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Value for Money and Sustainability in WASH programmes (VFM-WASH)

Assessing the VFM of the DFID-funded humanitarian
WASH response to the 2010 Pakistan floods

Final report, short version

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Abstract

This report presents summary findings for the value for money (VFM) analysis of DFID’s humanitarian WASH response to the 2010 Pakistan floods. Specifically, this report analyses those investments channelled via three non-government organisations (NGOs) working in Sindh Province.

A complete version of this analysis, including all underlying assumptions for the estimates is available on the project website at www.vfm-wash.org.

The VFM-WASH project

This note is an output of the VFM-WASH project, which stands for “Value for Money and Sustainability in WASH programmes”. It is a two-year research project funded by DFID, which entails carrying out operational research into DFID’s WASH programmes in 6 countries. A consortium of 5 organisations, led by OPM, has carried out the work. Research Partners include the University of Leeds, Trémolet Consulting, the London School of Hygiene and Tropical Medicine and Oxfam.

The project has 2 main objectives:

1. To identify how VFM and sustainability can be improved in DFID-funded WASH programmes through operational research in six countries (Bangladesh, Ethiopia, Mozambique, Nigeria, Pakistan and Zambia). In each of these countries, the project team conducted a VFM analysis of a DFID-funded WASH programme. The focus programmes were implemented by the country’s government, large organisations such as UNICEF or small NGOs;
2. To assess the sustainability of rural WASH services in Africa and South Asia by carrying out nationally representative household surveys in 4 countries (Bangladesh, Ethiopia, Mozambique and Pakistan), alongside gathering secondary data for a larger group of countries (e.g. existing surveys and Water Point Mapping initiatives).

See the project website for more information: <http://vfm-wash.org>

Preface / Acknowledgement

This analysis is based on work conducted between January 2014 and June 2015 by members of the VFM-WASH consortium. This report was written by Ian Ross, Jeroen Ensink, and Yameen Memon. The contributions of Asma Bibi to the fieldwork and Peter Burr to report editing are gratefully acknowledged.

In Islamabad, meetings were held with representatives of Care, Concern, Islamic Relief, UNICEF, Mercy Corps, WaterAid, Handicap, and DFID. In particular useful comments were received from Magnus Wolfe-Murray and Adrian Nembhard of DFID and Manzoor Hussain of Mercy Corps. Internal VFM-WASH review comments were also received from Nega Bazezew (Oxfam) and Marie-Alix Prat (Trémolet Consulting).

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List of Abbreviations

DFID	Department for International Development (United Kingdom)
DRR	Disaster Risk Reduction
HDI	Human Development Index
IR	Islamic Relief
KAP	Knowledge, Attitude and Practice
MDG	Millennium Development Goal
MC	Mercy Corps
NDMA	National Disaster Management Authority
NDWP	National Drinking Water Policy
NGO	Non-Government Organisations
NSP	National Sanitation Policy
O&M	Operation and Maintenance
PS	Programme Support
TMA	Tehsil Municipal Administrations
VFM	Value for Money
WASAs	Water and Sanitation Authorities
WASH	Water, Sanitation and Hygiene

1 Introduction

1.1 Objectives

The objective of this analysis was to assess the Value for Money (VFM) and sustainability of DFID's investment in the humanitarian WASH response to the floods in Pakistan in 2010. Specifically, this report analyses those investments channelled via three non-government organisations (NGOs) working in Sindh Province. Research activities were initiated in early 2014 after the DFID Pakistan country office volunteered themselves as a study area.

1.2 Overview of the DFID response to the 2010 floods

The 2010 floods affected over 20 million people in an estimated 11,000 villages across Pakistan. The floods occurred all along the main stem of the Indus River, and some of its tributaries. DFID responded quickly and funded several NGOs to implement emergency and recovery WASH projects, often as part of broader programmes of humanitarian response which also included livelihood, health and agriculture interventions.

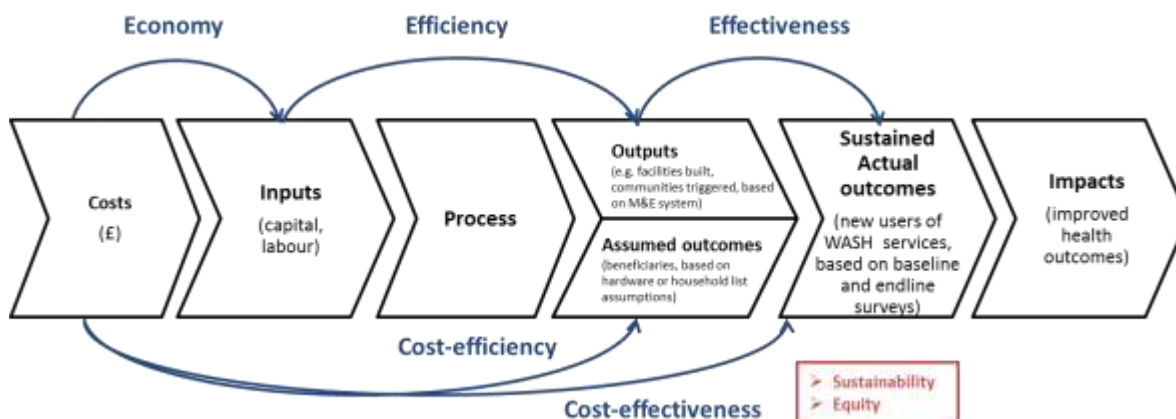
The total humanitarian and early recovery response of \$215 million is the largest ever mounted by the UK Government. Emergency relief priorities included shelter, food, health and water and sanitation. However the sheer scale of the natural disaster posed severe operational difficulties for both the Government of Pakistan and humanitarian agencies. These included poor access and disrupted logistics and communications networks. The wider security situation also restricted the movement of the international humanitarian community (International Development Committee, 2011).

1.3 Scope and methodology of the VFM analysis

Scope of the VFM analysis. In recognition of the time and resources available it was necessary to focus the VFM analysis on Sindh province, which was one of the areas hardest hit by the floods, and a principal programme area of the DFID response. VFM data was collected and analysed for three NGO's active in the humanitarian response and working on WASH in Sindh, namely Care, Islamic Relief and Mercy Corps. The final selection of these NGOs was based on their ability able to share financial project completion reports with disaggregated information on expenditure, outputs and beneficiaries reached.

Methodology. The present analysis follows the standardised VFM methodology outlined in the inception report submitted to DFID in November 2013 and subsequently laid out in the guidance note 'How to do Value for Money analysis for Water, Sanitation and Hygiene (WASH) programmes'. Part A of this methodology outlines how VFM can be evaluated along the WASH value results chain, as shown in Figure 1.

Figure 1. The WASH Results Chain



Source: Adapted by Authors from DFID WASH Portfolio Review (2013)

The WASH results chain uses the following definitions:

- An **output** is defined as an activity or product (infrastructure or software activity) that is the direct result of the programme and which can be counted as such (e.g. water points and small water supply systems constructed by the programme, number of CLTS campaigns conducted);
- An **assumed outcome** is the number of beneficiaries assumed to have gained access to WASH services as a result of the outputs of the programme’s interventions;
- A **sustained actual outcome** measures the actual change in poor people’s lives. It is the number of new people moving from using an unimproved water point to an improved one and who continue to use it over time.

A key step of the methodology consists of mapping out the programme results chain, as done in Section 3.2 below. It is worth bearing in mind for this particular analysis that the salient output indicators of VFM in a humanitarian programme may be somewhat different than those in a typical development programme. For example, in a humanitarian crisis the sustainability of the programme is often less important by stakeholders than the timeliness of the response (DFID CHASE, n.d; SIDA, 2013). In other words, in an emergency situation where people at high risk immediately, the highest priority is getting them the right interventions and services as quickly as possible.

However, given the absence of data on alternative indicators (e.g. related to timeliness), no major departure from standardised VFM methodology has been deemed necessary.

Annual expenditure and VFM indicators presented in this report were calculated in GBP in nominal terms and then converted to USD using official annual exchange rates from the World Bank database.

1.4 Approach to VFM analysis

The VFM analysis was carried out in a series of stages:

- In early January 2014 members of the VFM-WASH team travelled to Islamabad to hold discussions with implementers about the scope, implementation, and activities of the nine DFID-funded NGO’s operating in Pakistan after the floods. The final selection of the three NGO’s included in this analysis was based on their ability able to share financial project completion reports with disaggregated information on expenditure, outputs and assumed

beneficiaries reached. In early 2014 additional targeted fieldwork was carried out by Dr Yameen Memon and Asma Bibi in four villages in Sindh which had been the location of WASH interventions by Islamic Relief and Concern International¹.

- An interim report based on preliminary results was presented to DFID and NGO implementers in February 2014. The report included programmatic recommendations on how to improve the value for money and sustainability of future 'early response' WASH activities as well as additional recommendations on the tools used to analyse VFM and sustainability in these contexts.
- Following key stakeholder feedback and review, the team finalised the analysis and recommendations in early 2015.

1.5 Report structure

This case study is organised as follows:

- Section 2 provides a summary of the Pakistan country context and WASH sector governance;
- Section 3 provides an overview of the Care, Islamic Relief, and Mercy Corps programmes analysed in this report;
- Section 4 presents the key findings of the VFM analysis;
- Section 5 formulates recommendations in terms of improving VFM and sustainability of future humanitarian WASH interventions in Pakistan, as well as improving the possibilities for future VFM analysis.

In addition, a list of key references has been provided. A full bibliography, a list of people interviewed and additional information on underlying assumptions used for the analysis are available in the longer version of this report, which can be provided upon request.

¹ It was originally conceived that the Concern International programme would form part of the VFM analysis – however there was insufficient available data to complete this analysis.

2 Country context

This section provides key background information on the demographic, socio-economic and WASH sectors characteristics of rural Pakistan.

2.1 General characteristics

Geography. Pakistan has a semi-arid to arid climate, with rainfall in Sindh and Punjab provinces often limited to the winter months (December to February) and Monsoon season (June to September). The climate in Pakistan is characterised by extremes, both between seasons and in geography, with some of the highest temperatures in the world recorded in the country, while the mountainous areas record snow and temperatures far below zero degrees Celsius. The country is unique in the fact that it relies on a single river system, the Indus and its tributaries, for its water provision. The Indus is a closed river basin for most of the year, but banks swell in summer and during the monsoon season as a result of melt water inflow and rainfall.

The country experiences droughts and floods on regular occasions with some of the most severe droughts experienced from 1998-2002 when 40% of the country's water needs were unmet. The country has experienced frequent floods often as a result of extreme rainfall events during the monsoon season. The most recent floods of 2010 and 2011, were some of the most severe in living memory.

Economy and poverty. World Bank Development Indicators show that approximately 21% of the population live on less than 1.25 US\$ per day and just over 60% on less than 2 US\$ per day. Moreover, Pakistan remains strongly agricultural society with over 40% of its labour force employed in agriculture, though agriculture contributes just over 20% to its GDP. The total nominal GDP for 2012 was estimated at US\$ 240 billion, equating to a GDP per capita of US\$ 1,278.

Population. In 1998 when the last census data were made available for Pakistan stood at over 130 million people. Pakistan's current population in the absence of recent census data is estimated to be over 180 million, making it the sixth most populous country in the world. Annual population growth is estimated at 1.6%, and by 2025 the population is expected to have grown to 220 million.

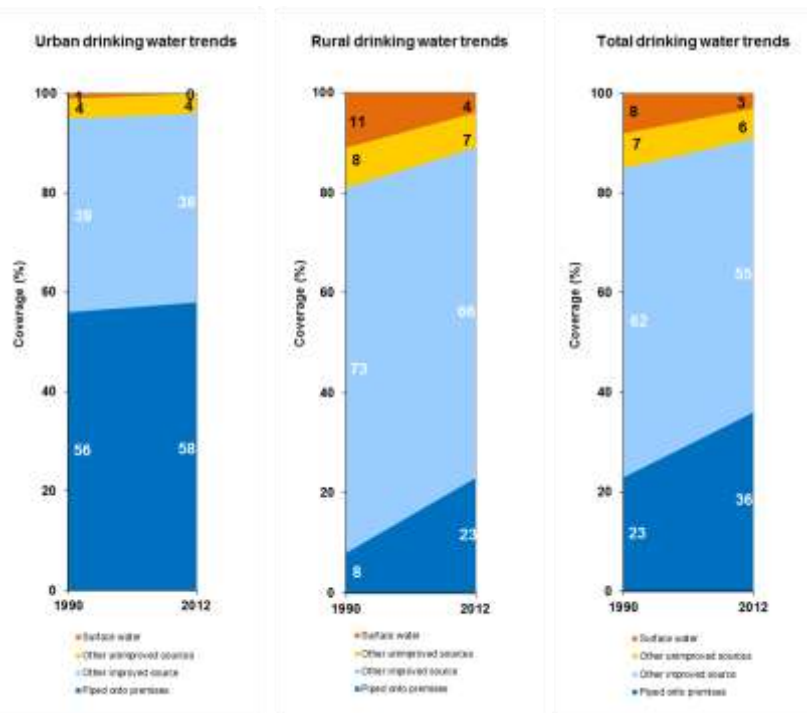
The country is divided in four provinces: Baluchistan, Khyber Pakhtunkhwa, Punjab and Sindh, and administrative units which include: Islamabad Capital Territory, The Federal Administered Tribal Areas, Azad Jammu and Kashmir, and Gilgit-Baltistan. Approximately 76% of Pakistan's population is concentrated in two provinces, Punjab with around 54% of the population and Sindh with 22%. The average household size in Pakistan is 7.2 inhabitants.

Current access to water and sanitation. Over the last two decades the percentage of the Pakistan's population that access an improved water source went up from 80% to just over 90% indicating that the country is on track to meet the Millennium Development Goal (MDG) for water supply (Figure 2). In urban areas an estimated 95% of the population has access to an improved water source, and increasingly households have access to a piped water source within or near the dwelling. Coverage rates are slightly lower in rural areas at 89% and in these areas the majority of water is still accessed for tube-wells with an attached hand pump (JMP, 2014).

According to most recent Demographic and Health survey (2013) just over 90% of the population in Pakistan has water available either on premises or within a 30 minutes round trip. Yet despite these high coverage rates there remain serious concerns about the quality and safety of drinking water. In Sindh province for example systematic water quality testing found that 80% of samples tested failed

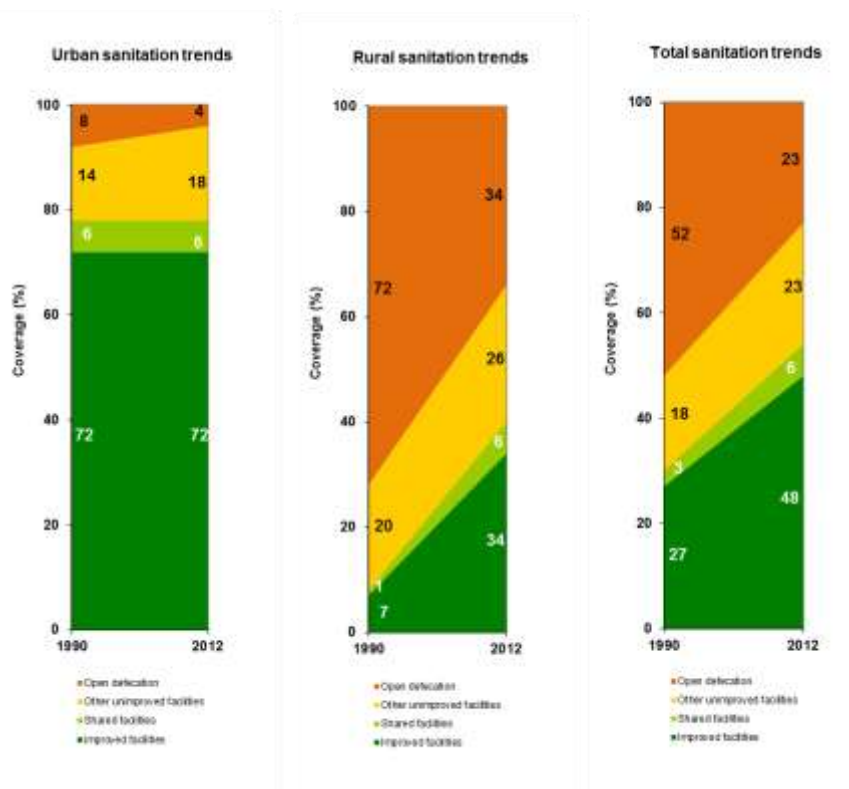
to meet WHO standards (PCRWR, 2010). In urban areas, the water service levels remain low as piped water supply is often supplied intermittently and is of varying quality.

Figure 2 – Trends in improved water supply coverage in Pakistan



In 1990 only 27% of the population of Pakistan accessed an improved form of sanitation, some 52% practiced open defecation, and an additional 22% had access to unimproved forms of sanitation. Since then increases have been made in improving access to sanitation, especially in rural areas. By 2012, the proportion of people nationwide using an improved latrine had risen to 48%, with open defecation rates falling to 23%. Nevertheless, Pakistan is still well behind the MDG target of halving the number of people without access to improved sanitation.

Figure 3 – Trends in improved sanitation coverage in Pakistan



2.2 Rural water and sanitation sector overview

2.2.1 Legal and policy framework

The 2009 National Drinking Water Policy (NDWP) in Pakistan affirms that access to safe drinking water is the basic human right of every citizen and that it is the responsibility of the state to ensure its provision to all citizens. The NDWP aims to provide safe and sustainable water supply to the entire population by 2025. This includes a minimum service standard where households are able to access 45 litres per capita per day (lpcd) in rural areas and 120 lpcd in urban areas from a source within 30 min round trip of the household. The 2006 National Sanitation Policy (NSP) re-affirms the government’s aim to meet the MDG sanitation targets by 2015 (even though they are not currently on-track) and commits to provide universal access to sanitation by 2025.

2.2.2 Institutional arrangements

A landmark constitutional amendment passed in 2010 means that responsibility for planning, funding, regulating, and monitoring drinking water supply and sanitation have now been devolved to provincial governments. In turn provincial government have delegated these responsibilities down to the various tiers of local governments. In municipal areas and in line with Local Government Ordinance (2001 and 2013) legislation, water and sanitation are the responsibility of the Tehsil Municipal Administrations (TMAs) across individual districts. In rural areas the union councils and zila (district) councils are responsible for service delivery.

As a result of the 2010 amendments, the role of federal government has been limited to policy development and guideline setting, mainly through the Ministry of Climate Change - although the Ministry of Health is expected to set and monitor adherence to water quality standards nationwide.

The overall implementation of both the National Drinking Water Policy and the National Sanitation Policy is overseen by the National Drinking Water and Sanitation Committee.

2.2.3 Financial arrangements

Within this decentralised structure there are many different approaches to the management and financing of WASH services. In large cities, Water and Sanitation Authorities (WASAs) are in charge of operating and maintaining WASH infrastructure while in the smaller towns the TMAs are in charge.

Local government and Public Health Engineering Departments in the provinces work to provide technical support to infrastructure development especially in relation to the larger piped water schemes, whereas Provincial Health Departments provide leadership for hygiene promotion, particularly in schools. However, with the expansion of increasingly complex water and sewerage systems across the country one of the main concerns in the Pakistan WASH sector is whether there is the sufficient technical and financial capacity to ensure these systems are operated and maintained appropriately.

Similarly, despite being prioritised in national and provincial policies community engagement remains a problem at all levels. WASAs and TMAs have limited capacity to engage local communities in the identification of schemes, preparation of low cost solutions for development, operation and maintenance (O&M) of WASH services and paying service charges, or taking over O&M responsibilities. In the context of small-scale rural water supply such as hand pumps, it is not always clear who is best-placed to offer the support. What is clear that donors and implementing partners should discuss how best to increase post-implementation support. As a result, a large number of donor assisted schemes in the sector have been abandoned, or faced serious operational issues.

In terms of sanitation specifically, the NSP recommends different approaches to sanitation service provision depending on the community size and location. In smaller communities of less than 1,000 inhabitants the provincial government should promote household self-supply of on-site latrines through community led total sanitation. In larger communities a model is promoted in which sewage and wastewater disposal are provided by communities if these are not provided by the local government. These approaches are not prescriptive and sanitation programmes vary between the provinces, the provincial government in Punjab, for example, provides financial incentives for unions and tehsils are 100% open defecation free.

2.2.4 WASH and emergencies in Pakistan

The national and provincial disaster management authorities have WASH components in their plans, and the national WASH plans have provisions for emergencies. During an emergency the overall coordination of the response managed by the National Disaster Management Authority (NDMA), whereas activities within provinces and districts are co-ordinated by provincial and local government. The NDMA serves as the lead agency for NGOs to ensure their performance matches accepted international standards, e.g. the SPHERE standards which include minimal WASH provisions.

3 Programme overview

The section provides first presents a short overview of the 2010 floods followed by a summary of the activities and timeliness of the DFID-funded NGO response. The breakdown of programme specific expenditure and main results achieved are then presented, providing the basis for comparative VFM analysis across the three programmes.

3.1 The 2010 floods and the DFID response

The 2010 floods affected over 20 million people in an estimated 11,000 villages. They began in late July as a result of heavy monsoon rains in all four of the main provinces in Pakistan, and resulted in widespread inundation all along the main stem of the Indus River, and some of its tributaries.

The impact of the floods were first felt in the narrow valleys of the North, but quickly moved down the country. Sindh province was hit especially hard because as the flood water moved south and combined and swelled with the severe rains in Sindh. The floods claimed 1,781 lives and inundated over 69,000 km² of agricultural land, while an estimated 1.9 million houses were destroyed.

DFID coordinated its WASH relief efforts by supporting 9 different organizations that received a combined total of over \$26 million to implement WASH interventions in the areas affected by the floods. The type of intervention varied between organizations but included rehabilitation of water supply and sanitation infrastructure, provision of drinking water through tanker trucks and hand pumps, construction of household and communal latrines, the distribution of hygiene kits and water treatment tablets, hygiene education and training of local staff.

3.2 Activities, programme components and results chain

This study is on DFID-funded WASH activities of Care International, Islamic Relief, and Mercy Corps in Sindh province. An overview of these activities are given below.

CARE. At the end of October 2010 DFID approved a proposal for \$3.19m for CARE to address the following emergency needs of 100,000 people in Dadu district²:

- *WASH activities:* Emergency WASH services for 100,000 people “in a manner consistent with prevailing WASH cluster standards and moving to SPHERE guideline values as this is achievable”.
- *Non-WASH activities:* Primary health care services for 100,000 people “in a manner consistent with health cluster standards and SPHERE standards”; essential non-food items provided to 100,000 people to a level consistent with SPHERE guidelines.

Islamic Relief. DFID approved \$2.6m of funding of IR to reduce the vulnerability of flood affected communities in hard to reach areas in the Southern tip of Pakistan - including coastal communities on the Arabian Sea. This funding came in the early recovery phase of the response in early 2015. WASH activities represented around 20% of the programme budget, including the activities summarised below:

² The multiple non-WASH elements of these programmes could influence VFM of the WASH component – for example, multi-sector programmes could be associated with increased or reduced efficiency in programme support. For this case study, it was not possible to explore the potential impact of parallel non-WASH activities to the WASH specific programmes.

- *WASH activities:* Water supply systems to provide over 10,000 people with safe drinking water
- *Non-WASH activities:* Cash for work for 43,000 people; support to 1,500 small landowners to plant rice; support for poultry, livestock and fisheries for over 16,000 people; training and capacity building in a diverse range of livelihood activities for over 7,000 people; small business start-up for 200 people.

Mercy Corps. The organisation received funding from DFID amounting to just over \$2.7m in October 2010. The people targeted were those returning home rather than those who were initially displaced. The key programme activities were as follows:

- *WASH activities:* Water and sanitation projects, elements including; the digging of wells; supply of hand pumps; rehabilitation of tube wells and motorised pumps (of piped systems); construction of community based filtration systems; water trucking; aquatab provision; latrine rehabilitations; hygiene kit provision and distribution and pre and post KAP surveys.

The WASH activities undertaken by each NGO are summarised in Table 1.

Table 1 - Selected WASH activities funded by NGOs in 2010-11

	Water supply and treatment	Sanitation	Hygiene
Care	<ul style="list-style-type: none"> • Water Trucking • Hand pump Rehab • Aqua tab distribution 	<ul style="list-style-type: none"> • New latrines • Rehabilitated latrines 	<ul style="list-style-type: none"> • Hygiene sessions • Hygiene kits
Islamic Relief	<ul style="list-style-type: none"> • Water ponds • Hand Pumps 	<ul style="list-style-type: none"> • n/a 	<ul style="list-style-type: none"> • Hygiene Kits • Hygiene Sessions
Mercy Corps	<ul style="list-style-type: none"> • Hand pump • Rehabilitation of tube well • Community filtration unit • Water Trucking • Pursachet and Aqua tabs 	<ul style="list-style-type: none"> • Latrine materials & cash-for-work 	<ul style="list-style-type: none"> • Hygiene sessions • Hygiene kits

Source: Authors. Extracted from NGO financial reports

The expected outputs, assumed outcomes, sustained actual outcomes and impacts flowing from these activities are outlined in Table 2.

Table 2 - Overview of typical humanitarian WASH results chain

Inputs and phase of response		Outputs	Assumed outcomes	Sustained actual outcomes	Impacts
Water	<i>Emergency</i> - Hiring of water trucks	Litres of safe water available in temporary settlement	Population gaining access to safe drinking water	Population using safe water supply while away from community	Reduced diarrhoea risk, more time available for productive activities
	<i>Emergency</i> - Distribution of aqua tabs	Number of aquatabs distributed and used appropriately			
	<i>Recovery</i> - construction of hand pumps	Hand pumps built or rehabilitated		Population using water supply at the intended level of service	
Sanitation	<i>Recovery</i> - construction of latrines	Latrines constructed or rehabilitated	Population who gained access to sanitation:	Population using improved latrines	

Hygiene	<i>Recovery</i> - Distribution of hygiene kits	Number of hygiene kits distributed	Population who gained access to hygiene materials	Population practicing improved hygiene behaviour
	<i>Recovery</i> : Hygiene promotion sessions	Number of hygiene sessions delivered	Population who attended hygiene sessions	

Source: Authors. Based on NGO evaluations

Overall data on inputs and outputs was relatively easily available from NGO project financial reports and evaluations. Assumed outcome data was also usually available in the form of numbers of beneficiary households, but these were not always easily reconcilable with the output information. Data on sustained project outcomes was very scarce. Indeed the only source was the Knowledge, Attitude and Practice surveys conducted at the end of the intervention. Impact data was never available which is unsurprising given the timescales involved. Each of the NGO programmes were approximately 9-14 months in length, so reporting across financial years is not common. The short duration of projects means that it is not possible to track VFM over time.

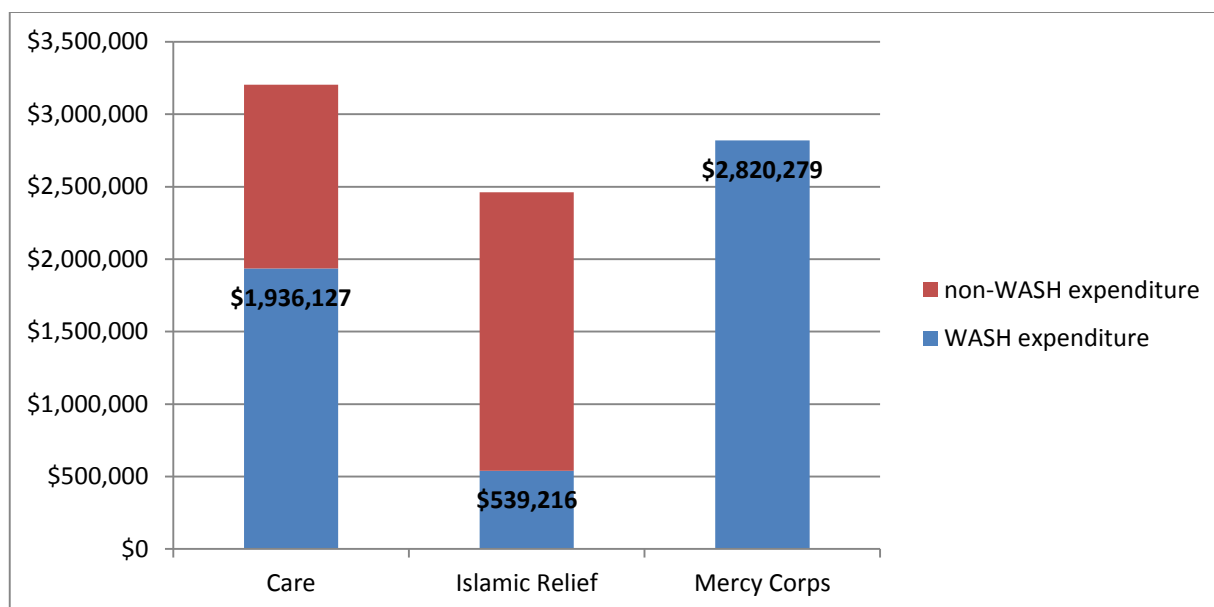
3.3 Programme expenditure

This section analyses the expenditure made by the each NGO programme by WASH component. It then goes on to assess any contributions from other stakeholders that have contributed to programme results, and particularly to sustained actual outcomes.

3.3.1 Programme expenditure by main component

The NGO’s programmes analysed incorporated a mixture of WASH and non-WASH expenditures. The breakdown of these programme expenditures are presented in Figure 4 below.

Figure 4 – Breakdown of NGO actual expenditure by WASH and non-WASH

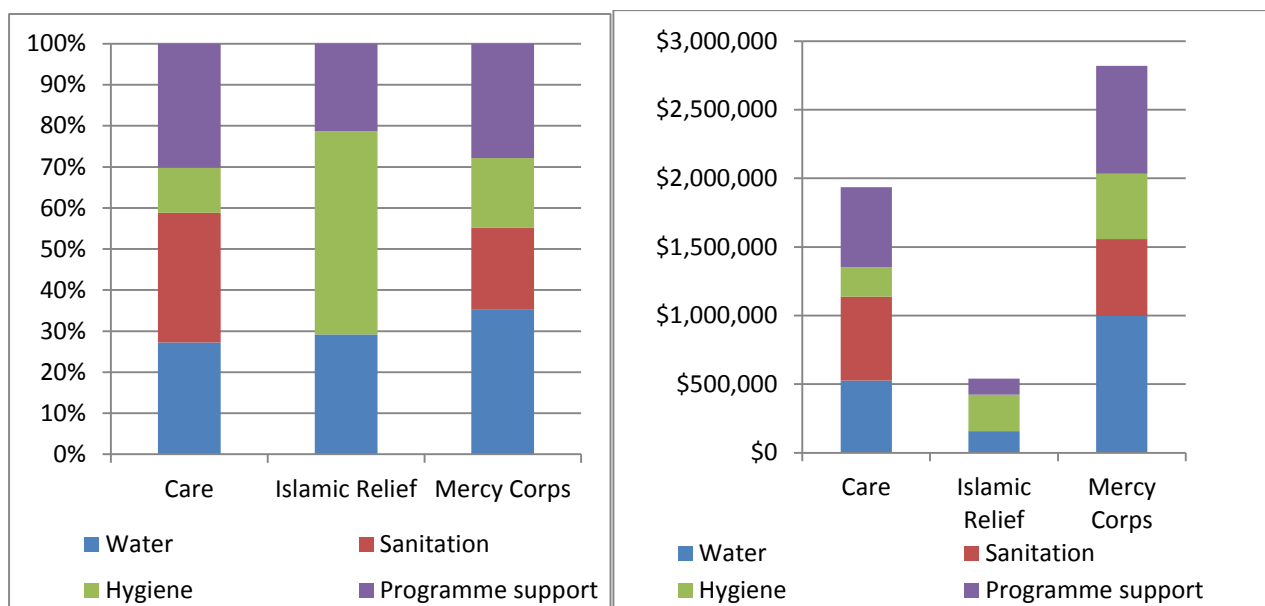


Source: NGO financial reports

Separating these out by type of WASH component we can see that expenditure on the different components of WASH varied (Figure 6). Islamic Relief, for example, had a large hygiene component did not do anything on sanitation, whereas Mercy Corps spent a higher proportion on water supply

than the others. All three NGOs spent between 20% and 30% on programme support³. Islamic Relief spent the lowest proportion of programme budget on programme (21%), this could reflect the fact that they did not work through partners but implemented their projects themselves, or that WASH was a small part of a larger multi-sectoral project. Both of these could be associated with higher or lower VFM.

Figure 5 – Breakdown of NGO actual expenditure by sub-sector



Source: NGO financial reports

It is also important to distinguish between different types of NGO’s expenditure. In particular we are interested in direct hardware expenditure (such as on those items directly associated with the provision of WASH infrastructure); direct software expenditure (such as hygiene promotion, and community training) and WASH-specific programme support.

Table 3 – Cost typology used for analysing NGO programmes

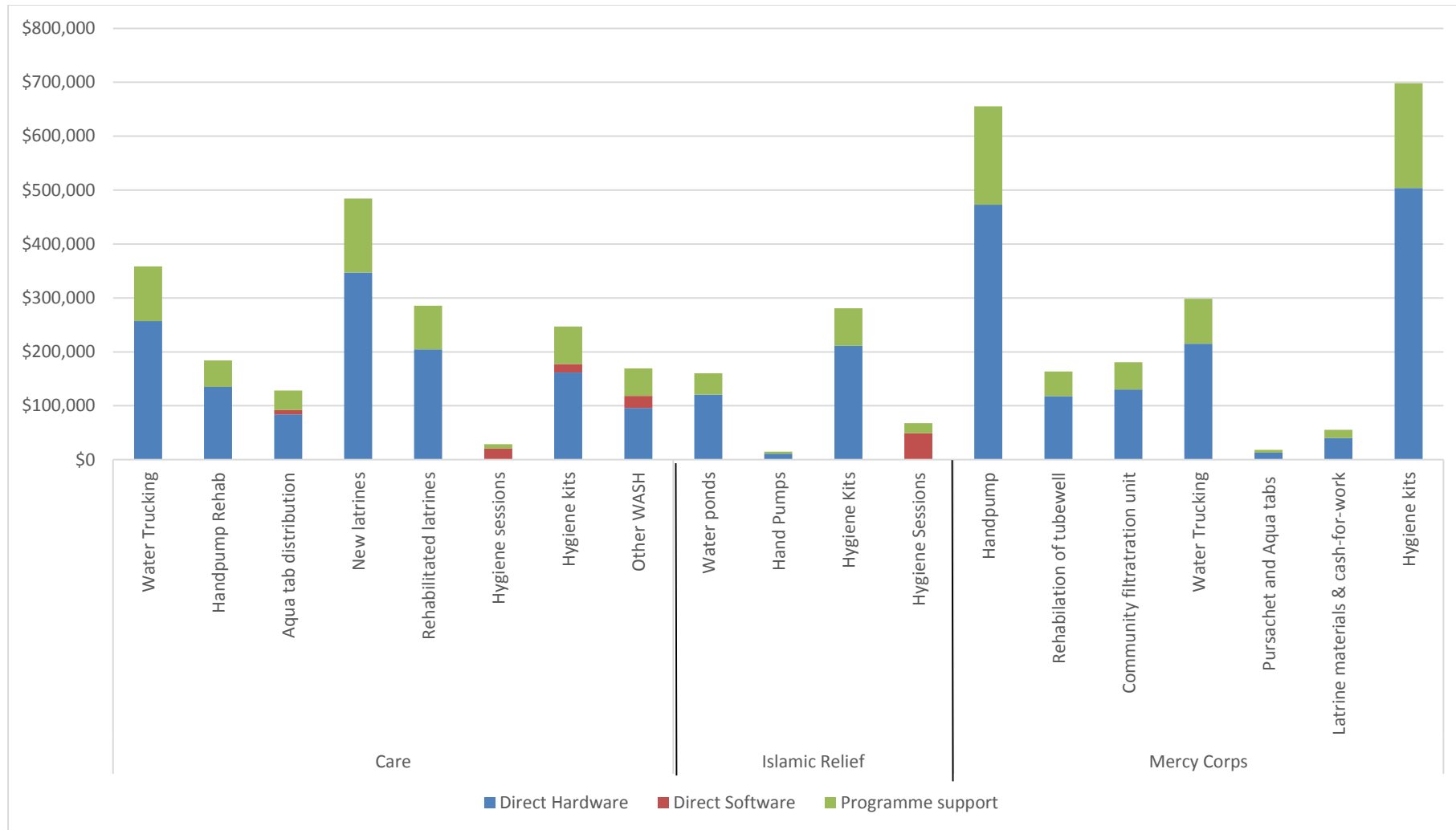
Type of costs	Definitions
Hardware	Initial capital costs of putting new services in place, and associated construction related services. This includes “hardware investments” such as drilling, installing pumps and pipe systems, building latrines etc. This includes the costs of the equipment and the labour costs and one-off associated “software” costs of detailed design studies and construction supervision
Direct software support	Direct support activities associated with the initial community mobilisation related to the outputs: <ul style="list-style-type: none"> • Hygiene promotion; • Organisation and training of water committees to manage water points;
Indirect programme support	Cost of planning and implementing NGO activities. This includes the salaries of experts and programme support, as well as consultancies contracts, ME studies and audits, trainings of technicians and goods.

³ There remains a degree of uncertainty in allocation programme support budget lines to different activities. Ideally these values would be proportioned according to the amount of staff time and related inputs associated with each output. However, in the absence of this level of contextual information in most cases lump sum support expenditures were proportioned to different activities according to their overall value within the project.

Source: Authors.

For all the NGOs, the vast majority of expenditure was on 'hardware' - such as those costs directly associated with WASH infrastructure construction - with very little on 'software' (Figure 6). Given that this was a humanitarian programme this is unsurprising as the main focus is to protect households from the risks of poor WASH immediately. In general, the only significant software activity in each NGO's project was hygiene promotion, with most of the remaining classified as programme support. This graph also demonstrates that in all programmes, and the Mercy Corps programme in particular, a considerable amount of the programme expenditure was spent on the provision of hygiene kits, and often more than on traditional WASH hardware such as the provision of latrines or water points.

Figure 6 – NGO expenditure on different outputs, by cost type



Source: NGO financial reports

3.3.2 Contributions for other stakeholders

Often in WASH programmes the financial inputs which contribute to a projects outcomes are also made up from some additional contributions from local government, households or community organisations. However, it is expected that these blended contributions are rare in the humanitarian context. Available project evaluations and complementary literature do not report any additional local contributions, suggesting that the vast majority, if not all, of the programme inputs were externally provided.

3.4 Key programme results

The section presents key outputs and assumed outcomes achieved by each NGO (Table 4-Table 6) according to the project evaluation documentation provided to us.

Table 4 demonstrates that nearly all the target outputs of the Care programme were achieved. The only anomaly was the new pour-flush latrines where only 70% of planned latrines were constructed. The team was not provided with additional data to explain why the target was missed. Available data on assumed outcomes does not clearly link beneficiaries to outputs, i.e. only totals for village populations are given, and this means there are many gaps in the “assume outcomes” part of the table. This is a serious limitation of the Care analysis and makes it impossible to understand how many people received each intervention, except in the case of interventions targeted at the whole community. Moreover, when reporting assumed outcomes they do not make a distinction between the planned or actual number of beneficiaries.

Table 4 - Outputs and assumed outcomes of Care

Activity	Outputs				Assumed outcomes			
	Name	Planned	Actual	%	Name	Planned	Actual.	%
Water trucking	Litres of water delivered to temporary settlement ('000s)	3,489	3,609	103%	Population gaining access to water	105,364	No data	No data
Hand pump rehab.	Number of hand pumps	1,000	1,000	100%		20,000	No data	No data
Aquatabs	Number of aquatabs	2,400	2,400	100%	Population gaining ability to treat water	105,364	No data	No data
New latrines	Number of new latrines	2,182	1,537	70%	Population gaining access to sanitation	43,640	No data	No data
Rehab. Latrines	Number of rehab. latrines	818	785	96%		16,360	No data	No data
Hygiene sessions	Number of hygiene sessions	1,233	1,220	99%	Population attending hygiene sessions	No data	No data	No data
Hygiene kits	Number of hygiene kits	6,899	6,899	100%	Population gaining access to hygiene materials	105,364	No data	No data

Source: Care financial report and output data

The outputs and assumed outcomes of the Islamic Relief programme are presented in Table 5. IR records do not provide separate data on actual outputs achieved as opposed to planned outputs – weakening this analysis. Their project reports state that all outputs were achieved as per budget, and are reported as such here, however in reality these are likely to have varied.

In terms of ‘assumed outcomes’ (beneficiaries), in all cases the target number of people were reached and there was some significant overachievement in terms of the provision of hygiene kits and the attendance of hygiene sessions. This was due to higher than expected populations receiving the intervention. Islamic Relief recognise that they perhaps under-budgeted on the hygiene component and consequently had to scale up their approach using available staff and materials (although this is not reflected in ‘actual output’ data).

Table 5 - Outputs and assumed outcomes of Islamic Relief

Activity	Outputs				Assumed outcomes			
	Name	Planned	Actual	%	Name	Planned	Actual	%
Water ponds	Number of ponds constructed	10	10	100%	Population gaining access to water	7,300	8,029	110%
Hand Pumps	Number of hand pumps constructed	50	50	100%		3,650	4,067	111%
Hygiene Kits	Number of hygiene kits	12,000	12,000	100%	Population gaining access to hygiene materials	43,800	84,000	192%
Hygiene Sessions	Number of hygiene sessions	400	400	100%	Population attending hygiene sessions	43,800	13,4771	308%

Source: Islamic Relief financial report and output data

The outputs of the Mercy Corps are presented in Table 6. This demonstrates that some of the original stated targets were not met – in particular the provision of aqua tabs and community filtration units – whereas others such as the provision of new hand pumps were exceeded (even if the target number of assumed beneficiaries were not reached).

Discussions with Mercy Corps staff members reveal that these missed targets were the result of strategic as well as logistic considerations. On one hand Mercy Corps faced various difficulties in procurement of key inputs such as aquatabs which influenced their decision to re-allocate resources. Importantly, however, there was also a belief that when distributed aquatabs and pur sachets were not effectively or consistently used and consequently represented poor value for money. This resulted in many changes to the budget and the focus of the project. For example, they switched focus from filtration units to hand pumps, and abandoned much focus on aquatabs. This issue is discussed in more detail in the VFM section.

Table 6 - Outputs and assumed outcomes of Mercy Corps

Activity	Outputs				Assumed outcomes			
	Name	Planned	Actual	%	Name	Planned	Actual	%
Well with hand pump	Number of hand pumps	640	1,090	170%	Population gaining access to water	132,000	104,729	79%
Rehabilitation of tube well	Number of tube wells	8	7	88%		40,000	30,733	77%
Community filtration unit	Number of filtration units	42	10	24%		7,650	4,367	57%
Water Trucking	Litres of water delivered to temporary settlement (000s)	2,100	1,900	90%		80,000	10,1268	127%
Pursachet and Aqua tabs	Number of units delivered	2,400	300	13%	Population gaining ability to treat water	80,000	44,024	55%
Latrine materials & cash-for-work	Number of potential latrines	8,000	8,014	100%	Population gaining access to sanitation	64,000	64,112	100%
Hygiene kits	Number of hygiene kits	32,000	44,000	138%	Population gaining access to hygiene materials	160,000	199,880	125%

3.4.1 Timeliness of outputs

The Care and Mercy Corps programmes began over one month after flooding hit Sindh. Even after financing had been arranged both programmes faced difficulties and time delays in mobilising their response in the critical early months when relief assistance was most needed. In discussions with NGO implementers in Islamabad issues of procurement, staffing, and local government permissions were said to have been the main cause of programme delays, and were most challenging for those NGO's such as Care International that did not already work in Sindh province.

The delays suffered in contracting and rolling out these NGO programmes will have negatively affected their value for money as a humanitarian response. However these aspects cannot be quantified as part of the present analysis.

The Islamic Relief programme was funded much later in March 2011 and was designed as an early recovery programme to support livelihoods and build resilience in community services. The timeliness of the IR programme was less critical to the achievements of outputs..

3.5 Sustained actual outcomes

This section presents the limited evidence on the sustained actual outcomes of the interventions; that is, the extent to which the target population have benefitted from improved water supply, sanitary conditions and whether people demonstrated positive change in terms of hygiene understanding. One key limitation is that this is a humanitarian intervention no baseline survey was available, so it is hard to establish how progress on outcomes should be measured.

Although some NGOs carried out post-Knowledge, Attitude and Practice surveys at varying times after their interventions, most of these surveys were of insufficient detail to conduct analysis. The

available outcome data directly linked to a project is the post-KAP of the Islamic Relief. The relevant findings for WASH related indicators are as follows:

- 53% of respondents felt that WASH support provided by Islamic Relief either met “more than half”, “enough” or “more than my needs”. For over 17% of the beneficiaries the assistance combination met “less than a quarter” of their requirements.
- There is some data on primary water point used, e.g. 84% of the respondents used a hand pump as the primary source of potable water, but without a baseline (obviously impossible in the context of a flood), and it is hard to know whether this was higher or lower than before the intervention.

Sustainability issues were found to be relevant in our reading and discussions with NGOs, and were also apparent in our fieldwork. The key issues identified were:

- Only 50% of hand pump systems constructed in 2010 were still working. Interviewees repeatedly cited the lack of availability of spare parts for the types of pumps installed. This emphasises the need to ensure that even in emergency contexts it is important to ensure appropriate technologies are used. Mercy Corps for example were very conscious that the type of hand pump they installed were already commonly used in the intervention area.
- Post-implementation support for water supply was not a large focus of NGO reports or discussions. This is understandable in an emergency context but, once again, much recovery WASH should be held to the same standards as “development” WASH. In our interviews with NGO representatives, nobody told us that they had investigated whether the hand pumps they had installed were still providing the same services.
- Several NGOs installed fully-subsidised pour-flush latrines for returning communities. In a recovery WASH context, which is in many ways similar to “development” WASH, this may not achieve sustainable behaviour change. Open defecation is still the norm in large parts of rural Pakistan (around 40% of the rural population and estimated to be closer to 90% in Sindh⁴). Therefore, comparatively more effort and investment should be given towards improving sanitation and hygiene behaviour change, even in a recovery WASH context.
- Hygiene kits were widely distributed in returning communities and can therefore be considered as part of early recovery efforts. However in more development context the sustainability and ultimately the value of money of one-time use hygiene kits are highly questionable, especially when they represent such a large component of NGO expenditure.

It is clear that there is currently very little useful information on sustained actual outcomes for the three NGOs examined and as a result, it is not possible to estimate effectiveness in the VFM section, since we cannot strongly link outputs to outcomes.

3.6 Impacts

No NGOs collected useful impact data as this did not fall within the scope or budget of the programmes.

⁴ Personal correspondence from Magnus Wolfe-Murray (DFID)

4 Results of the VFM analysis

In this section, we present the results of the VFM analysis based on key indicators reflecting economy, efficiency and cost efficiency, effectiveness and cost effectiveness.

Overall, efficiency and cost efficiency indicators were estimated for most components. Data were insufficient to calculate economy, effectiveness and cost effectiveness indicators. A summary of data for those indicators it was possible to assess is in Table 7 below. On balance, it shows that most NGOs achieve their targets, or revised targets in discussion with DFID Pakistan when budgets were reoriented. Cost-efficiency differs greatly across NGOs, which is mainly related to the nature of the outputs (some hygiene kits containing more or different items). Actual cost per assumed beneficiary does vary between NGOs, but perhaps not by as much as one might expect given the varied contexts the NGOs were operating under.

Table 7 – Summary of VFM indicators

Type of indicators	Care		Islamic Relief		Mercy Corps	
	Planned	Actual	Planned	Actual	Planned	Actual
Economy						
Not data was available on the unit costs of key supplies for enough NGOs. This will be a focus for the final version of this report	Insufficient data for meaningful analysis					
Efficiency						
Achieved outputs against planned output targets (average across all outputs)	96%		100%		102%	
Assumed outcomes (beneficiaries) per output against planned targets (average across all outputs)	No data		204%		97%	
Cost Efficiency						
<i>Cost per output (i.e. per infrastructure / delivery)</i>						
Water Trucking/ 000's litres delivered to family over two months	\$106	\$99	n/a		\$124	\$157
Pursachet and Aqua tabs / per 1000 tabs	\$55	\$53	n/a		\$104	\$60
Hygiene kits	\$37	\$36	\$24	\$23	\$17	\$16
Hand pump	\$213	\$184	\$322	\$299	\$760	\$601
<i>Cost per assumed outcome (i.e. per beneficiary)</i>						
Water Trucking	\$3.52	n/a	n/a		\$3.25	\$2.94
Pursachet and Aqua tabs	\$1.26		n/a		\$3.12	\$0.41
Hygiene kits	\$2.44		\$6.61	\$3.34	\$3.33	\$3.49
Hand pump	\$10.63		\$4.41	\$3.68	\$3.68	\$6.26

4.1 Economy

Economy indicators consider whether inputs were bought at the appropriate quality and price. We have recently obtained unit costs for key inputs from some NGOs, which form the assumptions in their budgets, but not enough to form any meaningful analysis. Not all NGOs included unit cost

assumptions in their budgets or financial reports. In addition, there was often little clear rationale for staffing unit costs (budgeted or actual) in financial reports, with large variation across NGOs.

Therefore, it was only possible to consider economy qualitatively. Some reflections on the drivers of unit costs were given in internal and external evaluations of NGO programmes; these included the following:

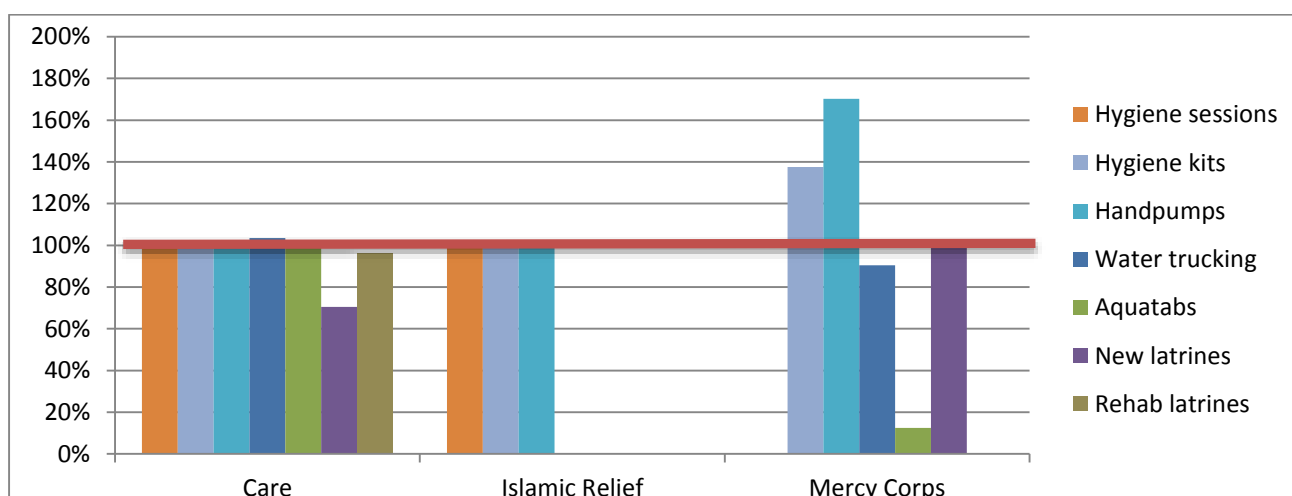
- Care International found that their procurement was vulnerable to price increases by suppliers taking advantage of the crisis. For future programming Care wanted to ensure pre-engagement with suppliers on agreed prices, in anticipation of future crises.
- The cost of water point construction and installation was affected by local hydro-geological conditions. Some of the water ponds constructed by Islamic Relief in areas with unconsolidated soils and required more expensive groundworks. Unexpected variations in the ground water table drove up tube-well/bore well drilling costs in the Mercy Corps programme.
- Other variations related to the type, durability, and specifications of the inputs. In the project documentation variations are evident between Mercy Corps borehole and hand pump facilities which included enhanced Disaster Risk Reduction (DRR) elements with the addition of raised aprons and improved.

4.1 Efficiency

This section evaluates how well the inputs have been converted into both outputs and assumed outcomes.

Whereas both Care and Islamic Relief appear to have delivered close to their targets, the latter did not fully account for these, simply stating that all outputs were delivered as planned (Figure 7). The Mercy Corps programme faced some constraints with regard to procurement and changes in programme strategy, resulting in them over-achieving on some outputs (such as hand-pump provision) and underachieving on others (such as the use of aquatabs).

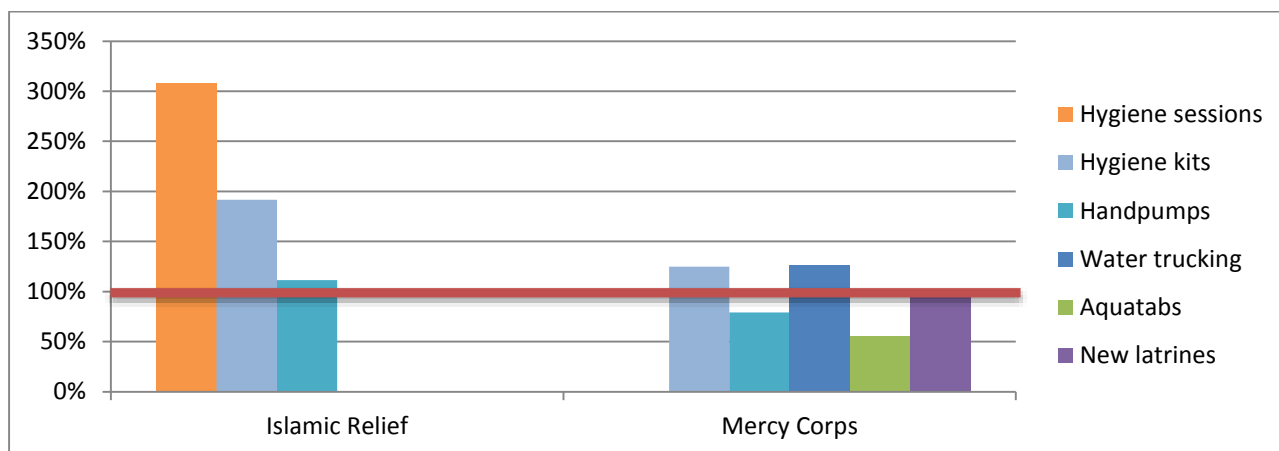
Figure 7 – Efficiency of NGOs in delivering outputs against the plan



On the assumed outcome side (where we are dealing with the number of beneficiaries reached against the plan) there was a greater difference between programmes (although data from Care is unavailable). The most pronounced of these relate to the high level of attendance of hygiene sessions and the higher than planned number of users of hygiene kits in the Islamic Relief

programme. In complex humanitarian and emergency situations where there is no time baseline information, it is not surprising that there are large positive and negative variations between planned and actual outputs.

Figure 8 – Efficiency of NGOs in delivering assumed outcomes against the plan



To fully understand these results it necessary to examine and compare the assumed number of beneficiaries for each comparable output (Table 8). In terms of water supply, the number of beneficiaries for comparable hand pump systems are similar for the Islamic Relief programme (81 per system) and Mercy Corps programme (96 per system). Originally MC planned that each hand pump would reach more beneficiaries (154 per system), and this variation is likely due to the strategic decision of Mercy Corps to re-allocate resources from Aqua-tabs (which were considered unnecessary and ineffective during the recovery phase of the project) to hand pump construction, resulting in a greater coverage of their intervention areas. Care had planned for their hand pump systems to benefit just 20 people per system, unfortunately no information was available for the actual number served.

Comparison can also be drawn between the number of assumed beneficiaries per hygiene kit, which were higher in the case of Islamic relief (actual: 7 per kit; planned: 4 per kit), compared to Mercy Corps (actual: 5 per kit; planned: 4 per kit).

Table 8 - Comparison of NGO efficiency per output

WASH Activity	Organisation	Beneficiaries per output		Comments
		Planned	Assumed achieved	
Water supply infrastructure				
Hand-pump system	Care	20	No data	Rehabilitation only
	Islamic Relief	73	81	-
	Mercy Corps	154	96	Well with hand pump compliant with 'disaster risk reduction' specifications
Water pond	Islamic Relief	730	830	-
Rehabilitation of well and motorised pump	Mercy Corps	5,000	4,390	-
Water treatment				
Aqua-tabs	Care	44	No data	-
	Mercy Corps	33	147	-
Community filtration unit	Mercy Corps	182	437	-

WASH Activity	Organisation	Beneficiaries per output		Comments
		Planned	Assumed achieved	
Sanitation infrastructure				
New latrine	Care	20	No data	-
	Mercy Corps	8	8	MC provided materials and cash for workmanship
Hygiene related				
Hygiene kits	Care	15	No data	-
	Islamic Relief	4	7	-
	Mercy Corps	5	5	-
Hygiene sessions	Care	No data		-
	Islamic Relief	110	337	-

4.2 Cost efficiency

Figure 9 shows a comparison of the cost-efficiency for outputs between the programmes. It is apparent that in most cases the direct and indirect costs of the Mercy Corps outputs are higher than for the other two NGO’s. This is most apparent in the case of hand pump water systems where Mercy Corps outputs are over twice the cost of Care International and considerably more than Islamic Relief. Marginal differences are evident in the comparison of the costs of water trucking and pursachet/aqua tabs.

The exception are hygiene kits where the costs incurred by Care International at \$35 per output were over twice that of Mercy Corps at \$16 per output. As had already been stated some of this variation in cost-efficiency are due to variations in the specifications of the output, and means hygiene kits with varying contents may not be comparable and similarly new hand pumps as compared to rehabilitated ones. However, the costs of water trucking provision should be more directly comparable.

Figure 9 – Actual expenditure per achieved output

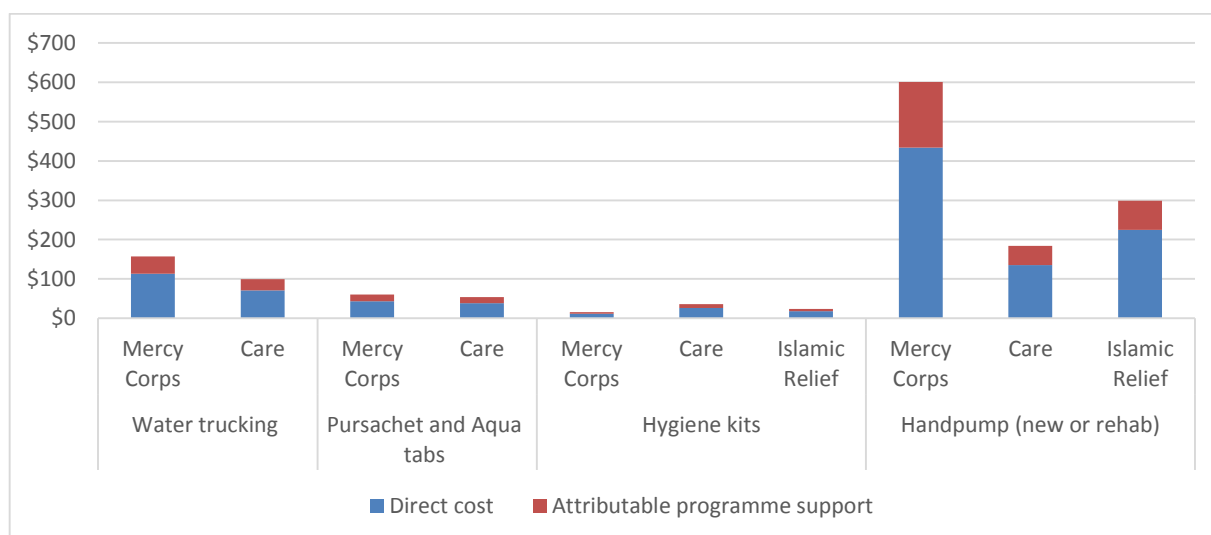


Figure 10 shows cost efficiency for assumed outcomes and includes elements of both “planned” and “actual” data are shown because actual data was not available for Care.

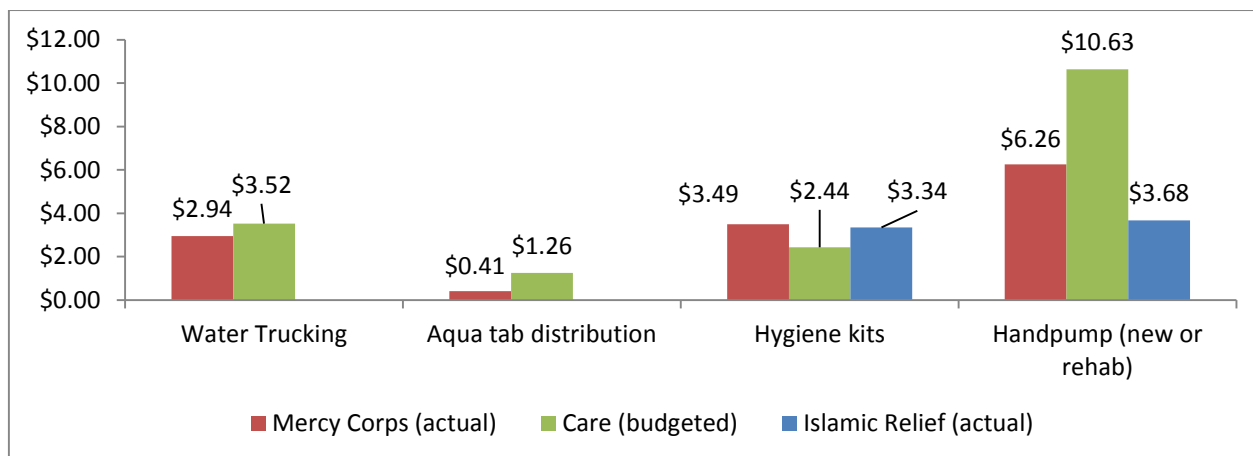
Figure 10 – Unit cost per assumed beneficiary

Figure 10 above shows costs per beneficiary perhaps the most relevant cost-efficiency results. This shows strikingly similar costs per assumed beneficiary for hygiene kits from the Mercy Corps and Islamic Relief programmes. Despite the higher unit costs of hygiene kits in the Care programme, the higher number of assumed beneficiaries means that per beneficiary costs are much lower.

There are pronounced differences in the costs per assumed beneficiary of hand pumps and these are largely driven by the actual, or assumed, number of users of these systems. For example even though Mercy Corps had paid well over double the budgeted unit cost for a hand pump as compared to the Care programme, the ‘per beneficiary’ costs were lower due to a higher number of presumed users (Table 8). However in the absence of end of programme survey data from Care these apparent differences may just be the results of under-estimating the number of beneficiaries per water point.

In the case of aqua tabs and water trucking the budgeted cost per beneficiary from Care was higher than Mercy Corps, but again without the actual figures it is difficult to draw further conclusions from this.

4.3 Effectiveness and cost-effectiveness

In the absence of outcome data, it is not possible to explore effectiveness or cost-effectiveness of these programmes.

Outcome surveys would enable the measurement of sustained sanitation and hygiene behaviours over time and thus the calculation of a cost per person with improved behaviours over time. The cost per person who gained access to an improved water source and continues using it over time could also be measured as a cost-effectiveness indicator.




5 Summary of findings and recommendations





Overall, the DFID-funded response to the Pakistan floods of 2010 set out to reach 2 million people, and came very close to achieving that aim based on NGO reporting of their activities and outputs. This study has sought to go deeper into the value for money and sustainability of those interventions, in order to inform future DFID humanitarian WASH programming.

Table 9 below summarizes the findings of the VFM analysis by component and by type of indicators and lists the main VFM drivers that could have impacted these VFM indicators. The last column presents the team's assessment to identify priority areas where programme managers need to invest additional efforts in order to generate VFM gains. This would require changes in the way the programmes are implemented and conducting VFM analysis on a routine basis in order to track the impact of those changes. Symbol-coding has been defined as follows:

- Three stars: a high-priority area for programme managers, where additional focus on measuring and improving VFM could yield substantial gains;
- Two stars: a high-priority area for programme managers, or where VFM improvements would only have a marginal impact on the overall programme, including because programme managers have limited influence over VFM drivers,
- One star: a low-priority area where VFM is already satisfactory compared to other components and programmes and no immediate changes are needed.

Table 9 - Summary findings on VFM indicators and potential VFM drivers

VFM indicators	Key findings from the VFM analysis	Potential VFM drivers	Priority area for PM?	Recommendations for PM to improve VFM
Care international; Islamic Relief and Mercy Corps				
Economy	<ul style="list-style-type: none"> No input costs could be obtained, which made it difficult to assess the economy of different programme components except through interviews and anecdotal evidence. 	<ul style="list-style-type: none"> In general Care procurement was vulnerable to 'scarcity pricing' as suppliers sought to take advantage of the crisis. The costs of water point construction and installation was affected by local hydro-geological conditions. For example the water ponds constructed by Islamic Relief in areas with unconsolidated soils and required more expensive groundworks. Unexpected variations in the ground water table drove up tube-well/bore well drilling costs in the Mercy Corps programme 		<ul style="list-style-type: none"> Flooding in Pakistan is a rapid onset, and often severe event, but one which is fairly predictable in terms of location and times. For future programming NGO's should ensure pre-engagement with suppliers on agreed prices, in anticipation of future crises. The variability of the costs encountered suggest that improve planning and supervision of construction may help control costs and generate savings
Efficiency	<ul style="list-style-type: none"> Nearly all the components of the Care project were delivered to plan. The only anomaly was the pour-flush latrines where only 70% of planned latrines were constructed. Islamic Relief did not monitor the delivery of planned versus actual outputs and these could not be tracked. Nevertheless at the outcome level Islamic Relief significantly overachieved in terms of provision of hygiene kits and the attendance of hygiene sessions. This was due to higher than expected populations receiving the intervention Changes in programme strategy meant that the Mercy Corps programme over-achieved on some outputs (such as hand-pump provision) and underachieving on others (such as the use of aquatabs). 	<ul style="list-style-type: none"> As the humanitarian response developed both Care and Mercy Corps made significant programmatic changes to adapt to the changing needs in areas of intervention. However in both cases the reasoning behind this reallocation was not clearly documented. The higher than expected attendance of Islamic Relief hygiene sessions resulted in significant overachievement against planned outcomes. If the quality and targeting of these sessions were not negatively affected as a result then the VFM of these sessions is likely to be high. 		<ul style="list-style-type: none"> Ensure clear documented reasoning for the reallocation of programme resources to enable more effective performance analysis. Critically review the effectiveness of high attendance hygiene promotion sessions.
Cost Efficiency	<ul style="list-style-type: none"> In most cases the direct and indirect costs of the Mercy Corps outputs are higher than for the other two NGO's. This difference is most pronounced in the case of handpump water systems where Mercy Corps' unit costs were between two to three times higher. Rigorous analysis of cost-efficiency per beneficiary is limited by the lack of outcome data collected by the Care programme. Indicative findings suggest that Islamic Relief achieved much better cost efficiency for water point systems than the other two programmes due to better procurement. 	<ul style="list-style-type: none"> Cost per water point beneficiary is highly dependent on the number of user per WP and the location, although variations in cots per output delivered suggests there is some scope of improved procurement to improve VFM. 		<ul style="list-style-type: none"> Collect additional data on the type of water points constructed and technical details such as depth so as to verify the drivers of VFM Seek to improve procurement to generate savings Improve monitoring of beneficiaries receiving certain outputs

VFM indicators	Key findings from the VFM analysis	Potential VFM drivers	Priority area for PM?	Recommendations for PM to improve VFM
Effectiveness Cost-Effectiveness	<ul style="list-style-type: none"> In the absence of outcome data, it is not possible to rigorously explore effectiveness or cost-effectiveness of these programmes. 	<ul style="list-style-type: none"> Fieldwork sample showed that only 50% of water point systems constructed in 2010 were still working. Queries over the effectiveness of fully subsidised latrine construction and hygiene kit distribution as part of early recovery WASH. 		<ul style="list-style-type: none"> Promote a “local first” policy for hand pump technology options Conduct a joint review of which hardware items for hygiene and water treatment should be promoted Dissuade the construction of fully-subsidised high-quality latrines in a recovery WASH context
Key:	 High priority	 Medium priority	 Low priority	

5.1 Key challenges

The following key challenges have been encountered and have constrained our ability to apply the methodology as initially envisaged:

- Data on inputs and outputs were relatively easily available from NGO project financial reports and evaluations. Assumed outcome data was also usually available in the form of the number of assumed beneficiary households, but these were not always easily reconcilable with the outputs. Data on sustained actual outcomes was very scarce. Indeed the only source was the Knowledge, Attitude and Practice (KAP) surveys conducted at the end of the intervention, which was limited. Impact data was never available.
- The NGOs had programmes funded by DFID which contained WASH inputs but also those related to shelter, health and livelihoods. Elements of these programmes could influence VFM of the WASH component – for example, multi-sector programmes could be associated with increased or reduced efficiency in programme support. For this case study, it was not possible to explore the potential impact of parallel non-WASH activities to the WASH specific programmes.
- There are uncertainties in attributing overall Programme Support (PS) budget lines to WASH or non-WASH activities. Ideally these values would be proportioned according to the amount of staff time and related inputs associated with each output. However, in the absence of this level of contextual information in most cases lump sum support expenditures were allocated proportionately to different activities, according to their overall value within the project
- A specific limitation of the data from Care International is that it does not clearly link beneficiaries to outputs, i.e. only totals for village populations are given. This makes it impossible to determine the number of beneficiaries reached by the intervention, except in the case of interventions targeted at the whole community.

5.2 Recommendations to improve VFM analysis

The below three recommendations are primarily related to VFM but they are also all strongly linked to sustainability, both of infrastructure and of behaviour change.

5.2.1 Promote a “local first” policy for hand pump technology options

Construction or rehabilitation of hand pumps formed a significant portion of most NGOs’ activities. However, in some cases the technologies used were not those familiar in rural Sindh. In the unrepresentative sample of villages visited as part of fieldwork, about half of the hand pumps constructed in 2010 were no longer functional. Interviewees repeatedly cited the lack of availability of spare parts for these kinds of pumps as the reason for them lying in disrepair. The logical step may be to provide hand pumps which are produced locally, which people are familiar with and know how to fix.

However, it is also acknowledged that local pumps may not be appropriate in all cases. Some locally manufactured pumps are appropriate for shallow depths but in many cases to extract water from deeper aquifers, more complex pumps may be needed. In addition, it may not always be practical for NGOs to install locally-made pumps when they have to respond across a wide area at very short notice, and must therefore have stocks of all materials ready in warehouses. One NGO also cited an anecdote of local suppliers heavily inflating prices straight during a previous emergency.

Finally, there is a case to be made about priorities in recovery WASH interventions. In a situation when people are returning to a devastated village still surrounded by receding flood waters, the highest priority is to get new and reliable infrastructure available as quickly as possible. However, if this is the argument, then it must be built into the model that such infrastructure will only last a few years. Hand pumps are not designed to last forever – indeed, it is actually a good thing that parts need replacing, because this can encourage a culture of maintenance and knowledge about its workings. However, this only happens when the hand pump technology is one which is familiar locally and for which spare parts are readily available.

On balance, the recommendation is that DFID and NGO partners should discuss a “local first” purchasing policy for hand pumps. In situations where the markets are strong and the price is fair, locally-made hand pumps should be used, even if they are perceived to be of lower quality. This is because, when they break, they can be fixed.

5.2.2 Conduct a joint review of which hardware items for hygiene and water treatment should be promoted

There is always a debate around what are the most useful items to be distributed in emergencies, both in the WASH sector and beyond. In Pakistan, several WASH sector actors are increasingly sceptical about the benefits of the hardware items promoted for hygiene and water treatment. In particular, there are doubts about the value for money of hygiene kits and aquatabs / pur sachets.

Taking aquatabs and pur sachets first, repeated experience has shown that their distribution is often followed by poor uptake in terms of their actual use. This is true even under cholera outbreak conditions, as was shown by an evaluation of a cholera control programme in West Africa (Ensink et al., 2010). Discussions with NGO implementers confirmed this concern, with anecdotal evidence about the recipient population taking them as medication, or thinking they were some kind of birth control.

In large parts of the southern Punjab and Sindh, alum is used as a natural flocculant during the monsoon season to reduce turbidity. Furthermore, research on cholera in Bangladesh has shown that straining water through a saree or dupatah has a tangible effect on water quality, as long as bacteriological contamination is not severe. These simple household water treatment methods could be promoted in humanitarian WASH, and necessary materials distributed. This would also be more sustainable as these materials are commonly available for use after the emergency is over, which is not the case with pur sachets or aquatabs. None of the households interviewed in our fieldwork across four villages had used these recently. A related point is that any form of household water treatment, like hand washing with soap, requires behaviour change and should be accompanied with promotion activities. Simply donating alum to households on the assumption that it would be used is not sufficient.

Taking hygiene kits next, these are also an area that is ripe for review. This is especially true since they form a largest proportion of all the NGOs expenditure analysed in this study. While each NGO puts different things in their kit, the basic cost is usually around \$16, which can rise to over \$35 with more items added. Of the 40 households interviewed (half men and half women) across four villages during our fieldwork, 39 reported receiving a hygiene kit during the 2010 flood response and almost all of them recalled the various types of soap and tooth brushing materials included within it, but far fewer recalled the comb, nail cutter and purification tablets. This was an unrepresentative sample and a rapid interview with a long recall period, but does provide a basis for discussing the contents of the hygiene kit.

Amongst implementers interviewed during data collection there was some scepticism over the contribution of hygiene kits to medium or longer term hygiene awareness and behaviour change. The fiercest critics argued that these kits are favoured because they are simply easy items to distribute but do little to build longer term capacity, resilience or adaptability, nor contribute towards behaviour change in hygiene practices beyond a few weeks.

Although it is clear that more research is needed to ascertain whether the use of hygiene kits provides value for money transition and early recovery programmes, in the meantime a precautionary approach may be to focus resources on activities such as the provision of safe drinking water where links between outputs, assumed and sustained outcomes are better established.

5.2.3 Dissuade the construction of fully-subsidised high-quality latrines in a recovery WASH context

Open defecation is still the norm in large parts of rural Pakistan (at least 40% of the rural population, but often thought to be higher). Therefore, the construction of expensive and long-lasting latrines should be questioned, as well as the construction of communal blocks in villages where there is no history of sharing facilities.

Although open defecation could pose a risk of epidemic outbreaks of diarrhoeal disease during emergencies the construction of latrines will not help if they are not used. The promotion of burying excreta following defecation could represent a step up, that more likely will be adhered to and still offer some protection. Constructing latrines is easy – achieving behaviour change is not. Therefore, comparatively more effort and investment should arguably be placed on sanitation behaviour change, even in a recovery WASH context.

5.2.4 Increase post-implementation support for water supply

All NGO reports provided to use provided details of outputs, e.g. number of hand pumps and tube wells constructed or rehabilitated, but few detailed any mechanisms in place for supporting communities to ensure that these continue to provide services over time. Indeed, in our interviews with NGO representatives, nobody told us that they had investigated whether the hand pumps they had installed were still providing the same services. In the event, about half of hand pumps installed in 2010 were no longer functional in the four villages visited during our fieldwork.

Recovery WASH interventions are in most cases similar to “development” WASH, in the sense that the infrastructure is generally the same type and have the same time horizon. There is therefore no reason why recovery WASH interventions should not be held to the same standards. In the context of small-scale rural water supply such as hand pumps, it is not always clear who is best-placed to offer the support. What is clear that DFID and their partners should discuss how best to increase post-implementation support for communities provided with water supply infrastructure in recovery WASH interventions, whether this should be done by government, partner NGOs, or through some other mechanism.

This is also related to a point about other water supply infrastructure in the community. As found in our fieldwork, some communities have many more water points per capita than others. Each additional water point beyond a certain per capita threshold produces diminishing marginal returns compared to the same investment in a village with a lower number of water points. More of this kind of analysis would be useful in terms of sustainability. A water point will be more valued by a community, and hence better maintained, if it is genuinely needed. The VFM of an additional water point is therefore influenced by what existing infrastructure is available.

5.2.5 Improve naming of budget lines and require them to be connected to specific outputs

By this time this case study is completed, it will have used about 50 days of consultant time in preparation, data collection, analysis, writing up and consultation on the findings. With easier availability of key data in the right format, this could have been done more efficiently.

Lots of consultant time was spent making assumptions about how specific budget lines connected to specific outputs, then discussing and confirming these with each NGO. This work could be more efficiently achieved if NGOs were required to routinely link inputs to outputs in their budgeting. Obviously this is not possible for every budget line, but more rigorous naming conventions in budgeting could certainly make VFM analysis more efficient for both in-house staff and consultants.

Another useful convention to be adopted would be for budgets to note how staff time would be broadly allocated across different sub-sectors or, where possible, outputs. Again, this is not easy, but often such assumptions were easy to confirm with NGOs. For example, an assurance that the water engineers spent the vast majority of their time working on hand pump installation. Through interviews with implementers there was evidence improved methods of financial and activity reporting, along the lines of what is suggested above is increasingly being implemented for DFID funded projects in Pakistan.

5.2.6 Monitor beneficiaries receiving specific outputs

Some NGOs provided lump sum beneficiary counts, making it very hard to calculate reliable 'final outputs' i.e. the number of people with access to a particular output. Obviously there are diminishing returns when monitoring becomes excessive, but most NGOs seem to have monitoring and evaluation systems which allow beneficiaries to be linked to specific outputs. This should be a requirement for all partners receiving funding. Simply providing a list of villages and their populations is not enough.

5.2.7 Carry out post-implementation monitoring of recovery WASH interventions

Post-implementation monitoring is increasingly a requirement in the "development" WASH sector, and there is no reason why it should not be the norm in "recovery" WASH too. It need not be a heavy burden if a local NGO has the incentives and resources to do it, and it can contribute to programme learning and sustainability.

5.2.8 State all unit cost assumptions during budgeting

Some NGOs were better than others at demonstrating how their budgets were calculated. For internal purposes as well as external ones, it is easier to make all assumptions clear, for example by systematically including information on the numbers of beneficiaries per hand pump, and staff unit costs.

References / Bibliography

DFID CHASE (Conflict, Humanitarian, and Security Department), (n.d). *DFID Value for Money in Humanitarian Programming*, accessed 12/05/14

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/405978/VFM-guidance-partners.pdf

International Development Committee (2011), *The Humanitarian Response to the Pakistan Floods: Government Response to the Committee's Seventh Report of Session 2010–12*, The Stationary Office LTD, House of Commons, London, U.K.

PCRWR (Pakistan Council of Research in Water Resources) (2010), *Technical Assessment Survey of Water Supply Schemes (Sindh) Water Project Fact Sheet*, PCRWR, Islamabad, Pakistan.

Prat, Marie-Alix, Ian Ross and Sophie Trémolet (2015), 'How to do Value for Money analysis for Water, Sanitation and Hygiene (WASH) programmes – draft guidance note', accessed 17/05/15 at <http://vfm-wash.org/>

UNDP Pakistan (United Nations Development Programme Pakistan) and Government of Sindh (2012), *Report on the Status of the Millennium development goals: Sindh*, United Nations Development Programme, Pakistan