

## **Strategy 2014 – 2019**

Responding to changing needs



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## Executive summary

**1** MapAction's vision is for humanitarian assistance to be delivered more effectively more quickly. In partnership with others, MapAction will be at the heart of the world's humanitarian response globally. Informing the decisions that really matter with relevant and timely mapped information that will save many more lives and enable communities to become more resilient in the face of further disaster and conflict.

**2** In the next five years MapAction will make a difference to the vital delivery of effective humanitarian assistance by:

- Being a leading provider of mapping services at the front end of many of the world's major<sup>1</sup> emergencies.
- Building more collaborative operating environments that facilitate collective standards for information management, data sharing and technical development in partnership with others.
- Transferring mapping and information management know-how to humanitarian responders at national and regional level in support of mainstream disaster preparedness providers.

<sup>1</sup>Major is a qualitative measure dependent on the context such as capacities in country to respond etc. However wherever there is a major national/regional or international response of > 200K affected people, MapAction will seek to provide support: with deployment, remotely or through preparedness activities if required/ requested.

**3** MapAction will be guided by the principles of the International Red Cross and Red Crescent Societies and Non-Government Organisations' Code of Conduct for Disaster Relief and by the values of volunteering, organisational independence, an ability to continuously innovate, a brand based on professionalism, a collaborative approach and a transparent ethic.

**4** Global developments suggest that the need for humanitarian mapping and information products for decision-makers will increase over the next few years. Decision making prioritisation of the aid response will be critical and aid responses will increasingly focus on building resilience in disaster-affected countries.

**5** The numbers and types of contributors to the aid response will grow. Many more emergency responses will be led by regional and national bodies. More data will be generated and expectations of information management will increase. Service users and affected populations will increasingly drive the response.

**6** Complex emergencies will require different types of responses and independent analysis will make a valuable contribution to that response.

**7** MapAction has a proven and unique operating model to achieve this which it will retain and expand, widening its scope in working with a range of organisations at all levels of decision-making.

**8** MapAction will step up its delivery to respond to such challenges. The organisation will do this by expanding its capacity to take action through increased capacity in deployment, preparedness and training.

**9** MapAction's first priority will be to continue to retain a standing capacity to respond to the largest scale disasters if required at all times, the majority of its responses will continue to be in relation to rapid onset disasters. As a second priority MapAction will respond to complex emergencies where conditions permit.

**10** MapAction will strengthen and expand its technical innovation, working with others to be technically well positioned. The development of its web mapping facility will be an advance but at all times MapAction's technical capacity must be fit for purpose.

**11** MapAction's core product will remain mapped analysis but the organisation will ensure that these

products are developed more deliberately around categories of decisions made by humanitarian responders.

**12** MapAction's services will also include the sharing of data, particularly situational data derived on deployment, through its own public platform and where possible through central coordination platforms.

**13** MapAction intends to double its capacity to respond to humanitarian emergencies over the five year period. This will be subject to funding.

**14** Growth will best be achieved by knowing which countries are most likely to experience emergencies. MapAction will provide baseline analysis of this in 2014 based on the Resilient Action for Mapping Preparedness Project (RAMP) in partnership with others.

**15** MapAction will contribute to building more collaborative operating environments through collaborative partnerships, activities and technical development.

**16** MapAction will lead the transfer of mapping and information management 'know-how' to humanitarian responders through its preparedness work and through establishing a virtual mapping academy.

**17** Assessing the impact and progress of MapAction's work will build on establishing an institutional approach to monitoring and evaluation and fostering iterative learning into the delivery of the strategy.

**18** MapAction's greatest asset is its people with a long-serving, committed and very capable volunteer and staff base. Training has provided the foundation for this. In the future that training will be further developed and shared more systematically with others.

**19** Additional volunteer and paid human resources will be essential for this and for other aspects of the organisation's growth.

**20** By 2019 MapAction will have more than doubled its budget, seeking core funding for predictable services. MapAction will ensure that its model can be flexible to the changing funding environment, being able to scale up and down as required whilst maintaining business continuity.

## Introduction

This strategy was commissioned by the MapAction Trustee Board in March 2013 and approved in January 2014. It builds on existing mission priorities and seeks to respond to changing humanitarian demand over the next five years. It is based on considered discussions of the organisation's place in the humanitarian context, its potential for growth and its contribution to the collective aid effort in disaster and conflict.

The document is structured as follows:

**Section 1:** sets out MapAction's vision, values and approach.

**Section 2:** highlights the organisation's analysis of global trends effecting humanitarian operations and MapAction's role.

**Section 3:** defines the three strategic aims of the organisation towards achieving its vision

**Section 4:** describes the monitoring and resourcing aspects of the strategy.



## Section 1

MapAction's vision, values  
and approach

## Vision

MapAction's vision is for humanitarian assistance to be delivered more effectively more quickly.

In partnership with others, MapAction will be at the heart of the world's humanitarian response globally, informing the decisions that really matter in major emergencies, with relevant and timely mapped information that will save many more lives and enable communities to become more resilient in the face of further disaster and conflict.

This vision builds on MapAction's charitable purpose to provide support to decision-making and information management in humanitarian and similar situations anywhere in the world through the application of geospatially-based methods with the aim of preserving life and relieving poverty and suffering. Underpinning this purpose is the presumption that aid can be more effectively delivered if stakeholders share a common spatial analysis of the humanitarian context, the impact of the disaster and priorities for response.



## Principles

As a humanitarian organisation offering technical services, MapAction is a signatory to the International Red Cross and Red Crescent and Non-Government Organisations' Code of Conduct for Disaster Relief<sup>2</sup>. This Code seeks to ensure that aid and services are delivered on the basis of a set of principles including the principles of humanity, impartiality, independence and neutrality. In addition to this Code of Conduct, MapAction embraces the following organisational values of:

- **Volunteerism.** MapAction is a volunteer-based organisation and will remain so, even where additional paid resources are introduced. This means volunteers will continue to be leaders in MapAction's business with the support and direction of the management team.
- **Independence.** MapAction will maintain its independent status determining its focus and being accountable to its membership, donors and service users regarding the outcome of its work. Whilst working collaboratively, MapAction will continue to retain this independence.

- **Continuous innovation.** MapAction will strengthen the capacity to be agile in its response, learning, and organisational development through continuously evolving its approach and services adapting to what is required by service users at any given time.
- **Professionalism based on its branded approach.** MapAction will become widely known for its reliability, professionalism, delivery, relevance and timeliness. MapAction will ensure that field deployments carry the organisation's brand as it provides experienced and trained teams to deliver services to others.
- **Collaboration.** MapAction will partner with GIS and information management providers, as well as the disaster management community, donors, and other organisations wherever this adds value to the overall information management landscape. This will not compromise the organisation's independence. This is likely to involve entering into consortia as well as partnerships with various organisations.
- **Transparency.** MapAction will present itself in all fora with maximum transparency.

<sup>2</sup> [www.ifrc.org/Global/Publications/disasters/code-of-conduct/code-english.pdf](http://www.ifrc.org/Global/Publications/disasters/code-of-conduct/code-english.pdf)

## Section 2

Trends analysis affecting  
humanitarian operations

## Global developments

MapAction's Trends Analysis (annexe 2) details the increasing need for humanitarian mapping and information products for humanitarian decision-makers over the next few years. Current geopolitical, environmental and social trends suggest there will be an increase in the frequency and scale of disasters and complex emergencies. More people will be affected by these emergencies which will become increasingly unpredictable and more complex. Government, United Nations, non-government as well as non-traditional decision-makers will face more challenges therefore in prioritising and delivering assistance. Decision-making at the strategic and operational levels will be ever more critical to effective aid delivery. Strengthening the resilience of those affected will become increasingly more important for humanitarian decision makers. Mapped analysis will need to reflect these requirements to ask and answer the right questions.

Anticipated changes include:

- The numbers of contributors to the aid response will increase and diversify.
- The place of global tools, such as the United Nations' Disaster Assessment and Coordination team (UNDAC)

and the International Federation of Red Cross and Red Crescent Societies' Field Assessment and Coordination team (FACT) will be reserved for mega disasters where many more emergency responses will be led by regional and national bodies for which UNDAC and FACT may evolve new roles.

- The coordination architecture will strengthen and clusters will become an increasing focus of coordination and information management activity. The coordination system at sector level will be strengthened by the cluster approach with cluster leadership (demonstrated by various agencies) reinforcing national level capacity.
- Capacity building and skills transfer will become a more important element of international humanitarian assistance, as part of preparedness activities and at the point of aid delivery particularly enhancing nationally led responses.
- The emergence of voluntary and technical online communities, including those affected by the emergency, will generate large volumes of data which will be an opportunity and challenge to information management providers.

- Humanitarian responders will be increasingly familiar with information management resources as this becomes more of a priority for cluster/sector coordination, as well as an increasing donor requirement. Expectations of information management provision will increase accordingly.
- Multiple operating pictures are likely to become the norm with the consumer more active in driving the response than previously.
- There will be greater demand to provide such data in usable and readily accessible formats. Communications, media and technologies, some of which, such as social media are still fast emerging, will be an integral part of the humanitarian response of the future.

Complex emergencies will continue to present different challenges from those of disaster. Independent analysis of these will be essential for decision-making and ensuring aid is delivered effectively in the most extreme circumstances of human suffering.

## MapAction's role

The MapAction service: a unique service deploying a team at the outset of a response to provide maps and other forms of data analysis and management to humanitarian responders. This distinctive service is based on being extremely efficient, deploying rapidly (within hours of a request) and being delivered through highly trained, professional technical experts who provide their time to the organisation on a volunteer basis.

MapAction complements other information management providers in its mapping capacity and in the short term nature of its presence in each emergency, handing over at the earliest available opportunity to longer term providers.

MapAction works at the centre of the emergency where possible, complementing and contributing to cluster, agency and consortia based activities.

Given the range of challenges likely over the next few years and the implications for those affected by disasters and crises, it is important that organisations with capacity to respond should step up to these challenges. MapAction can and should make a significant contribution continuing to do what it has done before and by providing new

products online and in static form to new partners, as well as informing debates about data standards, interoperability and data sharing.

Specifically MapAction anticipates significantly expanding its capacity to take action and will do this in a variety of ways.

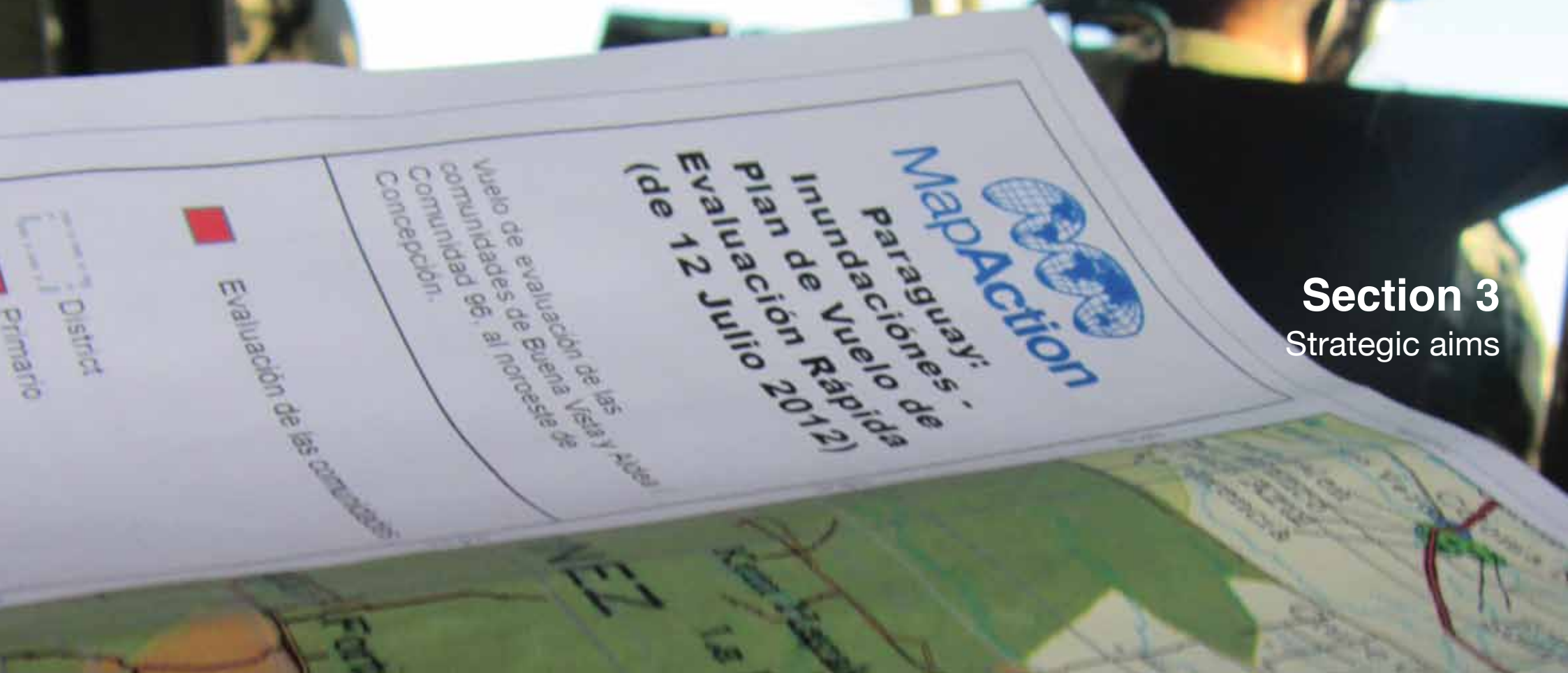
- It will continue to deploy a team to a disaster or complex emergency at the earliest possible opportunity. In doing this however, it will need to work closely with peers and service users to ensure cooperation and coordination in for example the public sharing of data and in relation to mapping tasks, multi-sector requirements and coverage of geographic areas.
- It will expand its focus on preparedness activities working with stakeholders at national and regional level and linking national level work to the initiatives of others at local level and regional level.
- It will strengthen and scale up its ability to pass on skills and knowledge to others in the humanitarian sector through the development of a virtual mapping training academy.



MapAction has evolved its current model towards rapid onset emergencies and primarily deployment through UNDAC. The organisation has a proven and unique operating model designed to achieve this and has established a strong reputation amongst other organisations as a result. The organisation has established partnerships with UN agencies, Red Cross and Red Crescent Movement (RC/RC) and Non-Government Organisations (NGOs). However as UNDAC's role changes, and as MapAction decides to expand its operations, the organisation will need to widen its scope working more deliberately with a range of organisations at all levels of decision-making. In order to remain relevant and timely in its response MapAction will need to develop its operating model and products accordingly particularly enabling online field based mapping covering a wider range of emergency situations. The organisation will also need to work in different settings (complex emergencies as well as disaster) requiring new and different partnerships (through consortia) at national and regional level and with non-traditional responders including affected communities. In recent years, MapAction has expanded its activities, undertaking complex emergency missions as well

as longer-term missions with partners where deeper analysis is beneficial and funding is available. There is the potential to further support such emergencies with and alongside others likely to remain in-country for longer than MapAction.

MapAction's technical innovation tailored to the roles to which it is deployed, enhances the organisation's capacity in deployment. However technical innovation could be further developed ensuring that the organisation is making the best use of available technologies to deliver rapid mapping and information products. There will be opportunities to collaborate with others with an advanced technical foundation to avoid duplication of effort. It will be important that the focus of technical innovation for the organisation is to be well-positioned with voluntary and technical online communities. This requires that deployment capacity is reliable and fit for purpose but that the organisation is capable of tracking and taking up new technologies where these enhance response capacity. Introducing a full web mapping service will be a valuable advance, whilst MapAction will continue to cooperate with data collectors using a range of data collection technologies in the interests of ensuring the provision of geo-data for mapping priorities.



## Strategic aims

Recognising that disasters can be unpredictable, it will be important to retain a standing capacity to respond to a mega disaster if required at all times. This will continue to be the fundamental approach of the organisation.

MapAction's core product will remain mapped analysis but the organisation will ensure that these products are developed more deliberately around emerging decision-making points in a humanitarian response working closely with service users and other IM providers to determine this. This will be achieved through its product standardisation initiative to be available through online mapping and a product catalogue service. This initiative will also include the expansion of product types to include information graphics, particularly for assessment, monitoring and evaluation requirements, where more nuanced analysis is necessary. MapAction will build its expertise in this area gradually. It is recognised however that others provide information graphics as a matter of course and that MapAction's unique offer remains and will continue to be, first phase mapping products (static and increasingly online) based on field deployment.

MapAction's services will also include the sharing of data, particularly situational data derived on deployment; through its own public platform or where possible

through central coordination platforms. MapAction's emerging web mapping facility (originally intended to enable the organisation to share products and data where connectivity was absent), could be further developed as a platform for others requiring the same facility and will become an increasing focus of the organisation's provision of mapped analysis.

Over the next five years MapAction will make a difference to the vital delivery of effective humanitarian assistance by:

- **Strategic Aim 1:** Being a leading provider of mapping services at the front end of many of the world's major emergencies, which will require doubling our capacity to respond to emergency needs where there is evidence of an increased demand for services.
- **Strategic Aim 2:** Building more collaborative operating environments that facilitate collective standards for information management, data sharing and technical development.
- **Strategic Aim 3:** Leading the transfer of mapping and information management know-how to humanitarian responders at national and regional level through preparedness and risk reduction activities in the information management sector.

## Strategic aim 1

**Being a leading service provider at the front end of many of the world's major emergencies, doubling its current rate of annual emergency deployment in order to promote effective humanitarian response.**

### Priorities

MapAction will focus its emergency response capability where required. Primarily this will be in countries in response to rapid onset emergencies and secondly on long-standing and complex emergencies.

The intent to work on complex emergencies depends on the potential to work with partners who have a longer-term presence in, and knowledge of, the country. These deployments are most likely to evolve out of partnerships with which MapAction has a Memorandum of Understanding already. Criteria for when to respond to such emergencies will include consideration of:

- Scale and impact of the emergency
- Presence of a partner with whom MapAction already has a Memorandum of Understanding

- Value of independent and impartial analysis for assessment, monitoring and evaluation
- Value of profiling an invisible emergency
- Ability to access the country or region
- Previous in-country or in-region experience
- Team capacity to deliver
- Risk analysis of undertaking the mission. The humanitarian imperative will remain the guiding principle but it will be important to ensure that risks – physical and reputational-can be mitigated.

Whilst there may be exceptional requirements for mapping in slow onset emergencies, this is likely to be a lower priority for MapAction than others. This is based on the recognition of the complexity of such emergencies and their connection to long-term development and risk reduction programming. It is envisaged that MapAction's contribution to this type of emergency might be best made through its preparedness and training programme.

There will be some overlap between these different types of emergencies over the five year period and the proportionate balance between each type of emergency

may change depending on the occurrence of events and on the growth of MapAction's capacity to respond to complex emergencies.

### **Countries**

MapAction envisages being able to respond to multiple emergencies, of different scale and nature at the same time and proposes to double its capacity to respond to humanitarian emergencies over the five year period based on identified need. Increased capability will be supported by knowing which countries are most likely to experience emergencies and by having a close understanding of the context, information management needs and response capacities of those countries.

Countries assisted will be determined by a number of issues. Where countries request international assistance and the global tools of UNDAC and/or FACT are deployed. MapAction will maintain its services to UNDAC ensuring that as UNDAC evolves its strategy, MapAction evolves with it at the current rate of 30 – 40% of all MapAction deployments. This figure will reduce over time as the number of deployments increases but all UNDAC requests will be met.

MapAction will expand its working relationships with NGO consortia, the Red Cross and Red Crescent Movement and UN agencies to provide mapping/information product services to coordination hubs<sup>3</sup> in the first phase of response/scale up activities. This will require building relationships and adapting working practices accordingly, as well as establishing smooth handover procedures and closer linkages with cluster and sector information management coordination.

In addition, MapAction will draw on external analysis to identify countries that may not request international assistance but might benefit from MapAction assistance. In 2014 MapAction will produce a reference map of countries vulnerable to disasters (based on others' analysis) and eventually a database of such countries. Focusing on these countries deemed vulnerable to humanitarian emergencies will enable MapAction to build the relationships necessary to ensure deployment opportunities arise and that they leave a useful legacy for continued spatial analysis subsequently

<sup>3</sup> This recognises that hubs may vary from one location to the next.



Criteria for when to respond will include a consideration of:

- Scale and impact of the emergency
- Types of coordination mechanisms in country
- Source of requests for GIS support
- Ability to access the country at an early stage of the emergency
- Previous in-country experience
- Team capacity to deliver
- Risk analysis of undertaking the mission.

Disasters will of course not always take place where predicted and MapAction will respond wherever there is a humanitarian need for its services and the deployment criteria are met. However increasingly MapAction will provide support where these criteria may not always be in place, and where in partnership with others, the provision of mapped analysis is useful. Where MapAction has already undertaken disaster preparedness and risk reduction activities through RAMP, this will strengthen the organisation's ability to respond in a timely and effective manner or assist others from within the country to do the same.

The success of this aim will be measured in terms of timeliness of deployment, relevance and use of mapped/ information products, and ability to handover to an appropriate agency.

## Strategic aim 2

**Building more collaborative operating environments that facilitate collective standards for information management, data sharing and technical development to promote more efficient outcomes for affected populations.**

### **Collaborative partnerships**

A core element of enhancing aid delivery is to ensure a common operating environment/s for all response stakeholders. However it is equally important that those providing mapping and information products to response stakeholders also focus their own efforts to coordinate and reinforce one another's activities. The open sharing of data, technical developments and information management approaches can facilitate this and many within information management are beginning to address it. For MapAction, this will require identification of new partners and potential network opportunities including defining more clearly how the organisation might work with voluntary and technical online communities, and others in the information management sector including IMMAP, REACH, OCHA

and ACAPS. It may also require proactive activity to reduce obstacles to agency cooperation as well as that of traditional aid providers, online communities, and those affected by emergencies.

### **Collaborative action**

MapAction will contribute towards the building of more collaborative operating environments working with others to do so. The focus will be on three areas:

- Internal strengthening of procedures, standards and technical development in this area ensuring that the unique value of timely deployment can add value to the wider community;
- Working with service users to ensure their needs are met and demand and supply are balanced<sup>4</sup> ;
- Lobbying donors, national and regional authorities for support to humanitarian information mapping, and specifically GIS outputs.

<sup>4</sup> Whilst services should be orientated to user demand, supply drivers are equally valuable i.e. offering alternatives and options may facilitate a greater expectation and stimulate demand.

MapAction will achieve a global reach through participation in fora that can change the information management environment. MapAction will bring its own networks to these fora and will act as a facilitator, hub, technical community member, tester or innovator as needed.

### **Collaborative technical development**

Technical development will continue to be a core area of MapAction's work, with a primary focus on 'fit for purpose' deployment capacity. It will however also ensure that opportunities to build innovative solutions are identified and used where appropriate. The organisation will develop many aspects of this independently given its unique deployment experience but will collaborate with others, including research institutes where there is a clear benefit in doing so.

The success of this aim will be seen in its contribution to an information management environment that will become more open and collaborative at all levels of service delivery and design, characterised by networks of relationships that are fluid and responsive to each situation.

### Strategic aim 3

**Leading the transfer of mapping and information management ‘know-how’ to humanitarian responders enabling more rapid spatial analysis in future emergencies by national and regional disaster management information providers.**

In countries requiring an emergency response MapAction will support the roll-out of its preparedness work through partners, particularly targeting national and regional bodies. This will build on current activities but expand them to ensure this work is sustained over the long-term with further follow-up and remote support provided as required. This will enable national and regional information management leaders to build up their own institutional resilience for future emergencies. MapAction will build on and connect other communities of interest to establish links between trained responders that can be drawn on for support activities if needed.

MapAction will provide training on data collection, data management and basic GIS mapping to humanitarian responders to ensure a quicker gathering of situational

data at an earlier point. The curricula for this and for the preparedness activities will be developed systematically and accredited to a relevant professional training provider which will give participants an opportunity to develop their professional practice through learning GIS and other relevant information management skills. Such training will be targeted towards the field management level but will be reinforced through liaison at headquarter level on information management approaches. In some instances a fee will be charged for training as a cost recovery measure.

The success of this aim, although difficult to measure, will be assessed by the quality and speed of the provision of mapping and information products provided by others to inform humanitarian decision-making; and by the diversity of responders supported and trained, including potentially voluntary and technical communities and those affected by emergencies.

## Section 4

Monitoring and resourcing  
the strategy





## Measuring progress

Assessing the impact of MapAction's work, will need to be based on establishing a baseline of the current situation for each aim, establishing an institutional approach to monitoring and evaluation and building reflection into the delivery of the strategy. This will involve adopting a step by step and at times iterative approach so providing flexibility to activities in order to remain relevant and to build on opportunities as they arise.

Specific methods that will be incorporated into MapAction's monitoring and evaluation approach will include:

- Service user consultation
- Independent and real time review and evaluation
- Learning reflections through training exercises and the capture of monitoring data from deployments

MapAction will identify and work with academic institutions in the delivery of various aspects of its work and will seek to always have one research project in progress at any one time.

Elements of these aspects are already in hand. However efforts will need to increase and monitoring and evaluation will need to become an organisational priority if delivery is to be assured.

## Resourcing

MapAction's greatest asset is its people with a long-serving, committed and very capable volunteer and staff base. Training has provided the foundation for this. The future presents the potential to further develop that training and share it more systematically with others as a model of good practice in line with its intent to develop a virtual academy. Additional volunteer and paid human resources will be essential for this and for other aspects of the organisation's growth.

MapAction currently raises funds through a range of funding streams including receiving core funding from the UK's Department for International Development, major donors, trusts and foundations and corporate sponsorship. However the funding base will need to expand if the organisation can rise to these challenges with growth over the mid-term. A diverse donor base will become more essential to ensure the risks are spread. Care will be required in balancing growth in fixed costs against an increasing number of deployments, training and technical development costs. The pace of change will need to consider this and ensure that the organisation can maintain and grow its foundations sufficiently to be resilient to future circumstances and to absorb expansion. It will invest in

high value individual giving and institutional donors as the priority. In addition it will secure restricted funding for project activities equivalent to one-third proportionately of the overall budget. It will also ensure that its model can be flexible to the changing funding environment, being able to scale up and down as required.

## Conclusion

MapAction is well-placed to step up to the increased needs for humanitarian mapping as disaster and complex emergencies deepen. The mix of disaster preparedness, disaster response and collaborative effort with others will ensure that the organisation has prepared well for the unpredictable, has forged successful partnerships that give it leverage and can provide a predictable and reliable service that meets users needs, recognising the widening of the user base and the different needs that they may have.

An increase in the organisation's own infrastructure and capacity to do this (as detailed in its Rolling Business Plan) is central to the realisation of this intent, as is the maintenance of its core volunteering model which provides the basis for its work.

## Annexe 1:

### Technical statement

#### Being a humanitarian organisation with a technical focus

This annexe sets out the organisation's perspective on technology and its place within the organisation.

The vast majority of MapAction members joined the organisation as technical experts in GIS and learnt about the humanitarian system through training and operating with MapAction and its partners. Although the range of skills and aptitudes for which we recruit may expand beyond GIS, this culture of recruiting technical experts and immersing them in the humanitarian world (rather than immersing humanitarians in the technology world) makes us at heart a technology-led organisation. However our operational strength comes from the ability to tally our technical know-how to the needs of humanitarian decision-makers.

MapAction's core capacity has been built on the basis of being able to take a particular technology (Desktop GIS) and create an operational capacity to be able to use this technology in the unfavourable environment of post-disaster. MapAction has successfully and repeatedly applied this particular technology to meet the needs of the

international disaster response community. Historically two fundamental facts have been reflected in our operational model:

- Humanitarian actors need to access certain analysis which can only be or can be best performed using GIS systems by GIS specialists;
- Internet connectivity cannot be relied upon to operate remotely from the disaster location.

The specific issues surrounding internet connectivity are explored below.

The first point – that important decisions in the humanitarian system are best supported by GIS analysis performed by GIS specialists – remains a central axiom of our operational model and MapAction remains committed to this belief. The rationale for this follows:

- The user should not need to care whether GIS or some other technology is used when performing the analysis, only that the right tools are used and that people involved are suitably expert to conduct the analysis. Defining ourselves exclusively as GIS specialists artificially limits the value we can deliver to our end

users. Information products which are produced using a multitude of technologies may offer better and more effective decision support.

- It is widely recognised in many fields of technology that the end user may not be able to articulate in advance what it is that they want. MapAction should have confidence in its technical expertise in spatial technologies and domain knowledge in the humanitarian sector to suggest and develop new products which have not been pre-emptively specified by our users. Part of the value that we add is to relieve the end users of the burden of needing to design and specify these products in detail.

To remain operational MapAction must maintain the technical capability (equipment and knowledge) to both maintain and enhance its humanitarian activities and must continue to support this in a technically innovative environment.

However the charity places an emphasis on providing pragmatic and appropriate technical solutions that meet identified operational needs, rather than pursuing technical novelty as ends in their own right. “Pragmatic

and appropriate” in this context are both functions of the maturity of the technology. The range of technologies currently used by MapAction varies from the conservative to the most up to date. This variation has arisen as a consequence of our capacity to introduce new technology rather than deliberate policy.

In asserting ourselves as a technology-led organisation it is desirable that we take a risk-based approach to choosing between conservative and more novel technologies.

In broad terms the approach to be adopted; for items of generic infrastructure (desktop management, email, storage servers, backup systems etc), which are commonplace in a large majority of Small and Medium sized Enterprises, a general tendency towards well established mature technologies will be utilised. For specific tools which are customised to MapAction’s particular operations and workflows there will be a greater willingness to take risks, adopting novel technologies with the potential to serve our particular needs.

We will focus our resources and energies (and hence the risks we take) on the aspects of our technical capability that make MapAction unique.



## Being Agile – MapAction’s approach

In technology the word “agile” has acquired a specific meaning. In the generic sense the adjective has positive connotations - “quick in movement; nimble”<sup>5</sup>. The specific meaning in the technology sector refers to the line of thinking related to collaborative software development projects, encapsulated in the Agile Manifesto (<http://agilemanifesto.org>).

The Agile Manifesto sets out a number of broad principles and values which the authors believe should govern software development projects. Agile is ultimately an umbrella for a collection of processes (Scrum, Extreme Programming, Kanban, Feature Driven Development)<sup>6</sup> which address aspects of engineering process and team structure and management suitable for software development in some circumstances. Some of these draw direct inspiration from the “Toyota Production System”, distinguishing those aspects of software development which can be compared to manufacturing processes and those that are distinctly different.

The success of these practices has led to them being adapted to technical projects other than software

development. This has led to a “Semantic Diffusion” of the term Agile<sup>7</sup>. With apologies to those who wish to defend the integrity of the original definition, here we are using the term “Agile” to encompass this wider family of approaches applied to a range of technical problems. There are a number of features common to most of these:

- The recognition that most technology development is fundamentally a human and social process.
- Neither the customer nor the developers have a complete understanding of the problem at the beginning of the process and that both the team and the customer learn about the problem throughout the process.
- Regular input and feedback is sought from the end user (be they internal or external). At a minimum this occurs at the beginning and end of iterations but in many cases it can be required more frequently than that.
- Work is packaged in small iterations, each of which must result in a “deployment-ready” system. There is a separate business decision whether or not to actually begin to use the new feature, but that is separate from whether they are ready technically<sup>8</sup>.

<sup>5</sup> <http://www.thefreedictionary.com/agile>

<sup>6</sup> <http://msdn.microsoft.com/en-us/library/dd997578.aspx>

<sup>7</sup> <http://martinfowler.com/bliki/SemanticDiffusion.html>

<sup>8</sup> <http://continuousdelivery.com/2010/08/continuous-delivery-vs-continuous-deployment/>

- Generally the length of time of iterations is fixed. The features which are delivered are selected based on a strict prioritisation which is agreed with the end users at the beginning of the iteration.
- Maximum possible autonomy is devolved to those responsible for implementing the solution to organise their own work. Best practices emerge by consensus not management diktat.
- Typically there is an emphasis on co-location and uninterrupted work.

Agile is not without its critics. In particular is the complaint that as it is sometimes practised it can result in a slavish adherence to a defined methodology rather than a focus on quality of output. Defenders of Agile counter-argue that this implies that Agile is not being embraced properly since its stated primary measure of success is the “early and continuous delivery of working software”. This half-hearted acceptance of Agile, appropriating its language but not its principles, is evidently one of the major risks of attempting to adopt Agile.

More nuanced discussions focus on Agile as a tool to help create a culture and an environment which is conducive to innovation. This gets to the heart of the value of Agile

to MapAction. Agile and related practices should not be seen as mere engineering process but as a framework for changing the expectations of the organisation to demand of itself greater progress on developing its technical capabilities. This will not be appropriate in all areas of MapAction activities but wherever possible MapAction will seek to continuously learn about and embrace those practices which have proved themselves within the technology sector.

### Being connected – internet access

There a vast number of web-based toolsets (both specific and generic) which have great potential to assist humanitarian responders. Unfortunately there is sometimes a gap between the bandwidth available during an emergency and the bandwidth expected or assumed in the design of their information sharing and management tools. Therefore each of these tools puts the onus on the end user to resolve the issue of internet connectivity when used in a humanitarian emergency.

There are continuous improvements in the availability of Internet connectivity between emergencies. Both the affordability<sup>9</sup> and range<sup>10</sup> of satellite-based products and services are advancing. Of greater probable significance is

<sup>9</sup> <http://www.inmarsat.com/corporate/media-centre/press-releases/inmarsat-helps-ngos-to-control-satellite-communications-costs-wth-new-humanitarian-aid-packages>

<sup>10</sup> <http://www.inmarsat.com/corporate/about-us/our-vision/index.htm>

the general ongoing increase in the availability of 3G, 4G and WI-FI networks in disaster-prone countries, at least in those areas where coordination activity is likely to occur.

User expectation (in particular those of international responders) of the bandwidth available is driven primarily by their personal experience in their home environments in either developed nations or urban centres in developing nations. Users are rarely satisfied by a reduction in the bandwidth they have grown accustomed to<sup>11</sup>. The trend toward the cloud (either personal or organisational) as the location of choice for information which is “portable [and] always available” further increases the dependency of these users on available, affordable and sufficient Internet connectivity.

Both of these developments appear to follow Nielsen’s Law of Internet Bandwidth (approximately stated that connection speed increases by 50% per year). Unless either the user expectation or the available bandwidth significantly deviates from this empirical trend then the relative gap will remain. User demand will continue to outpace the available bandwidth. Whilst the range and functions of internet-dependant tools will continue to grow at an impressive rate, MapAction does not foresee that this

gap will be closed in general terms within the next five years.

There are many welcome initiatives to improve internet access to responders<sup>12 13</sup>. In various forms these rely on sending communications equipment and experts into the affected region as quickly as possible. Whilst it has been impressive what these have achieved, they reduce the period for which communications is problematic, but they do not entirely eliminate it.

To maintain both its operational independence and effectiveness during first phase response MapAction would need to make use of these initiatives when available but be able to cope independently without. (To date MapAction’s policy has been that it is able to operate purely using equipment that is carried in the hand luggage of its team). In general terms MapAction’s operational model must scale to account for operating with no internet connectivity, to very good internet connectivity. This means making best use of the connection and tools available, whilst not being limited by what is not available. The most challenging scenario will continue to be that in the middle when the internet access available is limited, unreliable and expensive.

<sup>11</sup> How to Accelerate Your Internet – A practical guide to Bandwidth Management and Optimisation using Open Source Software (bwmo.net)

<sup>12</sup> <http://www.tsfi.org/en>

<sup>13</sup> <http://ictemergency.wfp.org/>

## Annexe 2:

### Trends analysis

<sup>14</sup> European Commission Staff Working Document: General Guidelines on Operational Priorities for Humanitarian Aid in 2013. Brussels 27.11.2012. SWD (2012) 405 Final.

<sup>15</sup> World Disasters Report, Focus on Urban Risk, 2010. International Federation of Red Cross and Red Crescent Societies. Geneva.

<sup>16</sup> State of the Humanitarian System, 2012 Edition, ALNAP. ODI, London.

<sup>17</sup> USAID, <http://transition.usaid.gov/resilience/ResilienceAgenda2Pager.pdf> accessed 1/9/2013

<sup>18</sup> Humanitarian Emergency Response Review, DFID 2011.

<sup>19</sup> USAID, <http://www.usaid.gov/what-we-do/working-crises-and-conflict/responding-times-crisis/how-we-do-it> accessed 30/8/2013

<sup>20</sup> European Commission Staff Working Document: Op cit, pp 2.

### The need for humanitarian action

*‘All current trends suggest that more people – particularly in developing countries - will be affected by humanitarian emergencies in the coming decades. Not only will [the emergencies] become more frequent, they will also be increasingly unpredictable and complex’.*

*Humanitarian Emergency Response Review, DFID, 2011*

As humanitarian emergencies evolve, the prediction is that the vulnerability of those most affected by emergencies will escalate, and the economic impact of disaster and conflict will further deteriorate.<sup>14</sup> Whilst it seems hard to imagine this worsening situation in the 21st century, a combination of trends underlies these predictions including:

- Climate change – deepening the cyclical crises already occurring
- Population growth – increasing pressure on limited natural resources like land and water; urbanisation and migration – resulting in unplanned urban growth, poor planning and overcrowding<sup>15</sup>
- Internal conflicts – leading to greater internal displacement and fragility; and food and energy price increases further undermining the resilience of those potentially vulnerable to disaster and conflict events.<sup>16</sup>

The impact of these more frequent, deeper and more complex emergencies lies primarily in the lives of those affected – lives devastated by loss and suffering. However there are also impacts beyond this, both in the economic cost of these emergencies and in the way they undermine progress on the Millennium Development Goals and other development agendas which may ultimately help people out of such vulnerable situations <sup>17</sup>.

In recent years there has been a growth of donor interest in building the resilience of vulnerable communities but the extent to which this has been successful has been limited. Emphasis continues to be placed on preparedness as a core strategy in building the resilience of potentially vulnerable communities and nations<sup>18</sup> along with continued emphasis on rapid response and recovery assistance<sup>19</sup>.

### The place of humanitarian decision-making

If there is likely to be greater and continued need for humanitarian action, there will also be the need for more nuanced decision-making as part of that action. The fact that the boundaries between natural disaster and conflict will blur, the situation will become increasingly complex and that as one donor puts it, ‘more needs to be done with less’<sup>20</sup>, requires humanitarian actors to make timely

decisions at all levels of an emergency response. Such decisions start at the top, whether to intervene, how and in what capacity.

This is perhaps best reflected in the Interagency Standing Committee Transformative Agenda that emphasises the importance of relevant and timely information in support of Humanitarian Coordinators making empowered decisions where delay might otherwise impact adversely on affected people<sup>21</sup>. This could however be applied to all senior managers taking decisions within their organisation in respect of their emergency mandates and missions.

As such, information must be timely, relevant and available to all for strategic and operational purposes and, essentially, it must be analytical. Lastly and perhaps equally critically, it needs to be available in a readily digestible and usable format for those who are very busy. Whilst there is currently no agreed categorisation of decisions across all agencies and defining who the decision-makers are and what decisions are required is difficult therefore to do<sup>22</sup>, the United Nations' Office for the Coordination of Humanitarian Affairs and the Digital Humanitarian Network<sup>23</sup> have issued a first draft of The

Decision Makers Taxonomy that seeks to define the general structure and hierarchies of decision-making. This provides a valuable basis to further clarify what products and services are required at critical points in the emergency.

### New contributors, new perspectives

'We need to rethink [fundamentally] how the humanitarian system manages information in light of the increasingly complex system of networks and data flows.'

*Disaster Relief 2.0. The Future of Information Sharing in Humanitarian Emergencies, United Nations Office for the Coordination of Humanitarian Affairs, The United Nations' Foundation and Vodafone Foundation Technology Partnership and the Harvard Humanitarian Initiative.*

The most marked change in the future will be that of the rise of new contributors to the humanitarian response as a wider range of key informants, non-traditional donors<sup>24</sup>, opinion-formers and those who seek to assist, emerge. Whilst the growth of traditional aid agencies continues for all pillars,<sup>25</sup> there are particular areas of growth that will alter the way the aid response is conducted.

<sup>21</sup> Concept Paper on Empowered Leadership, Interagency Standing Committee Transformative Agenda Reference Document. 13th April 2012.

<sup>22</sup> Who Are the Humanitarian Decision Makers, Verity Think My Thoughts Shared.  
<http://blog.veritythink.com/post/54002682001/who-are-the-humanitarian-decision-makers> accessed July 3rd 2013.

<sup>23</sup> The Digital Humanitarian Network is a network of networks aiming to provide an interface between formal, professional humanitarian organizations and informal yet skilled-and-agile volunteer & technical networks. <http://digitalhumanitarians.com/communities> accessed September 3rd 2013.

<sup>24</sup> Particularly from the Gulf States and private sector and from regional cooperation bodies comprising nation states.

<sup>25</sup> United Nations, Red Cross and Red Crescent Movement and Non Government Organisations.



This is reflected in the growth of national and regional level capacities, systems and institutions and a widely recognised greater level of assertiveness on behalf of those institutions (increasingly defined in legislation) towards the international community.<sup>26</sup>

The place of globally-deployed tools is likely to be reserved for the mega disaster, whilst there will be many more regional and national level responses to second- and third-tier emergencies, many of which may not involve signatories to current codes of good practice or common operating approaches and may have very different perspectives regarding priorities and approaches. Training and capacity building may be requested but on different terms to previously. Whilst five<sup>27</sup> NGO's absorbed 38% of the non-governmental expenditure in 2010<sup>28</sup>, this market share of aid delivery is likely therefore to decrease over time.

Key informants will also emerge through the rise of online voluntary and technical communities and through the rise of technology-enabled affected communities (with overlaps between the two groups). Whilst the presence of affected communities as a key informant in humanitarian response is not new<sup>29</sup>, there will be a greater emphasis on listening to

their views-much of which will be broadcast through social media fora as through community meetings convened by the aid worker.

The increased activity around online voluntary and technical communities, precipitated by a desire to help and the immediacy of communications and connectivity, also means that there will be greater availability of unsolicited data and aid workers will have more information of varying quality to synthesise. Collectively (and with the exception of complex emergencies) the net result is a paradigm shift in the humanitarian 'order' and the emergence of much greater diversity of powerful communities and organisations. The use of social media will be a core tool in this process. Multiple operating pictures are likely to become the norm with the consumer much more active in driving the response than previously.

### The difference between disaster and conflict

Whilst disaster response capacities will strengthen and gradually evolve with many positive opportunities for change, the nature of complex emergencies will continue to undermine the social fabric that safeguards the vulnerable. Current geopolitical alignments will have an

<sup>26</sup> State of the Humanitarian System, Op. Cit.

<sup>27</sup> Medicines Sans Frontieres, Catholic Relief Services, Oxfam International, The Save the Children Alliance and World Vision International

<sup>28</sup> State of the Humanitarian System, Op.cit pp 29.

<sup>29</sup> Operationalising and Understanding Empowerment, Cecilia Littrell and Sitna Quiroz with Claire Scrutton and Kate Bird. 2009, Overseas Development Institute. London.

impact on conflict whilst internal conflicts will become more intractable and regional in nature<sup>30</sup>. International humanitarian law will continue to be flouted, the voices of those affected unheard, and the levels of armed violence will increase.<sup>31</sup> The need for a humanitarian response based on relevant analysis and information will remain profound and the place of the international community in delivering it within contested environments essential.

### Technical change

*'The planet has gone online, producing and sharing vast quantities of information.'*

*Humanitarianism in the Network Age, Including World Humanitarian Data and Trends, 2012. Office for the Coordination of Humanitarian Affairs.*

Technology provides opportunities to strengthen the humanitarian response (when it can be sufficiently utilised) in two ways – in gathering data and in establishing a platform for data sharing. In both these respects, technology is allowed to be repurposed with the express intent to enable affected people to participate more actively in aid delivery<sup>32</sup>. At the same time, new ideas are continually emerging. There is increased interest in mobile

data collection with emerging examples of its success for a range of organisations towards different ends<sup>33</sup>.

The challenge of connectivity in the field following a rapid onset disaster and in conflict situations means that not all of these developments can be fully integrated into the first phase of emergency response. Nonetheless they provide significant opportunities once connectivity can be re-established. Haiti illustrated that despite the loss of connectivity, it was possible for people to communicate and for online technical volunteers<sup>34</sup> to take data and analyse it on behalf of field staff and others at an early stage in the emergency<sup>35</sup>.

The primary challenge in the humanitarian context is the relevance and volume of data available with the consequent need for aid workers to identify useful data and synthesise this into useable formats. The subsequent challenge is how data can be shared, what common platforms exist and how these can be continually developed in tandem with change. Real time information and access to data to change information graphics and map products for personal use are increasingly important, making web applications essential.

<sup>30</sup> International Committee of the Red Cross, Strategy 2011 - 2014

<sup>31</sup> International Committee of the Red Cross, Op cit.

<sup>32</sup> Presentation: Andrew Verity, MapAction Internal Technical Round table July 2013

<sup>33</sup> Internal Report: NOMAD Mobile Data Collection Workshop, Paris, May 2013. Karl Hennermann and Luke Caley

<sup>34</sup> Crisis Mappers

<sup>35</sup> Disaster Relief 2.0. The Future of Information Sharing in Humanitarian Emergencies, 2011. United Nations Office for the Coordination of Humanitarian Affairs, the United Nations Foundation and Vodafone Foundation Technology Partnership and the Harvard Humanitarian Initiative.

## Annexe 3: Definitions

**Complex emergency:**<sup>36</sup> Refers to a crisis that has the following elements; violence, loss of authority, population displacement, insecurity and widespread damage to societies and economies. Such emergencies often require large-scale and multifaceted humanitarian assistance.

**Disaster:**<sup>37</sup> Is defined as a calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters can have human origins. Some disasters can result from several different hazards or, more often, to a complex combination of both natural and man-made causes and different causes of vulnerability.

**Emergency:** Is a generic term applied to different disasters and conflict where loss of life and disruption of functioning has taken place and outstrips capacities at a community, local or national level to respond.

**Humanitarian crisis:** Is a generic term used to refer to disaster and conflict but often, although not exclusively, is understood to mean a conflict based event

**Humanitarian emergency:** As humanitarian crisis but often, although not exclusively, is understood to mean a disaster stemming from a natural event.

**Level 3 emergency:**<sup>38</sup> Under the Interagency Standing Committee's Transformative Agenda, a Level 3 Emergency is a humanitarian system-wide emergency based on the exceptional nature of the emergency and its potential impact. Five criteria are considered in activating a level 3 emergency within 48 hours of its occurrence. These are the scale of the emergency, its complexity, the urgency of the situation, capacity required to respond and reputational risk.

**Mega disaster:** Is a large-scale disaster with extensive national or multi country disaster, likely to result in a Level 3 designation.

**Rapid onset disaster:** Stems from natural hazards that happen rapidly e.g. earthquake, landslide, tsunami, some types of flooding that combine with population vulnerability to cause loss of life and disrupt functioning.

**Slow onset disaster:** Stems from natural or artificial

<sup>36</sup> Adapted from IFRC website: [www.ifrc.org](http://www.ifrc.org)

<sup>37</sup> Adapted from IFRC website: [www.ifrc.org](http://www.ifrc.org)

<sup>38</sup> Adapted from <http://www.humanitarianinfo.org/iasc/>

events that happen in slower time e.g. climate and weather-related hazards such as drought, that combine with population vulnerability to cause disruption of functioning, and ultimately loss of life. Food-security emergencies are complex disasters with multiple root causes. Severe drought and/or conflict can produce an acute food emergency, whereas chronic food insecurity is often a reflection of poverty, a worsening debt crisis, and the economic effects at household level of the HIV/AIDS pandemic or mismanagement or abuse of water resources.

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