International Federation of Red Cross and Red Crescent Societies

Health Department

WASH Team

Discussion Paper:

WASH in Urban contexts – A way forward

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Discussion Paper Version (2):

**WASH in Urban contexts – A way forward?**

1. **Background:**

In 2008, the milestone was reached that ‘half the world’s population’ now lives in urban areas, and this is increasing and will continue to increase at an exponential rate.

Urban populations worldwide continue to expand and this also increases the depravation, poverty and impact on health and dignity to mostly the poorer urban dwellers.

Further to this and over and above the ‘chronic’ needs of the vulnerable or disenfranchised in urban areas are the increasing risks of ‘acute’ needs when disasters or crises impact upon urban areas.

* ***‘Chronic’ and ‘acute’ WASH needs:****We use the distinction between the two to describe long-term WASH needs as ‘chronic’ (lack of equitable, affordable and sustainable access to WASH systems or services) and ‘acute’ as an immediate emergency or disaster related lack or loss of access to WASH services.  In the urban or rural context there may of course be an underlying ‘chronic’ scenario but one that becomes ‘acute’ due to an urban emergency or disaster. (Haiti earthquake for example and there are many others).*

Recognising these challenges, WASH in urban contexts both from a development/resilience perspective and the increased risks of urban disasters and crises has prompted RC/RC NS’s, IFRC and ICRC to undertake a variety of urban interventions worldwide over many years. Although this is the case, no real thought on what our collective strategy should be has taken place. Also lacking is a consolidation of experience, best practice or knowledge sharing and little in the way of collective thinking or response to urban needs except, to some extent, in disaster response and early recovery.

RC/RC NS’s and IFRC have begun to focus upon urban needs and response but to move the urban agenda further forward it was decided at a PNS WASH advisors meeting in Stockholm (August 2015) that an IFRC led Technical Working Group be formed to address urban needs for WASH. Further to that meeting urban WASH was discussed at a Global Health meeting held by IFRC and NS’s in Geneva (November 2015) which also encouraged a collective approach to further advance the urban WASH agenda.

This discussion paper is intended to set the scene for next steps and as a starting point for the Technical Working Group as it meets for the first time in Vienna in January 2016. There are also several links to key publications or sites that may be of use or reference.

1. **Where should we go?**

The following are suggestions and recommendations as to a way forward:

* 1. **An urban WASH strategy?:** We have as our policy base the WatSan IFRC policy (2003) which still stands as an overall and adopted policy though it lacks any specific reference to the urban challenge. There are regional and country WatSan or WASH strategies that reflect the policy and indeed refer to urban in a very limited sense (or in some cases not at all). An overall urban WASH strategy would therefore better define what we intend to do around urban WASH issues and act as a platform for both internal and external advocacy to improve and scale up urban capacities, response and programming. It would seem wise to keep such a document simple and straightforward and gain RC/RC endorsement prior to launch, translation and dissemination. This could be an output of the TWG on urban WASH.
  2. **For urban WASH in disaster preparedness and response** - The research and development agenda (particularly in sanitation) is well established in the ESP, regional workshops (such as those held in Asia/Pacific) and individual RC/RC activities such as the ‘one stop’ shop concept and piloting (Uganda/Ivory Coast), public WASH utilities (Eritrea) and other examples. However, it lacks an overall consolidation and coordination and we need to undertake that role as it is the only way can know exactly what we are working on and indeed what we have achieved. There is likely to be duplication both internal to RC/RC but also with our WASH peers which may be counterproductive as well as not the best way to utilise resources, capacities and skills. A starting point therefore may be a mapping of what we are doing or planning to do and matching that to what external work has or will be done. On the basis of that mapping exercise it may be then wise to prioritise what we are doing and encourage internal and external partnership and avoid duplication as well as making informed decisions on what our priorities should be.
  3. **For urban WASH and the use of Global tools including ‘software’:** Creating new configurations for WASH and Health ERU’s is under process and is a dynamic process. Certainly this will and should be influenced by the TWG on urban WASH. A specific urban WASH ERU module or configuration has already been discussed and it was decided that further work on this should await outcomes from the TWG. Similarly, the revision of ‘software’ tools, now under way, should feed into the urban context, and both in developmental and resilience contexts as well as in disaster preparedness, response and early recovery. Research and tools development leads to the need for a suitable training package focusing upon urban contexts. Training opportunities are limited (see 8 below) for emergency WASH and even less or too advanced and specialised for developmental urban WASH. This is a challenge to be addressed if we are to capitalise RC/RC HR’s capacity development.
  4. **For urban WASH, development and resilience programming under the Global Water & Sanitation Initiative (GWSI):** Providing a step by step guide to the modalities to be considered when planning urban WASH long term programming may be a way forward, similar to the GWSI checklist used for conventional rural WASH programming. However, it is almost certain that such guidance is already well established by other actors and to undertake a desk study to choose the best and most relevant for the RC/RC may be the simplest and most cost effective way forward. This may also be an opportunity for us to see what kind or external partnerships may be of benefit to us from global to local levels.
  5. **It’s not just water, sanitation and hygiene:** In considering what we may do in urban contexts we must consider a broader range of issues to be addressed for example; solid waste and its impact on health and relevance to and impact upon urban WASH; surface water drainage and storm drainage; black and grey water; sludge removal and safe treatment/disposal; energy and/or cost recovery from urban WASH; NRW and tariff settings; legislation and the role of government and utilities and indeed WASH governance.
  6. **Accepting what we are not.** The discussions in Stockholm underlined that the massive scale, scope and levels of investment required in the rehabilitation or construction of urban WASH systems is best left to the experts, private and public bodies, the global and regional WASH bodies, key contractors and consultants who specialise in these works. This does not mean that if the conditions are right and especially if we are the agency of last resort that we will not embark on such initiatives, but with great care. Where we can have an impact when WASH systems of large scale are the only sensible answer is in our auxiliary role to government in insisting that the technical and financial aspects of such development is ‘pro-poor’ in nature.
  7. **Centralised systems:** There are opportunities for us to engage more in centralised systems which can be rural or urban (or often in that grey area between the two) and offer, where the conditions are right, the best option in cost, coverage, sustainability and reach.
* *We are using this term to describe water and sanitation infrastructure (in scale, scope and coverage) that falls between household or small community systems (our most common type of rural interventions) and large conventional mega-scale urban systems. For example a gravity system that serves a small community as opposed to a gravity system that serves several communities or a larger town. The latter would be a centralised system. Similarly, in sanitation, when we move up in scale from individual household or institutional ‘stand-alone’ systems to piped sewerage systems - the latter a centralised system. Surface catchment dams that serve more than one or two communities another example. Conventionally powered production boreholes that supply large volume water supplies could also be considered as centralised.  There are some good examples of RC centralised systems from Kenya and indeed some other examples. Centralised systems may be rural or serving smaller towns or indeed peri-urban populations.*
  1. **Increased Partnership, both internal and external, having some common ground rules and setting targets for urban WASH in the RC/RC context.** For such a complex and dynamic area of work, we can only add value by close cooperation and coordination.
  2. **Exit strategies** are for the most part are very different than in the rural context and invariably may involve government or local utilities and the private sector. This may be a new set of guidance and skills we may need to develop.

1. **Feedback from the Global Health Meeting in relation to urban WASH:**

General WASH feedback from Global Health Meeting (urban issues in red):

**Where we are now?**

* Imbalance between hardware and software
* Low scale contribution to global WASH
* Define criteria for beneficiary counting especially for software activities
* Lack of collective strategy to respond
* IFRC to increase lobbying with National Societies that WASH is under health
* Tailored approach required – sanitation (local context) – gender and diversity – disability
* Hygiene promotion is a priority and should be more integrated – Psychosocial support, CBHFA, menstrual
* Waste management is a public concern – hospital, bio-hazard, solid waste
* Urban WASH is integrated into both DM and health + disease outbreaks in emergencies.

**Where we want to go collectively?**

* More effort required in software activities using innovative approaches
* Integrate the targets for Urban WASH into development WASH
* Pilot innovation in sanitation promotion
* There is divided focus in terms of funding for development and emergency WASH – Emergency WASH attracts more funding
* Joint response strategy
* Increase human resources and units in number and quality
* Management and pre-agreement of resources is required
* Reactivate health networks and integrate WASH focal points (Americas specific)
* Important to have a WASH focal point in the regions
* Make WASH methodology accessible to all regions
* Share mechanisms for coordination with other WASH partners
* Urban WASH needs to be prioritized in all urban programmes in an integrated way.
  + Make it a requirement of receipt of donor funding in urban settings like we in the case of OD or HIV in Southern Africa

**What we need to do collectively?**

* Conduct evidence-based advocacy using results of *look-back* studies and research results
* Resource mobilization for integrated projects to ensure sustainable development
* GWSI is not sufficient, thus need more partners in WASH
* IFRC and country level policies and procedures should be known and shared
* Develop WASH capacities (at all levels) and explore innovations (on how WASH tools are adaptable to each country)
* Guidelines required to ensure integrated programming
* Develop an urban WASH strategy at National Society level
* Urban WASH: Share and document best practices and models
* Advocate for urban WASH with stakeholders including governments. This requires evidence to drive financial support and policy change
* Conduct *look-back* in urban setting

**What are the gaps?**

* Social marketing for behaviour change communication
* Work with private sector on software activities
* MHM in development context
* Strategic planning as a guiding tool at National Society level
* Development of detailed monitoring and evaluation plans with appropriate tools, e.g. reporting tools
* Lack of collective/joint strategy, standards and resources
* Urban WASH – the skills and resources required at ground level (National Society) are not there
* Urban WASH – lack innovative ideas, adequate integration and sharing of best practices
* Urban WASH – reactive instead of being proactive

It was encouraging to note the level of interest and expectations from the working groups.

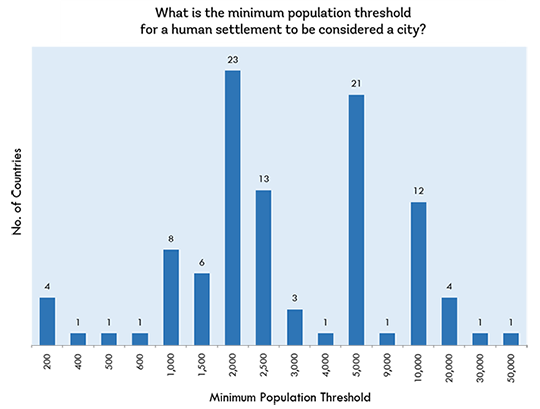
**4.0 What is urban?**

In everyday usage, terms related to human settlements have vague, shifting meanings. What one person might describe as a small ‘city’ might be a ‘town’ or ‘village’ for someone else; one person’s ‘megacity’ might be a cluster of cities from a different perspective. Similarly, we can usually identify areas that are clearly within a city and others that are outside it, but there is usually a peri-urban area of intermediate density that usually lies between the two, making it hard to define a clear city limit. Formal administrative boundaries may have historic or political meaning, but are rarely aligned with the physical or economic extents of the urban area.

**What exactly is a city? It depends who you ask**

It turns out there is no standard international definition of an ‘urban’ area or ‘urban’ population. Each country has its own definition, and collects data accordingly. The statistic that 50% of the world’s population is urban is arrived at simply by adding up these incomparable, and sometimes conflicting, definitions.  
    
A useful [list](http://esa.un.org/unpd/wup/DataSources/) compiled by the UN Population Division gathers the definitions of ‘urban’ population used in censuses in 232 countries. The criteria used by countries to decide whether to define a place as ‘urban’ include population size, population density, type of economic activity, physical characteristics, level of infrastructure, or a combination of these or other criteria. Some simply list their urban areas by name.  
  
Each definition may be well-suited to its own national context, but the differences present a problem when trying to compare urbanization across countries. As Uchida and Nelson [observe](http://www.wider.unu.edu/publications/working-papers/2010/en_GB/wp2010-29/) while attempting to address this issue, “[t]he matter is analogous to measurements of global poverty and comparisons of poverty levels across countries… A uniform definition—like the $1 or $2 per day index used in evaluating poverty levels across countries—makes analysis possible.”  
  
So how can we come up with an urban equivalent of the dollar-a-day benchmark? Let’s look at how some countries use specific thresholds for defining urban areas, and how these can be adapted globally.

**Using population and density thresholds to define ‘urban’ areas**

101 countries use minimum population thresholds as a means of identifying settlements as ‘urban’, either as the sole criteria or together with others. The most frequently used threshold values are 2,000 inhabitants (used by 23 countries), and 5,000 inhabitants (used by 21 countries), as shown in the figure below. The average of all these thresholds was just under 5,000 inhabitants. (It may strike you how low these figures are. The most frequently used minimum population, 2,000 people, could easily be accommodated within a single large office building.)  
   
  
   
Only 9 countries use minimum population density thresholds, of which only one, Germany, uses it as a sole criterion for defining urban areas. The lowest density threshold used is 150 persons per sq. km. (Germany), and the highest is 1,500 (China and Seychelles).  
  
The density thresholds also do not take into account the variation in the size of the areas over which the density is being averaged, which would result from varying sizes of administrative units. Even within the same country, two identical settlements may be treated differently, depending on whether they fall within large or small administrative units.

From an RC/RC perspective we will, as auxiliary to government, bow to their national or local definitions of urban and respond accordingly in any case. However, where government action or legislation create tensions between urban groups or increases those vulnerable or unserved due to their actions we must take up our advocacy role as much as possible and appropriate in the given context.

<http://blogs.worldbank.org/sustainablecities/what-does-urban-mean>

<http://esa.un.org/unpd/wup/DataSources/> the list.

And for an overview of urban WASH country by country:

<https://openknowledge.worldbank.org/bitstream/handle/10986/19811/9781464802768.pdf?sequence=5>

**5.0 WSUP Guidance on Urban WASH programming:**

**1) How should interventions be prioritised and sequenced?**

As noted in the Introduction (see pages 2-3) this is a rapid-reference guide organised around individual topics. But of course when you design a programme you will need to prioritise certain types of solution (you won’t be able to do everything in this guide!), and sequence individual solutions into a coherent plan. In order to make informed decisions about which types of solution to implement, you first need to get a detailed understanding of the local situation, including the current level of service provision and available capacity.

**2) Who needs to be consulted?**

When planning an urban WASH programme, it is critically important to consult with a wide range of stakeholders. This includes organisations directly involved in WASH service delivery (utilities, municipal authorities, the private sector, etc.), as well as diverse other relevant actors including civil society organisations, urban planning authorities, education authorities, and religious leaders. And evidently, you need to listen very carefully to the people in the target populations, including women and members of vulnerable groups (see pages 40-43).

**3) What exactly is an urban low-income community?**

Urban LICs are neighbourhoods in which a high proportion of households live in poverty. They are often characterised by poor-quality housing, insecure tenure and high population densities; by high unemployment and low-incomes; by low levels of access to basic services; by high levels of child disease and child mortality; and by low average life expectancy. Many LICs are informal (i.e. not formally authorised) and/or peri-urban (i.e. not within the formal administrative boundaries of the city): but WSUP certainly considers that such LICs should be targeted for service improvements.

**4) What exactly are ‘improved’ services?**

Definitions of ‘improved’ vary: readers should consult the definitions used by the WHO/UNICEF Joint Monitoring Programme (http://www.wssinfo.org/), in relation to both the Millennium Development Goals to 2015, and the Sustainable Development Goals post-2015. In practical terms, WSUP considers that improving water services means improving the quantity, quality and affordability of water supply for drinking and for other domestic uses; improving sanitation services means improving the collection, transport, treatment and disposal/reuse of human excreta, so that both houses and streets are uncontaminated by human faeces; improving hygiene means improving behaviours and measures (notably handwashing) that break the chain of infection transmission in the home and in the community.

**5) How long does a typical urban WASH programme last?**

Typically, an urban WASH programme funded by an external donor might last between 1 year and 5 years. But ensuring that a programme’s interventions are effective and sustainable requires time (for planning, for stakeholder consultation, for capacity development, for behaviour change...). One- or two-year programmes may not provide sufficient time to do things sustainably, and WSUP would always argue for longer programme durations where possible.

**6) How much does a typical urban WASH programme cost?**

How long is a piece of string! The cost of an urban WASH programme is influenced by a number of variables, including the scope of programme activities, the number of people targeted, programme duration, and local labour and materials costs. The budget for a WSUP programme within a single city might range from US$ 100,000 (for a limited set of activities within a wider programme) to US$ 10 million (for a major 3- to 5-year programme). Full at-scale improvement of WASH services throughout a large city would be expected to cost hundreds of millions of dollars.

**7) Which organisations provide funding for urban WASH programmes?**

The most important and sustainable source of funding for urban WASH programmes is local and national government: long-term at-scale improvements are not achievable without government investment! The main external funding of urban WASH programmes comes from bilateral donors, including for example the UK Department for International Development (DFID), the US Agency for International Development (USAID), and the Danish Ministry of Foreign Affairs (DANIDA). Currently, the biggest private donor is the Bill and Melinda Gates Foundation; other foundations with major investments in urban WASH include the Coca- Cola Foundation and the Stone Family Foundation. Major multilateral donors, who pool and then distribute multilateral funding for urban WASH initiatives, include UNICEF, the European Commission, the African Development Bank, the Asian Development Bank, and the World Bank.

**8) How can progress be measured?**

Programme success should be measured in terms of outcomes rather than simple outputs: for example, instead of just recording the number of toilets built (or the number of people you expect those toilets to serve), it is much more useful to measure the number of people who are actually using the new toilets. For a brief how-to introduction to this area, see the WSUP Guide to Urban WASH Monitoring & Evaluation (2014, forthcoming).

**9) How can we ensure learning and dissemination?**

Learning and dissemination are vital components of a WASH programme. Feeding learning back into programme planning will help to resolve short-term problems, and to improve long-term practice. Disseminating these lessons more widely will also be of value to urban WASH programme implementers from other organisations and in other countries. WSUP puts a lot of effort into learning and dissemination, and we would recommend this approach to other implementers. For example, WSUP teams organise and participate in national and international workshops, sharing programme experience with other WASH professionals. WSUP also produces publications on key programming issues, ranging from blog posts through Practice Notes to longer Topic Briefs and in-depth Discussion Papers: see the WSUP website.

**10) Is everything in this guide definitive and 100% accurate?**

No! Our ideas evolve, the sector’s experience evolves, and this is only a rapid-reference guide: it’s just a starting point. We have only very briefly indicated further reading in the text: for more information, see WSUP’s publications (http://www.wsup.com/programme/research-and-learning/resources), but also the excellent online libraries maintained by organisations including IRC International Water & Sanitation Centre, WASHPlus, and WSP (World Bank Water & Sanitation Program). Finally, feel free to contact us with comments and suggestions, at erl@wsup.com.

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**ADDITIONAL RESOURCES**

**WSUP publications**

One of WSUP’s key objectives is to promote effective service delivery models to the WASH sector worldwide. To help share the lessons from our work on the ground, we produce a wide range of publications including Practice Notes, Topic Briefs and Discussion Papers, a number of which have been cited in this guide. All of our publications are free to download from our ‘resources database’ – a fully searchable library of our publications and other print resources: http://www.wsup.com/programme/research-and-learning.

**References:**

Bartram J and Cairncross S (2010) Hygiene, Sanitation, and Water: Forgotten Foundations of Health.

Boschi-Pinto C, Velebit L and Shibuya K (2008) Estimating child mortality due to diarrhoea in developing countries.

Eawag/Sandec (2008) Faecal Sludge Management

Hutton G, Haller L and Bartram J (2006) Economic and Health Effects of Increasing Coverage of Low Cost Water and Sanitation Interventions.

Muximpua O and Hawkins P (2011) Building blocks for effective faecal sludge management in peri-urban areas: the role of small-scale service providers in Maputo. UN-Habitat (2010) State of the World’s Cities 2010/2011.

UN-Water and WHO (2010) UN-Water Global Annual Assessment of Sanitation and Drinking Water (GLAAS) 2010: Targeting resources for better results.

UNICEF/WHO (2010) Progress on Drinking Water and Sanitation: 2010 Update.

UNICEF/WHO (2012) Progress on Drinking Water and Sanitation: 2012 Update.

Human-centered design website: www.hcdconnect.org.

Water Point mapper website: http://www.waterpointmapper.org.

WELL (undated) Health impact of handwashing with soap. WELL Factsheet: http://www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-htm/Handwashing.htm.

WSUP website: http://www.wsup.com.

**Other useful background documents**

The following titles provide good introductory reading on WASH. We include for guidance only – this list is not comprehensive!

Peal A.J, Evans B.E and van der Voorden C (2010) Hygiene and Sanitation Software: An Overview of Approaches.

Available at: http://www.wsscc.org/sites/default/files/publications/wsscc\_hygiene\_and\_sanitation\_software\_2010.pdf.

Tilley E, Lüthi C, Morel A, Zurbrügg C and Schertenleib R (2008) Compendium of Sanitation Systems and Technologies. Available at: http://www.wsscc.org/node/160.

WSSCC and WHO (2005) Sanitation and hygiene promotion: programming guidance.

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<http://www.wsup.com/?s=Urban+WASH+Guidance&t=programme&all=all>

**6.0 Solid Waste**

**1.3**

(billion tonnes). Current global municipal solid waste production per year. It is projected to reach 2.2 billion tonnes per year by 2025

As the world hurtles toward its urban future, the amount of municipal solid waste (MSW), one of the most important by-products of an urban lifestyle, is growing even faster than the rate of urbanization. Ten years ago there were 2.9 billion urban residents who generated about 0.64 kg of MSW per person per day (0.68 billion tonnes per year).

This report estimates that today these amounts have increased to about 3 billion residents generating 1.2 kg per person per day (1.3 billion tonnes per year). By 2025 this will likely increase to 4.3 billion urban residents generating about 1.42 kg/capita/day of municipal solid waste (2.2 billion tonnes per year).

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/0,,contentMDK:23172887~pagePK:210058~piPK:210062~theSitePK:337178,00.html>

**7.0 WASTE Water:**

The impact on the wider environment is no less striking. An

estimated 90 per cent of all wastewater in developing countries

is discharged untreated directly into rivers, lakes or the oceans.

Such discharges are part of the reason why de-oxygenated dead

zones are growing rapidly in the seas and oceans. Currently an

estimated 245 000 km2 of marine ecosystems are affected with

impacts on fisheries, livelihoods and the food chain.

The climate is also being impacted: Wastewater-related emissions

of methane, a powerful global warming gas, and another

called nitrous oxide could rise by 50 per cent and 25 per cent

respectively between 1990 and 2020.

Already, half of the world’s population lives in cities, most of

which have inadequate infrastructure and resources to address

wastewater management in an efficient and sustainable way.

Twenty-one of the world’s 33 megacities are on the coast where

fragile ecosystems are at risk. Without urgent action to better

manage wastewater the situation is likely to get worse: By 2015,

the coastal population is expected to reach approximately 1.6

billion people or over one fifth of the global total with close to

five billion people becoming urban dwellers by 2030. By 2050

the global population will exceed nine billion.

Wastewater can mean different things to different people with a

large number of definitions in use. However this report has taken

a broad perspective, and defined wastewater as “a combination

of one or more of: domestic effluent consisting of blackwater

(excreta, urine and faecal sludge) and greywater (kitchen

and bathing wastewater); water from commercial establishments

and institutions, including hospitals; industrial effluent,

stormwater and other urban run-off; agricultural, horticultural

and aquaculture effluent, either dissolved or as suspended

matter (adapted from Raschid-Sally and Jayakody, 2008).

<http://www.unep.org/pdf/SickWater_screen.pdf>

**8.0 WASH Training**

* **This following report (WASH training study/review):**  I added this to the discussion paper to underline the lack of specific urban WASH training available and note that even in the emergency response context it is limited.  I would suggest that conventional urban WASH knowledge or expertise is really in the realm of university level education that focuses on the urban context (and is by nature broad, multi-disciplinary and often may require specialisation) and for the most part the really qualified and  experienced HR’s are mostly in government (national, sub-national and municipal); private and public/private WSP’s and in the consulting world - not to exclude urban water and sanitation manufacturers and suppliers. WASH generalists – where we recruit most of our WASH delegates - seldom have such specific or specialised skills.

## Introduction

Humanitarian emergencies, whether natural or manmade, often require relief interventions in water, sanitation, and hygiene (WASH) to prevent the spread of diarrhoeal diseases. Such illnesses can be one of the major contributors to the overall morbidity and mortality rates following a disaster[1](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref1),[2](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref2). Typically, when the (re-)establishment of adequate WASH infrastructures is beyond the capacity of local authorities, aid from external relief agencies is warranted. In addition to dedicated equipment and other relief items, such organisations use specialised relief personnel to coordinate and deliver WASH interventions during recovery efforts. It is often the case that such personnel are either expatriate relief workers or locally-hired staff. In both cases, humanitarian WASH training is many times offered or required. The anecdotally romantic view that a relevant expertise and lots of goodwill were sufficient to secure a posting as an aid worker no longer holds true. Qualified personnel (e.g. engineers and health professionals) interested in becoming aid workers now seek such training to further specialise their skills and learn more about humanitarian work.

In 2007 Oxfam International[3](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref3) reported that over the previous two decades the total number of natural disasters has increased four-fold and that the number of affected people from such events has risen on average from 174 million to 250 million a year. Moreover, since the end of the Cold War in 1991, an increase in the number of violent manmade conflicts has also been noticed[4](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref4) affecting a growing number of civilian populations. Evidence of this changing landscape may also be found in the overall increasing trend humanitarian funding and response personnel with an estimated annual growth rate of 6 percent[5](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref5), as pointed out by Walker et al.[6](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref6). The increase in such statistics will likely reflect an increase of humanitarian support WASH personnel, given the importance (and near ubiquity) of WASH interventions during such catastrophic events. Adequate training programmes are thus warranted to ensure professional development, accountability to beneficiaries, and building trust with donors.

Walker and Russ[7](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref7) conducted a scoping study on the professionalisation of the humanitarian sector and presented a database of mostly non-specific humanitarian training that was available. More recently, Jacquet et al.[8](http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/#ref8) presented a mainly literature-based survey (albeit non-systematically), but also with a broad “humanitarian response” remit and did not identify WASH-specific training. Furthermore, it concentrated on more traditional (“in-class”) type training, as distance learning options (i.e. online or paper-based) were not included in their assessment. The objective of this study was to conduct a landscaping exercise of the available WASH-relevant training for humanitarian emergencies.

## Methods

An open internet search was performed in English with Google web search engine (www.google.ca) using a combination of the terms “water,” “sanitation,” “hygiene,” “WASH,” “watsan,” “humanitarian,” “emergencies,” “disasters,” “relief,” “course,” and “training” with no search operators. Due to the large number of results obtained through open internet searches (sometimes over 40,000,000), only the first 50 results for each search were evaluated for inclusion in the study. In addition to the primary search results, secondary references were also followed up. These searches were conducted between December 2014 and February 2015. Websites were typically visited only once for information retrieval. Retained search results included those training opportunities (including past ones) that were themed around water, sanitation and/or hygiene dedicated to or with mentioned relevance to humanitarian relief. Generic (i.e. non-specific to emergencies) WASH trainings were not included in this exercise. When possible the name, organiser, location, delivery mode (e.g. presential or online), duration, fees (converted to USD), and language (assumed to be the same of the information source when not explicit) were noted.

## Results

A total of 42 training courses relevant to humanitarian emergency WASH were retained for this exercise. Whereas this search was not exhaustive with regards to the existing plethora of (generic) WASH training courses, it identified emergency WASH-related opportunities that are largely advertised to the general public. Although some courses were also part of a larger academic postgraduate study programme. Many organisations can offer “in-house” trainings (sometimes contracted out to third parties) that are not advertised and are restricted to their employees. Conferences and workshops with relevance to humanitarian emergency WASH also can provide valuable learning opportunities, which were not covered by this study. The open internet search also revealed “general” WASH-relevant courses that were not specific to humanitarian emergencies. Whilst there can be a strong overlap of content that is applicable to humanitarian contexts, such results were not within the scope of the performed search. The retained search results were categorised according to their delivery mode. For presential courses, the reported durations varied from 1 day to 10 months. Online trainings were anywhere between 2 hours of duration to up to 150 contact hours. Their characteristics were summarised in Tables 1 and 2.

Table 1. Summary of presential (on-site) humanitarian WASH-relevant training courses sorted by duration in days (unless otherwise stated).

| NS = not stated. | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Organiser** | **Location** | **Duration** | **Fee (USD)** | **Language** |
| Introduction to Hygiene Promotion in Emergencies | RedR-UK | London, UK | 1 | 155 to 379 | English |
| Sustainable Sanitation in Emergencies and Reconstruction Situations | German Toilet Organization | NS | 2 | NS | German |
| Hygiene Promotion and Behaviour Change | German Toilet Organization | Berlin, Germany | 2 | NS | German |
| Emergency Water, Sanitation and Hygiene (WASH) Engineering: Hands-on Weekend | Engineers Without Borders – UK | Wakefield, UK | 3 | 147 | English |
| Public Health Promotion in Emergencies | RedR-India | NS | 3 | NS | Hindi |
| Hygiene Promotion in Emergencies | RedR-India | Guwahati, India | 4 | 343 to 526 | English |
| WASH Essentials in Emergencies | RedR-UK | Nairobi, Kenya | 5 | 246 | English |
| Hygiene Promotion Training for Trainers for Emergency Contexts | IDEAL Public Health and Development Consultancy | Nairobi, Kenya | 5 | 600 | English |
| Master Essential Rural and Periurban WASH Techniques | Bioforce | Bamako, Mali | 5 | 683 | French |
| Coordinating Hygiene Promotion & Favour Community Participation | Bioforce | Bamako, Mali | 5 | 683 | French |
| Managing Emergency Sanitation & Sustainable Sanitation | Bioforce | Bamako, Mali | 5 | 683 | French |
| Technical Training in Water & Sanitation | Bushproof | Antananarivo, Madagascar | 5 | 1708 | English |
| Urban WASH in Emergencies | RedR-UK | London, UK | 5 | 860 to 2080 | English |
| WASH in Emergencies | RedR-UK | Khartoum, Sudan | 5 | 860 to 2080 | English |
| Advanced Technologies for Water and Sanitation | Cranfield University | Cranfield, UK | 5 | 1966 to 2151 | English |
| Emergency Water Supply and Environmental Sanitation | Cranfield University | Cranfield, UK | 5 | 1966 to 5151 | English |
| Water, Sanitation, and Hygiene (WASH) In Emergencies Training | Department of Health (Gov. of the Rep. of the Philippines) | NS | 5 | NS | English |
| WASH in Emergency Training | Roberto Saltori (Private Consultant) | Sando, Sweden | 5 | NS | English |
| WatSan in Emergency Training | Austrian Red Cross | Laubegg, Austria | 7 | Free | English |
| Environmental Health in Emergencies | RedR-India | Pune, India | 7 | 343 to 565 | English |
| Engineering in Emergencies | RedR-India | Kathmandu, Nepal | 7 | 424 to 750 | English |
| NTS 004 WASH in emergencies: Risk Reduction | Netwas International | Nairobi, Kenya | 7 | 949 to 1680 | English |
| Water, Sanitation & Hygiene in Emergencies | RedR-Australia | Dookie, Australia | 7 | 1234 to 1912 | English |
| Water and Sanitation Engineering from Emergency Towards Development | University of Neuchâtel & the International Committee of the Red Cross | Neuchâtel, Switzerland | 7 | 2151 | English |
| Coordinating Emergency WASH Responses: Lessons Learnt from Western and Central Africa | Bioforce | Bamako, Mali | 10 | 1708 | French |
| Health Emergencies in Large Populations (HELP) | Johns Hopkins University & International Committee of the Red Cross | Baltimore, USA | 10 | 1899 to 4930 | English |
| Specialisation in Ebola Management for Log/WASH Professionals | Bioforce | Lyon, France | 13 | 569 | English |
| Learn the Specific Competencies of WASH Professionals | Bioforce | Lyon, France & Bamako, Mali | 20 to 27 | 2074 | French |
| Water Supply and Sanitation in Emergencies | University of Copenhagen | Copenhagen, Denmark | 4 weeks | 2829 to 3824 | English |
| Advanced Master’s Degree in Humanitarian WASH | International Institute for Water and Environmental Engineering | Ouagadougou, Burkina Faso | 10 months | 6688 to 7895 | English |
| Water, Sanitation and Hygiene | RedR-Malaysia | NS | NS | NS | English |
| Water and Ecological Sanitation in Crisis Contexts | Groupe u.r.d. | NS | NS | NS | French |

Table 2. Summary of online humanitarian WASH-relevant training courses sorted by duration in hours.

| NS = not stated. \* indicates duration expressed as the reported “contact hours” (i.e. including self-study hours). | | | | |
| --- | --- | --- | --- | --- |
| **Name** | **Organiser** | **Duration** | **Fee (USD)** | **Language** |
| Development, Disasters and Sanitation | Loughborough University | 2 | 15 | English |
| Information, Education and Communication (IEC) in WASH emergencies | Oxfam | 6 | Free | English |
| Technical Project Management (TPM) in WASH Emergencies | Oxfam | 14 | Free | English |
| Emergency Sanitation (CVP282) | Loughborough University | 150\* | 1693 | English |
| Emergency Water Supply (CVP281) | Loughborough University | 150\* | 1693 | English |
| Emergency Water Supply and Sanitation: A WELL Course | Loughborough University | NS | Free | English |
| Water Sanitation Needs in Complex Humanitarian Emergencies | Johns Hopkins University | NS | Free | English |
| Refugee Health Care | Johns Hopkins University & International Committee of the Red Cross | NS | Free | English |
| Public Health e-learning | UNCHR | NS | Free | English |
| Health in Humanitarian Crises | Advanced Training Program on Humanitarian Action (ATHA) | NS | Free | English |

## Discussion

The content of most of the available trainings was centered on notions of emergency water supply (e.g. water quality, treatment, distribution, etc.), sanitation (e.g. latrine types, faecal sludge management, etc.), and hygiene (e.g. handwashing, hygiene promotion methods and approaches, behaviour change, etc.), as well as overarching themes (e.g. SPHERE Standards, diarrhoeal disease transmission, etc.). However, some courses provided thematic variations such as coordination of WASH responses, project management, risk reduction, information, education and communication (IEC), and complex emergencies. Timely topics such as urban WASH, Ebola, menstrual hygiene management, and WASH innovations were also observed indicating the responsiveness of the training providers to the changing needs of humanitarian WASH response programmes. There did not seem to be any obvious topic omission. However, there could be specialised themes that were not covered in the training opportunities that were largely aimed at a rather generic humanitarian audience

<http://currents.plos.org/disasters/article/landscape-of-wash-relevant-training-for-humanitarian-emergencies/>