Natural Disasters: How can we improve?

Fact Sheet

Lesson 2: Disaster management and reconstruction: building partnerships

Starter

Exploding some management myths

'MYTH: Foreign medical volunteers with any kind of medical background are needed. REALITY: The local population almost always covers immediate lifesaving needs. Only medical personnel with skills that are not available in the affected country may be needed.'

Eight interesting myths are 'exploded' in an online resource.

Teaching tip

This is a good way to start the second lesson. The myths can be studied online by students if facilities are available, or read aloud as a starter activity. Find them at the 'sixty seconds' link: http://www.21stcenturychallenges.org/60-seconds/myths-and-realities-in-disaster-situations/

Main activity

(1) Delivering successful post-event reconstruction work

The co-founder of the NGO Architecture for Humanity, Cameron Sinclair, sets out a number of criteria for success:

- Aid is best delivered in a spirit of collaboration and not competition. He especially advocates the 'tugboat and tanker' model where smaller NGOs ('tugboats') with specialist knowledge can help big well-funded charities like Oxfam ('tankers') identify priorities for action in partnership.
- Where societies suffering from systemic poverty have been affected, such as the slums of Port-au-Prince in Haiti, NGOs may need to commit themselves to as much as four or five years of investment if they are achieve a lasting impact.
- A quick response is vital. Some NGOs have an effective network of regional offices rather than a strict hierarchy topped by a single decision-making centre (that can be slow to respond to disasters in distant corners of the globe).
- NGOs can help empower and support local professionals after a disaster has struck, thereby helping money to re-circulate (by re-booting a local **multiplier effect** and creating new clusters of economic activity). For instance, Architecture for Humanity recommends employing local building firms and buying local materials as part of any relief effort.

Specification advice

All taught 16-18 courses require students to be able to make some sort of evaluative assessment of the efforts made to cope with natural hazards and their aftermath.

AQA examines the "management of the hazard and responses to the event"; Edexcel discusses "the effectiveness of different approaches and methods of coping"; OCR asks students to study "the effectiveness of managing earth hazards"; WJEC considers "the effectiveness of management strategies".

In all cases students need to be able to forge a sophisticated analysis that looks in depth at the way people respond under difficult circumstances.

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- Structures built as part of a relief effort need to be made durable. Local knowledge of the kinds of materials that can resist weathering in a particular physical environment can be important: NGOs and aid workers can question local people about this before they start re-building.
- Community cohesion is important to maintain, especially if there are ethnic or religious differences that could become a focus for unrest as people become frustrated with their post-disaster situation. Following the 2004 tsunami in Sri Lanka, Tamils and Muslims were provided with a cricket ground where tensions between the two groups could be eased in a competitive, sporting context.
- NGOs can try to avoid out-sourcing paid work overseas – for instance, by creating pre-fabricated buildings in the USA and then shipping them to a disaster zone such as Haiti. Doing so brings little employment to people in the disaster zone [watch the following film clip to learn more about this important issue:

Key terms

Resilience The capacity of an individual or community to cope with a disaster and its after-effects and to rebuild and resume their normal lives afterwards.

Human resources The abilities and potential of the human population in terms of their educational levels, their skills, the languages they speak and their capacity to innovate and invent.

Multiplier effect The knock-on effects that one economic activity (e.g. manufacturing employment) has for other sectors of a regional economy (e.g. consumption of services).

http://www.21stcenturychallenges.org/challenges/25-may-natural-disasters-how-can-we-improve/media-gallery/video/q1-professor-david-sanderson/]

(2) What makes good governance?

Taking a global perspective, it is clear that disaster responses are taking place at many different geographical scales - and they need to be carefully co-orientated. A lack of co-ordination can actually hamper relief efforts. For instance, in Haiti in 2010, 170 agencies attended a water security strategy meeting after the earthquake (under the auspices of the international 'water and sanitation cluster' group). With so many people attending, it was difficult to reach a consensus about what to do because there were too many conflicting opinions and levels of experience and expertise around the table (*source*: Barbara Stocking, Oxfam CEO).

The following outline suggests optimum ways in which different players, at different scales, can take action in a co-ordinated way:

Follow-up activity

It is important to understand the physical processes that give rise to hazards in order to improve our response to them. Geologists need to gather post-event knowledge after an earthquake has struck to better understand the nature of the geophysical hazard – but were discouraged from travelling to Haiti in 2010 during the immediate aftermath. Find out more about this issue at http://www.21stcenturychallenges.org/challenges/25-may-natural-disasters-how-can-we-improve/media-gallery/video/q7-marco-bulmer/

- **NGOs** NGOs can make a lasting economic impact when they form partnerships with local businesses and the private sector in disaster zones. For instance, Oxfam were offered a major financial contribution by a major UK clothing company after the 2004 Asian tsunami. Their approach was to suggest the company paid more to its own

clothing suppliers in Sri Lanka (an affected area) thereby providing clothes for survivors while also boosting local output and employment.

- **UN leadership** The United Nations is the only player that can truly co-ordinate the response of national governments at a global scale. The UN now has a framework to help give the global community a united vision for achieving better disaster management: this is the Hyogo Framework for Action 2005-2015 (see appendix).

- **Active citizens and businesses** Individuals and local communities sometimes need to take greater responsibility for doing what they can to build up their own personal resilience to hazards in areas where there is a known hazard risk. In flood-prone Bangladesh, some schools are now being built on stilts to make sure they remain open during flooding.

- **Responsible states** Governments need always to work closely with international donors rather than obstruct efforts for political reasons. An example of what *not* to do? Cyclone Nargis made landfall in Burma (Myanmar) in 2008. A cyclone of the North Indian Ocean basin, it was one of the very deadliest meteorological hazards of all time. The final death toll was around 135,000. Aid agencies reported that much-needed food and equipment did not get to those who needed it in the immediate aftermath of the cyclone. This was because Burma's military junta (army officials who seized control in 1962) failed to transport and distribute supplies. Worse, they refused to give access to experienced western aid workers who could have helped save lives. Read more in the Geography in the News article: A bad month for hazards

NGO Profile

Architecture for Humanity operates in almost 40 countries with nearly 300 projects. 40% of this NGO's efforts are currently focused on Haiti, helping rebuild communities in the aftermath of the earthquake that hit Port-au-Prince in 2009. Their speciality is working toward sustainable housing harnessing solar / wind power and rainwater resources. They try to provide 'pragmatic solutions' for their 'dollar-a-day' clients. Read more at: http://architectureforhumanity.org/

Box 2: NGO profile

(3) Employing new 'technological fixes' for disaster management

Technology is offering all kinds of new opportunities to improve our disaster response as a global community.

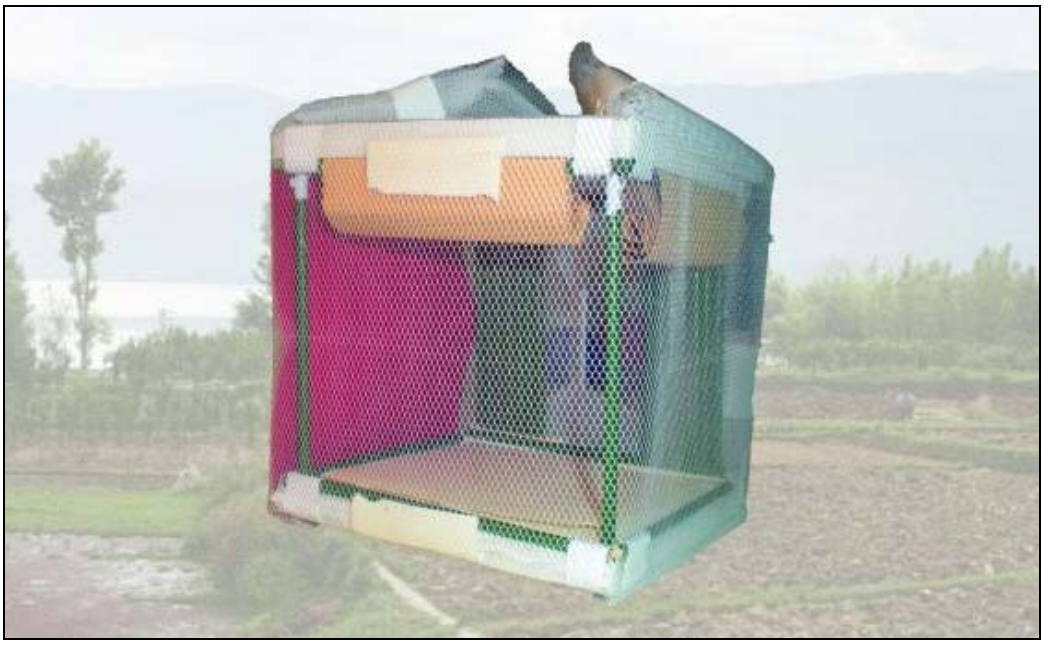
Specification advice

Edexcel students can develop a synoptic theme for Unit 3 by looking at how technology is used to help improve our response to disasters (Unit 1).

'Open-source' technology for reconstruction work

All of Architecture for Humanity's work (their architectural designs) is 'open-source'. This means that the designs are freely available to be shared and used by anyone who wants to. They are registered with a 'creative commons' license. They are not seeking to profit from intellectual copyright in the long term. You may already be familiar with this kind of approach to 'open-source' sharing from using on-line resources such as Wikipedia or Flickr.

Here is an example of an open-source building design:



The image shows a temporary shelter 'constructed using local colours, materials and traditions, and intended for enabling thousands of Sichuan earthquake survivors to finally return to life-sustaining farms. The shelter is easily transportable; it collapses into two dimensions. The weight of the objects within, e.g. rocks, anchors the shelter.'

Teaching tip

There are many more designs such as the one shown here that students can research for themselves at the website http://openarchitecturenetwork.org/projects/results

They can search by global region. This example is taken from Asia & Pacific.

GIS and mobile devices

New technologies can help coordinate relief efforts. Aerial photographs allow superior mapping of an area after a disaster has struck. Google Earth was a major player in the Haiti 2010 relief effort. The company uploaded laptops with up-to-date post-event aerial photographs and flew them out to the disaster zone for NGOs to use. The GIS images contained on the laptops were a vital aid helping workers on the ground analysing what had been destroyed (Haiti's own GIS team were all killed by the earthquake). Mobile-phone cameras can also be used to help agencies map and document a disaster zone – this can often be a citizen-led response.

Teaching tip

You can research more facts about this technology story, ***Aid groups enlist Google to help in Haiti effort*** at: http://www.physorg.com/news186760162.html

Goole Earth users can go directly to the following link: http://www.cccmhaiti.info/

Plenary

'Never underestimate the power of story-telling in reconstruction'

Many of Architecture for Humanity's donations come from school-age students and school charities. The NGO has helped interconnect schools all over the world using video-conferencing. For instance, UK and US schoolchildren were able to talk directly to young disaster victims from schools in New Orleans after Hurricane Katrina struck in 2006. This personal interconnectivity has resulted in much greater numbers of donations being made by young people who want to contribute to the 'students rebuild' programme.

'Never underestimate the power of story-telling in reconstruction' (Cameron Sinclair).

Teaching tip

End the lesson by showing students the 'students rebuild' web-site and discussing how they could contribute and why they think this has been so successful: http://studentsrebuild.org/

Further research suggestion

All the deadliest and strongest earthquakes since 1900, including coordinates, can be studied at:

http://www.guardian.co.uk/news/datablog/2010/feb/28/deadliest-earthquakes-strongest-data

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Appendix

Extract from the Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters (HFA)

"Disaster loss is on the rise with grave consequences for the survival, dignity and livelihood of individuals, particularly the poor, and hard-won development gains. Disaster risk is increasingly of global concern and its impact and actions in one region can have an impact on risks in another, and vice versa. This, compounded by increasing vulnerabilities related to changing demographic, technological and socio-economic conditions, unplanned urbanization, development within high-risk zones, under-development, environmental degradation, climate variability, climate change, geological hazards, competition for scarce resources, and the impact of epidemics such as HIV/AIDS, points to a future where disasters could increasingly threaten the world's economy, and its population and the sustainable development of developing countries. In the past two decades, on average more than 200 million people have been affected every year by disasters.

"Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities. Events of hydrometeorological origin constitute the large majority of disasters. Despite the growing understanding and acceptance of the importance of disaster risk reduction and increased disaster response capacities, disasters and in particular the management and reduction of risk continue to pose a global challenge.

"There is now international acknowledgement that efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction, and supported through bilateral, regional and international cooperation, including partnerships. Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such an approach is to be recognized as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.

"The importance of promoting disaster risk reduction efforts on the international and regional levels as well as the national and local levels has been recognized in the past few years in a number of key multilateral frameworks and declarations."

Source:
http://www.unisdr.org/eng/hfa/docs/Hyogo-framework-for-action-english.pdf

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