Although capacity building is increasingly emphasized in the water, sanitation and hygiene (WASH) sector, many WASH implementing organizations still lack capacity to effectively and sustainably provide WASH services. This study attempts to review the global capacity building efforts in the WASH sector by identifying the major capacity building organizations, understanding their focus and activities, comparing their efforts, and assessing potential gaps in capacity building services. A review of 72 water and sanitation networks identified 104 organizations providing capacity building services to other organizations. These capacity builders are mostly European Non-Governmental Organizations giving trainings on technical subjects with frequent duplication of services. Capacity building services were found to be concentrated in capital cities with rural and remote areas receiving less capacity building services. A lack of long-term client tracking and support was also found. By addressing these gaps and increased communication between these organizations, capacity could be built much more efficiently.

Introduction
In the context of international development, capacity building is the process where individuals, organizations and societies improve their ability to perform core functions, solve problems, define and achieve objectives, and understand and deal with their development needs in a sustainable manner (UNDP, 1997). Capacity building is gaining prominence in the water and sanitation sector (Cap-Net, 2006), partly due to the fact that non-governmental organizations (NGOs) and aid agencies who initially provided immediate relief and welfare are realizing that much of their efforts are unsustainable in the long term (Brodhead, 1987). Therefore the role of many NGOs and aid agencies is transforming from focussing on short term aid logistics and operations, to building capacities of local communities and organizations to achieve long term self-reliant development (Korten, 1987).

There are currently hundreds of organizations that build capacity for other people as well as other organizations (Cap-Net, 2012), some examples of these include universities, resource centres, private consultancies, foundations and development banks. Despite the efforts of these many organizations, capacity at the local level is still low in many countries. Many WASH service providers in these countries, especially those operating in rural and remote regions, do not have the necessary human resources to plan, implement and monitor the delivery of water and sanitation services (UN-water, 2010). There is insufficient staff in place to operate and maintain sanitation and drinking-water infrastructure, and a lack of supply-side technicians and skilled labour to provide services over longer-term (UN-water, 2012).

A 5-countries study of human resource development requirements to meet the water and sanitation Millennium Development Goals (Cavill & Saywell, 2009; IWA, 2011) found that the large capacity gaps are due in part to inappropriate training, ill-equipped institutions that do not address the essential knowledge and skills needed in the sector, inadequate support for decentralised service providers to target underserved populations, and the large number of semi-skilled and unskilled technicians requiring appropriate vocational training. Of the 29 countries surveyed by UN-water (2010), human resource barriers are limited not only to
educational levels and shortages of qualified applicants, but also to equipping the existing human resources with the necessary “soft” skills (e.g. project management, leadership skills, people management) to perform their roles.

Therefore, this study attempts to review the global capacity building efforts in the WASH sector by identifying who the major capacity builders are, understanding their activities and focus, comparing their efforts, assessing potential gaps in their current efforts, and recommending strategies to fill those gaps.

Methods
CAWST (Centre for Affordable Water and Sanitation) and Cranfield University examined 72 networks of water and sanitation organizations (Oliveria, et al., 2012). Through the review of the organization’s websites, questionnaires and phone discussions, a categorization framework was developed to systematically catalogue major capacity builders. The framework comprises of five components and associated sub-headings (Table 1).

### Table 1. Framework for cataloguing major capacity builders

<table>
<thead>
<tr>
<th>Framework Component</th>
<th>Examples of sub-headings</th>
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<tbody>
<tr>
<td>Basic Organization Information</td>
<td>• Type of organization</td>
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<td></td>
<td>• Year of creation</td>
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<td></td>
<td>• Annual budget</td>
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<td></td>
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<td></td>
<td>• Geographic location</td>
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<tr>
<td>Capacity Building Policy</td>
<td>• Approach used (top-down, bottom-up)</td>
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<tr>
<td></td>
<td>• Themes tackled</td>
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<td></td>
<td>• Financial charging policy</td>
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<tr>
<td>Capacity Building Targets</td>
<td>• Who and where are the beneficiaries</td>
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<tr>
<td>Actions Taken</td>
<td>• Main action (training, consulting, networking)</td>
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<td></td>
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<tr>
<td>Monitoring and Evaluation of Capacity Building</td>
<td>• Indicators of success</td>
</tr>
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<td></td>
<td>• Method of monitoring</td>
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</table>

Results and discussion
Over 200 organizations from the 72 water and sanitation networks worldwide were identified as actively involved in capacity building. Among these organizations, 104 of them had a specific focus on building the capacity of other organizations, as opposed to the capacity of beneficiaries to properly operate or maintain water and sanitation technologies. This subset of 104 organizations were examined and classified in more detail using the framework system in Table 1. It should be noted that for the majority of these 104 organizations, capacity building is one of the many core activities/programs in which they engage. Many of these organizations also have other initiatives that are not related to capacity building such as infrastructure construction.

Basic organization information
Among the 104 capacity building organizations, the majority (56%) were found to be in Europe with smaller numbers found in North America, Africa, Asia, South America and Oceania (Figure 1). Overall 72% of capacity building organizations were based in developed countries (Figure 1).

Figure 2 shows that most of the capacity builders were Non-Governmental Organizations, with the rest of the organizations being comprised of private companies, research institutions, networks, public institutions, foundations, development banks, and UN Agencies. It was also found that the majority of these organizations were formed during the decade of 1991-2000. In the last thirty years there has also been a noticeable increase in organizations based in Africa, Asia, Latin America and the Middle East.

Of the 104 organizations, 7% had an annual organizational budget of less than 1 million British Pounds, 12% had an annual organizational budget of 1 million to 10 million British Pounds, and 8% had over 10
million (Figure 3). The annual budget for the remaining 73% of the cases is unclear. It was very difficult to determine what percentage of the overall annual organizational budget is spent on capacity building versus other activities, thus the budget quoted is the overall organization’s budget. Figure 4 shows the number of employees of these 104 organizations. The majority of the organizations have a total staff of less than 200.

**Capacity building policy and themes**

Of the organizations examined the most were engaged in a bottom up approach to capacity building (Figure 5). This approach entails building knowledge and skills of staff of client organizations, often through training workshops or courses. Three other capacity building approaches were also employed. The top down approach include changing a client organization’s policy or structure to facilitate capacity building. The partnership approach builds a client organization’s capacity through working together on joint activities and projects. The community organizing approach occurs when new committees and organizations are formed to fill gaps in a client’s capacity.

Figure 6 shows the themes or topics taught by the capacity builders. Technological knowledge and skill is the most common topic taught by capacity builders to their clients. Many capacity builders also work to build the client organizations’ capacity in management and operations.
Financial charging policies of capacity building organizations were examined and the majority of those who specified their financial charging policies did not charge anything for their capacity building services (Figure 7). Thirteen percent of these organizations typically charge full cost (plus profit) for services, while 11% charged for services depending on the situation and the project being undertaken. Six percent required no financial charging and also provided aid or subsidies for their projects. An example of this is the World Bank policy of providing both financial support and capacity building of its grantee.

**Capacity building targets**
The most common target of the capacity builders examined are Non-Governmental Organizations (Figure 8), followed by public institutions such as local governments, and community based organizations. Other target audiences include private companies, individuals, community, and operators.

**Actions taken**
Training is the most common means to build capacity (Figure 9). Many organizations also build the capacity of their client organizations through actions including networking, providing resources, mentoring, consulting and partnerships (Figure 9).

**Monitoring and evaluation of capacity building**
Monitoring and evaluation of the capacity building initiatives was found to be lacking in the majority of the organizations identified (Figure 10). Sixty-one percent of the capacity building organizations had no information available on monitoring and evaluation of their activities. Only 39% of organizations monitor and report the results of their capacity building initiatives. Of the organizations who specified how they monitored and evaluated, 30% used outcomes as a measure. This mostly entails looking at participant satisfaction. Fifteen percent of organizations used output as a measure, such as the number of workshops held, and the number of workshop participants. Organizations that looked beyond satisfaction and
participants, or those that looked at the impact of their initiatives were found to be in the minority at below 15%.

Figure 9. Actions or means to achieve capacity building

Figure 10. M&E information available

Conclusion
This study contributes to the current knowledge in water and sanitation by producing one of the first systematic catalogues of major capacity builders worldwide. This information allows practitioners and researchers to gain a big-picture perspective of the current landscape, identify gaps, and allowing for the implementation strategies to more effectively support local communities and organizations to achieve long-term self-reliant development.

This study identified several gaps in the services of WASH capacity building organizations. The location of capacity building organizations were found to be concentrated in cities, but deficient in rural and remote areas where capacity is lowest and the needs are the greatest (Taylor, 2005). There is a duplication of services by multiple organizations offering training on similar topics, while very few organizations provide a full suite of services (e.g. training + mentoring + consulting + networking + partnership), or are able to support a wider range of topics. Increased communication and collaboration between capacity building organizations could reduce these redundancies and fill some of the gaps. Another challenge is that only a minority of capacity builders measures and reports the results of their work. Although capacity building is a long-term, incremental process, very few organizations provide long-term support to their clients, or track how their clients perform after the capacity building support is terminated. Increased communication between capacity builders and their clients, more emphasize on establishing long-term relationships, and an increased focus on monitoring, evaluation and improvements, can lead to more effective capacity building worldwide.

Some of the limitations of this study include that it was not able to encompass capacity building organizations who did not have a website, and those with websites may not have always kept them comprehensive and up-to-date. Each organization also used different terms to communicate their actions which made categorization difficult and somewhat subjective.

Acknowledgements
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