for Nepal earthquake response:
<http://www.alnap.org/resource/20123.aspx>
- Internally Displaced Persons in Nepal:
<http://www.alnap.org/resource/20124.aspx>
- IASC Protection Cluster: Protection Checklist for Camp Coordination and Shelter:
<http://un.org.np/attachments/iasc-protection-cluster-protection-checklist-camp-coordination-and-shelter>

Technical Delivery

LESSON 10

Assessment is the foundation for appropriate response.

Good assessments must be carried out for an effective response (Proudlock, 2009). Assessments combine secondary data (such as census and map-related information) and primary information gathering through assessment teams. To avoid duplication and losses in efficiency, assessments should always be carried out jointly by agencies using standardised and agreed assessment approaches, such as the Multi-Cluster Initial Rapid Assessment (MIRA), for which training in Nepal has been undertaken.

In urban areas access and density present particular challenges. The remoteness of many rural communities means that assessments may take some time. Information gathered by unmanned aerial vehicles – i.e. drones – needs to be systematic and part of a structured assessment. Deployments are under way in Nepal by organisations such as UAViators and Global Medic. Findings can provide the basis for initial damage assessments, with findings presented on colour-coded, high-quality images.

Needs assessments should also be capacity assessments, i.e. identifying strengths, skills, networks, resources, etc. within communities and structures that can be utilised. The mapping of capacity – which too often is not undertaken – is particularly relevant in resource- and skills-rich urban areas (Clermont et al., 2011). For urban areas ACAPS' recently launched *Rapid humanitarian assessments* in urban settings technical brief (Currion, 2015) addresses urban challenges such as verticality, diversity, legality and density. Sectoral assessment tools include the *Housing Post-Disaster Needs Assessment (PDNA) Guidelines* (World Bank/GFDRR, 2012) and the IFRC's Rapid assessment for markets (RAM) (see Lesson 12), while multi-sectoral assessments include the IFRC's *Disaster emergency needs assessment* (IFRC, 2000). Other points to note are:

- Gender balance in assessment teams is needed. Previous evaluations from Pakistan point to women's needs not being met by overwhelmingly male-led assessment teams (IFRC, 2010).
- Use trained engineers in damage assessment, or those sufficiently trained to assess the safety of buildings. The identification of structurally safe buildings will help the resettlement of affected people. Templates such as the rapid visual screening tools for different building types produced by the Government of India and UNDP (Arya, ND) may be helpful.
- Look to where good housing stock can be added for future reconstruction programmes.

Links

- MIRA:
<http://un.org.np/resources/mira>
- ACAPS Rapid Humanitarian Assessment in Urban Settings:
<http://www.alnap.org/resource/20125.aspx>
- Rapid Visual Screening of RCC Buildings::
<http://www.alnap.org/resource/20127.aspx>
- IFRC A practical guide to Gender-sensitive Approaches for Disaster Mangement:
<http://www.alnap.org/resource/20126.aspx>

LESSON 11

Use digital technology and engage in two-way communication with affected communities.

Digital information use is a fast-evolving sector in humanitarian response. OCHA's 2012 *Humanitarianism in the network age* emphasises that to take advantage of the new information environment, aid agencies need to ... find ways to work with new data sources, to collaborate with a wider range of partners, and to understand that information in itself is a life-saving need for people in crisis. Recent responses to the Haiti earthquake, Typhoon Haiyan and Cyclone Pam attest the usefulness of mapping, crowdsourcing information and the monitoring of social media (Vinck, 2013, Meier, 2015).

Established agencies should have a duty to share datasets and information. While this may take place in joint assessments, the formation of a data management working group would add value for better data sharing and exchange. In Nepal, much of the information being produced by the government and national and local actors, ranging from rosters of district-level contacts to damage assessments, are in Nepali in the first instance. Translation skills and multilingual staff members will be at a premium, and a centralised effort by NEOC will be far more cost-effective.

'Digital operations' are under way in Nepal. MapAction is producing maps indicating collapsed and partially collapsed buildings by district. Maps are also being produced by OpenStreetMap, while information is being collated by others, including the Standby Task Force and Crisis Mappers. Harmony Road is monitoring social media to collate information into daily updates on a range of issues, including health, communications and coordination. Agencies can use this information, providing it is mainstreamed into their activities and is systematically gathered. Crowdsourcing information is also available to guide the response, with Kathmandu Living Labs contributing to the earthquake response by adding

to OpenStreetMap and collecting additional vital information, while Collective Campaign for Peace is continuing to collect human rights and security reports.

The use of satellite imagery provided by organisations such as DigitalGlobe can provide ready information for damage assessment, where pre-event imagery can also be sourced to provide comparisons. The EU's COPERNICUS programme provides high-quality satellite and mapping imagery. Crowdsourcing to tag damaged buildings (such as Tomnod) is also under way, although the information produced should be verified, given that tagging is undertaken by volunteers. The Emergency Telecomms Cluster (ETC) convened by the World Food Programme aims to ensure internet coverage and improved communications.

Better two-way communication with affected communities also needs to be achieved to establish feedback loops, prevent conflicting messages and counter rumours. While the variety of sources new media present can help in verifying the accuracy of information (OCHA, 2013), agencies need to collaborate more to ensure that the information presented is not contradictory. The Communicating with Disaster Affected Communities (CDAC) Network – which is responding in Nepal and providing regular updates – provides valuable expertise in this area. Building on the rapid responses of agencies such as BBC Media Action and AMARC, a Communicating with Communities Working Group led by the UN Children's Fund has been established. CDAC's evaluation of best practices from Haiti (Wall, 2011) provides lessons on the use of SMS, community-based communications systems, and working with local media and phone companies.

Radios are valuable sources of information. Following the Sendai earthquake and tsunami local radio in urban Sendai became an important source of valuable information for affected communities (Sanderson and Knox Clarke, 2012). Community radio in Nepal is widespread. The community radio organisation AMARC Asia-Pacific is updating progress on its Facebook page. Radio engineers in Mumbai, India, are working with Nepali radio operators to strengthen communications networks and increase national-local coordination, which could be enhanced through engagement and collaboration with international humanitarian technology initiatives and efforts.

Links

- Community radio ARMARC:
<http://ap.amarc.org>
- COPERNICUS Emergency Management Service:
http://emergency.copernicus.eu/mapping/ems-product-component/EMSR125_03POKHARA_GRADING_OVERVIEW/1
- CDAC, Communicating with Disaster Affected Communities:
<http://www.cdacnetwork.org/i/20150427181249-24olc/>
- ETC, Emergency Telecommunications Cluster:
<http://ictemergency.wfp.org/web/ictept/emergency-telecommunications-cluster>

LESSON 12

Use cash-based programming linked with market analysis.

In recent years cash-based programming has proved to be a powerful programming approach. OCHA's 29 April Flash Appeal for the Nepal earthquake response refers to the need for cash programming to provide 'a critical input for food security, livelihoods and other sectors'. Cash programmes allow recipients to prioritise their own needs and support markets, while for agencies, transaction costs are low. A 2014 evaluation by the International Rescue Committee of a winterised cash programme in Lebanon to 87,700 urban refugees found, among other things, no meaningful impact on prices, a reduction in child labour and a significant benefit to the local economy (Lehmann and Masterson, 2014). Cash transfers were used to good effect in Haiti. Groupe URD's review of cash programming notes that transfers can be used across different sectors, including food, non-food items and livelihood-related issues such as debt repayments (Kauffmann, 2012). An Overseas Development Institute study of one programme reports that 'the primary aim of the cash transfers was to meet basic needs'.

There are issues for consideration in cash programming. One is whether to give conditional or unconditional grants. The latter are easier to administer and are preferred among recipients. Yet agencies may have good reason to prefer conditional grants, for instance, for donor accountability. Other issues are reach, the identification of affected populations (undertaken during assessments) and the mode of cash transfer.

Distributing cash needs careful consideration. Following Typhoon Haiyan several agencies physically took cash to remote areas, and while this worked, there were concerns over the security of agency staff. While mobile phone cash transfers have taken off in recent years, the current state of banking in Nepal is poor: a series of reports from late 2014 from Mobile Money for the Poor in Nepal highlights the need for formal banking and opportunities for expansion. This is an area that recovery operations might engage in. Working with existing local initiatives such as Savings and Credit Cooperative Societies or the Banking with the Poor Programme implemented by the Rastriya Banijya Bank presents opportunities to overcome these challenges of appropriate targeting and distribution, in accordance with Lesson 5.

Functioning markets are a prerequisite for cash-based programming. Markets in urban areas almost always quickly re-establish themselves. The Cash Learning Partnership's (CaLP's) Market analysis in emergencies guide (Sivakumaran, 2011) describes how market analysis can benefit impact and indicate the resources that are required. The Emergency Mapping and Marketing Assessment (EMMA) toolkit has a tried and tested approach, and is useful when deployed a short time after the disaster, making use of initial assessments and when populations movements may have reduced (an EMMA was undertaken in Haiti some four weeks after the

earthquake). The IFRC's Rapid assessment for markets guide is intended for use within the first few days of a disaster and addresses key questions such as:

1. How has the market system been affected?
2. Are the goods and services that people need available locally?
3. Are markets able to respond to an increased demand for commodities?
4. Can cash be delivered and spent safely?

Links

- EMMA toolkit:
<http://emma-toolkit.org/>
- Guidelines for an initial emergency market assessment:
<http://www.alnap.org/resource/20128.aspx>
- CaLP Market Analysis in Emergencies:
<http://www.alnap.org/resource/7468.aspx>

LESSON 13

Get ready for the monsoon with temporary durable shelters such as high-quality waterproof tents.

Lessons from the Pakistan earthquake support high-quality tents as a viable temporary shelter option, although additional materials may be needed to ensure that they are waterproof for the forthcoming monsoon season, which usually begins in mid- to late June (Stops and Ashmore, 2007).

While the use of transitional shelters in Haiti received widespread criticism, the use of shelter kits following Typhoon Haiyan has been more successful. A flexible approach to temporary shelter approaches is therefore required; it should also be noted that in past disasters such as Typhoon Haiyan 'the vast majority of immediate shelter needs were met by family and friends' (Hanley et al., 2014). This is not unusual: the IFRC states that aid reaches less than 10% of those who need it (IFRC, 2013). Given this reality, agencies need to consider how they engage in shelter recovery in order to balance scope with need (see Lesson 14).

In rural areas tents or other forms of temporary shelter are readily usable, although if rebuilding can take place immediately with adequate support to ensure it is done safely, then this is the best option. In urban areas, with density and space considerations, temporary shelter is much more complex and rural forms do not

suit urban needs (Sanderson et al., 2014). Past urban disasters show that open urban spaces such as parks, squares and sports areas are quickly colonised by homeless people and/or those afraid to re-enter buildings. Many may have makeshift shelters. Others leave the city to stay elsewhere, to return weeks or months later, while others move in with families and relatives. The Shelter Cluster's guidance for temporary shelter for Nepal is that planned temporary settlement sites are necessary but are considered a last resort. Every effort should be made to minimise the need for resettlement to planned temporary sites that are located away from previous homes and communities. (Shelter Cluster, 2015)

If camps are formed, then care must be taken that they are as temporary as possible. While there may well be a need to form camps – and to this end the Nepalese government's preparedness plans have preidentified potential sites – these should be as short term as possible. The Shelter Cluster notes, 'Planned settlements in a relief context are usually very expensive to maintain and service and very hard to close' (2015). Following the Pakistan earthquake the authorities closed camps after six months: while this was a controversial decision for some, the risk of protracted relief was avoided. Conversely, in Haiti, resource-rich camps perpetuated their existence for too long, in some cases years.

Regulatory barriers to temporary shelter – concerning housing, land and property rights – will be a significant consideration. A recent IFRC study on the subject in Nepal concluded that, 'laws, policies and regulations are rarely applied for the provision of emergency shelter in Nepal ... [which has] the potential to hamper the provision of effective emergency shelter in different ways' (IFRC, 2014). To these ends, careful planning in consultation with relevant authorities regarding legal statuses will be a prerequisite. The profile of the United States Agency for International Development (USAID) contains useful background information in this area.

Links

- EMMA toolkit:
<http://emma-toolkit.org/>
- Guidelines for an initial emergency market assessment:
<http://www.alnap.org/resource/20128.aspx>
- CaLP Market Analysis in Emergencies:
<http://www.alnap.org/resource/7468.aspx>

LESSON 14

Rebuild settlements safely to be ready for the next earthquake.

Successive reviews and evaluations point to the need to invest aid funds in rebuilding permanent settlements as quickly as possible (Davis, 2013). The purpose of rebuilding safely at this point is to be ready for the next earthquake.

In rural areas technical assistance and support need to be provided in safe building techniques. Given the nature of remote locations, ‘barefoot architects’, engineers and trained builders can provide support. Following the 2001 Gujarat earthquake, SEEDS India trained cadres of masons’ associations in safe building techniques. The same organisation also provided mobile support to far-flung communities after the Pakistan earthquake, demonstrating the need to rebuild safely using simple techniques. Rebuilding also needs to be monitored to ensure that safe rebuilding principles are adhered to. Above all, for success, agencies engaged in this work need to adopt the role of facilitator and not provider, i.e. working with communities on a developmental basis, providing assistance and support, employing local builders, etc.

In urban areas consider an area-based approach to shelter and settlements. It is imperative that vulnerability is not rebuilt – building standards need to be embedded into the DNA of everyone involved. This means a considered and coordinated response working with authorities and local NGOs. An area-based approach (referred to as a neighbourhood-based approach by USAID/the Office of US Disaster Assistance) rooted in the sound developmental principle of community-driven decision-making may be an effective approach for coordinating multi-sectoral needs based on community priorities. This can be helpful for recognising the physical and social differences in neighbourhoods in urban Nepal. A recent review of area-based approaches (Parker and Maynard, 2015) presents five case studies where this approach has worked well. One study in Tacloban City cites Catholic Relief Services implementing an integrated urban shelter and settlements recovery programme for 3,000 households involving on-site assistance to repair houses, including cash and materials, with professional support.

A settlements approach means that the response needs to employ and work with skilled urban professionals, such as planners, architects and engineers. Aid agencies need to work in collaboration with relevant planning authorities. Urban form also needs to be considered and adhered to: UN-HABITAT’s 2010 *Nepal urban sector housing profile provides useful information, including building typology* and the use of space. Other forms of assistance, such as rental subsidies and hosting, which are used widely in Haiti, should also be considered. Efforts also need to be made to prevent untrained builders from undertaking poor-quality informal rebuilding that will not cope with future disasters. This could be included within the Shelter

Cluster's scope of activities, for example, instituting a reporting system, providing technical support and advocacy.

For renters – who are often overlooked in urban shelter responses – rental support cash grants (RSCGs) are an option. The World Bank's (2014) RSCG operations manual, comprising a case study from Haiti, provides guidance on setting up such programmes. The earthquake also presents an opportunity to consider support to informal urban settlements. The UN Nepal Information Platform provides information about slum and squatter dwellers in English and Nepali. Agencies working in slums present an extra-complicated concern where the most vulnerable may not receive similar levels of support to more regularised neighbourhoods. Here it is essential to work with pre-existing community and NGO structures.

Links

- UN HABITAT Nepal: Urban Housing Sector Profile:
<http://www.alnap.org/resource/20089.aspx>
- UN Nepal Information Platform – Urban slum dwellers and squatters:
<http://un.org.np/oneun/undaf/slum>
- World Bank Rental support cash grants: operations manual:
<http://www.alnap.org/resource/20131.aspx>

LESSON 15

Debris management: urban rubble presents a challenge, but also a resource.

Large amounts of rubble constitute an urban disaster phenomenon that presents a challenge, but which can also be a resource. The management of such rubble needs to be carefully handled to prevent other hazards, for example, rubble that found its way into storm drains in Port-au-Prince after the Haiti earthquake led to flooding. UNDP's Guidance note – debris management (2013) provides advice on situational analysis, management, engaging communities and government frameworks. 'Lessons learnt' emphasises taking the initiative, undertaking assessments, identifying transport routes and forming partnerships. UNDP's 2013 document Debris management – the door to development emphasises lessons from Haiti concerning longer-term recovery, including participation and neighbourhood economic recovery. Rubble clearance can provide income-earning opportunities for people, for instance, through a cash-for-work programme, although adequate protective clothing and adherence to the principle of due care are needed.

Site selection and the separation of wastes were factors that needed to be addressed at the earliest possible stage. Construction and demolition waste (CDW) is a growing area of focus in India in particular, where CDW is used successfully in reconstruction to make tiles and provide foundational materials (see link below).

ACAPS reports that ‘the 2005 Pakistan earthquake showed that debris required urgent temporary storage’. Building materials can be salvaged: bricks can be cleaned and reused, while rebars from reinforced concrete can be straightened out for reuse. Rubble can be removed incrementally: in the early phases to allow access and the provision of temporary shelter, and later as reconstruction begins. Sensitivity with regard to rubble clearance may also be necessary. Home owners whose houses have collapsed may not want rubble to be removed due to family members being buried, loss of belongings, or the fact that the rubble represents the location of their homes.

Links

- CDW: India’s first plant that recycles construction waste:
<http://www.thehindu.com/news/cities/Delhi/india-as-first-plant-that-recycles-construction-waste/article6362727.ece>
- UNDP Debris management – the door to development:
<http://www.revistahumanum.org/revista/wp-content/uploads/2013/10/TOI-Interactive-English.pdf>
- UNDP Guidance note - debris management:
<http://www.alnap.org/resource/11707.aspx>

LESSON 16

Health and WASH needs change quickly and require continuous assessment and adaptive responses.

Based on experience from past disasters, the health needs of the Nepali population will change from the acute phase requiring emergency medical care for trauma and mass casualty management to (often within around two weeks) a post-acute phase with a greater focus on rehabilitation, managing infectious disease risk and addressing survivors’ psychosocial needs. While disease risks from dead bodies are frequently over-stated, the mass movements of people combined with high population densities, increased levels of exposure, and poor water and sanitation create potential opportunities for communicable disease cases to increase and reach critical levels. This is especially the case for measles, meningitis and waterborne diseases such as cholera.

Good disease surveillance is critical, and can be facilitated by new monitoring technologies and with appropriate triggers for a range of responses such as

immunisations. In the Philippines, a mobile-based post-disaster health-monitoring system was put in place that has now reached national scale. After Typhoon Haiyan it led to several thousand disease-surveillance triggers, each of which was dealt with by national or local actors and proved especially useful in the post-emergency setting.

In urban settings sexual and reproductive health (SRH) requirements are also paramount and are often poorly addressed by the international community. The Sprint Initiative of the International Planned Parenthood Federation (IPPF) is deploying staff in Nepal, and has a range of methods and tools to ensure SRH needs are adequately assessed and appropriately dealt with.

Concomitant chronic disease management will be critical, because access to and care for conditions such as hypertension and diabetes will be severely affected by disrupted healthcare systems.

The incidence of psychological trauma, stress, anxiety and depression increases after disasters. There is a high risk of this in the earthquake's aftermath in Nepal because of the loss of loved ones and homes, displacement, the disruption of social networks, and the destruction of many longstanding cultural and religious buildings that provide important sociocultural and psychological anchors for the Nepali people. As well as counselling and using appropriate forms of therapy such as psychological first aid and eye movement desensitisation and reprocessing, experience from Typhoon Haiyan indicates that the active involvement of survivors in post-disaster shelter reconstruction can play a vital role in the personal and collective psychosocial recovery process.

As well as dealing with the rise in more complex health needs, the rapid health assessment undertaken by the World Health Organisation (WHO) highlights the need to strengthen the Nepali healthcare system. Hospitals and clinics in the four worst-affected areas have been damaged to the point that they can no longer function and crucial supplies are urgently needed, from essential medicines to surgery kits, IV fluids, antibiotics and suturing materials. Agencies should work with a wide variety of existing healthcare providers. Urban populations in particular often seek health- and nutrition-related services from a large variety of sources, including traditional healers, private-and public-sector providers, and chemists. Where these services are traditionally fee based, agencies need to be careful not to compete unfairly by providing free or low-cost treatment, thus adversely affecting existing providers (see Lesson 5).

Water, sanitation and hygiene (WASH) present major challenges, and an effective and timely response is crucial. Agencies need to pay attention to gender issues when providing support in this area, for example, the differential impact of disease on women and men, women's role in collecting water, and safety and gender-based violence considerations when designing WASH facilities. Water and sanitation needs must be met through a diverse range of context-specific strategies. Early WASH priorities reported by Save the Children are for clean water, private and

safe latrines, and private bathing spaces and hygiene materials for women and girls. Oxfam's experiences of gender-sensitive WASH facilities following the Haiti earthquake in urban areas highlight the need to establish partnerships, address protection needs in camps and form partnerships with public bodies (Cohen and Joseph, 2014). Wherever possible all WASH infrastructural interventions should contribute to existing infrastructure and/or the long-term urban planning and development of a city.

Links

- WHO:
<http://www.who.int/mediacentre/news/releases/2015/health-assessment-nepal/en/>
- WHO Guide on Psychological First Aid:
http://www.who.int/mental_health/publications/guide_field_workers/en/
- SPRINT Initiative of the IPPF:
<http://www.ippf-sprint.org> and a useful 'cheat sheet' for dealing with reproductive health in emergencies: <http://www.ippf-sprint.org/downloads/misp/MISP-Cheat-Sheet.pdf>
- Nepal WASH cluster:
<http://www.humanitarianresponse.info/en/operations/nepal/water-sanitation-hygiene>

LESSON 17

Emergency education efforts should address both immediate and long-term needs.

The provision of education in emergencies is a growing focus for international actors, but it is often under-funded. The earthquake has damaged over half the schools in Nepal, totalling some 16,000 buildings according to OCHA, with over 5,000 being totally destroyed. The earthquake also occurred close to exam time, potentially meaning the loss of a year's schooling.

There is a need to prioritise education interventions, rehabilitate schools and reopen them as soon as is safely possible. Evidence shows that children out of school for long periods after emergencies face numerous risks, including child labour, violence and other forms of exploitation, with significant numbers not returning to school. In addition to the work already under way in temporary camps to provide child-

friendly spaces, Education Cluster members should work with the Department of Education and the School Management Committee on the assessment of school structures to ascertain which ones can be reopened, and develop scenarios for the impact of the earthquake on the examination schedule.

Links

- International Network for Education in Emergencies:
<http://www.ineesite.org/en/>
- Save the Children – The Short Guide to Rapid Joint Education Needs Assessments:
http://www.savethechildren.org.uk/sites/default/files/docs/Short_Guide_to_Rapid_Joint_Education_Needs_Assessments_1.pdf

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