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**DATA PREPAREDNESS AND EMERGENCY RESPONSE:
NO GOOD DECISIONS WITHOUT GOOD INFORMATION**

**Submitted by the Regional Office for Asia Pacific (ROAP),
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Data Preparedness and Emergency Response: No good decisions without good information

Abstract

The early days of a humanitarian crisis present emergency responders with an awkward problem. Just when it's most critical to have accurate information on the needs of affected people, the availability of such information is at its lowest ebb. Conflict and natural disasters can, in the blink of an eye, invalidate much of what we know about a region and the communities that live there. If we cannot obtain accurate information on the post-disaster situation to inform the relief effort, lives will be lost and resources will be wasted. But making sure this information is available cannot wait until the disaster itself, it must be prepared beforehand. Data must be pre-positioned, infrastructure for information management must be put in place, and plans for the collection, delivery and use of information defined. We in the emergency relief community must recognise that information is just as valuable a commodity as food, shelter and medicine, and be ready to deliver it when need arises.

Information in disasters

Establishing a clear picture of needs and priorities in the first days and weeks of a relief operation is critical, yet this information often takes weeks or even months to compile. As conflict or a natural disaster creates casualties, displaces communities and destroys infrastructure, those very issues create both a need for accurate information and, at the same time, obstacles to its collection. The first days of a response can shape the type and scale of assistance. Making the right decisions is critical. How many people are affected? Where are they? What are their most urgent needs? What actions are they taking? The challenge for

information managers is how to collect this information rapidly; overcoming obstacles to access communities that may not themselves immediately know the scope of the impact, gathering this information across the entire affected area, extracting from it useful knowledge that can be used by decision makers to shape and direct assistance, sharing it quickly with the people who need it. Without this information, appropriate assistance will not reach the neediest people in the shortest time. Information is a valuable commodity, arguably the very first commodity that should be delivered. Yet in emergency situations, relief agencies face pressure to show immediate results in reducing casualties and addressing urgent humanitarian needs. In such an environment every need is paramount and the detailed collection and analysis of information may seem a life-threatening form of procrastination.

This is often reflected in the type of personnel sent to emergencies. Under a recent initiative called the Humanitarian Reform Agenda which aims to improve how international relief efforts are managed, a number of agencies have agreed to take overall responsibility for certain aspects of relief operations, called 'clusters': UNICEF leads the education cluster for example, and the World Food Programme leads the food cluster. Among their responsibilities is an obligation to coordinate other agencies working in the cluster, a responsibility that requires, and benefits from, a detailed understanding of the scope and extent of any disaster. Recently the Inter-Agency Standing Committee (IASC) – a high-level grouping of major UN agencies and NGOs, endorsed a proposal to formalise this responsibility into the terms of reference for cluster lead agencies. This will help address institutional weaknesses in many international organisations, whereby information management was not a top priority and responsibility for it often added to the already full agendas of operational staff with little or no appropriate experience.

For major relief operations, information management is increasingly being coordinated by Humanitarian Information Centres, or ‘HICs’, a one-stop-shop for information which grew out of a project in Kosovo in 1999. HICs are now routinely setup in major disasters, with OCHA acting as a custodian and providing the first-wave of staff. A trailer full of equipment and supplies – enough to create a self-sufficient computing centre - is on permanent standby in the UK and can be deployed and operational within about 72 hours. However the HIC concept envisages a HIC as an information hub, responsible for setting standards, acting as an information broker, disseminating information to the largest possible audience and undertaking analysis to help senior relief officials plan and monitor their work. For the HIC to be effective it requires other relief actors to undertake primary data collection as well as a minimum set of data standards and datasets to ensure a robust infrastructure is available for subsequent surveys and information management projects.

Data Standards

The most important datasets for a HIC are those that can create an environment in which hundreds of different actors can share information. Among these foundation datasets, the most well known in humanitarian circles are called ‘pcodes’. Pcodes are simply a gazetteer of the settlements and administrative units of a country or affected region, providing a comprehensive list of locations as well as geographic units for data aggregation. Pcodes are essential in that they define the universe in which relief agencies operate. If we want to list every community that has been affected, we must first list every community. When we have dozens or sometimes hundreds of agencies working in the affected area we must have a common language for discussing the location of their work. If we are to compile a list of needs we must have a common foundation for integrating survey results from multiple

sources. If we are to make best use of pre-disaster information we must have a reliable link between historical and new data. Pcodes, where they exist, provide the glue that binds together the work of hundreds of agencies and thousands of people. Where pcodes exist, they can fundamentally improve the quality of information. This information can itself fundamentally improve the quality of relief.

Pcodes in practice

I would like to show the value of pcodes through two recent operations. On October 8th last year, a 7.1 magnitude earthquake struck northern Pakistan, killing over 70,000 people. On May 27th this year, a 6.3 magnitude earthquake struck the island of Java in Indonesia, killing over 6,000. In both cases, the international community deployed teams of relief workers to assist the respective governments.

In Pakistan, a HIC was deployed to Islamabad and immediately began establishing key baseline information on the impact of the disaster. Some of the early questions included: which villages were affected; what is their population; how many people were killed, injured and made homeless; what's the status of infrastructure, particularly roads and bridges, health centres, schools, water supplies and government buildings. What are the priority needs?

Although the need was obvious, the solution was not. As with many countries, Pakistan had a complex system for dividing the country administratively. Villages could be defined one way for revenue collection, another for the census and a third for political administration. The army, which played a central role in the humanitarian response, divided the country into grids and sectors and reported their work accordingly. Complicating matters further were differing

local government structures in the affected provinces of Azad Kashmir and the Northwest Frontier Province. None of these systems included a comprehensive list of settlements. Yet without such a list, it was not possible to organise a systematic assessment of impact and needs, or to establish a unified system for coordinating assistance. [As one person wrote in an Op-Ed in a Pakistani paper days after the earthquake:](#)

“What is really needed is detailed information at the village level. We need to know how many people used to live there, how many are still there, how many died, how many are injured and need help, and how many have been displaced ... If we do not have this information, we will continue to make relief count for less than what it could. And people will continue to suffer.”

Dr. Faisal Bari, The Nation, October 24 2005

In the absence of a unified list of settlements and administrative units, and with no corresponding baseline data on population and community infrastructure, multiple assessments were undertaken to fill the gap. Although the survey results were often shared, it was not easy or sometimes possible to integrate them. Variations in the spelling of place names and the use of various administrative groupings lead to multiple surveys undertaken in some villages while others went undocumented. Five months after the earthquake it was still not possible to get an overall picture of the impact at the community level, or to be sure that every settlement was included in lists and reports. There is no doubt that these difficulties had a direct effect on defining the overall needs, in identifying geographic priorities, tracking the distribution of assistance and in monitoring remaining needs.

After the May earthquake in Indonesia, OCHA deployed two information managers to assist the coordination structure put in place by the UN. As in Pakistan, the same questions were being asked in the immediate aftermath of the disaster. How many villages; how many people; how many houses; what are the needs? As in Pakistan, the government again took the lead in the response, but in Indonesia the government was also able to contribute information that played a critical role in the first days and weeks after the earthquake. Java had a well developed GIS reflecting the administrative structure of the affected provinces as well as a coded gazetteer of every settlement. These were linked to baseline data on housing and population. Using this foundation, the government was able to organise a comprehensive village-level survey in which data on deaths, injuries and infrastructure damage were collected according to a common format and centrally consolidated.

These data were made available to the UN through OCHA's information management team and from there were shared with the cluster lead agencies. The shelter cluster, headed by the International Federation of the Red Cross, had its own information management capacity and was able to use the survey data to calculate, village-by-village, quantities of shelter materials needed. The shelter cluster assigned sub-districts to individual organisations who in turn took on responsibility for prioritising needs, ensuring coverage and reporting on progress.

Within 15 days of the earthquake, there was sufficient information on the more than 1,200 affected villages to plan a systematic and comprehensive response.

Preparedness makes the difference

As an information manager, a key advantage in Indonesia was the availability of 'pcode' data standards. Without them, the comprehensive survey could not have been organised so quickly and effectively. Without them, the shelter cluster could not have systematically planned its work. The existence of the pcodes and their availability to the UN was possible because of preparation by the government of Indonesia, and transparency in sharing these important data. The successful use of these data was possible because of the presence of information managers within the overall coordination structure as well as the shelter cluster.

The experiences in Pakistan and Indonesia serves as examples of how information can improve the quality and timeliness of relief assistance. They show that information can promote cooperation and coordination, enable shared information gathering, allow data exchange among agencies, provide accountability through indicators, allow data analysis to influence policy, systematise monitoring, attract donor support, strengthen cluster leadership and create institutional knowledge .

To create an environment in which this is possible however requires preparation. Just as a contingency plan may call for the pre-positioning of food stocks, shelter items and medical supplies, similar plans must be made for data standards, survey instruments and baseline data. In information management, as in many fields, an ounce of preparedness is worth a pound of response.

Summary

To summarise this presentation, I have used recent examples of humanitarian relief operations to two earthquakes to show the difference that information management and, in particular, the

preparation of an information management environment, can make to the quality of the response. Pre-existing data standards, information management capacity within humanitarian agencies, transparency with government, coordination mechanisms and a commitment to common information initiatives can greatly improve the quick collection, analysis and dissemination of information. Accurate and timely information can in turn lead directly to the effective use of relief resources and minimise both duplicated efforts and gaps in coverage.

To achieve this consistently it is necessary to establish an information management environment during the contingency planning and preparedness phase, with the objective that on day one of an emergency, humanitarian responders can take immediate advantage of existing data, initiate common assessments and freely share information. Such preparation will help establish a single information structure for all humanitarian actors to participate in and ensure they have prompt access to all existing and growing knowledge.

One of the most important aspects of this data preparedness is the availability of pcodes, both coded gazetteers of populated places and defined administrative boundaries. For those of you who work in this intensive and detail-oriented field, I would like to assure you that these fundamental datasets provide a critical tool for emergency responders. Their existence and availability are, quite literally, a life-saving resource.