Master of Public Health

Master International en Santé Publique

Sanitation in Emergencies

The Red Cross Red Crescent movement disaster response system and tools

Joana Vaz

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International Federation of the Red Cross and Red Crescent Societies (IFRC), Geneva, Switzerland

Professional advisor:

William Carter, Senior Officer Water, Sanitation and Emergency Health Unit, IFRC

Academic advisor:

Prof. Denis Bard,
Department of Epidemiology, EHESP

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List of acronyms

CBHFA- Community based health first aid
CHF- Swiss Francs
CRED- Centre for Research on the Epidemiology of Disasters
DM- Disaster management
DREF - Disaster Relief Emergency Fund
EA- Emergency Appeal
ECV – Epidemics Control for volunteers
ERU- emergency response unit
EU- European Union
FACT- Field Assessment and Coordination Team
GBD- Global Burden of Disease
GWSI- Global Water and Sanitation Initiative
HW- Hand Washing
HH- Household
HNS- Host National Society
HP- Hygiene Promotion
ICRC- International Committee of the Red Cross
IDWSSD - International Drinking Water Supply and Sanitation Decade
IFRC – International Federation of the Red Cross and the Red Crescent Societies
IYS- International Year of Sanitation
MH- Menstrual Hygiene
M15/M40- Module 15/ Module 40
MDGs- Millennium Development Goals
MSM- Mass Sanitation module (ERU)
NGO- Nongovernmental Organization
OD- Open Defecation
PHAST- Participatory hygiene and sanitation transformation
PNS- Participating National Society
PoA- Plan of action
PSP- Psychosocial programme
RCRC movement- Red Cross Red Crescent movement
RDRT/RIT - Regional disaster response team/Regional Intervention Team
WatSan HP/WASH- Water, Sanitation and Hygiene Promotion
WHO- World Health organization
UN- United Nations

Abstract

Introduction: Despite today around 40% of the world's population still lacking access to improved sanitation, this is yet to be a priority when compared to access to clean water. Disasters usually affect most vulnerable communities harder, thus increasing the community's health risks. Being the Red Cross Red Crescent movement the largest humanitarian organization worldwide, it has developed a wide disaster response system and tools that aim to provide support in various contexts. With shifting demographic and climatological trends, it is crucial to assess whether these tool are adequate to address sanitation needs in the current disasters profile.

Methods: Emergency appeal reports were the basis of the descriptive statistical analysis performed to characterize the movement's disaster response operations over the last 3 years. In order to get an in-depth view of the tools and how they address the current sanitation needs in disasters, several water and sanitation RCRC staff and volunteers were interviewed. The analysis of the results was a compromise between an analytical framework (based on the tools) and the disaster context determinants that emerged from the interviews.

Results: Floods are the type of disaster to which the movement has been responding the most in the last 3 years (on average 40%) and approximately 44% of all operations are responding to small size communities (<10.000 people). There is still a considerable imbalance between water and sanitation activities conducted in operations and tools are not adaptable to all contexts (urban or flooded), nor are prepared to address all sections of the communities. National societies are the main tool to response to small scale disasters and emphasis should be put in building capacity and raising their interest in sanitation. Overall there is still low awareness of the importance of this subject, there is a lack of skilled professionals and more investment has to be made on improving trainings, assessment and planning.

Conclusions: Sanitation is highly context specific; therefore it has to be dealt with community-based approaches. The challenges that the RCRC movement disaster response system has to face are numerous, however the gap between water and sanitation seems to be decreasing and efforts have been put in place for further improvement of the tools.

1.Introduction

1.1 Environmental Health

According to the World Health Organization (WHO 2012a), “Environmental health addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health”. While is it generally agreed that health is influenced by several interlinked determinants (figure 1) and no single disease or health status has a sole cause, some single determinants seem to impact on most of the global burden of disease (GBD) (Landon 2006). For instance, it is estimated that 85 of the 102 categories of disease in the World Health Report are influenced by environmental factors (WHO 2012a). When looking at the GBD, we observe that diarrhoeal diseases, a highly environmental influenced illness, is still one of the top five biggest killers, leading to 2.46 million deaths worldwide, and being the second cause of death in low-income countries (WHO 2012b).
One of the key measures to control diarrhoeal diseases (along with many other communicable diseases) is proper hygiene, access to clean water and adequate sanitation, which by being at the core of a better environmental management have the potential to prevent 94% of childhood deaths from this illness, one of the world's main childhood killers (WHO 2012a; Bartram and Cairncross 2010). Besides the spectrum of diseases caused by improper water, sanitation and hygiene being broader than diarrheal diseases (for example parasitic worm infections) they are also an important cause of childhood malnutrition that renders children more susceptible to other diseases, thus contributing to a cycle of increased morbidity and mortality (Bartram and Cairncross 2010).

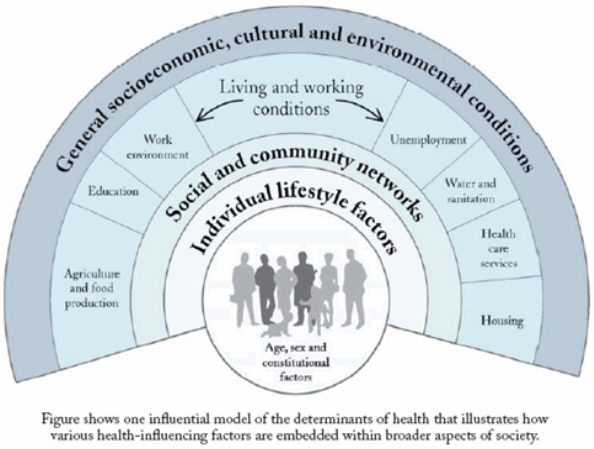


Figure 1: A model of the Determinants of Health.
Source: Dahlgren, G. And Whitebead, M. (1991). Policies and Strategies to Promote Social Equity in Health. Stockholm: Institute for Future Studies.

1.2 Sanitation, what is still lagging behind

In the past 30 years there have been several international commitments to a universal access to water and sanitation, especially in the developing world: from 1981-1990 it was declared the International Drinking Water Supply and Sanitation Decade (IDWSSD), that despite its overreached targets and failure to achieve them all it launched a new international awareness (Black and Fawcett 2008). Later, in 2000, the eight Millennium Development Goals (MDGs) were agreed between world Heads of States as a global pact to reduce poverty until 2015. Goal 7, Target 7c aims to halve the proportion of population without sustained access to safe drinking water and basic sanitation. According to MDGs reports the water target is thought to be on track, though still 800 million people lack access, but the sanitation target is completely off track by an estimation of 1 billion people, which leaves approximately 2.6 billion of the world's population without access to sanitation and 1 billion still practicing open defecation (OD) (Bartram and Cairncross 2010; JMP 2012). This represents 53% of the population in developing countries, and the majority is in Asia and sub-Saharan Africa (two-thirds). Moreover, despite the huge regional disparities worldwide, the coverage between rural and urban areas varies from 39% to 71% (Mara et al 2010). The year of 2008 was also designated the International Year of Sanitation (IYS) by the United Nations (UN), recognizing the importance that access to sanitation has on health, dignity, social sustainability and economic development for the world's poorest citizens. It aimed at increasing inter organizational innovation, knowledge and experience exchange (Harvey 2008).
As support by Black and Fawcett (2008), it seems there is an undisputable sanitary crisis, even if the story of sanitation is quite old: in 2500 bC the Harappan civilization in the Indus basin had a basic system of household waste collection, later drained into water-flushed toilets; in 1842, Chadwick produced the "Report on the sanitary condition of the laboring population of Great Britain" and in 1923, Mahatma Gandi emphasized the role of safe excreta disposal by saying: "sanitation is more important than independence".

1.3 More than a health issue

From the French, "toilette" means the place to dress up and personal grooming. The cultural concept of cleaning habits and bodily purity has broader connotations than the scientific idea of safety from disease, which dominates the public health sanitary agenda (Black and Fawcett 2008). It is also a matter of dignity, empowerment and prosperity. Not only sanitation but also water are well-recognized human rights, declared in 2002 by the UN that everyone without discrimination, at any time and at an affordable price must progressively have. States have to take actions to ensure universal access, considering the available resources and when needed they must seek international cooperation and support (endorsed by the UN General Assembly in July 2010 and by the UN Human Rights Council in September 2010) (WDR 2011).
Having to seek for a place to defecate and falling ill due to the lack of proper conditions has also impacts on school attendance and performance and consequently it can delay the entry into the labour market leading to high economic loss at household and health system's level (Bartram and Cairncross 2010, DFID 1998).

1.4 Making the situation worse- Disasters

“Disasters are failures to cope with hazards when a significant number of people are exposed to extreme events to which they are vulnerable, often resulting in injury and loss of life and damage to property and livelihoods”. Disasters frequently lead to emergencies situations, by damaging, for instances pre-existing poor sanitation facilities and increasing the risks for health and life (Wisner and Adams, 2002).

Disasters and development are highly connected in several ways: on the one hand better education and higher incomes can improve people’s capacity to cope with environmental health hazards and on the other hand, certain types of development can create new hazards and new groups of people vulnerable to them (for example urbanization and the development of informal settlements) (Wisner and Adams, 2002). What this means is also that if disaster response is only reactive the contribution to lasting solutions is hindered. A core concept in disasters and emergencies is the disaster management cycle (figure 2), which is based on a developmental approach and identifies key actions to be put in place in several stages in order to decrease vulnerability and create greater preparedness, hence decreasing damages.

With the increasing number of agencies and organizations involved in disaster response, some initiatives have been developed to improve the quality of humanitarian assistance and the accountability of humanitarian actors to their constituents, donors and affected populations. Sphere Project is a voluntary initiative that sets internationally recognized common principles and universal minimum standards in life-saving areas of humanitarian response, such as sanitation (Sphere project 2012). Another example is the water, sanitation and hygiene (WASH) cluster which is an approach that aims to address gaps in response and strengthen partnerships and coordination between UN agencies, the Red Cross Red Crescent (RCRC) movement, international organizations and nongovernmental organizations (NGOs) and is led by United Nations Children's Fund (Unicef, 2012).

Figure 2: Disaster management cycle
Source: Hiscock D., Livitt A., Piirtoniemi K. (2011). Opportunity from Catastrophe: A Strategic Approach to Sustainable Pre-Disaster Recovery Planning (Pre-DRP)

2. The world of the Red Cross and Red Crescent Societies

"The International Red Cross and Red Crescent Movement is the world's largest humanitarian network. The Movement is neutral and impartial, and provides protection and assistance to people affected by disasters and conflicts" (IFRC 2012a).
Officially created in 1863 by Henri Dunant and the working group, the movement is now constituted by three components: The International Committee of the Red Cross (ICRC), The International Federation of the Red Cross and Red Crescent Societies (IFRC) and the approximately 187 National Red Cross and Red Crescent Societies worldwide. While the ICRC's mandate pertains to humanitarian protection and assistance for victims of war and armed violence, the IFRC is involved in natural disaster situations, thus aiming to inspire, facilitate and encourage national societies' work both in emergency preparedness and response, and in long term development, by strengthening their capacities. Each National Society is made up of mainly volunteers but also staff, who provide a wide variety of services, ranging from disaster relief and assistance for the victims of war, to first aid training and restoring family links. All together there are nearly 100 million members, volunteers and supporters. Despite the movement's independence from governments, it works in cooperation with them and is considered an auxiliary structure. It also works in cooperation with donors and other aid organizations to assist vulnerable people around the world (IFRC 2012a).

2.1 Engagements

In 1995 the IFRC engaged in a long-term commitment with the inter-agency water and sanitation working group, being therefore one of the main actors in emergency water and sanitation. The IFRC has been deploying water, sanitation and hygiene promotion (WatSan HP) delegates since 1994 to provide support to water and sanitation projects and initiatives in the regions in most need, primarily Asia, Africa and the Americas. In 2003, IFRC Board and membership adopt global water and sanitation policy that is still in use today. Later in 2005 the organization launched the ten-year Global Water and Sanitation Initiative (GWSI) in contribution to MDGs and in 2006, in a 3-year partnership with Nestlé, the engagement continues with an emphasis on hygiene promotion (HP) in emergencies and development work (IFRC 2012b; GWSI 2010).

2.2 RCRC disaster response tools and system

Over the last two decade the Federation has developed international and regional disaster response systems and tools, that attempt to support national societies in the midst of insufficient disaster coping mechanisms, capabilities or resources. They try to ensure fast and efficient assistance to affected people, through the provision of funding, trained human resources and appropriate emergency services (IFRC 2012c). The following table describes each of the disaster response components:

Financial instruments	Description
Disaster Response Emergency Fund -DREF	Allocations from the Federation may be made as start-up loans in the case of large-scale disasters, grants to meet the costs of responding to small-scale emergency relief operations, or for making preparations in the case of imminent disaster. All requests for DREF allocations are reviewed on a case-by-case basis. Money can be authorized and released within 24 hours and money does not need to be paid back when not followed by an EA. It has a ceiling of 1M CHF (Swiss francs) and a cost/beneficiary <75 CHF.
Emergency Appeal - EA	EA is a plan articulating how the IFRC plans to respond to an emergency situation, where there are significant needs for which international assistance is required. An EA is always based on a request from a member National Society and is usually issued on the basis of a needs assessment. Consists of a narrative and a corresponding budget and pledges are made by donors within and outside the movement.
Tools and systems	**Description**
National Societies (NS)	NS is very often the first to respond to any disaster, from a small to the large-scale and in about 80 percent of cases, they respond at the local or national level, without the need for regional or international support. NSs from a non-affected country can also provide support and assistance to other NSs by providing personnel, material, financial and moral support through the NS of the country affected and the Federation. **National Disaster Response Teams** are made up of NS staff and volunteers, often from different branches or chapters, trained and working alongside volunteers at community level to bring assistance to people affected by disaster. They are made up of generalists and specialists in health, logistics, relief or water and sanitation. They can be mobilized at short notice and are trained to work as a team and support the local RCRC branch or chapter in its response to the disaster.
Field Assessment and Coordination team- FACT (created in 2000)	FACT members have technical expertise in numerous areas including, water and sanitation. The team, built from a trained Roster, is on standby and can be deployed anywhere in the world within 12-24 hours, for a period of 2 to 4 weeks, allowing operations to begin while longer-term support is mobilized and supported by the host NS (HNS). FACT works closely with Emergency Response Units (ERUs).
Emergency response Unit- ERU (created in 1994)	ERUs are teams of trained technical volunteer specialists, ready to be deployed at short notice (72h), who use pre-packed sets of standardized equipment in immediate disaster response. ERUs are designed to be self-sufficient for one month and can operate for up to four months. There are several types: Logistics, IT and Telecommunication, Basic Health Care, Referral Hospital, Rapid Deployment Hospital, Relief, Base Camp and Water & Sanitation: **Module 15 ; Module 40; Module Mass Sanitation (MSM) 20.**
Regional Disaster Response Team- RDRT/RIT	RDRT are a cost-effective regional disaster response support system that is entirely staffed by members (including volunteers) of NSs in the region. The aim is to actively promote building of regional capacities in disaster management.

Table 1: Description of the RCRC movement disaster response tools and instruments

The FACT, ERUs and Kits are deployed based on the suspected needs in the disaster affected place and are a negotiated decision from the Federation technical experts, participating National Societies (PNS) providing the ERU and the local NS, who has to previously make the request or agreed to the decision. The WatSan ERUs, M15, MSM20 and M40 are devised to reach up to 15.000, 20.000 or 40.000 people correspondently. They can be deployed separately or combined together according to the situation (number of people, sanitation, and water needs). Despite all the modules having capacity to provide both water and sanitation, the MSM 20 is the most specialized in sanitation by providing basic sanitation facilities (latrines, vector control and solid waste disposal) and initiating hygiene promotion programmes. Some of the compulsory material included in this module are typical

toolbox items for latrine construction (hammer, tape, staple gun, etc), digging and cutting items (shovel, axe, hoe, etc), boots and gloves, a multipurpose tent, buckets, latrine cleaning material (disinfectants, brush, etc), rapid superstructures, plastic squatting plates, mold to make latrine slabs, among many other items. There are also some optional items, such as a digger, a rock drill, body bags and sprayers. All the modules comply with Sphere and WHO standards and require 4 to 8 engineers or hygiene promoters. WatSan ERUs are provided by the Spanish, Swedish, French, British, German and Austrian PNSs.
In a continued effort to improve the tools used in emergencies, in 2008 the IFRC developed the WatSan Kits, which are standardized equipment packages that complement the ERU capacity. There are 3 types: kit 2, 5 and 10 for around 2.000, 5.000 and 10.000 beneficiaries correspondently and that can be deployed separately or jointly and in combination with ERUs based on need. Hygiene promotion and training in the use of materials and tools in the kit is an essential part of the operation and local WatSan technicians and RCRC volunteers are crucial as part of the response. Another developed item was the Hygiene Promotion Box in 2008 since adopted by the WASH Cluster as the standardized equipment for hygiene promotion in emergencies (IFRC 2012b).

The conventional and somehow ideal sequence of events that can trigger a disaster response are simplistically illustrated in the following schematic representation:

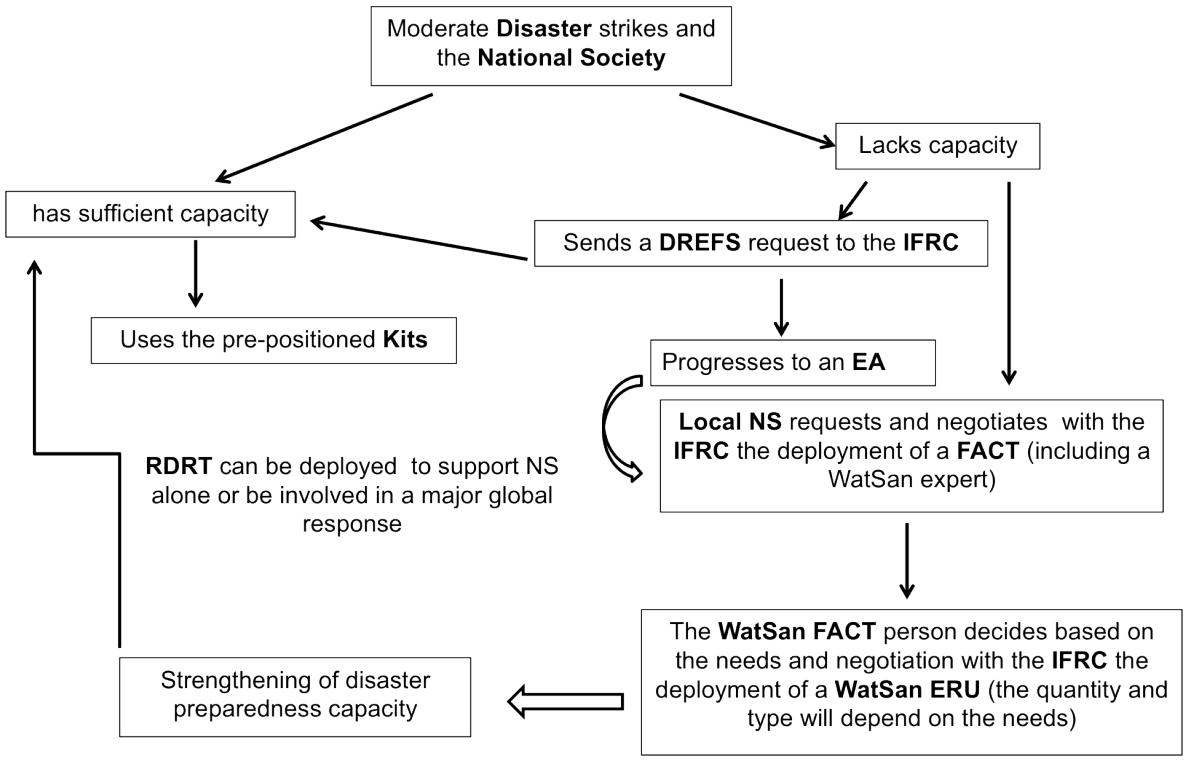


Figure 3: Disaster responses IFRC mechanism

2.3 Sanitation Field options

In terms of type of provision for sanitation, in the first phase of an acute emergency, where mortality rates are often high as well as the risk of epidemics, intervention are usually rapid and designed for short term. The most commonly used options are defecations fields, shallow and deep trench latrines, borehole latrines, shallow family latrines, bucket latrines, in most recent years, bio degradable plastic bags and the chemical toilets, though these are barely used outside Middle East, Europe, North America and parts of Latin America. In a second phase on an emergency, as all the subsequent stages of an emergency are denominated, implementations can and should be for long-term use. Based on Sphere standards, the aim is to move from 1 sanitation facility per 50 people, later 1 for 20 and finally reach household (HH) facilities (usually 5 people are considered). In this stage, some of the options are simple pit latrines, ventilated improved pit (VIP) latrines, Eco-San options, pour-flush latrines, septic tanks, latrines for institutions (schools, clinics, etc), among others (Harvey 2007).

2.4 Hardware vs Software

From the IFRC point of view, WatSan HP interventions are distinguished on the basis that all the physical material used (slabs, pipes, superstructure, soap, etc) is denominated hardware, while software is an umbrella term that includes hygiene behavior change, local capacity building, stakeholder involvement and monitoring and evaluation of impact. Although HP is sometimes referred to as WatSan software, this is not entirely accurate, as HP also requires some hardware, for example hand washing stands, a physical place where hygiene is enabled. Nevertheless, what is important is the final goal of an integrated approach with hardware and software, which ensures that water and sanitation systems enable the optimum and most sustainable health and social benefits to end users, regardless of all nomenclatures (IFRC 2012c).
Hygiene promotion, as a central strategy for promoting effective development and use of facilities, includes activities such as assessment, community mobilization, hygiene information, education and communication targeted at promoting hygiene practices at the community and household levels, in addition to operation and maintenance of hygiene facilities.
Several hygiene and software approaches have been tried and tested over the past 40 years and too many of them have had little positive effect on improving public health. Not that the fault lies with the approach itself but with the implementation. Thus, good planning and careful implementation are vital for the success of an approach (Peal et al 2010). The most used approach within the RCRC movement in disasters has been “PHASTer” which is a faster version of PHAST, “Participatory hygiene and sanitation transformation”. Despite the varied strategies used in which approach, what has been the aim in recent years is to change from a supply-led perspective to demand-led solutions. Only in this way results can be sustained and passed on to new generations (Harvey 2008).

Although sanitation comprises excreta disposal, vector control, drainage, solid waste and dead bodies’ disposal, in this study sanitation will refer primarily to excreta disposal.

2.5 Research question, aim and objectives of the study

In summary, there is presently a clear gap in sanitation worldwide, despite the many international initiatives in the past decades. The RCRC is at the core of this international effort to close the gap and has a modestly developed and specialized array of disaster response tools. However, as a large operational-oriented organization, it lacks data on its impacts in emergency and further analysis of those. Therefore the research question is:

"What are the perceived gaps in the RCRC movement system and tools to address sanitation needs in emergencies in the current disaster profile?"

Aim

The aim of this paper was three fold: to describe the trends of IFRC disaster response operations in light of the main issues impacting on sanitation; to identify the gaps in the RCRC movement disaster response system and tools according to those trends and in the current disasters profile, and finally to make suggestions on how to address those gaps.
This paper also attempts to contribute to the mapping of the IFRC emergency response operations, thus improving monitoring and reporting and to initiate the link with research.

Objectives

1. To create a live database that captures key outcomes in emergency health and water and sanitation achieved by the IFRC emergency responses globally in the past 7 years,
2. To make a descriptive statistical analysis of the disaster response, especially regarding sanitation activities trends, based on the disaster response reports (EA and DREFs),
3. To collect an in-depth view of WatSan HP RCRC staff on the global disaster response tools considering those observed trends,
4. To suggest a structured framework to periodically evaluate the disaster response system,
5. To present suggestions on how to improve global tools,
6. To make suggestions on the website mechanism of appeals retrieval, as well as on the appeals' and reports' writing, in order to improve data collection and data reporting system.

3.Research Methods

3.1 Study Design

This study uses a mix methods approach analysis, having therefore both a quantitative and a qualitative design. The first part, the quantitative one, addresses the first two objectives, namely the creation of the database and the statistical analysis.
The qualitative part deals with objective 3, 4 and 5 by trying to get further insight of those trends, as well as the adequacy of the movement's global emergency response tools and systems. Both designs are non-experimental, as it was an explorative study, where the main goal was neither to test any hypothesis nor to interfere with individuals. Although the intention is not to generalise the results, at least not from this single study, conclusions may help to draw a future questionnaire assessing more objectively the themes established in this study in a broader universe of WaSan HP professionals.

3.2 Materials and data collection

The collection of the quantitative data was based on the critical reading of final EA and final DREF reports since 2006 to 2011 which are available on the IFRC website (IFRC 2012d). Some examples of the selected variables to be included in the database are:

1. *Country and Zone* - Africa, Asia Pacific, MENA, Americas, Europe
2. *Dates of operation*
3. *Beneficiaries*- total number, WatSan (water and sanitation) and health beneficiaries
4. *Finances*- Budget, coverage, income and expenditure general and WatSan or health
5. *Programmes implementation* (PHAST, PSP, CBHFA, ECV, etc)
6. *Voluntaries*- how many received training or conducted activities in specific programmes (PHAST, ECV, CBHFA, etc)
7. *Health or Watsan HP ERU deployment, RDRT* (or RIT) involvement
8. *Type of response* -EA or DREF
9. *Type of disaster*

The disaster type definition is based on CRED[1] and MünichRe common "Disaster Category Classification for Operational Databases" (CRED 2012), which distinguishes three principal classes, further divided into sub-groups:

Natural- Biological (epidemics), Geophysical (earthquakes, landslides), Hydrometeorologic (storm surge, cyclones, floods, hurricanes, heat or cold waves, drought, landslides)

Technological- Industrial (explosion, chemical spill), Transport accident (plane crash, car or train accident), Miscellaneous (fire, explosion)

Human related- Civil unrest, Complex Emergency, Food crisis and Population movement

To ensure that all emergency-related reports would be included and not missed out over this time period, an Excel list was made available by the financial department, containing all the disasters the IFRC was involved in since 2000 to February 2012.

[1] CRED-Centre for Research on the Epidemiology of Disasters, a WHO collaborating Centre

As far as qualitative data is concerned, in-depth interviews were carried out to RCRC staff and volunteers. The convenient sampling method was used to select the participants based on their pertinence to WatSan HP within the movement and their field experience in sanitation in emergencies, as explained in the following table:

Interviewee	**Perspective**
IFRC Geneva WatSan HP officers (2)	Global- coordination, support, strategy direction
Asia Pacific WatSan HP coordinator (1)	Zone - coordination and support of NSs
NS WatSan HP advisors (2)	NS-Management of WatSan HP projects within a NS
MSM volunteers (2)	Grassroots – direct contact with beneficiaries
Haiti Watsan HP coordinator (1)	Haiti earthquake 2010 – recovery operations coordinator

Interviews were conducted in person for Geneva Watsan HP officers and via Skype for non Geneva based staff or volunteers. All interviewees were previously asked, via a formal e-mail, about their motivation to participate in the study and assured their answers would be anonymous.
A general interview guide was developed with semi-structured but open-ended questions that were later tailored to each interviewee. Questions were mainly aiming to address the causes of the global gap in sanitation as well as the suitability and gaps of the movement's tools in disaster response to the variety of disaster contexts, hence being also based on the quantitative results.
Many internal policy and strategy papers were also consulted, being all available on the organization website.

3.3 Methodology

As mentioned, a database was created data and a statistical descriptive analysis was performed in Microsoft Office Excel 2007 and the main outputs were:

- the total number of overall and WatSan, water and sanitation beneficiaries (mainly hardware and excreta disposal)
- the overall and WatSan expenditure
- the type of disasters
- the disasters' scale in terms of beneficiaries

Regarding the disasters scale, it was not found in the literature research any clear threshold as to how many beneficiaries a denominated "small" or "large" scale disaster should have to be defined as such. Therefore, for the purposes of this study the threshold for a small disaster was set as less than 10.000 beneficiaries and large scale disaster more than 50.000 beneficiaries. This was based on the fact that DREFs are aimed at small scale disasters, despite the inexistence of a internal definition, where an operation with the highest possible cost per beneficiary would not address more than 13.333 people (maximum amount per appeal- 1M and cost per beneficiary should not exceed 75 CHF/beneficiary). The four empirically defined beneficiary groups were the following:

- ≤5.000
-]5.000, 10.000]
-]10.000, 50.000]
- >50.000

The method used for the interview answers analysis was a compromise between an analytical framework (based on the tools) and the disaster context determinants that emerged from the interviews, in a grounded theory fashion way (figure 4).
In addition, it also approaches cross-cutting themes pertaining to the whole disaster response system that are key for its improvement

3.4 Limitations and assumptions

Due to the short amount of time available to conduct this study only trends of the past 3 years were obtained, which limits to some extent any major conclusions.
Some of the limitations of the quantitative analysis are the lack of standardization in report writing and the fact that it was a joint work of three people that despite meeting regularly had to use their own judgment to capture the same type of data from highly heterogeneous report writing. For instance, some report have an explicit number of beneficiaries reached, while others only mention the number of latrines built or cleaned. The furthest back in time reports were written, the least consistent was the reporting and consequently the least accurate is the data collected. In addition the fact that many of the appeal in 2011 are not finalized makes it unclear whether some activities were carried out or not and what amount of money was spent on those activities. This information will have to be later revised. Furthermore, with the constant acquisition of knowledge while filling in the dataset, each of the team members might have slightly refined the retrieval process over time.
Another limitation of using only these reports to draw disaster response trends is that not all the responses, especially to small scale disasters, are done through DREFs or EA and there are other sources of funding, governments, donors, general public, among others. There is not, however any other global or local data collection system in place to gather those other responses, rendering this analysis the best possible estimation to be done.

Regarding any absence of WatSan expenditure figures, it was assumed the general appeal coverage would also apply to these specific expenditures, when activities in this sector were performed. Likewise, all the expenditures in Watsan that did not exist but had a budget without appeal coverage were assumed as such.

Concerning the qualitative analysis, the low number of WatSan HP staff within the movement, did no allow a comparative analysis of perceptions. Moreover, since questions were open-ended and interviewees had quite varied field experiences only a description of gathered views was possible. Again, due to the time restrains to conduct this study some of the few WatSan HP staff within the movement were not interviewed.

4. Results and data analysis

All the graphics showed in this section are based on the number of reports (DREFS and EA) in the following table:

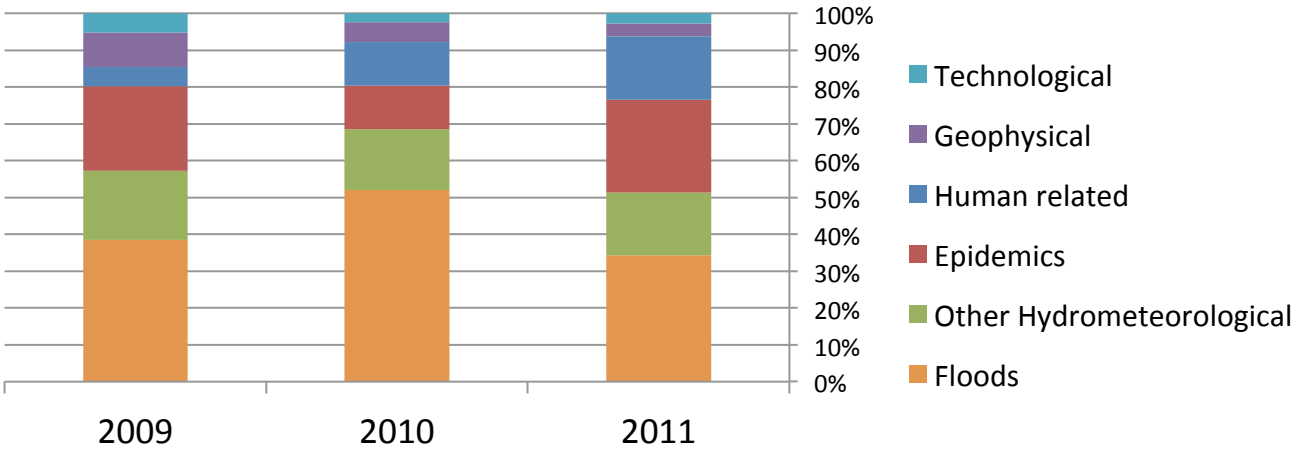
Year	Number of appeals	Number of appeals with WatSan HP activities	Total Beneficiaries (Million)	Total Exp. (Million CHF)	WatSan beneficiaries (Millions)	WatSan Exp. (Million CHF)
2011	111	68	27	56	1.2	6.1
2010	126	66	17	305	2.5	27.7
2009	97	35	39	58	2.6	4.3

Table 2: Total figures by year.

4.1 IFRC disaster response trends and the tools

4.1.1 Type of disaster

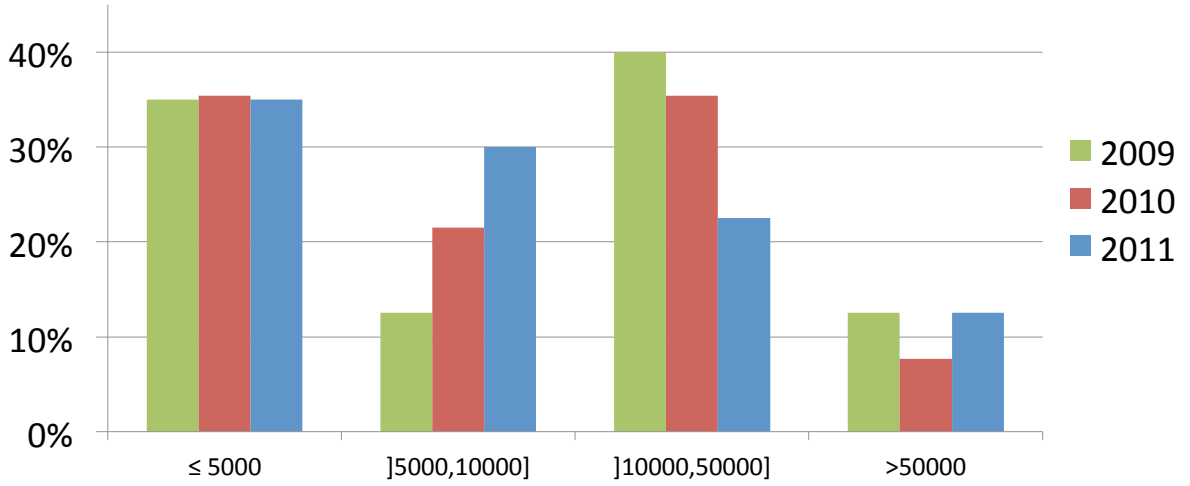
Over the last 3 years, on average, 40% of all the disaster operations per year were in response to floods (graph 1). Adding up all the operations responding to hydrometeorologic disasters and epidemics, we reach 80% of all interventions conducted through the IFRC global disaster response system.



Graph 1: Percentage of appeals by type of disaster by year

When thinking of scale the large majority of floods response concern populations of less than 50.000 people every year (graph 2). Although there is not a clear trend across all the years except for 2011, there is still a strong difference between the percentage of floods responses to small communities (less than 5.000 beneficiaries ~ 35% of floods per year) and to larger communities (50.000 beneficiaries ~ roughly 10% of floods per year) every year. According to one interviewee the majority of the tools in sanitation are still quite simplistic, when compared to water and there is clear need for options in flooded environments with displaced

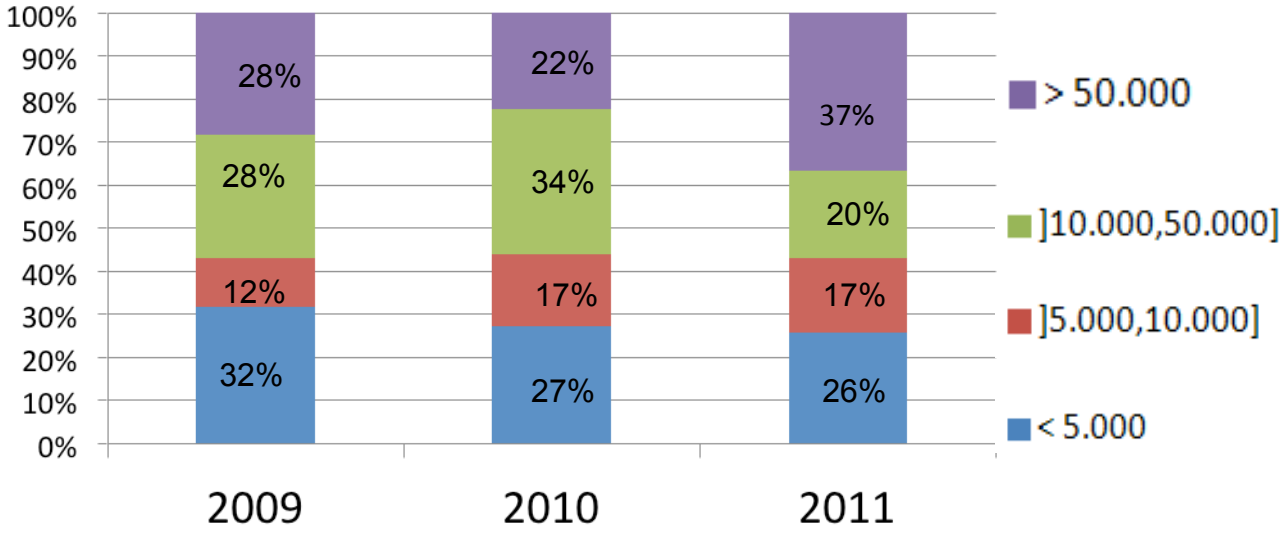
people. For example, all the tools focus mainly on pit latrines, though digging is not always possible in floods.



Graph 2: Percentage of floods response by size of beneficiary population by year

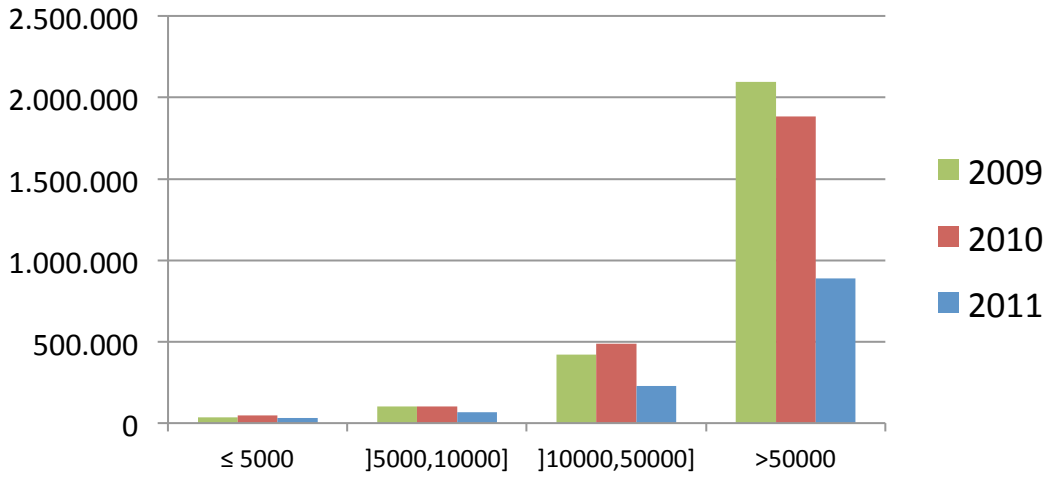
4.1.2 Scale

Graph 3 suggests that in the last 3 years almost half (44% on average) of all disaster operations were small scale. If we increase the threshold to less than 50.000 beneficiaries the percentage raises, on average, to 70%.



Graph 3: Percentage of appeals by group of beneficiaries by year

However this does not mean the majority of all of the RCRC reached beneficiaries are affected by small-scale disasters. In fact, the opposite situation was observed (graph 4).



Graph 4: Absolute number of Watsan HP beneficiaries by group

When interviewees were questioned as to which scale is more challenging, the perceptions diverged depending on the type of work and position each one has in the WatSan HP sector. In regards to hardware, small scale disasters were thought by almost all the interviewees to be harder to deal with than large scale ones, due to the lack of technical options. Though pre-positioned kits were devised to this purpose, there is often from many of these small affected communities and the local NS a lack of demand for sanitation and the kits. Global tools used by the movement cannot bypass the NS motivation to respond to sanitation, having in fact to wait for that call for support, whereas larger scale disasters more easily trigger global mechanism and allow for more leverage and influence of the IFRC. One of the interviewees argued though, that in large scale operations the demand for human resources to manage the project is higher, there are more environmental impacts, more information has to be gathered, and assessments have to be better, in comparison to smaller scale disasters. In terms of software two interviewees who worked as MSM volunteers and hygiene promoters stated that large-scale disasters are more challenging than smaller ones, since they involve more logistics and reaching out to more people. Interestingly another interviewee with vast experience in HP, argued that in a small scale disaster with a dispersed population is harder because it requires more time and travelling from one household to another, whereas when people are more gathered together it is faster to access more people in less time. The MSM does not seem to have a place in small scale disasters, stated several interviewees, especially in chronic situations. For example, “in a small cholera outbreak, we should go first to local solutions. Moreover, we have to be more creative, since adding to the lack of technical solutions, we need to work through the local national society (NS)”. This issue will be discussed later in this paper.

4.1.3 Balance between water and sanitation

The imbalance towards more people having access to clean water than to sanitation worldwide that was found in the revised literature, is also present in the IFRC emergency response operations, as graphic 5 suggests. Ideally but also based on the current needs, the number of sanitation beneficiaries has to increase, in order to get a similar coverage to the water beneficiaries per operation. Nevertheless, the situation seems to have improved over the last years, since water and sanitation coverage percentages (in terms of beneficiaries) are getting closer to each other from 2009 to 2011 (graph 5).

Graph 5: Percentage of water and sanitation beneficiaries in total WatSan
R- Ratio between the numbers of water beneficiaries divided by the number of sanitation beneficiaries

4.2 Other disaster determinants and the tools

4.2.1 Rural vs Urban

Although it was not possible to assess the amount of disasters responses occurring in rural and urban contexts, the latter is thought to be the increasing tendency since it is estimated that more than half of the world's population is living in urban areas (Brown 2012). The problem in urban areas is that digging pits or trenches is often not possible (when it is not possible to rehabilitate damaged facilities) and the high population density makes it more difficult to find desludging options when sewer system are impaired or are inexistent. Furthermore, from one of the interviewee's point of view the assessment phase is still more tailored towards rural areas and not urban, hence not reflecting the current patterns. This highlights the existing technological gaps in sanitation in comparison to water, as all interviewees reaffirmed, because in "an urban context we get stuck with the conventional methods." Basically "we rely too much on the MSM, which is not prepared to dealing with many situations".
For instance, in Haiti earthquake in 2010, where water tables were high and there was a near total absence of sanitation network, "there was a lot of thinking and at the end it took too long to have the first raised latrine operational". While OD is not appropriate in an urban context for obvious reasons, there is some potential with the new "night soiling[2] 2.0", with innovations

[2] Night soiling- the practice of putting sewage and cess on fields as a fertilizer

such as peepoo bags[3]. However it does not deal with the disposal part and it is not necessarily viable in a flooding context, which is the single type of disaster that stroke the most in the last 3 years (graph 1). Another interviewee also pointed out that in Haiti, there should have been more thought about the phasing out strategy and focused more on urban residents. It was further suggested the development of sanitation modules for shelter, which could help tackling conflicts between users. However this has to be the reflected on the design form the beginning. Still in Haiti event, according to an MSM volunteer interviewee, there were many desludging problems, there was place for the disposal, but it was too close to the coast. Firstly trench latrines were built, afterwards raised latrines. They might be part of a long-term solution but there are still questions around sustainability, for instance, property issues are yet to be solved, which means that it is not possible to build more.

4.2.2 Population Density

Some interviewees believe the MSM is not suitable for dispersed populations. A suggestion that was put forward was having more trained people and organize them in several smaller teams that would be able to go to more places. As it was described “sort of light deployment like when chlorine tablets are used at HH level”. However, the interviewee pointed out that because this is a large organization, changing names and rolling out new programmes correctly takes time.
As it was previously mentioned HP can also be harder if the affected community is more scattered.

4.2.3 Displacement

Whether people have been displaced or not, whether they have already settled or not before response teams arrive also plays an important role; it can be hard to find a proper place to build everything when the population has already settled as well as it is easier to rehabilitate any kind of sanitation system that was already in place (non displaced populations), than having to find fast solutions from scratch and in a newly (de) organized displaced community. It was also suggested that septic tanks could be more often used, since they can be rapidly put anywhere, being only dependant on water points. However, construction is more difficult and their use is hindered in rocky soils.

[3] Peepoo bag- single-use defecation biodegradable bag

4.3 Tools and gaps

4.3.1 ERUs and Kits

The main idea behind the several WatSan ERU and kits is to have available a set of tools ready to be deployed or already pre-positioned, in the case of the kits, in order to cover a wide range of disasters contexts. Hence, the modules and kits can all be mixed and combined together to better address both water and sanitation needs.

An interviewee, that has worked as MSM volunteer stated “the modules dealing with water are more straightforward than the MSM”. The latter is more dependent on the local context, which on the one hand can play in favour of long-term sustainability, but on the other hand takes more time to set up. A strong view from another interviewee in regards to the speed of responses is that humanitarian workers seem to have forgotten about other methods that are not ideal but faster, such as OD and night soiling. “Historically, around 30 yeas ago these were still accepted, but now the way the people are trained is geared towards a more technical solution, which in the first few weeks of an emergency is not appropriate. The options we have are very labour intensive, even within ERUs”. There is almost always a huge need for time to dig the trenches, the hole, even if the slabs are pre-fabricated. If OD is the only option, hygiene measure should be ensured and it should be done far from water sources and down-stream those sources. This type of solutions requires a more logistical operation, less technical, but involves more personnel training. “We should be looking more from the beneficiary perspective, they need to defecate today and they will go to the bush if needed, therefore it is not about whether what is built will be suitable after 3 months it is about having things operational the fastest possible”.

Both Kits and ERUs are still missing the desludging and treatment component which is crucial to address the whole cycle. Leaving sludge untreated can cause even worse health hazards. Perhaps there has to be more thinking about having a high-tech disposal and treatment plants available in a centralized way. There are more options in a development context than in emergency. Moreover, sludge in emergencies is different from that in development; in a relief phase people use anything for anal cleansing. In the interviewee’s opinion, all the technology is there and these are kind of solutions the movement should be looking for. It was suggested that kits should be more sanitation specific, for instance having more rapid latrines. There could be some investment towards the development of desludging and treatment equipment or change the existing ones and add more parts. This obviously always coupled with sending trained people.
The same interviewee feels there is a bias towards water in the type of information available for hardware and a bias towards hardware in general, downsizing software. It was proposed by an interviewee that initial training to all 3 WatSan ERUs should be held together, where HP would be addressed. Despite being possible to deploy and combine the different ERUs, if only the M15 and M40 are deployed, hygiene can be poorly promoted and behavior changes less enabled. It was further suggested that these same WatSan ERU volunteers could receive a logistics training, which together with the widening of skills would facilitate the transference of mandates when there are personnel and team shifts. For example, in Haiti the fact that ERU volunteers were living in the same compound prompted some knowledge exchange and a better teamwork. An interviewee with previous experience in other organization, such as Oxfam, shared that in their trainings everyone is in the same room as hygiene promoters, in order for everybody to start with the same level of awareness and later

after the operation, experiences are exchanged. Nevertheless it is important to emphasize that that the RCRC movement by being a decentralized movement, each NS manages its own roster of volunteers and organizes the trainings, even if the Federation gives some guidance and support.
Considering the disaster trends observed it was asked whether the present WatSan ERUs correspond to the needs, which are clearly underserved on the sanitation side. The majority of the interviewees agreed with this and it was further explained that perhaps if the system were to be set up today it would be different and more comprehensive, hence representing the attempt from the IFRC to make them more holistic. The direction seems to be having only a M15 and a M40 that would include all the three components: water, sanitation and HP. There are already more interlinks, for example the more water focused ERUs (M15 and M40) are trying to integrate on their training HP and the sanitation focused (MSM) includes some HH water treatment. This clearly reflects the change in mind-set from 18 years ago when the ERU system was set up. People trained were not WatSan specialists and the most important of all was and still is to be available in short notice. The MSM is the newest ERU and has breathed new life into the ERU system; there are more joint deployments and this might put some pressure on that broadening. Obviously that above all the most important is to be able to address the needs, regardless of how ERUs of each type there are.

4.3.2 National Societies

As already mentioned, local NSs are the principal and primary resource to deal with small-scale disasters. As the RCRC is a decentralized membership organization, it means that in the event of lack of local capacity, the Federation, either through Geneva or its regional offices cannot intervene and make use of global tools unless the host NS requires. Therefore, it is crucial to invest in NS capacity building and empower local communities in order to increase their resilience, and not just develop global deployable tools for small scale disasters, explained an interviewee, that invests a great part of the working time collaborating with NS to strengthen their capacity. In the event of a disaster, if the lack of capacity from the NS to rapidly respond to the sanitation needs is coupled with the absence of a request for support “our hands are a bit tied”. However, what can be done at the regional level is to work through NS WatSan staff or through other organizations to advocate with the NS.
Many NS do not see sanitation as part of their mandate, but part of the government’s. However this is often not the case either and therefore they are not strong enough in this area. The commonly followed process I s having a focal point for WatSan and later someone with a technical background. Additionally, getting NSs to know about the existence of a water and sanitation policy is also on the agenda. Moreover, when this focal point exists, it can fall under disaster management (DM), or be entirely separate from health. It can also be the case that it falls under several departments, health, DM, youth. In Nepal, for example, is under three different departments and none of them really communicates with each other, explained one interviewee.
It is not just about beneficiaries needs but about NS’s demand and what the Secretary General of that NS agrees to put in a Plan of Action (PoA). One example shared by one interviewee was the case of Pakistan NS, that despite having a skilled WatSan coordinator who “works at 200%” and other committed staff and volunteers, MSM and M15 were not accepted in 2010 floods by the Secretary General, likely because that would not give him the same visibility, suggests the interviewee.

The MSM is felt not suitable to many Asian contexts, especially when the NS does not recognize the need for sanitation and so they do no understand it as well as the M15. One of the suspected reasons is that in the MSM the majority of items are consumables, whereas in the M15 they are left with equipment afterwards. On the other hand when they do have the MSM, the material is sitting in warehouses. There is an attempt to replenish them by procuring local materials, when sanitation activities start.
Some of the strategies to make NSs more interested in sanitation activities include the blocking of DREFs and EAs without sufficient sanitation activities, that can act as quality control point when sanitation is not properly aimed to be addressed; organising workshops about sanitation; training staff on how to do assessments and write PoA and pre-position kits, among others. Developing a standardized package training that includes HP and sanitation has also been done, since in the past trainings would only address water. Nevertheless, water has been an important departure point to foster their interest and awareness in sanitation. Showing to staff from NS new technologies, conducting latrine design session during workshops and trainings has rendered good results, but their passion for sanitation is still low. The aim is both to engage "senior" people, such as Secretary Generals, and then bottom level people, such as volunteers, so that their skills can be improved. For instance, in Indonesia, a national level specialized training was held and more training like this will be planned.
An example from Pakistan floods, but that has happened in other situations, was that the NS together with the RDRT were building dry latrines, but within two days they got flooded and the team got stuck, unable to adapt. This is what is important and challenging in sanitation, it has to be done to in a problem-solving manner, adapt and revise the work frequently, and this is lacking from many NSs.
In many Asian contexts the pan and pipe system is used for the water-based sanitation options, hence pre-positioning them in stock that can be attached to the squatting plates has been part of the solutions. Another option that NSs have been fond of is the rapid latrines, thus this should be used as a motivation tool. Usually they get interested in not too basic solutions and in something they can be proud of. And since many private companies are interested in producing there seems to be a good window of opportunity. The question later will be about scaling up, exporting for other countries in the region and for that there has to be a proactive work with suppliers. As far as Peepoo bags are concerned they have not raise as much interest, mainly because of the disposal and hand-washing issues.
An example was presented where a cholera outbreak spread in Zimbabwe, in the area bordering Mozambique. The NS and the Federation initiated a project to improve the safe water and sanitation access. Later on, when more cases crossed the border, no outbreak started because there had been investment in preparedness. Other examples like this are rare, unfortunately.

4.3.3 FACT- Field assessment and coordination team

One issue raised by interviewees with FACT is that there are not enough WatSan people trained in the rosters. The situation has however been improving and more and more places are being given to this expertise area. These are key people, since they decide whether an ERU is deployed or not and they draft the PoA. Since one of the most important criteria to become a FACT is to be available, the most commonly suitable people for this roster are the ones on the ERU roster.

4.3.4 DREFs, Emergency appeals and more

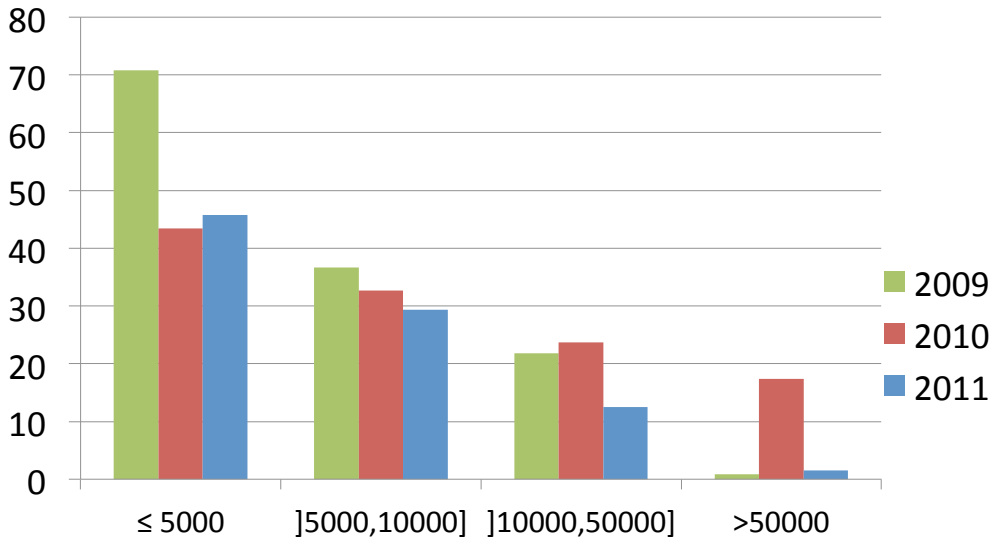
The general notion from all interviewees is that sanitation is almost always more expensive, in terms of hardware, in comparison to water, either in emergency or development. For instance, at smaller scale water can be done at HH level (chlorine tablets), which is cheaper than building emergency latrines. Nonetheless, according to one interviewee it is easier to add this component to the costs when applying for funds appropriately in an emergency setting, than in development (although implementation is harder). In long-term projects and especially in small communities, it was felt that it is "easier to convince people to drill boreholes", thus investing in water access, than invest in sanitation and giving it the right amount of attention.

Smaller scale disasters are often low funded; they can be allocated a DREF but besides that it is mainly up to the local NS, who often have conflicting priorities. For instance, in Pakistan floods 2010 there were a lot of WatSan needs and when the PoA came out it had 1% watsan budget because the General Director thought there were other priorities (food, shelter, etc).

At the IFRC level is now advocated that PoA without a balance in sanitation and water will not be accepted. The same strategy has been applied for years with HP, that use not to be on the agenda, but training and equipment was developed and advocated for, thus it has also to be mentioned in the EA or DREF and within the budget, otherwise appeals it will not be approved. In an EA if the money is not all spent in the relief phase there can be some left for long-term, however in DREFs, which are only for short-term relief, it is impossible.

When an appeal is smaller it goes into triage mode and since money will not be sufficient for all the activities they have to be reduced and sanitation usually gets deemphasized. In a big disaster, they can afford to include sanitation activities.

As seen in graph 6, when it comes to cost by beneficiary group it is also clear that larger operations result in economies of scale, which prompted the question whether this would make the small scale disasters less attractive. As some interviewees stated "We need to accept that small scale will be more expensive, but money should not be the starting point". This scale of disasters just requires more creative solutions and that in spite of them being more capital intensive, according to a "gut feeling" results can be long lasting. "We should study if the money is spent more efficiently on this type of operations with longer lasting results. The contact with the population is greater, so you also get better information".



Graph 6: CHF per beneficiary, by group of beneficiaries

The same analysis was performed only to WatSan HP beneficiaries within the same pre-established groups but did not show any particular trend. It suggests that larger scale disasters do not necessarily always have larger scale WatSan activities, when they do exist.
In order to get a better balance throughout the scale spectrum there is a necessity for more money but especially for good and fast assessment, from implementers, of the needs of the population, so that appeals reflect those needs to donors. For instance, if there is a cholera outbreak it is important to know where people are getting it from. Contrary to what was mentioned about smaller operations before, another interviewee stated, “we get very sketchy information and that is not attractive”. Efficiencies can also be gained if more local people are trained and less external people sent: if there is a good saturation of kits in the region since these will be accompanied by skilled trainers. “It’s about capacity building”.
Furthermore, it was pointed out that it is also important to be careful when doing an appeal in regards to what it is ordered; sometimes there is only need for replacing material that should be done locally and instead of pumping in new materials. Some of the western NS are looking at how to finance the initial cost to import knowledge and people to make those local NS stronger, so that global tools do not have to be activated when a small scale disaster strikes. This also avoids creating a parallel system that is brought from the outside
Besides knowing that in small-scale disasters “every penny counts”, it would be useful to know how much it would cost to close the sanitation gap, by putting it a price tag. From there it possible either to invest in cheaper solutions, through innovation (peepoo bags, cheap HH sanitation) such as the one existing for water, chorine tablets; or use those figures recognizing that sanitation is more expensive and putting all the efforts in closing the gap regardless of the cost, because “the mission is more important than money”. Nevertheless, having concrete figures would help advocating for funding. The RCRC ceiling to fund raise is higher than in other organizations and with innovation it does not have to be significantly more expensive.
There was also the point of view that attractiveness is not about scale and the higher costs of small disasters but about the type of disaster. Natural hazards and less repeated events attract more funding.

4.4 Cross-cutting issues

4.4.1 Software approaches and Hygiene Promotion (HP)

As many interviewees agreed there is not yet sufficient balance between hardware and software in emergency operations regarding not only sanitation but also all of WatSan HP. In sanitation, the starting point should be local knowledge, or at least in an emergency setting this knowledge should be included as soon as structures start being built. This is often not the case with water supply, where a borehole is drilled and no questions on cost-effectiveness or long-term sustainability are made. Sanitation is much more context specific than water; if on the one hand HP and sanitation are still lagging behind comparing to water in terms of hardware, on the other they seem to be more coupled together and developed in regards to software. As a MSM volunteer experienced in several disasters argued, “water is not just about building wells it should address the whole chain until water is consumed, promoting safe storage, clean maintain of buckets and other collecting recipients, among others”.

HP requires less hardware than sanitation, which significantly reduces cost. It involves more people, more training and a continuous work in communities, explained an interviewee. The person also added: “local volunteers have an added value because they know better the community, though they are not listened enough”. However, promotion of healthy behaviours without appropriate facilities can be impossible, another interview remarked; all the components are crucial to the final goal: enabling healthy behaviours, ensure dignity and prevent diseases.

There has also been progress regarding hand washing (HW), agreed the majority of interviewees. HW is always a problem without water, which stresses again the complementarity that ERUs should have. It can be seen as a push to integrate HW stands in M15/M40. It requires attention to the distance between the latrines and HW points, which should be short, but separation from drinking water sources, so that they do not get contaminated. It involves a lot of sensitization that hopefully sinks in in long term. A common problem is the availability of soap that can run out quite fast. There are usually local suppliers but the distribution chain is not always efficient. Moreover, if supply is not sustained after phasing out the community can either go to their old habits or it can create more disturbances and leave it weaker. An interviewee argued that “it can be hard to keep up with Sphere standards”; it is not just about distributing soap but promoting hygienic behaviours, soap might not be the most suitable if there is no continuity of supply, so ashes or sand can also be an option. Another critical factor is the existence of an organised social structure, for community-based approaches to prosper. In Haiti the lost of social cohesion in some camps made it complicated to define responsibilities and actively motivate people. Leaders were identified, but they were not always the most suitable. The transition of HP from an emergency to a long-term phase is vital and challenging. Often the teams change from the relief to the recovery phase. However HP does not require a lot of money, since it involves more people than material. Nonetheless, the financial incentive tends to motivate more and allow for a better training.

As far as menstrual hygiene (MH) is concerned it was collectively felt there is still a long way to go, although the events in the aftermath of Pakistan floods lead to some improvements. As reported by a MSM volunteer that was present in Pakistan, “it is not enough to distribute hygienic pads without knowing what is the common practice in that place, because items do not get used appropriately”. It is hard to approach the subject and put culturally adapted solutions in place because MH is frequently a taboo not only for WatSan ERU volunteers and some humanitarian workers but to people from affected population as well. But if the local practice is to use a specific coloured cloth that is what should be provided. However, having access to water to wash them can be a hurdle. Another interviewee suggested there should be a budget line referring to MH items. There is currently a working group within the WASH cluster dealing with this topic, but as one interviewee affirmed it always needs a push to keep the work going. The development of the hygienic box was a clear effort from the Federation to a bigger inclusion of HP in sanitation in emergencies.

Regarding the different software approaches available (PHAST, CTLS, Saniya, Social Marketing) “what is important is to know about them and then adapt the strategy to the community, thereby using parts of the distinct approaches but with flexibility” said a MSM volunteer. An example given was in northern Uganda where people were returning home from camps, and they had seen the benefits of having proper sanitation facilities. The material was available locally and people wanted to improve their homes, so promotion of sanitation worked quite well. In other places of Uganda, where people have not been affected as heavily, they do not always see the benefits that clearly. Whether behaviour is changed or not can depend also on the amount of money available and whether HP activities

can be done and sustained in the long-term. “It is often a hidden miss as to what the Federation has some involvement with the PoA at the NS level”.

4.4.2 Reaching all - Vulnerable groups (children, disabled, elderly, women)

According to the movement’s water and sanitation policy, approaches to any sanitation interventions should aim to address and include all the sections of the population, for instance, women, children, disabled and elderly, who might have different needs from the rest of the population (IFRC 2003). Moreover, this notion is also embedded in the 7 fundamental principles of the movement and in the Federation goals (IFRC 2012e).

When asked whether there were sufficient efforts in place to comply with the policy and principles, the answer shared by all interviewees, was no. The common feeling is that although the most vulnerable are not forgotten, frequently the effort to better tailor interventions ends with the assessment, if this is done at all. In Haiti 2010, for example, these groups were identified, but it does not necessarily mean that they were reached. One interviewee mentioned that there were some ramps instead of stairs for the disabled, whereas another had not even seen disabled people, let alone a wheelchair.

It is difficult to address everyone in the beginning of the relief period. As one interviewee described “it as a triage situation”, it is possible to save more lives and prevent more diseases if focusing on everybody at first (and addressing maybe 80-90% of the population), because it is faster and easier, than if focusing on each particular group. Targeting specific groups is felt as being more realistic when recovery starts and in development, but not always done. An interviewee gave the example from Ivory Coast, where in the first phase after a disaster only standardized toilets had been built, public toilets with showers and for the recovery phase the suggestion was to make one or two adapted to disabled people, but the lack of money precluded such action. It was also shared by several interviewees that both the MSM and kits could be further developed and designed for older and disabled people. It is not so much about a lack of technical options but about awareness, money and being held accountable. The tools should be more inclusive, even if the price increases. One interviewee suggested adding a visible line in budgets so that humanitarian workers can be held accountable. Donors can assume these groups are being addressed, because it is not specified enough in reports. Some material could be an add-on, deployed according to the local needs, but defined as compulsory for NSs holding ERUs and not dependent on local available material. For instances, lights could be provided for women at night.

As far as children are concerned, the use of potties and training of mothers was the most common suggestion, as a not so difficult to achieve solution for initial relief phase. A possible restrain to this, however, might be the lack of access to female volunteers, as it can be observed in the Asia region. Other options suggested were the use of smaller superstructures with drawings, having more light and promoting their use with clowns, for instance.

There was also the perception that more tailored solutions are more attainable at smaller scale, where perhaps an MSM would not be deployed. In this case and assuming NS would be the primary and maybe unique “tool” responding to the disaster, it is crucial that initially their staff has an interest in sanitation, which is not always the case. Nevertheless, motivation is raising and in many NS, for example, attention is paid to gender and toilets are adapted, especially by volunteers.

4.4.3 Measuring impact

When it comes to measuring the impact of the movement operations in sanitation, either in emergency or development there was a general consensus that proxy indicators should be set around number of structures built or cleaned, be it latrines, toilets, trenches and the correct usage of those facilities, that people know how to use them. As one person said "sometimes it is better to have 1 latrine for 50 people correctly used, than 1 per family not used at all". Another indicator suggested was whether excreta is lying or not on the environment and whether people are washing their hands after using sanitation facilities. Indicators should not be too difficult.

Relying on diseases prevalence is generally thought by all as not to be appropriate either because frequently there is an absence of baselines studies with accurate figure or because the reliability of assessment studies is low, especially if done in the aftermath of a disaster where people are commonly more stressed and more susceptible to recall bias. Trying to obtain those disease statistics from health centre, when they exist, can be an option but only if the there is a good register and monitoring system in place.

Another crucial measure that is far away from being systematically included is beneficiaries' satisfaction. For example, assessing how long they wait to use the facilities, whether they are happy with them, if they can easily access them, but with some skepticism, since with time the tendency is for demand to go up. As a movement, there is not enough experience in this, but some tools would be perhaps sample services, conducting focal group discussions, questionnaires, among others. It was given an example from Namibia, where questionnaires were administrated and compared to health centre data to test their reliability. However, any study will be highly context specific and problems of access to HH and translation commonly arise. As it was suggested by one interviewee, beneficiaries themselves are not aware of the commonly used standards, such as Sphere, that could be the basis of their demand and could set some kind of threshold in terms of how high their demand can grow. One common flaw is that monitoring is completely geared towards outputs and accountability to donors (especially in emergencies), while it should be towards affected people. "Accountability will only work if people know whom they can hold accountable and for what. If they do not know that they will always complain".

Sometimes the same interviewee is surprised with how little people know about setting up a monitor system with the communities. Considering that the movement is largely relying on the community network of volunteers, it was felt this component is not being used sufficiently.

4.4.4 Research and Knowledge sharing

With the identification of clear needs and gaps in some specific but still various contexts, such as urban settings, small scale disasters, desludging and treatment solutions, the need for more research and partnerships with research and academic institution was also quite evident for all interviewees.
Some of the identified hurdles to conduct this research were:

- The establishment of links and partnerships with academic institutions and cooperating with other organizations as well as identifying what is really wanted from research, what gaps and what products?
- The fact that it is almost impossible to have an environment acting as a control and the simulation of a real situation is not possible, hence emergency tools have to be tested on the scene. Therefore, partnerships with other organizations have to be established.
- The fact that there are a variety of settings and each disaster has its own specificities, hence generalizations can be limited.
- To have funds; not only for the research itself but to field-test and buy the tools. Research has to be applicable in a competitive products sector.
- Getting the private sector interested and involved in the process, in order to work at scale and have feasible implementation costs. They have to be part of the trailing and not give up at first lack of success. As an interviewee stressed, “seeing is believing”, which means that field testing as to be constant in this iterative process.

According to an interviewee that deals frequently with the private sector, this is usually more geared towards development products that are adapted to emergency with mixed results. For example, the peepoo bags were first intended to be used in slums, frequently quite populous places and where digging was not possible, and given later to farmers as fertilizer. By involving them in the research, companies and suppliers would better know the specific needs and only then could any complains be made, in the absence of suitable solutions.
Some interviewees had the opinion that NSs within the RCRC movement responding to disasters are not collaborating enough, let alone the humanitarian sector it self; there is a need for more complementarity and connectedness from interested societies, so that the wheel is not continuously reinvented. It was also argued that since the Federation has overview of the interested NSs and even contacts with other like-minded organizations, it should be the entity taking the leading role and enabling knowledge sharing platforms. Some European NSs proposed to pull economic resources, as long as there was a common research agenda established. Advancement in sanitation in non-conventional could be achieved much faster if the knowledge and lessons learned were more shared. For example in the shelter sector there is a shelter research centre, mainly designed for this purpose.
Knowledge sharing and more cooperation would nonetheless still allow for each organization and to some extent even different NSs, to have their own response mechanism. Otherwise there is a risk of strangling the search for innovative solutions for various contexts. This was one the downsides pointed by an interviewee as to what the WASH cluster is concerned. Moreover, since each NS is based in a different country it is imbedded in distinct cultures with different availability of suppliers and mode of functioning. If on the one hand so much variability and decentralization of the RCRC movement can slow processes down and make coordination harder, on the other hand it also leaves more space for innovation and flexibility.
In addition, there are some initiatives with other organizations on the way, though it important not to lose the momentum and keep this type of initiatives.

4.5 Broader picture

4.5.1 "Sanitation is not as sexy as water"

Money raised for water uses pictures of smiling children drinking water from taps, but a similar picture for sanitation is harder to obtain; showing slabs or toilets is not as emotive and showing someone defecating would not be approved by the communication office. As an example, in Asia Pacific a small video showing a child defecating was produced and communication people said it could not be publish, shared an interviewee. This might explain why in GWSI booklet and reports, even if the authors want to prioritize sanitation, there are many more pictures related to water than sanitation.
When asked to interviewees in this study why donors and many humanitarian organizations are still paying more attention to water than sanitation, the main reasons suggested were:

- Sanitation is much more context specific, making it more complicated and harder to grasp all the aspects involved;
- costs are higher;
- there is a lack of field experience;
- is not demanded as much as water from bottom-up and so governments are not pressured to provide it, which might also be somehow perceived by donors;
- Water and sanitation are still seen as separate sectors. Water is seen as vital and sanitation something to address later once water is taken care of.

Even if donors better recognize the gap in sanitation, they have a tendency to focus on new emergent problems, such as climate change and chronic diseases, instead of still dealing with core problems (most of the burden of disease worldwide comes from water and sanitation) and in order to get funding they have to be dealt with. Sometimes for sanitation to be prioritized in proposals they have to be written in a creative way, otherwise the chances of getting the money can decrease. "It is part of our responsibility to increase the awareness. The Federation WatSan policy gives some guidance but it is not strong enough in the interlinking, it is does not make sanitation an absolute priority". Therefore, the WatSan policy of the NS of one the interviewees further developed the document to prioritize sanitation.

4.5.2 Link between relief phase and recovery, a blurred line?

"You can give a man a fish and he eats for one day or you can teach him how to fish and he eats for the rest of his life". Additionally it is cheaper to teach him than giving a fish everyday", explained one interviewee. As far as the RCRC movement is concerned the funding mechanism is not set up to link emergency with development either: DREFs only pertain to emergencies while appeals might include long term activities. "There is still a lot of awareness raising to be done in the house" many interviewees argued, both in terms of prioritizing sanitation and having better links between emergency and development. GWSI helped to further scale up a lot of small-scale development projects that were leading to more money losses in transactions and paying salaries than actually benefiting beneficiaries. A project has ideally at least 10.000 beneficiaries, if not more.
The MSM was also an attempt for the transition to long-term recovery to be sustainable; the idea was for the module to be an entry point for development and that is why it has a big software component. Development has to be driven by the latter since it is about community

interaction. “We try to improve the situation temporarily and enable a long term change, which might not be so evident with the other tools”.
Some 10 to 15 years ago most of the people in the field were just emergency people. Today it is more balanced, but the profile of someone working in disasters or in a development context is quite different and it is hard to find someone with both profiles. It was said to be a mental attitude, where emergency-minded people usually want to see the effects of their work quicker, while others are more interested in the real cause of the problem. It is also crucial not overload people, but having an emergency relief person and an early recovery to assess long term needs, is much easier in larger scale than in smaller scale. In the WatSan sector, having a watsan person would be good enough, let alone for emergency and long term.
“The problem with emergencies is that we respond to the symptom and not the cause”. There is the strong perception that more people die every year from chronic problems, such as poverty, lack of access to clean water and proper sanitation, than acute problems and it is thought that donors know this, although it is not really reflected in their action and in way the system is set up. Taking a donor such as the EU as an example, funds given by them come from different sections with quite distinct parameters and manners of working, which is transmitted all the way to field implementation. Donors are politically motivated and they want public visibility, being consequently influenced by the media who helps them being seem by their supporters (general public, government and international organizations). The issue is that the development profile is not raised so much in the media, because it does not have the “CNN effect”. Unfortunately, investing in poverty reduction and having 50 volunteers trained and keeping the right people in the right place does not seem to attract as much funding. This might also be the problem with the small-scale disaster, since they do not attract the media as much and are, maybe due to that, poorly funded. Another type of donor, the general public, is thought to be much less aware of the link between emergencies and development, less aware of the importance of investing more money in disaster preparedness. Again, the media tend to be also more attracted to disasters and pass that attention to the general public.

4.5.3 A forced connection sometimes?

On the other hand, although recognizing the importance of this link, an interviewee stressed that forcing it is not healthy, considering the goal in emergency response is to provide fast solutions, even if not perfect. “It may not be the most important criteria if something is sustainable in longer term, because emergency is more about the 6 months you have planned. I see equipment as a consumable that was part of the budget, therefore it is not a huge issue if things are being not reused, given they served their purpose”. Ideally everything should be connected, but emergencies are always a window of opportunity to get equipment that fades away quite fast, when the government gets back on their feet.
For large scale disaster, some argued that they are more logistical operations where long-term sustainability does not come as easily into play but where there is some kind of solution: the MSM and the other WatSan ERUs. As it was discussed before perhaps this transition is easier in small scale, since there is more contact with the community and hence more information.

4.5.4 What about governments?

According to an interviewee ”the IFRC cannot address the gaps in sanitation but only tackle them; they have to be addressed with institutional and political reforms that lead to good governance in the country.” The RCRC can develop innovative pilot projects and focus on community involvement with local institutional arrangements and local authorities’ involvement”. For instance, it was perceived by an interviewee that much of the money given in Haiti after the earthquake was not materialized; suppositions were around money having been given to the government but not appropriately used. “Giving money for water is less challenged, if you want to drill two boreholes that is ok, but if you want to invest a couple of thousands euros in sanitation, there will be questions”. Again, there are political reasons behind these: a local MP would prefer to have a borehole that he can use in his political campaign than saying how many toilets he has built. They do not see the need for sanitation; they see water as having a greater health benefit. There is a lot of awareness to be made amongst recipient government.

5. Discussion

5.1 Findings

5.1.1Trends

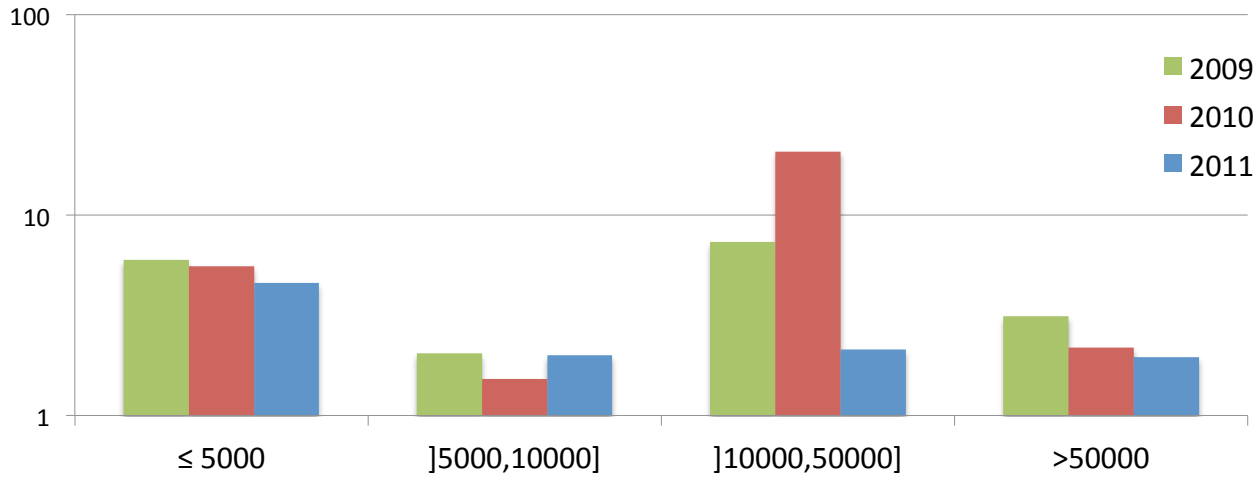
The main **type** of disaster responded to in the past three years, were floods and all the other hydrometeorologic disasters (altogether the range goes from 51% to 69% in different years, graph 1). This category of disasters is highly related to sanitation facilities and water points, especially if facilities were already poorly functioning, since they can be easily flooded and further damaged, thus increase the risk for health hazards. Another perceived trend is that, increasingly, disasters happen in urban contexts.
When it comes to **scale** and size of the reached population, almost half of all operations by year are responding to populations with less than 10.000 people and still a large proportion to less than 5.000. What this might suggest is that although ERUs, especially intended to be used in large scale disasters, are still a quite relevant tool, it is still important to maintain capacity and resources for small scale, since according to the IFRC disaster response policy (1997), the Federation must be able to act and ensure adequate sanitation, regardless of the scope and the size of the disaster.
Regarding the **balance** between water and sanitation activities conducted in IFRC disaster response operations, it was clear that although that balance has not been achieved yet it seems to be getting better, at least in the last 3 years. This might indicate the movement is in the right direction, though there is still a long way to go.

5.1.2 Disaster responses tools and system gaps

The overall points made regarding sanitation in general were that it is more expensive, more complicated, more context specific and less prioritized than water. Consequently, the main **technical gaps** identified in ERUs and Kits were: the absence of fast and immediate options, since almost all the options involve digging and that takes time; the lack of options to deal with disasters in flooding and urban contexts, where digging is impossible and space is almost always an issue; and the fact that the cycle is not yet addressed as a whole, there is an absence of options for desludging and treatment of sludge, that later might constitute again a health hazard. This comes in line with what was previously identified in a workshop conducted in the Netherlands in 2011, “Identifying gaps in emergency sanitation”, that put together key organisations, such as Oxfam, IFRC, ACF and WASTE. Interestingly this workshop also included product designers (Stoutenburg report 2011).
Moreover, it was also felt **MSM is not a flexible** and adaptable tool, rendering it less suitable for many contexts. In some situations going back to OD and assuring hygiene might be more appropriate than developing more advanced technical solutions. Likewise, the MSM, and Kits are not sufficiently adaptable to vulnerable groups. The fact that, generally, in sanitation in emergencies, **disabled people are underserved**, was quite evident from all of those who were present in Haiti earthquake 2010. The same situation applies to **software** approaches. It is not emphasized sufficiently, and it is not expensive technical new solutions that will make it part of all agendas, it is about **more training**. Nevertheless, sometimes trainings are too “teacher-student” and that has to be improved.
This awareness takes a lot of time to sink in, therefore, investment has to be made in preparedness instead of focusing on responsive solutions. **NSs** are a crucial component in the disaster response system, particularly in response to disasters that affect small size

communities, given that ERUs are more of a large-scale operations tool. Thus, the **lack of interest** and low level of awareness of many NSs from countries where sanitation coverage is still too low has to be fostered and investment should be made in local capacity building. Another issue that came up was the **lack communication and information transmission channels** from the Federation to NSs, as many are not aware of the existence of a water and sanitation policy. This might be due to the fact that the RCRC is a huge decentralized organization.

While large-scale operations tend to result in economies of scale, smaller ones have almost always a **higher cost per beneficiary**. Since budgets are usually lower in small scale disasters, the imbalance between water and sanitation might become more pronounced, even if the two are equally vital. Graph 7 partially supports this hypothesis: in 2011 the imbalance seems to have decreased with scale size increase and in every year, the imbalance was also one of the highest in operations reaching less than 5000 people.



Graph 7: Ratio between Water and Sanitation per beneficiary group (2009-2011).

When looking at the disaster response system as a whole, the main identified gaps were the **lack of complementarity** between NSs. Despite ERUs deployments being coordinated through the Federation and PNSs holding ERUs exchanging some lessons learned, this seems not be more widely shared in the movement. Some WatSan coordinators from NSs that do not possess an ERU are less aware of progresses of tools and trainings. Likewise it was felt that if research is to be done to address the current gaps it should be coordinated by the Federation who would develop a **common agenda**, establish partnerships with research institutions and a knowledge sharing platform. Only this way could we avoid to waste scare resources and improve as a sector. Nevertheless, it can be also pointed that this own paper represents that attempt to start and establish partnerships with universities.

Another issue regarding ERU's is that because they are held by different and independent NSs but can still be combined together, **there is a logistical, economic and coordination burden** added to the process of deployment.

As far as "measuring the impact" is concerned, it should be about what and how many sanitation facilities have been provided to communities and whether they are making a good use of them.

Initial **assessment** was also an identified key component that seems to be either **not good enough or missing** at many stages: at identifying the most vulnerable, in NS to help writing

PoA, to write quality-funding proposals and at addressing urban contexts. Linked to this was not only the idea that more and better trainings have to be done, but also that there is **lack of skilled personnel in WatSan**. “In an organization like this (IFRC) we have only 3 WatSan officers”. There is, therefore, a huge demand for professionals in this area.

5.1.3 Global aspects

A point that seems evident at all levels, ranging from grassroots, to NSs, to governments, within the Federation, general public and donors is the **lack of awareness** regarding sanitation: the benefits it brings to health and how health equity is linked at a larger scale to a society’s economic and social development (Bartram and Cairncross 2010; Cairncross and Feachem 2002). Consequently, there is from the top-down side **deficient funding** to invest in research and partnerships with private sector, to put new and not new technologies in place; and on the other hand from the bottom-up side, there is **not sufficient demand** to pressure governments and donors.
Sanitization is not as sexy as water and there is a mismatch between the causes of the problem, that are chronic, and the way funds are being invested (in emergencies). The cost per capita tends to be lower in long-term projects; existing therefore more than enough reasons to invest in disaster preparedness, capacity building and development instead of mainly funding disasters. Donors are changing and they still try to see the bigger picture, but not the general public. It is also the responsibility of organizations such as the IFRC to show the whole landscape, through the budgeting, the programming and by making a logical framework that shows what is needed, in order to have the right balance between water, sanitation and hygiene.
There are a variety of factors at play here, disaster response is highly dependent on the context, ie, number of people, dispersion, displacement, type of emergency, rural or urban. These factors also determine whether local or global tools are utilized. These factors are not static, there has to be a constant adaptation to shifting trends, whether in type of disasters, the consequences in different populations, and their previous preparedness state.

5.2 Study strengths, limitations and further improvements

The strength of this study is that since it is the first looking at the organization’s disaster response tools as a complex system it explains its functioning together with its main gaps, guiding the way for further and more detailed studies. The main limitation of this study is interconnected to its strength, by the fact that it is more of a broad overview, that needs further data collection, analysis and narrower research questions to indicate more concrete and practical actions.
Concerning the research methods, the fact that trends are only reflecting three years, and that it was not possible to interview more WatSan personnel are the main limitations. The results will, however, be presented to interviewees. For further detailed limitations, please refer to the limitations and assumptions section 5.4. Nonetheless, this study is planned to continue and not only interview more staff (WatSan regional delegates and from NSs as well as more MSM volunteers) but also to finalize the database since 2005 and conduct the same statistical analysis for all the years. Moreover, data collection could also include urban and rural and displacement information. In addition, professionals from other like-minded organisations and ultimately beneficiaries could also be interviewed.

5.3 Suggestions and directions

In urban contexts buckets and the peepoo bags may represent the best available option. Peepoo bags are cost-effective and undemanding, however, a study conducted in the aftermath of Haiti earthquake 2010 showed a relatively low usage rate (13%). Therefore, their use is only recommended as a stop-gap approach when no other options interventions are possible (Colini et al 2012). Another suggestion was the development of shelter modules with sanitation facilities.

For the case of dispersed populations, there should be more trained people organized in several smaller teams and less material, as a "sort of light deployment".

To better address vulnerable groups, it is crucial to have better baseline assessments and compulsory add-ons to ERUs and Kits that can be adapted according to the needs. Moreover, having a budget line in appeals specifying any additional costs should be used as a mechanism to ensure accountability.

Trainings regarding software approaches and HP have to happen not only in more underserved communities through NS (conducting workshops that increase also their interest), but also in ERU modules trainings. In communities those trainings should be more inclusive and have a follow-up, in order to support volunteers and new hygiene promoters to successfully engage communities. In terms of menstrual hygiene, a budget line in proposals should be added to ensure it is not forgotten.

The main investment for small-scale disaster should be on fostering the interest of NSs in sanitation, strengthening their capacity to work in a problem-solving manner and not invest in more global tools. Adding to this, it was also suggested to invest in a wider Kits' coverage, since this implicates previous training in how to use the material. Nevertheless, awareness raising should be the primary target as kits have to be requested by NSs themselves. Sometimes, however, emergencies can be an entry door to boost interest and these opportunities should not be missed. As proposed that sanitation is not a political tool as good as water, strategies should be investigated to make that change. Probably by appealing to the economic gains involved and time required by getting to sanitation facilities. Communication has also to improve within the movement, with PoAs that contribute to the imbalance between sanitation and water being blocked until they are adjusted and increased focus on sanitation in trainings.

In small scale disaster either the Federation accepts that cost per beneficiary will be higher and aims at identifying how much it will cost to close to the gap between water and sanitation, that would later be presented to donors; or research should be done to look for cheaper solutions, like the ones there are for water (chlorine tablets distributed at HH level). Nevertheless, some gains can still be made if local preparedness is boosted and less skilled WatSan professionals are deployed.

Developing beneficiaries' satisfaction indicators or putting the existing ones in practice should be the next step for measuring impact and improving accountability to beneficiaries. The iterative monitoring and planning cycle would, consequently, also be improved.

How can the Federation, through visual images and case studies, increase effectively and emotively sanitation awareness and demand, hence help breaking the taboo? Perhaps universities partnerships can be broader and involve designer courses in order to present creative ideas; the benefits for the universities and students would be recognition and acknowledgement of their contribute as a marketing and publicity tool for them. Moreover, it has to be stressed the distance and time women take to reach sanitation facilities, which are often unclean, and how long they have to wait to use them.

The following figure (4) is the suggested analytical framework to future assessments of the tools, by pointing out the main disaster context determinants, identified in this study that should be considered when evaluating the tools relevance.

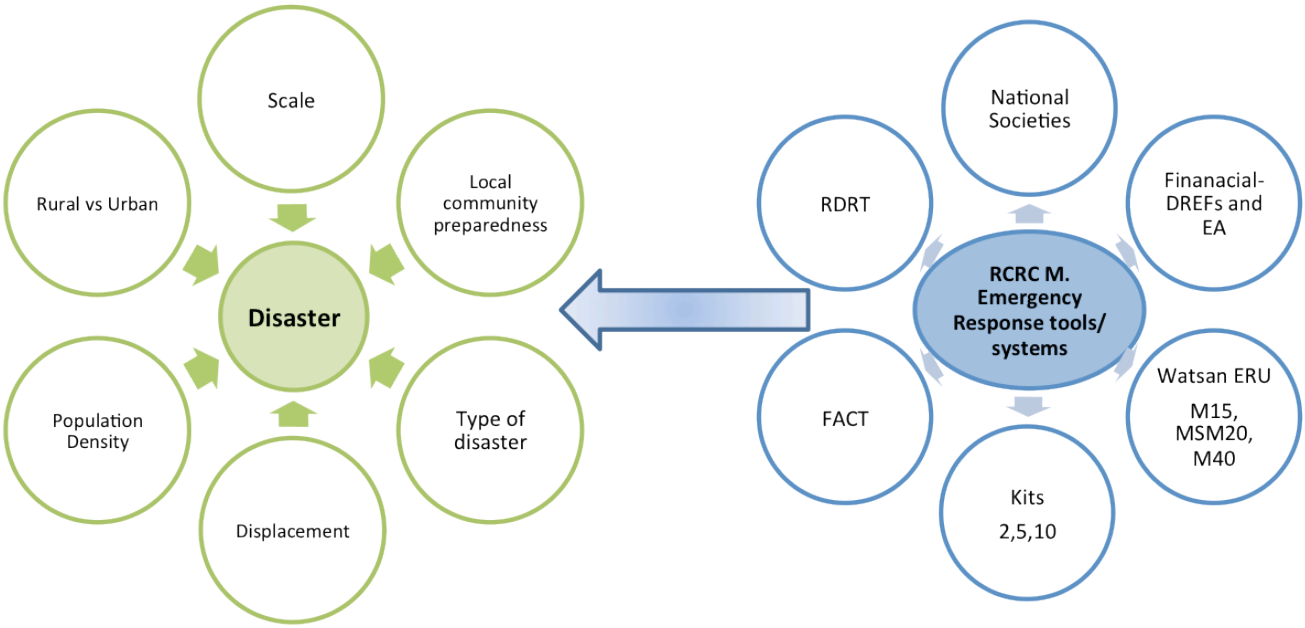


Figure 4: Main disaster context determinants (green). RCRC movement emergency response tools and instruments (blue).

The mapping of emergency operations, by using emergency reports (the emergency appeals and DREFs), prompted some suggestions for greater homogenization of future appeals. It is an attempt to facilitate the monitoring and the progress of disaster response operations and the rationale is to share those ideas with National Societies in the future.

6. Conclusion

Some of the reasons suggested in the literature to the low attention paid to sanitation and to why the coverage is still so low are: 1-the fact that it is still a taboo subject, the word faeces in whatever language causes too much discomfort; 2- that excreta disposal approaches have been based on the water-borne western world systems, where water is almost a granted element; 3- the fact that some development programs tend to benefit the relatively few well-off (perhaps due to poor assessment); 4- what is built is frequently culturally inappropriate; 5- and finally the misconception that children's faeces are innocuous, hence not disposed appropriately (Harvey, 2008; Mara et al 2010). Furthermore, there are also several constrains for a greater focus and improvements on this issue, such governments' weak involvement in concerted efforts, the fact that it has been hard to keep pace with population growth and that poor people that cannot afford expensive high tech solutions and especially that the benefits do not accrue directly on the person who invested in the facilities (Mara et al 2010).

Some of the overall recommendations to progress towards larger sanitation coverage worldwide from the literature are in line with what was found in this study: there has to be a switch from supply-led approaches to demand-led and community-led, by using the economic argument instead of health alone. Strategies to achieve this should be through political leadership (institutional responsibility and budget lines, ensure public sector working on health, water supply and utility services work together), and by involving the health sector in sanitation.

This paper aims therefore to be a call for more attention to be put into sanitation, so that water and sanitation related mortality and morbidity is reduced worldwide. If on the one hand poverty is an underlying cause of the still so low coverage in too many places on Earth, this widening of access to safe sanitation will also positively help to address poverty. The RCRC movement seems to be increasingly putting more efforts to address the sanitation gap, but more people are needed to augment advocacy. Sanitation might never be as sexy as water, but there is no reason the Federation cannot address it just as well.

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Abstract in French

Introduction : Bien que 40% de la population mondiale n'a toujours pas accès à un système d'assainissement moderne, la priorité est encore donnée à l'accès à l'eau potable. Les catastrophes affectent généralement plus fortement les populations les plus défavorisées. Le Mouvement International de la Croix-Rouge et du Croissant Rouge (CRCR) est la plus grande organisation humanitaire du monde. Elle a développé un système de réponse en cas de crise. Il est important de déterminer si ces outils sont suffisants pour répondre aux besoins en tenant compte des récentes évolutions démographiques et climatiques.

Méthode : Ces 3 dernières années, les opérations mises en place en réponse à des catastrophes ont été analysées statistiquement grâce aux rapports d'appel d'urgence. Les bénévoles et le personnel de la CRCR ont été interrogés pour approfondir la connaissance des outils mis en place et comprendre comment ils répondent aux besoins sanitaires en cas de catastrophes affectant l'eau ou les systèmes d'assainissement. L'analyse des résultats prend en compte les données sur les outils et les déterminants du contexte (basés sur les entretiens).

Résultats : En moyenne 40% des catastrophes auxquelles a répondu la CRCR ces 3 dernières années étaient des inondations. 44% des opérations ont répondu aux besoins de communautés de petite taille (<10.000 personnes). Il y a toujours un déséquilibre entre les activités menées dans le domaine de l'eau potable et celles menées dans le domaine de l'assainissement. Tous les outils ne sont pas adaptables à tous les contextes et ils ne peuvent répondre aux besoins spécifiques de chaque sous-groupe qui compose la communauté. Pour répondre aux catastrophes à petite échelle, la CRCR utilise principalement les sociétés nationales. Il faudrait mettre l'accent sur les problèmes d'assainissement pour augmenter l'intérêt que ces sociétés portent à ce problème. Globalement, l'importance de ce sujet est encore sous-estimée. Il y a un manque de professionnels qualifiés dans le domaine et des efforts doivent être fournis pour l'amélioration des formations, l'évaluation et la planification.

Conclusions: Les problèmes d'assainissement sont étroitement liés au contexte spécifique, c'est pourquoi ils doivent être traités par une approche communautaire. Le système de réponse aux catastrophes de la CRCR se heurte à de nombreuses difficultés mais l'écart entre les moyens apportés pour l'eau potable et ceux apportés pour l'assainissement semble être à la baisse.